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# **QUESTION BANK**

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**CLASS XII**

**■ COMMERCE STREAM ■**

**2008 - 2009**

**NOT FOR SALE**

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**DIRECTORATE OF EDUCATION  
GOVT. OF NCT OF DELHI**

# **PRODUCTION TEAM**

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## PREFACE

It gives me immense pleasure in presenting this Question Bank to the students and teachers of Government schools of Delhi. This handy tool is part of our endeavour to improve the quality of education in Delhi. The purpose is to significantly improve the performance of our students in the Board examinations by giving them practice material for applying the concepts learned in classroom teaching. It is directly relevant as it bases itself on the latest syllabus prepared by NCERT and adopted by the CBSE for the academic year 2008-09. We hope that the students and the teachers will use this book to sharpen their skill in handling the Board Examination.

I would also like to commend the efforts of Dr. R.K. Sharma, Addl. Director of Education (School/Act/Exam) who headed the mission and his team members Dr. (Mrs) Suman Rekha, Asst. Director of Education (School) MARCEL EKKA, Asst. Director of Education(Exam) and Dr. R.C. Tewari, OSD (Exam) whose sincere efforts made it possible to accomplish the work in time.

My best wishes are with all the students appearing for the Board examinations!

**Chandra Bhushan Kumar**



**Dr. R.K. Sharma**  
Addl. Director of Education  
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## FOREWORD

I feel honoured in writing the foreword to this question bank for class XII, I sincerely hope this question bank achieves its objective of helping the students of this class to get a flavour of the board examination and enhance their performance. Our teams tried to visualize how it would be beneficial for the students facing the board examinations and guide to achieve this objective from a student's perspective.

These Question Banks adhere to the latest syllabus prescribed by NCERT and adopted by the CBSE. The questions reflect the deep expertise of subject teachers who have had a long experience in helping students perform well in their respective fields. Its various salient features such as valuable key points, questions, Key to short answer and hint to difficult questions on each chapter try to inculcate an effective and comprehensible approach for taking the questions in the board examinations. For real time practice one solved model paper and one unsolved model paper have also been incorporated which are based on sample papers issued by CBSE for the 2009 examinations.

This year Hindi (Elective) subject also introduced by the Directorate due to sincere efforts by Exam. Branch. It is an appreciable efforts by department.

Principal Sh. B.K. Sharma, RPVV Raj Niwas Marg, kindly made the school available as a venue for holding the Question Bank workshop while the staff of DBTB provided valuable co-operation in printing of Question Banks. I would like to express my sincere gratitude to the above.

Finally I also extend my thanks to Dr. (Mrs.) Suman Rekha, ADE (School) Marcel Ekka, Asst Director of Education (Exam.) who cordinated the mission, Dr. R.C. Tewari, OSD (Exam) and the staff of the Examination Branch for their continuous devotion to this project.

**Dr. R.K. Sharma**

*Addl. Director of Education (Exam/School/Act)*

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# LIST OF MEMBERS WHO PREPARE QUESTION BANK FOR CLASS XII

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## COMMERCE STREAM

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| 5. <b>Mrs. Sangita Jain</b>        | <i>Lecturer English</i><br>Govt. Sarvodaya Coed. Vidhyalaya,<br>Sharda Niketan, (Near Saraswavi Vihar), Delhi-34. |
| 6. <b>Mr. Fahad Rehman</b>         | <i>Lecturer English</i><br>RSV. No. IV., Roop Nagar, Delhi-7.   |
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### BUSINESS STUDIES

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| 1. <b>Mrs. Savita Drall</b><br>( <i>Group Leader</i> ) | <i>Principal</i><br>S.K.V., Mata Sundri Road, New Delhi |
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## HINDI (ELECTIVE)

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1.	<b>Mrs. RANI DEVI</b> <i>Incharge</i>	<b>(Vice Principal)</b> SKV - 1, Zeenat Mahal, Kamla Market, New Delhi - 110002.
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3.	<b>Dr. Mrs. Seema Pandey</b>	Deen Dayal Upadhyay Sarvodaya Bal Vidyalaya, Rouse Avenue, New Delhi.
4.	<b>Mrs. Asha Rani</b>	Sarvodaya Kanya Vidyalaya, Zeenat Mahal, Kamla Market, New Delhi.
5.	<b>Mrs. Suman Sharma</b>	Govt. Girls Sr. Sec. School, No.1 Roop Nagar, New Delhi.
6.	<b>Mrs. Kanta</b>	Dr. Rajender Prasad Sarvodaya Vidyalaya, President Estate, New Delhi.

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## MATHS

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1.	<b>Sh. J.C. Nijhawan</b> <i>(Group Leader)</i>	<i>Vice Principal (Retd.)</i> Directorate of Education, Delhi
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3.	<b>Sh. R.P. Singh</b> (PGT)	R.P.V.V., Gandhi Nagar, Delhi.
4.	<b>Sh. Manoj Kumar</b> (PGT)	R.P.V.V., Kishan Ganj, Delhi.
5.	<b>Sh. Sanjeev Kumar</b> (PGT)	R.P.V.V., Raj Niwas Marg, Delhi.
6.	<b>Sh. P.J. Pandey</b> (PGT)	R.P.V.V., Suraj Mal Vihar, Delhi.

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| 1. <b>Mr. Shruti Bodh Aggarwal</b><br>(Group Leader) | <i>Vice Principal</i><br>R.P.V.V. Kishan Ganj, Delhi - 110007. |
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| 3. <b>Mr. Sanjeev Kumar</b> | <i>Lecturer</i><br>R.P.V.V. Gandhi Nagar, Delhi - 110031. |
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| 4. <b>Mr. Anil Kumar Deswal</b> | <i>Lecturer</i><br>R.P.V.V., Kishan Ganj, Delhi - 110007. |
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| 6. <b>Mr. Mukesh Rajora</b> | <i>Lecturer</i><br>R.P.V.V., Link Road, Karol Bagh, Delhi - 110005. |
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## ECONOMICS

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| 5. <b>Mr. Suraj Bhan</b> | <i>PGT (Eco)</i><br>R.P.V.V., Kishanganj, Delhi |
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| 6. <b>Mrs. Daisy Gupta</b> | <i>PGT (Eco)</i><br>G.G.S.S.S. Vivek Vihar, Delhi |
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## INDEX

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1. English Core ..... 1 - 115
2. Hindi Elective ..... 116 - 197
3. Mathematics ..... 198 - 332
4. Business Studies ..... 333 - 461
5. Advanced Accountancy ..... 462 - 623
6. Economics (Hindi Medium) ..... 624 - 734
7. Economics (English Medium) ..... 735 - 839



Dear Student and Teachers

Here is a treasure of questions for you. Attempt all of them from July to December. Make a separate notebook for English. Do it sincerely.

You will surely come out with flying colours.

Best of luck!

Group Leader and Members of Team.

## ENGLISH CORE – XII

### DESIGN OF SAMPLE PAPER

S. No.	Section	Type of Questions	Marks	Total Marks	Testing Objectives
Q. 1.	Reading 1.1	(a) SA	2 M	20	Comprehension
		(b) VSA	1M		Comprehension
	1.2	(c) SA	2M	9	Comprehension
		(d) SA	2M		Understanding
		(e) SA	2M		Comprehension
	1.2	(a) VSA	1M	3	Vocabulary Testing
		(b) VSA	1M		Vocabulary Testing
		(c) VSA	1M		Vocabulary Testing
QR (2nd Opinion)					
Q. 1.	1.1	(a) SA	2M		Comprehension
		(b) SA	2M		Comprehension
	1.2	(c) SA	3M		Interpretative
		(d) SA	2M		Interpretative
		(a) VSA	1M		Vocabulary Testing
		(b) VSA	1M		Vocabulary Testing
	1.2	(c) VSA	1M		Vocabulary Testing
		(a) VSA	1M		Vocabulary Testing
		(b) VSA	1M		Vocabulary Testing
Q. 2.	2.1	Note Making	5M	3	Study Skills
	2.2	Summary Writing	3M		Summarising Skills
	Writing (1st Option)	Short Writing	5M	35	Providing factual
Q. 3.		Skill			Details organization fluency and coherence
	or (2nd Option)	or Short Writing Skill	or 5M	or	or Providing factual details organization fluency and coherence
Q. 4.	(1st Option)	Long Writing Skill	10M	10	Presenting factual details, format, fluency and coherence
	or (2nd Option)	or Long Writing Skill (factual Reporting)	or 10M	or	or Presenting factual details, format, Exp fluency and coherence

Q. 5.	(1st Option)	Letter Writing	10M	10	Formatting, organization, coherence, Fluency
	or (2nd Option)	or Letter Writing	or 10M	or	or Formatting, organization, coherence, Fluency
Q. 6.	(1st Option)	Article	10M		Organization, coherence, fluency
	or (2nd Option)	or Article	or 10M	or	or Organization, coherence, fluency
Text Book				45	
Q. 7. (a)	(1st Option)	(a) SA	2M		Poetry, appreciation
		(b) VSA	1M		Interpretative
		(c) VSA	1M		Interpretative
	or (2nd Option)	or (a) SA	or 2M	or	or Poetry appreciation
		(b) VSA	1M		Interpretative
		(c) VSA	1M		Interpretative
Q. 7. (b)	Any three	(1) SA	2M		Comprehension
		(2) SA	2M		Interpretative
		(3) SA	2M		Understanding
		(4) SA	2M		Interpretative
Q. 8.		(a) SA	2M		Comprehension
		(b) SA	2M		Comprehension
		(c) SA	2M		Interpretative
		(d) SA	2M		Understanding
		(e) SA	2M		Understanding and Interpretative
Q. 9.	(1st Option)	Long Answer	10M		Content, organization, Fluency, coherence, Understanding
	or (2nd Option)	or Long Answer	or 10M	or	or Content, organization, Fluency, coherence, Understanding
Q. 10.	(1st Option)	Long Answer	07M		Content, organization, Fluency, coherence, Understanding
	or (2nd Option)	or Long Answer	or 07M	or	or Content, organization, Fluency, Coherence, Understanding
Q. 11.		(a) SA	2M		Understanding
		(b) SA	2M		Understanding
		(c) SA	2M		Understanding
		(d) SA	2M		Understanding

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# QUESTION PAPER

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## ENGLISH (CORE)

MARCH, 2008

Time : 3 hours

Maximum Marks : 100

### **General Instructions**

1. *This paper is divided into three Section : A, B, and C. All the sections are compulsory.*
2. *Separate instruction are given with each section and question, wherever necessary. Read these instruction very carefully and follow them faithfully.*
3. *Do not exceed the prescribed word limit while answering the question.*

### **Section A : READING**

20

#### **1. Read the passage given below and answer the questions the follow :**

1. The word 'depressed' in common usage means sad, frustrated, fed up, bored up and pessimistic. The mood of a depressed person is much lower at his or her best moments than the mood of the normal person at his or her worst. Depression is a state of mind. It is specifically a mental disorder characterised by a lowering of the individual's vitality, his mood, desires, hopes, aspirations and of his self-esteem.
2. Depression arising out of environmental factors is called reactive depression whereas depression arising out of some biochemical changes in the brain is called endogenous depression. If depression is mild or moderate and if the individual is in touch with his surroundings, it is known as neurotic depression. If the individual is severely disturbed and is not able to comprehend what is happening around, such a state is called psychotic depression.
3. Old age is one of the stages of human development, where a person attains wisdom, maturity, social and economic stability with social recognition and emotional fulfillment. Generally, societies show a great respect and consideration for the aged. In ancient times old people were considered as the guiding stars in Indian families, since they were symbols of tradition, respect, wisdom and experience. In primitive, ancient and medieval cultures, old persons had a recognized social role. They were of great value because they could impart knowledge and skill to youngsters. The old people were considered as repositories of wisdom and traditions and were not perceived as problems.
4. At present, social structures and values are undergoing transformation from traditional to modern. There is a rapid stride in urbanization and industrialization leading to the breaking up of joint families and property. This has ultimately weakened the traditional families, social position and

status of the aged in the family. From time to time changes in the institutions of marriage and family have diminished the control of parents over their children. It has increased the freedom of children and they view the aged as a useless and non-productive entity. Modernization has eventually led to the degradation of their status and authority. Consequently the integrity of the family and the existence of the elderly as an integral part of the family are being uprooted. The importance of their functional positions thus declines and consequently their authority and much of the respect and prestige that they enjoyed earlier get faded. These changes generally bring about depression in older people.

5. As old age advances events at home may also contribute more to their problems. The 'empty nest' feeling arising as a result of the grown up children leaving the home, daughters departing as a result of wedlock and sons leaving station in pursuit of higher education or jobs may make the aged more lonely. The loneliness also arises because of premature loss of spouse. This would deprive the person of a long standing emotional bond that had provided plenty of emotional succour and security. The loss wherever it might occur in the later years leaves the individual terribly lonely and at the mercy of the sons and daughters-in-law. Added to these the increasing gap and interactional stress and strain in the family may leave the elderly without peace of mind. The elderly as a result of these developments feel marginalised, alienated and left out of the main stream. The foregoing are the common problems faced by most of the elderly. These either directly or indirectly lead to a state of depression and make ageing for many an unwanted and unpleasant event to be abhorred.
  6. Usually, the mild depression which is caused due to environmental factors is temporary. The person reconciles within a short time and tries to forget the loss. Kind words, and timely support of friends, relatives and family members help one recover from depression.
- (a)
- |   |   |
|---|---|
| (i) What does 'depressed' mean in common usage?                     | 2 |
| (ii) What is reactive depression?                                   | 1 |
| (iii) What was the status of the old people in ancient India?       | 2 |
| (iv) What are the causes for disintegration of joint family system? | 2 |
| (v) How does one recover from mild depression?                      | 2 |
- (b) Pick out the words from the passage that mean the same as the following :  $3 \times 1 = 3$
- |  |  |
|--|--|
| (i) Decreased (para 4)                                   |  |
| (ii) to feel that they do not belong to a group (para 5) |  |
| (iii) a husband or wife (para 5)                         |  |

**2. Read the passage given below and answer the questions that follow :**

A vast blanket of population stretching across South Asia is cutting down sunlight by 10 per cent over India, damaging agriculture, modifying rainfall patterns and putting hundred of thousands of people at risk, according to a new study.

The startling findings of scientists working with the United Nations Environment Programme indicate that the spectacular economic growth seen in this part of the world in the past decade may soon falter as a result of this pollution.

Research carried out in India indicates that the haze caused by pollution might be reducing winter rice harvests by as much as 10 per cent, the report said.

“Acids in the haze may, falling as acid rain, have the potential to damage crops and trees. Ash falling on leaves can aggravate the impacts of reduced sunlight on earth’s surface. The pollution that is forming the haze could be leading to several hundreds of thousands of premature deaths as a result of higher levels of respiratory diseases,” it said. Results from seven cities in India alone, including Delhi, Mumbai, Ahmedabad and Kolkata, estimate that air pollution was annually responsible for 24,000 premature deaths in the early 1990s. By the mid 1990s they resulted in an estimated 37,000 premature fatalities.

“The haze has cut down sunlight over India by 10 per cent (so far)—a huge amount! As a repercussion, the North West of India is drying up,” Prof. V. Ramanathan said when asked specifically about the impact of the haze over India. Stating that sunlight was going down every year, he said. “We are still in an early stage of understanding of the impact of the haze.

Asked whether the current drought in most parts of India after over a decade of good monsoon was owing to the haze, he said, “it was too early to reach a conclusion. If the drought persists for about four to five years, then we should start suspecting that it may be because of the haze.”

India, China and Indonesia are the worst affected owing to their population density, economic growth and depleting forest cover. The preliminary results indicate, that the build up of haze, a mass of ash, acids, aerosols and other particles is disrupting weather systems, including rainfall and wind patterns and triggering droughts in western parts of the Asian Continent. The concern is that regional and global impacts of the haze are set to intensify over the next 30 years as the population of the Asian region rises to an estimated five billion people.

- (a) On the basis of your reading of the above passage make notes on it using headings and sub-heading. Use recognizable abbreviations, wherever necessary. 5
- (b) On the basis of your reading of the above passage make notes on it using headings and sub-headings. Use recognizable abbreviations, wherever necessary. 3

## **Section B : ADVANCED WRITING SKILLS**

3. You lost your wrist watch in your school auditorium. Write a notice in not more than 50 words for your school notice board giving a detailed description of the watch. You are Anirudh/Arundhati of class XII of Springfields School, Pune.

**OR**

You are Dr. Madhu, M.D. You are looking for an independent house in Ghaziabad on a reasonable rent for your residence-cum-clinic. Draft a suitable advertisement in not more than 50 words to be published in Hindustan Times, New Delhi. Your telephone no is 12341234. 5

4. You are Amrit/Anuradha of B.M.B. Public School, Dalmianagar. Recently your school celebrated Environment Week. Giving details of the celebrations write a report in 100-125 words for your school magazine. 10
5. You are Akash/ Ambika. You attended a seminar arranged for class XII students by AMC School, Chennai on the topic, ‘How to face the examination with confidence.’ Write a report in 100-125 words for your school magazine. Invent the necessary details.

OR

6. National Cadet Corps is an organization which not only inculcates discipline in the youth but also prepares them for the defence of the country. It also provides an opportunity to the students to participate in various other activities such as adventure, culture etc. Write an article in 150-200 words on the need to make N.C.C. Compulsory in all schools in the country. 10

OR

Joint family system is gradually disintegrating in the country. Many elderly people get neglected because of the nuclear set up of families. It increases the need of homes for the aged. Write an article in 150-200 words on the topic entitled "Should there be Homes for the Aged in India."

### Section C : LITERATURE

7. (a) Read the extract given below and answer the question that follow :

..... put that thought away, and  
looked out at young  
trees sprinting, the merry children spilling  
out of their homes.

- (i) Who looked out at young trees? 1  
(ii) Which thought did she put away? 2  
(iii) What do young sprinting trees signify? 1

OR

Perhaps the Earth can teach us  
as when everything seems dead  
and later proves to be alive.

Now I'll count up to twelve  
and you keep quiet and I will go.

- (i) What does the earth teach us? 2  
(ii) why does the poet count up to twelve? 1  
(iii) What will keeping quiet help us achieve? 1

- (b) Answer any *three* of the following question in 30-40 words each : 3 × 2 =6

- (i) What was the place of the folk who had put up the roadside stand?  
(ii) What does the poet wish for the children of the slums?  
(iii) How does the poet describe Aunt Jennifer's tigers?  
(iv) What makes human beings love life in spite of troubles and suffering? (A Thing of Beauty)

8. Answer the following question in 30-40 words each : 5 × 2 = 10

- (a) Garbage to them is gold. Why does the author say so about the rag-pickers?
- (b) How was the scene in the school on the morning of the last lesson different from that on other days?
- (c) How do we know that ordinary people too contributed to the freedom movement?
- (d) Why did everybody in the studio think of giving the author some work to do?
- (e) State the reason for the huge success of the novel, 'The Name of the Rose.'

9. Answer the following question in 125-150 words :

What was Douglas's fear? How did he overcome that fear?

**OR**

Compare and contrast the character of the iron master with that of his daughter.

10. Answer the following question in 125-150 word :

How did Mr. Lamb's meeting with Derry become a turning point in Derry's life?

**OR**

The world's geological history is trapped in the Antarctica. How is the study of this region useful to us?

11. Answer the following question in 30-40 words each 4 × 2 = 8

- (a) Do you think that the third level was a medium of escape for Charlie?  
Why?
- (b) How did the tiger king celebrate his victory over the killing of the 100<sup>th</sup> tiger?
- (c) How did the gardener react when Dr. Sadao told him about the wounded American soldier?
- (d) How does Jo want the story to end and why?

## MARKING SCHEME

### SUGGESTED VALUE POINTS SECTION A : READING

---

1	1	1	<b>Comprehension Passage</b>
(a)	(a)	(a)	Note : No mark(s) should be deducted for mistakes of grammar, spelling, or word limit. Full marks may be awarded if a student has been able to

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identify the core ideas. If a student literally lifts a portion of the given passage as an answer to a question, no mark(s) to be deducted for this as long as it is relevant.

(i)	(i)	(i)	unhappy/sad/frustrated/fedup/mental disorder/bored up and pessimistic	2 marks
(ii)	(ii)	(ii)	depression arising out of environmental factors	1 marks
(iii)	(iii)	(iii)	– Considered as guiding stars – had a recognised social role – were of great value as they could impart knowledge (any two)	2 marks
(iv)	(iv)	(iv)	– transformation of social structures and values from traditional to modern – rapid stride in urbanisation and industrialization	2 marks
(v)	(v)	(v)	– with kind words – timely support of friends, relatives and family members	2 marks
(b) (i)	(b) (i)	(b) (i)	diminishing/degradation/declines/wakened	1 mark
(ii)	(ii)	(ii)	alienated/marginalised/left out	1 mark
(iii)	(iii)	(iii)	spouse	1 mark

2 2 2

Note

□ **If a student has attempted only summary or only notes, due credit should be given.**

□ **1 mark allotted for title be given if the student has written the title either in Q2(a) or Q2(b) part.**

□ **Min. 3 main headings and 3 sub-headings to form content.**

The notes provided below are only guidelines. Any other title, main points and sub-points should be accepted if they are indicative of the candidate's understanding of the given passage, and the notes include the main points, with suitable and recognizable abbreviation. *Complete sentences not to be accepted as notes.*

Numbering of points can be indicated in different ways, and these should be accepted as long as a consistent pattern is followed.

(a) (a) (a)

**Note Making**

Distribution of Marks

**Abbreviations/Symbols** (with/without key) – any four 1 marks

**Title** 1 marks

**Content** (minimum 3 sub-headings, with proper Indentation and notes) 3 marks

**Suggested Notes**

**Title** : Pollution/Effect of Pollution/Global Impact of Pollution/Any other suitable title)

1. Effect of Polln. (in S.E. Asia)
  - 1.1 cuts sunlight – 10% in India
  - 1.2 damages agri.
  - 1.3 modifies rainfall patterns
  - 1.4 people at risk/hindering eco. growth.
2. Findings of UNEP
  - 2.1 blanket of polln. across S.E. Asia
  - 2.2 growth may falter
  - 2.3 might reduce winter rice harvest
3. Research about India



- 3.1 acid rains damage crops and trees
- 3.2 ash on leaves reduces sunlight
- 3.3 respiratory diseases
- 3.4 2400 premature deaths
- 3.5 N.W. India drying up due to drought.
- 4. Far reaching global impact
  - 4.1 esp. in India, China, Indonesia due to
    - popu. density
    - economic growth
 depleting forest cover
  - 4.2 effect
    - haze disrupts weather system
    - triggers drought in West Asia.

(b)	(b)	(b)	<b>Summary</b>	The summary should include all the important points given in the notes.	
			<b>Content</b>		2 marks
			<b>Expression</b>		1 mark

## SECTION B : ADVANCED WRITING SKILLS

**Note :** The objective of the section on Advanced Writing Skills is to test a candidate's writing ability. Hence, expression assumes as much importance as the content of the answer.

3	3	3	<b>Notice</b>		
			<b>Format</b>		1 mark
			<b>Content</b>		2 marks
			<b>Expression</b>		2 marks

### Suggested value points

(Lost/Lost Wrist Watch/Lost and Found)

- day and date/time/location
- description of wristwatch – make, looks, design, shape etc.
- whom to contact/where
- incentive for finder

*OR*

### Advertisement

			<b>Content</b>		3 marks
			<b>Expression</b>		2 marks

### Suggested Value Points

(Accommodation Wanted)

- location
- facilities required for house-cum-clinic
  - 24 hours water
  - electricity backup
  - fully furnished
  - big rooms

- approximate rent
- contact address/phone

4	4	4	<b>Report Writing</b>	
			<b>Format</b>	
			1. title, reporter's name	1 mark
			<b>Content</b>	4 marks
			<b>Expression</b>	5 marks
			Grammatical accuracy, appropriate words and spellings (2½)	
			Coherence and relevance of ideas and style (2½)	
			<b>Suggested Value Points :</b> (Environment Week)	
			– when	
			– where	
			– activities/programmes conducted during the week	
			– any other special feature(s)	
<i>OR</i>				
			Suggested Value Point (Seminar on how to face the Examination with Confidence)	
			– when	
			– where	
			– details of seminar e.g., panel of experts/student interaction/response	
			– any other special feature(s)	
5.	–	–	<b>Letter Writing</b>	
			[Note : No marks are to be awarded if only the format is given. Credit should be given to the candidate's creativity in presentation of ideas. Use of both the traditional and the new format is permitted.]	
			<b>Format</b>	2 marks
			1. sender's address, 2. date, 3. receiver's address, 4. subject heading, 5. salutation, 6. complimentary close.	
			<b>Content</b>	4 marks
			<b>Expression</b>	4 marks
			Grammatical accuracy, appropriate words and spelling [2]	
			Coherence and relevance of ideas and style [2]	
			(Details of Scholarship)	
			<b>Suggested Value Points</b>	
			– mention the categories	
			– what excellence has been achieved	
			– how to apply for scholarship	
<i>OR</i>				
			(Order for Books)	
			<b>Suggested Value Points</b>	
			– list of books/author/no. of copies	
			– request for bulk discount	

- mode of payment
- deadline for delivery of books

6	6	6	<b>Article Writing</b>	
			<b>Format</b> : (Title and Writer's Name)	1 mark
			<b>Content</b>	4 marks
			<b>Expression</b>	5 marks
			Grammatical accuracy, appropriate words and spelling [2½]	
			Coherence and relevance of ideas and style [2½]	

**Suggested Value Points**

(NCC/A must for all Schools/NCC and schools/any other suitable title)

- activities of NCC
- how it inculcates discipline in youth
- what do children learn as a cadet
- motivates youth to be adventurous
- grooms youth
- close to culture
- prepares for defence forces
- reasons to make NCC compulsory
- any other relevant point

OR

**Suggested Value Points**

(Should There be Homes for the Aged in India?)

Reasons

- joint family disintegrating – setting up of nuclear families
- elderly alienated – children getting married/going abroad

Solutions

**Yes**

- safety for elders
- combats loneliness
- medical attention
- like-minded people stay together
- have freedom–no burden on children.

(any four)

**No**

- basically a western concept
- against Indian culture
- the aged need physical and mental support from family members.
- families can utilise their maturity /wisdom
- provide support system for the family

(any four)

**Section C : Literature**

**Note** : The objective of the section on Literature is to test a candidate's ability to understand and interpret the prescribed text through short answer and long answer type questions. Hence both content and expression in answer to the given question deserves equal importance while awarding marks.

7(a)	7(a)	7(a)	[This question has been designed to test the student's understanding of the text and their ability to interpret, evaluate and respond to the questions based on the given stanza. In other words, it attempts to test their	
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reading comprehension ONLY]

Value Points :

(i)	(i)	(i)	– the poet/Kamala Das/narrator	1 mark
(ii)	(ii)	(ii)	– thought of separation/death/unpleasant thoughts of old age	2 marks
(iii)	(iii)	(iii)	– continuity of life/life/youthfulness/energy/passage of time	1 mark

OR

(i)	(i)	(i)	– everything not dead on this earth/there is life under apparent stillness – teaches us to be alive/regeneration/power to recover from loss	2 marks
(ii)	(ii)	(ii)	– there are twelve markings on the clock to measure time/there are 12 months/taking time to calm down	1 mark
(iii)	(iii)	(iii)	– understanding of ourselves/peace and tranquility/ceasing of all cruel activities/introspection	1 mark

7(b) 7(b) 7(b) **Short answer type questions (Poetry)**

Distribution of marks :

**Content** 1 mark

**Expression** 1 mark

(deduct ½ mark for two or grammatical/spelling mistakes)

**Value Points :**

(i)	(i)	(i)	– desired the city dwellers to buy goods. – wanted flow of cash for better standard of living	2 marks
(ii)	(ii)	(ii)	– for the governors, inspectors, visitors/authorities to bring about a change – to widen their horizons – to take the children closer to nature/liberate them from their miserable condition – provide good education (any two)	2 marks
(iii)	(iii)	(iii)	– topaz/golden coloured – prancing, bright-eyed denizens – free and fearless – sleek and chivalric (any two)	2 marks
(iv)	(iv)	(iv)	– nature is the best healer – brings beauty and joy to our life – the memory of the beautiful experiences help us to bear our sorrows/ provide a bower/a peaceful retreat (any two)	2 marks

8 8 8 **Short answer type questions (Prose)**

Questions are to be answered in 30–40 words

Distribution of marks:

**Content :** 1 mark

**Expression** 1 mark

(Deduct ½ mark for two or more grammatical/spelling mistakes)

**Value Points :**

- (a) (a) (a) – expect to get some coins, notes or valuable 2 marks  
– sometimes they find a rupee or even a ten-rupee note  
– for children garbage is wrapped in wonder  
– for adults—a means of livelihood  
(any two)

- 
- (b) (b) (b) Other days 2 marks  
– noisy and boisterous  
Days of the last Lesson  
– unusually silent/M. Hamel dressed in his best suit/classmates already  
in their places/village people sitting quietly in the class.

- 
- (c) – – – thousand of people demonstrated around the court room where Gandhi  
was summoned which made the Britishers feel challenged and baffled.  
– Prof. J.B. Kriplani received Gandhiji at the station with a large body of  
students.  
– sharecroppers from Champaran came barefooted to see Gandhiji  
– Muzzafarpur lawyers too called upon him  
– Raj Kumar Shukla, a peasant initiated Gandhiji's fight in Champaran  
(any two)

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Q. 9 and 10. [These questions have been set to test the students' understanding of the text and their ability to interpret, evaluate and respond to the issues raised therein. Hence no particular answer can be accepted as the only correct answer. All presentations may be accepted as equally correct provided they have been duly supported by the facts drawn from the text. The important thing is that the student should be able to justify his or her viewpoint.]

- 
- 9 – – Distribution of marks : 5 marks  
**Content**

---

**Expression** 5 marks  
Grammatical accuracy, appropriate words and spelling [2½]  
Coherence and relevance of ideas and style [2½]

---

**Value Points :**

Fear

- aversion to water since childhood (California beach and YMCA pool incidents)

Overcoming Fear

- decided to get an instructor to learn swimming and conquer his fear.
- instructor made him practise five days a week.
- taught him how to exhale under water and inhale above water.
- made a swimmer out of Douglas piece by piece.
- dived off a dock at Triggs Island
- Swam two miles across Lake Wentworth in New Hampshire
- practised different kinds of strokes in swimming.

---

**OR**

---

**Ironmaster**

- commits judgemental error – mistakes the stranger as his old regimental friend, requests him to come home.
- shows friendliness by sending his daughter when the stranger declines invitation
- attitude changes when the truth revealed that the stranger not his friend
- calls him dishonest and threatens to hand him over to the sheriff.

**Daughter**

- more sedate, understanding and affectionate
- intervenes to stop her father from ill treating the stranger
- treats him like a captain and gifts him a suit
- provides him with peaceful atmosphere
- is able to bring about a change in the peddler's attitude

(any five points)

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10	10	10	Distribution of marks :	
----	----	----	-------------------------	--

**Content :** 4 marks

**Expression** 3 marks

Grammatical accuracy, appropriate words and spelling [1½]

Coherence and relevance of ideas and style [1½]

**Value Points :**

- Both Lamb and Derry handicapped
- Derry in the beginning withdrawn and defiant
- couldn't stand people staring at him
- Lamb open-minded and generous.
- kept garden gate open and welcomed all
- had a positive attitude, taught Derry not to indulge in self pity/love life
- taught him the ways of dealing with people
- Derry confessed to his mother that Lamb talked of things that nobody had ever talked of – things that gave him an optimistic outlook.
- even defied his mother.
- Derry's return to Lamb's garden shows his appreciation for Lamb/ restored confidence.

(any four points)

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**OR**

- Antarctica – only place in the world remaining pristine (never sustained human populations)
  - holds in its ice-cores half million year-old carbon records
  - only place to study Earth's past, present and future
- can enable to use
- Study problems of global warming (glacier retreating, ice shelves collapsing)
  - concept of evolution and extinction
  - significance of Cordilleran folds and granite shields; ozone and carbon

11(a) 11(a) 11(a) If Yes 2 marks

- it was a waking dream
- a wish fulfilment
- provided escape from modern day fear, insecurity, worry.

If No

- then the place really existed as Charley describes vividly railway station, people dresses, newspaper and counters.
  - Same exchanging money, disappearance, letter in the first day cover  
(any two)
- 

(b) - - - filled with joy 2 marks

- exclaimed that his vow had been fulfilled.
- ordered the tiger to be brought in a grand procession
- turned his attention to his son.
- gave him a special gift on his birthday.

(any two).

---

(c) - - - old gardener pulled a few hairs on his upper lip 2 marks

- strongly opposed his master for treating the wounds of the enemy
- said that the sea wished to kill him
- the gun-wound intended to kill him
- refused to obey the orders

(any two)

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## SECTION A

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# READING SKILLS

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20 MARKS

7 Reading comprehension passage – 12 marks

7 Note making Passages – 8 marks

## COMPREHENSION

### PASSAGE 1

**A1. Read the passage given below and answer the questions that follow :**

1. All of us carry the seeds of genius which are capable of producing great thoughts or actions. We possess inner powers enabling us to see visions, and at the same time we have ability to give them creative expression.
2. It means that the positive thoughts pattern of our inner genius can be put to test in the production of new ideas. The habit of seeing everyday things from new angles is the fundamental trait of all geniuses. It is by such methods that new discoveries have been made. A genius probes beneath the surface of things and forms new combinations of facts and ideas which refuse to be defeated until positives have been obtained.
3. Such an attitude of mind is bound to be unusual for the simple reason that few of us are willing to change our old routines. Original ways of looking at things appear to be far too strange and unsettling. There may be a risk involved which might mean ridicule, contempt or even cold indifference from colleagues and contemporaries.
4. We tend to equate a high intelligence quotient with genius. Genius seem to be a quality of mind apart from intelligence. This is partly the reason why many geniuses have found schools and universities dull places. They were pursuing their own lines of thought. Reynolds preferred to cover his school books with sketches and drawings. John Stuart Mill and Sir Francis Gallon were scholars from a very early age. John Stuart Mill Greek classics at six, while Sir Francies Gallon knew his capital letters by twelve months. A genius usually spends a great deal of time in using his or her talents for producing great works in any field of human endeavour. Newton spent 19 years before he could understand the significance of falling apple.
5. An important aspect of genius is critical judgement. By such action subconscious forces begin to work until a flash of inspiration floods the mind with new solutions to old problems. The process could almost be compared with an electrical spark jumping between two terminals of a power unit and lighting up unexplored territory.
6. Geniuses are often assumed to possess good memories, but once again we find that such a distinguishing feature is not always characteristic of the best minds. Einstein used hundred dollar notes as book marks, and often forgot them.



7. In achieving their goals they are largely self-taught. It is the self-taught methods in conjunction with independent thoughts and views which produce originality. Genius is known for serious quest for trust in art, science, literature, and life. From this viewpoint we can well understand that they will dream and make new discoveries.
8. What we call inspiration of the genius is not a spell of divine blessing. It is a climax and crescendo of diligent work put in by the artist, musician or writer. It is the mind behind the brain which is important. The genius looks inside himself and finds creative energy on a vast dimension. Hence, anyone who observes carefully and resolves steadily grows into a genius of his own kind.
9. What change need to be made in the working and living habits of adults? By removing unfavourable conditions and providing additional opportunities, we can do much to encourage and foster creative thought. We all, at one time or another have wondered how a certain work of art, or invention, or a scientific discovery was made. We marvel at the excellence of the product and wonder how it was conceived. We wonder how the writer, artist, musician inventor, or scientist thought to produce the great work of literature, music, art or the new invention.
10. Creative thinking is behind every work of art of science and behind every invention : it has advanced the progress of civilization. Without creative thinking we would have none of the luxuries and comfort of modern life.

***On the basis of reading the above passage, answer the following questions :***

- |  |   |
|--|---|
| 1. What do our inner powers equip us with?                                       | 2 |
| 2. What is the fundamental characteristic of all geniuses? What does it lead to? | 2 |
| 3. Why are the original ways of thinking unsettling?                             | 1 |
| 4. How does critical judgement work? What can it be compared with?               | 2 |
| 5. How can creative thoughts be encouraged?                                      | 1 |
| 6. Why is creative thinking vitally important for our program?                   | 1 |
| 7. Vocabulary  | 3 |
| (i) Effort – Para 4  |   |
| (ii) Long Search – Para 7  |   |
| (iii) Careful, Hard work – Para 8  |   |

## **PASSAGE 2**

**A1. Read the following passage and answer the questions that follow :**

1. In India, we keep translating every moment of our life and most of us are bilingual if not multilingual by necessity. We often mix languages and shift from one to another almost unconsciously in our everyday speech. This is true not only of the middle-classes—unfortunately turning increasingly monolingual under the impact of modern education—but even more of the poor who are forced

to learn more than one language to earn their livelihood. I have seen fish-sellers at Delhi's INA market announcing the day's arrivals in Malayalam as the fish-loving Keralites frequent market, and the rickshaw pullers of Hyderabad switching over from Telugu to Tamil, Hindi or Urdu, depending on the mother tongue of the passenger. We need translators to hold India together and help us understand one another's culture, literature and world view. Multilingualism is the very soul of our collective being and our great poet-visionaries like Kabir, Nanak, Vidyapati and Meera each composed their verses in many tongues, adapting therein speech to the people they addressed.

2. The story of Indian literatures until the 19th century is the story of creative translation, adaptations, retellings and interpretations of classical texts wholly or in part. Translations from and into Sanskrit, Persian, Arabic and modern Indian languages knit together religions, communities, cultures and languages. The translations during the colonial days, despite their selective appropriation and canonisation, also kept the process alive.
3. In our post-colonial days, translation is a way of retrieving our people's histories and recording their past and present. It is a positive celebration of creative difference and a reinventing of cultural identities that is crucial cultural mission in these days of globalisation and the consequent standardisation of cultures.
4. One of the anxieties that surrounds the act of translation is that of the possible losses the text suffers in the process of transmission. It is believed that poetry suffers most in translation : "Poetry is what is lost in translation" is an extreme statement of the concern. And the other negative injunctions follow : "Translators are traitors" (an Italian saying); "Translation is the wandering existence in a perpetual exile" (Hillis miller); and the like.
5. Yes, poetry often loses its original verbal music in translation, its specific tone and at times even its original syntax and structure. Prose, too, suffers losses, especially fictional prose that has a dialectal bias. The tonalities of dialects in one language are difficult to carry into another language. The degree of faithfulness in translation often depends on the degree of the kinship between the original and the target languages. I have seen how Tamil translates well into Malayalam and vice-versa. This may be true also of Punjabi and Dogri, Hindi and Rajasthani or Assomiya and Bangla. But what is gained is certainly more than what is lost. If the original tone and music are lost, they are also replaced by those of the target language and the transmission loss is mostly compensated by the gains : a new syntax and structure, new associations, the text's rebirth in another culture.
6. There was a time in India, not so long ago, when the translated works seldom carried the translator's name and translation was looked upon as a lot inferior to creative writing. The prejudice still persists in certain circles. But translators are slowly gaining visibility and translations are beginning to find a committed readership. There is also a new academic interest in the theory and practice of translation as testified to by the newly set up department of translation studies in our universities, new research in the area and the spurt in the number of books related to translation. Publishers have also begun to show a new interest in bringing out translations, even if mostly of fiction. The Frankfurt Book Fair and the Paris Book Fair with India as the 'guest country' and the Festival of Foreign Literature in France have also helped to bring the West's attention to the great literature in our languages despite the domination of Indian writing in English for various reasons, the chief of them being the availability of translators from English to the European languages.

7. The Sahitya Akademi and the National Book Trust have played their role in translating contemporary classics. In the private sector, Katha, has been one publisher devoted to quality English translations from Indian languages. MacMillan brought out some important works of fiction in English translation, a work that now the Oxford University Press seems to be carrying on in earnest. Penguin, Orient Longman, Affiliated East-West, New Horizons, Zuban, Women Unlimited, The Book Review Literary Trust, Rupa, Harper Collins and other established and emerging publishers are also making their contribution.
8. We also need to strengthen mutual translations in our languages so that we come to know ourselves better. What we gain from translation is not only what the text gains, but what the whole culture gains in terms of fresh perspectives of life and literature.

***On the basis of reading the above passage, answer the following questions :***

- |   |   |
|---|---|
| 1. How do most of us become bilingual unconsciously?                              | 1 |
| 2. "Translations play an important role in the society". How?                     | 2 |
| 3. How does poetry suffer in the process of translation?                          | 2 |
| 4. What was the prejudice against translated works? How is it gradually changing? | 2 |
| 5. Why should we promote mutual translations in Indian languages?                 | 2 |
| 6. Find words from the passage which mean the same as the following :             | 3 |
| (i) speaking many languages – Para 1  |   |
| (ii) Continuous – Para 4  |   |
| (iii) Belonging to the same period – Para 7                                       |   |

## **COMPREHENSION A1**

### **PASSAGE 3**

**A1. Read the following passage and answer the question that follow :**

1. In the social milieu today, inequality is pervasive but it is more pronounced in the case of women. All through her life a woman faces, innumerable obstacles, preventing the realisation of her dreams and, sadly, the community does a splendid job in giving preference to the man from day one. This difference in attitude towards men and women exists at all levels of society and faced in the fields of education, job opportunities, health etc., basically those that fall within the basic rights of a person.
2. Though India has been on the move since independence, it is only in a few lives that a difference has been made. One may be taken in by the self-confident, brave and go getter new woman projected in the media, but that is the reality of only a miniscule percentage that constitute our billion plus population.
3. The disparity is even more conspicuous in the rural areas and among the poor. A girl finds herself being left without necessities like nutritious food and education. While her brother goes

to school, she, the young girl, attends to the household chores, looks after the younger siblings and even participates in agricultural tasks. What makes matters worse is the tag of being the weaker sex that propagates the cultural belief that she is inferior and useful only as a housewife and in producing babies, thereby limiting her potential. Further, the insensitive and gender-biased attitude of the teachers and textbooks, and lack of good schools within reasonable distance, all contribute in making her and her family members reluctant and de-motivated towards education.

4. There has been a tremendous increase in mobility-whether social or geographical and the awareness regarding opportunities has also increased with increasing industrialization. However rampant ignorance and illiteracy, coupled with several other factors, has led to limited result. In order to make good the situation, various efforts have been envisaged for girls.

These include provision of facilities such as separate toilets for girls, separate primary and upper primary school for girls, provision for women teachers and childcare facilities in schools, attendance scholarships, etc. however, there needs to be greater emphasis and initiative with regard to interventions such as alternative schooling, flexible school timings, residential schools, a more gender-sensitive curricula and textbooks.

5. Whether, or not any progress has been made in this direction will be reflected through many indicators. The flexibility of gender division of labour is one such indicator, is there some kind of social punishment or is there increased tolerance for transgression of conventional gender roles? More often than, not, it may be noticed that development interventions rarely made efforts to change the ideology that domestic work and day-to-day takes of family maintenance and caring for must be done by women. Besides, self-sacrifice, multiple burden of work and denial of pleasure have been important part of their socialization. Importantly, leisure is not a function of enjoyment, but a function of self-development, and thereby a function of production and empowerment, too. In a more equitable set up focus on self is likely.
6. Male control and violence towards women (such as dowry deaths in India, honour killings in Pakistan female foeticide in India and China) generate a climate of fear which then tempers women's behaviour in ways that perpetuate their status of subordination and exclusion.
7. Understanding gender discrimination, enables people not only to become better equipped to help women and children realize their human rights, but also to better understand other kinds of inequalities, such as those based on age, race or class. And it can help in working towards the shaping of a truly progressive and egalitarian society.

***On the basis of reading the above passage, answer the following questions :***

1. In which fields do we find discrimination against women in the society? 2
2. Why are the parents reluctant to send the girls to schools in rural areas? 2
3. What steps have been initiated to promote education for girls? 2
4. Define 'leisure'. 1
5. What are the factors responsible for thrusting women into a state of subordination and exclusion? 2
6. Find out words from the passage which mean the same as the following : 3

- (i) Noticeable – Para 3
- (ii) crossing the limits – Para 5
- (iii) showing belief in equal rights – Para 7

## A1. PASSAGE 4

### A1. Read the following passage carefully and answer the question that follow :

1. It was all very, very romantic. The night sky above the Amber fort, atop the craggy hills overlooking what is now Jaipur city, was at its most enchanting. And on a terrace watching the moon and the stars were a princess and a king. The princess had only that day been rescued by the king from a gang of brigands. They were both comely and in love with each other.
2. But, alas for romance. Though the princess did say it was heavenly, with something of a sigh of rapture, the question she asked was one that no Hollywood or Bombay film script writer would have ever thought of putting into the mouth of any of his heroines. The question was, How far away are these stars and the moon?"
3. If the lover in the king was abashed by the question, so also was the astronomer in him. For the king, Sawai Jai Singh II, who had long been interested in astronomy, did not know the answer. Then the princess gently chided him for his ignorance, all thoughts of romance fled and he decided that he must find the answer to her question. The princess he had rescued, a Muslim, thus set the Hindu king to a course that made him one of the greatest astronomers and mathematicians of his time.
4. Astronomers were invited to his court for study and discussions and the king read all the treatises he could find on the subject. Although history has forgotten the name of that beautiful princess, the *Jantar Mantar* (observatories) which the king built to gain her love and admiration still stand in New Delhi, Jaipur, Varanasi and Ujjain. Unfortunately, the one at Mathura was destroyed by building contractors who wanted the stones.
5. When Jai Singh was born in 1686, the Mughul Empire was about to disintegrate. He managed to keep good relations with Emperor Aurangzeb from the age of 13, when he succeeded to the throne of Amber. He even won the Emperor's heart when in 170 he defeated the Marathas in battle and captured the Vishalgarh fort. The Emperor honoured him with the title of "Sawai", meaning that he was a quarter more than a man.
6. With the death of Aurangzeb in 1707, the Moghul empire began to crumble. Conspiracy, assassination and dirty politics became a part of the proceedings at the Delhi court. Finally, Muhammad Shah, a young lad of 19, was installed on the throne in Delhi in 1719 and surprisingly survived all attempts to dethrone and assassinate him. His 20-year rule ended when Nadir Shah defeated him in the battle of Panipat, sacked Delhi and took away the famous Peacock Throne.
7. During those turbulent times, King Jai Singh was consolidating not only his political position but his stature as astronomer and architect. In 1727 he planned and designed a new capital Jaipur (Jai's City), marvellous example of town planning and architecture. He made Pandit Jagannath, a Maratha Brahmin well versed in Persian, Sanskrit and Arabic, his *guru*. He collected astronomical treatises and tables from Portugal, Arabia and Europe. His collection included the English

astronomer, John Flamsteed's *Historia Coelestis Britannica*, Pere de la Hire's *Tabulae Astronomicae*, Ulugh Beg's tables, Zij *Ulugh Begi*, and Ptolemy's *Almagest*.

8. He ordered the translation of these treatises into Sanskrit and gave them Sanskrit names. For instance, he called Ptolemy's treatise *Siddhantasurikaustubha*, Ulugh Beg's tables *Turusurni* and la Hire's tables *Mithiajeevachayyasurni*. He also got a telescope from Europe and even began to build telescopes.
9. In 1724, the first *Jantar Mantar* was built in Delhi and in 1734 Jai Singh published his observations made in Delhi in the form of tables in Persian titled *Zij Muhammad Shahi* in honour of his patron, the Emperor. *Jantar Mantar* is the distorted form of the word which in Sanskrit means "instruments and formulae." For designing these massive instruments Jai Singh consulted Pandit Vidyadhar Bhattacharya, who later also assisted him in designing Jaipur city. In those days, small brass instruments were in use in Europe, but Jai Singh preferred the huge masonry structures of lime and plaster he built similar in design to those in Ulugh Beg's huge observatory in Samarkand. He claimed that these were far more accurate. He made his observatories available to anyone who wanted to study astronomy, hoping to make the science popular.
10. Among the instruments he designed himself are *Samrat Yantra*, *Ram Yantra*, and *Jai Prakash*. The first is basically a huge right-angled gnomon, a kind of sundial, which measures time to an accuracy of half a minute. It is also used to determine the altitude of the sun and the positions of equinoxes and solstices. The *Ram Yantra*, a tall pillar inside a graduated cylinder, measures the altitude and azimuth of heavenly bodies to a high degree of accuracy.
11. Jai Singh made two fundamental contributions to astronomy. One is the measurement of the precession of the equinoxes and the other the obliquity of the ecliptic. His findings are far more accurate than those of his predecessors like Ptolemy and Ulugh Beg.
12. Surprisingly, Jai Singh confined himself to observation. He never gave thought to whether the earth moves round the sun or vice versa. He accepted Ptolemy's geocentric concept of the universe. Copernicus's heliocentric concept, which claims that the sun is at the center, and all the planets, including the earth, move round it, a widely accepted view then in Europe, made no impression on him. It is possible that he deliberately ignored the Copernicus concept fearing that his support to it would upset the priests.

**On the basis of reading the above passage, answer the following questions :**

1. What did the princess ask the king? Why was he abashed by the question? 2
2. What does the word Jantar Mantar mean? Why did Jai Singh build Jantar Mantar? 2
3. How did the political condition of Delhi deteriorate after the death of Aurangzeb. 2
4. Who was the guru of Jai Singh? 1
5. What are the two fundamental contributions of Jai Singh to astronomy? 2
6. Find out words from the passage which mean the same as the following : 3
  - (i) Steep and rocky – Para 1.
  - (ii) long written work dealing thoroughly with one subject – Para 8.
  - (iii) Intentionally – Para 12.

## A1 PASSAGE 5

### A1. Read the following passage carefully and answer the question that follow :

1. "Can it be true" King Vikramaditya asked in anguish, looking around the well-lit and crowded court. On one replied. All were shocked by the royal astrologer's prediction. "Yes , my lord, this is so, however bitter it may be for you," replied the royal astrologer, breaking the silence. His voice was full of grief. Yet it was authoritative. The position of the planets predicts the death of the prince at the age of 18."
2. While the King controlled his emotions, the Queen, sitting beside him, could not contain herself. "No! No!" she wailed. "my lord, you should see to it that this prediction proves false."
3. Though the King had full faith in his astrologer, Mihira, he took every precaution to save his son. But, on the predicted day, a boar killed the prince. When the news reached the King, he immediately summoned Mihira to his court. "I am defeated, you have won," he told Mihira. The astrologer was as sad as the king. he said, "My Lord, I have not won. It is the science of astronomy and astrology that has won." "Whatever it may be, my respected astrologer," said the King, "it has convinced me that your science is nothing but truth. And for your mastery of the subject, i now confer upon you the Magadha kingdom's greatest award, the emblem of the *varahan* (boar)." From that time Mihira came to be known as Varahamihira.
4. Varahamihira was born in 499 A.D. into a family of Brahmins settled at Kapittha, a village near Ujjain. His father, Adityadasa, was a worshipper of the sun god and it was he who taught Mihira astrology . On a visit to Kusumapura (Patna) young Mihira met the great astronomer and mathematician, Aryabhata. The meeting inspired him so much that he decided to take up astrology and astronomy as a lifetime pursuit.
5. At that time, Ujjain was the centre of learning, where many schools of arts, science and culture were blooming in the prosperity of the Gupta reign. Mihira, therefore, shifted to this city, where scholars from distant lands were gathering. In due course, his astrological skills came to the notice of Vikramaditya Chandragupta II, who made him one of the Nine Gems of his court. Mihira travelled widely, even as far as Greece. He died in 587.
6. Varahamihira was learned in the *Vedas*, but was not a blind believer in the supernatural. He was a scientist. Like Aryabhata before him, he declared that the earth was spherical. In the history of science he was the first to claim that some "force" might be keeping bodies stuck to the round earth. The force is now called gravity.
7. He committed one blunder, however. He was sure that the earth was not in motion. "Had it been so," he said, "a bird moving in the direction opposite to the earth's motion (which is westwardly) would return to its nest as soon as it had flown from it."
8. Varahamihira made some significant observations in the fields of ecology, hydrology and geology. His claim that plants and termites serve as indicators of underground water is now receiving attention in the scientific world. He was also a prolific writer. His mastery of Sanskrit grammar and poetic metre enabled him to express himself in unique style.
9. His encyclopedic knowledge and his lively presentation of subjects, as dry as astronomy, made him a celebrated figure. His treatises such as *Panchasiddhantika* (Five Principles), *Brihatsamhita*

(Master Collection), *Brahjjataka* (Astrological work), have put him on as high a pedestal in astrology as Kautilya's in political philosophy, Manu's in law, Panini's in grammar.

10. About his own treatises Varahamihira says: "The science of astrology is a vast ocean and it is not easy for everyone to cross it. May treatises provide a safe boat." That was no boast. Even now they are acknowledged as masterpieces.

**On the basis of reading the above passage, answer the following questions :**

1. Who was Mihira? Why was everyone shocked by his prediction? 2
2. How did Mihira come to be known as Varahamihira? 2
3. Why did Mihira decide to take up astrology and astronomy? Where did he study these subjects? 2
4. What is his greatest contribution to the history of science? 1
5. "Mihira was a versatile genius". Justify. 2
6. Find out words from the passage which mean the same as the following :
  - (i) Cried – Para 2.
  - (ii) Stupid mistake – Para 7.
  - (iii) Recognized – Para 10.

**A1. Read the following passage and answer the question that follow :**

1. What is poetry? poetry means saying something in a very expressive way using beautiful words which have a much deeper meaning than the words used in ordinary writing (which is called prose), and intense and ardent feeling in our minds. In prose, we may write things in a strong, forceful manner, but in a poem we give expression to our feelings and sentiments in highly emotional ways. Prose is usually matter of fact, but poetry is full of sentiment.
2. Many figures of speech are used while writing poetry. A poet may think quite a lot before finding the right word to describe his feelings. A great deal of rhyme and rhythm also is used. Owing to which poetry produces a musical effect apart from intense emotional feelings, when it is read aloud. Poetry also uses much imagery, that is, the poet's effort to create visual pictures by the words he uses.
3. Sometimes poets go beyond strict rules of grammar and syntax while writing poetry so that they can create the right effect or the right rhyme. Such action of taking liberty is called "Petic licence".
4. *A poet's imagination is not done till he flies beyond the sun.* Shall we take an example? Let us say that we want to say something about how we can learn to grow and develop by following the good examples of the lives of great people who lived in the past. We can, no doubt, write convincingly and forcefully about the advantage of following the principles of men and women who have led successful lives. But let us see how the same idea was expressed by a poet in a few poetic lines :



*Live of great men remind us  
We can make our lives sublime  
And departing leave behind us*

5. *Footprints on the sands of time.*"
6. Do you know the name of the poet? Henry W. Longfellow.
7. Take another example. Let us imagine we want to write about our strong desire to keep our word. Life has many attractions and we may find many temptations in our way, which may prevent us from fulfilling our commitments. But we have chosen a certain career and dedicated ourselves to certain goal. We are determined to achieve the goal at any cost.
8. Now let us see how the poet. Robert Frost expressed the same idea in words which are deep and filled with feelings!

*'The woods are lovely, dark and deep  
But I have promises to keep  
And miles to go before I sleep  
And miles to go before I sleep.'*

Do you know the name of the poem?

Have you heard of the poem in which the poet Wordsworth says :

*And then my heart with pleasure fills  
And dances with the daffodils*

Usually poetry is written in short lines. A set of such lines is known as a stanza. In many cases rhyme is used, both at the end of the lines and sometimes at the beginning or in between too. In that case such a rhyme is called "alliteration". But we should remember that a rhyme alone does not make poetry. Poetry lies in the selection of beautiful and meaningful words. A rhyme is only an added attraction. Beginners who are learning to write poetry may use rhyme to a large extent. As an example of rhyme, we can recall nursery rhymes where rhyme was the leading method of teaching to the little ones.]

*Jack and Jill,  
Went up the hill  
To fetch a pail of water  
Jack fell down and broke his crown  
And Jill came tumbling after.*

10. We can see several examples of rhymes in nursery rhymes and other poems. But what about alliteration?
11. In the line by Wordsworth quoted, there is alliteration also. See the words dances and daffodils,. The use of many figures of speech, especially those dealing with soul effects and the use of rhythm and selection of words with appropriate sounds brings poetry close to music, song and dance.

12. In the olden days, people wrote plays in poetic style. Shakespeare and some other dramatists wrote their plays in the form of poetry. Shakespeare chose iambic pentameter. That is to say, each line has five feet and each foot has two syllables. The accent is placed on the second syllable.

13. There are many forms in which poetry is written. In general, poetry is called “Poem” or “verse.” The *sonnet* is a special type of poem which has 14 lines. Shakespeare has written many sonnets, though we are more familiar with his plays. Other well-known poets who have written sonnets are Keats,.....

Milton and Wordsworth. The name sonnet has come from the Italian word *sonetto* meaning sound.

14. Another poetic form is the “ode.” This is a poem which is usually written in praise of some person, object or a concept. The ode is of Greek origin. (The Greek word *oide* means song.) You must have heard of Shelley’s *Ode to a Nightingale*.

15. A “lyric” is a poem written usually briefly and in stanzas. Lyrical poems are meant to be sung. We read about the lyrics of a movie and the lyricist who writes the songs for the movies.

16. Another type of poetry is called the “ballad.” This is a song which describes the greatness of a popular, historical hero or narrates a heroic story in song form. This was developed in Europe in the Middle Ages. Poets like Sir Walter Scott, William Wordsworth and Samuel Taylor Coleridge wrote ballads.

An “epic” is a long historical poem concerned with heroism. Have you heard of the epic called *The Iliad* written by Homer, the Greek poet? You must have surely heard of Milton’s *Paradise Lost*.

**On the basis of reading the above passage, answer the following questions :**

- |  |   |
|--|---|
| 1. Mention any two differences between poetry and prose.       | 2 |
| 2. How does poetry produce a musical effect?                   | 1 |
| 3. Why do poets want to go beyond rules for writing poetry?    | 1 |
| 4. Explain ‘alliteration’ in poetry.                           | 2 |
| 5. What kind of poetry did Milton, Wordsworth and Keats write? | 1 |
| 6. What is the theme of a ‘ballad’?                            | 2 |
| 7. Find words from the passage :                               |   |
| (i) very great or severe – Para 2.                             | 1 |
| (ii) To stop somebody to do something – Para 7.                | 1 |
| (iii) To give or devote oneself thing – Para 7.                | 1 |

## PASSAGE 7

### A1. Read the following passage and answer the question that follow :

1. Bang! A bird fluttered for seconds and fell to the ground. A ten-year old bespectacled boy, who had shot the bird, ran and picked it up. The bird looked like a house sparrow but, to the boy's surprise, it had a yellow patch on its throat. Puzzled, the boy took the sparrow to his uncle, Amiruddin Tyabji, a big game hunter and asked him what kind of bird it was. His uncle did not know, but took the boy to the office of the Bombay Natural History Society, a tiny room in a huge building in Apollo Street. The boy was introduced to W.S. Millard, the honorary secretary of the society.
2. Millard was amused to find an Indian boy keen to know the kind of sparrow he had bagged. He took him around the room, showing the many varieties of stuffed birds preserved there. One after another, drawers were opened and birds were displayed to the boy, who had not even imagined that so many kinds of them existed. He gasped when Millard opened a drawer, which contained a large variety of sparrows. Examining carefully, Millard picked up one and showed it to the boy sure enough, the bird was exactly like the one he had brought with him—a yellow throated sparrow. "Uncle Millard," the boy exclaimed. "I didn't know there were so many kinds of birds! I wish to learn about them all! Millard smiled and nodded. He had till then not seen so much enthusiasm about birds even in an adult. Thereafter, the boy became a frequent visitor to that office. He began to learn how to identify a bird and stuff it for preservation.
3. The boy was Salim Moizuddin Abdual Ali, better known as Salim Ali, bird watcher extraordinary. Born on November 12, 1906, Salim Ali was interested in birds till the end. He was a recipient of the J. Paul Getty Wild Life Conservation Prize for his contributions to ornithology the study of birds. He won several national honours and awards as well.
4. Surprisingly, Salim Ali had no university degree. Although he joined college, his intense dislike of algebra and logarithm did not allow him to continue his studies. He left for Burma to help his brother in wolfram mining. But here again he proved a failure. In the jungles of Burma he looked for birds instead of wolfram.
5. When he returned home he did a course in Zoology and was appointed a guide at the museum of the Bombay Natural History Society. For some advanced training in stuffing and skinning of birds he went to Germany. But when he returned a year later, he found himself on the streets. For lack of funds his post in the museum had been abolished in his absence.
6. Salim Ali was a married man and badly needed a job. But the best he could hope for was a clerk's post and that would leave him little time to pursue his interest in birds. Luckily, his wife had a small income and could support him. They moved to a small house at Kihim, across the harbour. It was a quiet place set in the midst of trees. When the monsoon came that year, salim Ali found a colony of weaver birds on a tree near his house. Not much was known about weaver birds then and it was a golden opportunity for Salim Ali to study them. For three to four months he patiently watched the activities in the colony for hours on end. The publication of his findings in 1930 brought him recognition in the field of ornithology and he won high acclaim.
7. The months he had spent watching the weaver birds also taught Salim Ali the importance of making first-hand observations and not to accept blindly the notions of anyone, however famous. He checked his observations several times and did not jump to conclusions. This gave his

opinions great authority and sometimes brought him into confrontation with others considered to be doyens among ornithologists.

8. A famous instance was his observations on the growth of the tail feathers of the racket-tailed drongo. A leading ornithologist claimed that Salim Ali's observations were wrong. But eventually, Salim Ali was proved right. His discovery of Finn's Baya is also a major one. This bird was believed to have been extinct for 100 years until he discovered it in the Kumaon hills.
9. As a boy Salim Ali had felt the need for a good book on Indian birds. The few books then available were without illustrations and contained long, dull descriptions, which were more likely to kill than kindle interest in birds, especially among young readers. In 1941 he tried to remedy this. *The Book of Indian Birds* that he wrote contained lively descriptions and coloured pictures of every species. It made spotting a bird easy for the layman.
10. In 1948 he began an ambitious project in collaboration with S. Dillon Ripley, an ornithologist of international repute, to bring out in ten volumes *Handbook of the Birds of India and Pakistan*. The work contains all that is known of birds of the subcontinent, their appearance, where they are generally found, their breeding habits, migration and what remains to be studied about them.
11. Salim Ali travelled all over the country on his birdwatching surveys. It is claimed that there is hardly a place in the country where his heavy rubber shoes have not left their mark. Salim Ali died in 1987.

**On the basis of reading the above passage, answer the following questions :**

1. How did Millard feel seeing the boy at the office of the Bombay Natural History Society? 1
2. What was Salim's passion? Which award was conferred upon him? 2
3. Why couldn't Salim continue his studies? What did he do then? 2.
4. How did Salim's visit to Germany put him into trouble? 2
5. Which project did Salim start? How is it significant for study of birds? 2
6. Find words from the passage which mean the same as the following : 3
  - (i) Post for which no payment is made – Para 1.
  - (ii) Shelter for ships – Para 6.
  - (iii) Persons engaged in scientific study of birds – Para 7.

## NOTE-MAKING

### PASSAGE 1

**A2. Read the following Passage Carefully and answer the questions that follow :**

Most men and women dream of leading thousands of people. Actually, however, leadership always begins with two people. If you can give one other person besides yourself a feeling of the worthwhileness of his life; if you can help him with his problems, and enable him to see where his abilities can lead, you will be a leader in his eyes.

That is the first step every leader must take; to influence and help one person. No man, as John Donne once pointed out, is an island detached from other man. We are all pieces of the main land. Therefore, it is perfectly natural that we should all want to make ourselves count with others.

What is leadership? How can we achieve it? You must make yourself count in a group. The nice, weak-chinned individuals who never dare put forth their own views are not sought after. Says Dr. Bonney, "To be popular a person must make himself count in a group."

It is equally evident that no adult is liked because of any particular traits, but because of the total impression he makes. A person is well accepted more because of what he is and does in the way of making a contribution that because of one or more of the traits, is usually considered necessary for winning friends.

Even if you have a moderate amount of obnoxious traits, such as being bossy or untidy, you may yet be the most popular if you have strong, aggressive traits which contribute to success.

Try to do things for the groups and promote your group, not yourself.

Put service ahead of self. In the same way, every adult who puts service ahead of self can become important in what he is seriously interested.

Find an activity you consider worthwhile. Most organisations are in need of workers willing to do all kinds of difficult jobs. Since desirable activities often start in a small way, the important step is to make sure that you consider the job worthwhile before you undertake it.

The men who do not have the coverage of their own convictions are submissive, compliant, have a narrow range of interests, unable to make decisions, and are poor leaders.

Those who cling to their opinions when they are right, even though others hold contrary views, are efficient, capable, persuasive, self-reliant and independent in judgement, they are very effective leaders.

Among the other traits found in leaders are tolerance, social participation, and a sense of responsibility.

You can become a leader if your motivation is strong. Anyone can if he/she is filled with a sense of importance of the job he/she wants to do. To become a leader, you must begin with something in which you earnestly believe.

Listen to others. Always allow your schedule to be flexible, so that if someone comes to you for advice or help, you will find time at least to listen to him. Try to be a source of comfort and help at least to your acquaintances and friends.

Give some part of yourself away everyday. The more you give, the more you will get back, in terms of a richer, fuller life.

***On the basis of reading the above passage, answer the following questions :***

1. On the basis of your reading of the above passage make notes on it using leadings and subheadings. Use recognizable abbreviation (minimum four) wherever necessary. Suggest a suitable title. 5
2. Write a summary of the above passage in about 80 words, using the notes made. 3

## PASSAGE 2

### A2. Read the following Passage Carefully and answer the questions that follow :

1. The Approach between Kulu-Manali and Lahaul-Spiti via the Rohtang Pass did not exist in ancient times. The ancients called *Kullu Valley Kulantapitha* (the end of the habitable world). Perhaps they tried to climb out of Kullu Valley into Lahaul via the Rohtang Pass but did not succeed. According to a legend, the Lahaulis came to know about the existence of profitable markets in the south through the birds and the winds. Forthwith they *beseached* Lord Shiva to open the ice-bound high barrier separating the two valleys. Lord Shiva *acceded* to their request and struck down the barrier but cautioned them to beware of the strong winds at the Pass. But now there are three *distinct* routes up the Pass. A short cut, with steps cut of mountain slope much of the way. Second : a mule *track* which is a bit less uncomfortable. Lastly the tarred road which climbs from Manali to the top of the Pass in 51 very pleasant and memorable kilometres. An adventurous tourist may take any of the three routes.
2. The road from Manali to Rohtang climbs through some of the most breath-taking scenery. The lower reaches pass through pine, fir and birch clad hills and small sheltered valleys. The vegetation on these hills is *lush* and varied. Wild flowers lie in abundance on the slopes. As one climbs, trees give way to grassy slopes and these in turn are replaced by rugged cliffs and deep, dark gorges resounding with raging torrents.
3. When one reaches the top, one does not find any narrow opening in the mountain range. The pass is one kilometre wide and one can have a majestic, *panoramic* view. One wonders why this place came to be called a pass. On both the sides there are vast meadows. This is the place where Kullu ends and Lahaul with *lunar landscape* begins.
4. *Straddling* the Pir Panjal range, this 13400-foot high pass lies on the old trade route to Central Asia. This has also been a gateway to Lahaul and Spiti and over the *Baralacha Pass* to Ladakh and far away Tibet. For centuries Ladakhi and Tibetan traders have passed-along this route with their merchandise. They brought salt and borax on their *pack ponies* and carried back loads of sugar, tea, foodgrains, oil etc. Via this route also came the famous Yarkand horses from Central Asia.
5. The word Rohtang is of Tibetan origin and means 'of lost souls'. This is strictly a fair weather pass. At the top *blizzards* rage almost all the year round except during three or four months and that also not always. Even at the height of summer it is bitterly cold. *Hurricane* winds hit the pass almost every day and around mid-day. Tourists are repeatedly warned not to stay up after mid-day or they might be blown off. Making an afternoon drive up or down the road is a very dangerous venture. There have been many cases in which men and sheep crossing the Pass were blown off. Many people are also known to have been buried under snow-drifts at the top of Pass.

### On the basis of reading the above passage, answer the following questions :

1. Give the suitable title of the passage and make notes on it using appropriate format and abbreviations, (minimum 4) wherever necessary. 5
2. Write the summary of the passage in about 80 words. 3

### PASSAGE 3

#### A2. Read the passage given follow and answer the question that follow :

There is nothing more damning and deplorable than the fact that it is not just India's national animal 'tiger' which is in danger at the hands of poachers but other animals in the wild such as elephants, rhinos and critically endangered *gharials* who are equally under threat of being poached and rendered extinct in the years to come. Official figures, if not fudged, suggest in no uncertain terms that India's wildlife has been under threat for quite some time. A few steps taken by the Central and State governments, it seems to our dismay, have not deterred the poachers and others of their ilk from playing havoc with Indian's diverse and unique wildlife spread across the landscape of varying shapes and colours, climate and topography. The 'Wake-up call' is there is rise and act now or never. There is no option but to address the problem in all seriousness by taking such effective and pragmatic steps as are urgently required to protect our wildlife it gets too late to mend the matters.

In order to meet the challenge posed, the Finance Minister announced a special grant of Rs. 50 crore in the Budget (2008-09) to raise a tiger protection force and thus enable the National Tiger Conservation Authority to redouble efforts to protect the big cat.

In the case of *gharials* the reason for their decline over the years has been attributed to possibility of nephro-toxin entering the food chain and loss of habitat due to illegal sand mining. These aberrations, coupled with poaching, shrinking of the forest areas as a result of urbanisation, mining and industrialisation need to be rectified by devising such ways and means as are practical and do not come in the way of economic development.

The constitution of multidisciplinary Tiger and other Endangered Species Crime Control Bureau, comprising officers from the police, forest, customs and other enforcement agencies, is one of the most effective ways to control illegal trade in wildlife. An increase in patrolling and co-ordination with other lawenforcing agencies at the State level can go a long way in addressing the problem and thus protecting the wild-life in India.

#### ***On the basis of reading the above passage, answer the following questions :***

1. On the basis of your reading of the above passage, make notes on it using headings and subheadings. Use recognizable abbreviations (minimum 4) wherever necessary. Give a suitable title to the passage. 5
2. Write a summary of the passage in about 80 words using the notes. 3

### PASSAGE 4

#### A2. Read the passage given below and answer the questions that follow :

There is no denying that urban India is getting congested and crowded beyond its known means of tackling day-to-day needs of its people, as a result of which the entire urban scenario tends to get vitiated with all hues and types of crime and violence. The ground realities call for deep introspection on the part of those who are supposed to run the affairs of the State and take such suitable and stringent steps as can ensure safety for urban citizens, both at homes and on the roads. It is nobody's demand that we should have a utopian State where milk and honey flows and people can leave their hearths and homes unlocked without any trace of anxiety and angst on their faces, What a civilised

society like ours requires is an atmosphere of reasonable safety and security in the fast growing urban milieu. In order to realise such an ambience of peace, certain measures have to be taken to establish the rule of law where it has either been allowed to disappear or implemented half-heartedly.

No doubt, urban India offers a multitude of opportunities, both for those who come to earn as also to those who *are eager* to learn. Coupled with this rosy side of the picture, is the growing perception that there are too many hazards that urban dwellers have to face day in and day out. The increasing incidents of chain/purse snatchings, road-rage, dacoities, house breakings, cold-blooded murder of elderly people by domestic help, are some of the dark spots that send the chill down the spine of urban dwellers. Eve-teasing and molestation of women, kidnapping of children are all signs of a worsening law and order situation. In order to meet the menace head-on and make urban life safe, it is incumbent on law enforcing agencies to strengthen their intelligence network and the urban dwellers, particularly the women to be vigilant all the time.

The tendency on the part of 'Powers-that-be' to remit sentences of those undergone jail-terms for serious crimes, is not only a practice bad in law but also suspect in intent and purpose. Such an uncalled-for generosity should be avoided because it sends a wrong signal to other prospective law-breakers.

**On the basis of reading the above passage, answer the following questions :**

1. On the basis of your reading of the above passage, make notes on it using headings and subheadings. Use recognizable abbreviations (minimum 4) wherever necessary. Give a suitable title to the passage. 5
2. Write a summary of the passage in about 80 words using the notes. 3

## PASSAGE 5

**A2. Read the following passage and answer that question that follow :**

### PRACTICAL HINTS FOR WRITING

Do you ever complain that you "can't get ideas"? The biggest block to the flow of ideas? The biggest block to the flow of ideas is lack of action. You have to work. When you have an idea that calls for creative effort, *begin immediately*.

Your first job, then, is to get started, and the sooner the better. You have time to weigh and consider and to select the important from the unimportant. You have time to stumble on a lot of good ideas that you need.

The subconscious comes up with a lot of assistance. You may be reading a newspaper when suddenly an idea comes for solving the problem or helping in some phase of it. For instance, something you read or see may prompt you to remark, "say, I could change that a little, and it would be the very thing I need."

Something you read gives you a hint although it may have nothing to do with the problem.

If a report or paper is due in week, for example, you might plan it like this : Allow four days for getting ideas and gathering information, one day for writing the first draft of the paper, and two days



for revising and putting it in its final form. As a general rule, you should always allow more time for getting ideas and information than for writing the paper, or whatever is called for.

In planning your time, you should also outline on paper your tentative plans. Write down the skeleton ideas around which your project will be based. These ideas you will undoubtedly change or enlarge later.

Ideas that seem perfectly clear will escape you later—if you do not write them down. Besides, if you dash off thoughts when they occur to you, you are more likely to express them in a fresher, livelier manner.

Read books, magazines and newspapers or any source of information you find. Do not hesitate to ask librarians for help. They are experts at finding information.

Do not forget the dictionary! It is an excellent source of information and ideas. You can often pick up a lot of thoughts by simply thumbing through the dictionary and investigating the words that pertain to your project.

Other good sources are : General encyclopedias such as *American Peoples Encyclopedia*, almanacs such as the *World or Information Please* almanacs, handbooks such as the *Readers' Handbook* or those published in radio and engineering, biographical dictionaries, *Who's Who*, and Year Books.

All the ideas, facts, information, and plans you have should be put on paper.

Seek new ways of doing the job. Look for new angles or twists that you can apply to it. When you do this with an inquisitive mind, you often can take something old and give it a brand new look, or take something new and improve it considerably.

Things in motion tend to remain in motion; things at rest tend to remain at rest. When you act, you get ideas; when you remain inactive (inert), you can do little except complain, "I can't think of anything."

The work part can be fun—it is the waiting, indecision, and frustration that cause most of the trouble or unhappiness that is often experienced by some.

The technique of taking good notes is the most valuable skill you can acquire, its mastery will require planned practice on your part.

The very act of writing key ideas and information multiplies your chances of learning and remembering them.

When you hear an idea, this makes an impression on your mind: when you write the idea, you see it.

In the learning process, most of us are more "eye-minded" than "ear-minded." That is, as a rule, we grasp eye impressions more quickly and retain them longer. In fact, it is estimated that over 85 per cent of what we have learned has been gained through the eyes.

**On the basis of reading the above passage, answer the following questions :**

1. On the basis of your reading of the above passage, make notes on it using headings and subheadings. Use recognizable abbreviations (minimum 4) wherever necessary. Give a suitable title to the passage. 5
2. Write a summary of the above passage in about 80 words using the notes. 3

## PASSAGE 6

### A2. Read the following passage and answer the question that follow :

If there are some people having a sound knowledge of country's economy, its future prospects and also the likely impact of continuing subsidies on certain inputs and products on the economic health of States, there are others equally well-versed with the socio-economic conditions of the masses who need subsidies to subsist, and hence are strong advocates of giving subsidies where they are needed the most. In an economy plagued by disparities of income, we cannot afford to do away with subsidies, simply because they are a drain on the State's finances. Subsidy by itself is not a dirty tool, as it is made out to be by some. It is a support badly needed by the marginalised groups who cannot stand up against big, fish whether individuals or nation-States. Freebies and not subsidies are a drain on the economic resources of a State. To farmers with small land holdings, subsidised fertilisers and other inputs are a boon and not a bane. Even subsidised essentials of life, distributed through the Public Distribution System for those living below the poverty line, are justified both on moral economic grounds. The problem arises only when funds meant for socio-economic uplift of the down-trodden are swindled and subsidised food articles for the poor and the deprived find their way to the open market.

No doubt, offering subsidies where they are needed the most is the government's prerogative. But this should not be done at the cost of the State's financial health. They should be need-based and in no case should they be used to feed and fuel 'vote-bank' politics. If populism is bad, doles and sops for ulterior motives and purposes is worse.

Some right thinking people have described subsidies as a necessary evil that needs to be rationalised by following a need-based and transparent approach. As for the adverse impact on the economy, it can surely be negated by improving tax collection, attracting investment and cutting down on wasteful government expenditure. All said and done, the critics of subsidies, and especially of freebies of any kind or sort, describe them as crutches. If used long, these will not allow the beneficiaries to pick up the strength on their own. Anything given free or subsidised will only give rise to corruption and other malpractices.

### *On the basis of reading the above passage, answer the following questions :*

1. On the basis of your reading of the above passage, make notes on it using headings and subheadings. Use recognizable abbreviations (minimum 4) wherever necessary. Give a suitable title to the passage. 5
2. Write a summary of the above passage in about 80 words using the notes. 3

## PASSAGE 7

### A2. Read the following passage and answer the question and that follow :

The dictionary defines luck as good fortune, events in life that cannot be controlled and seem to happen by chance. There are often too many people who explain their failures and ascribe them to ill luck. "Lady Luck did not favour me." "I ran into major bad luck." "I am one of the unlucky ones around not to have landed a promotion" and several other statements like that. The idea in a defeatist mind is merely to pin the blame instead of working out the real reasons and to get going again in case results have not been in favour. Luck is a very small component of the outcome and has little say. Though to

the contrary, the factor has been wrongly understood as a miraculous property that will bring about success against all odds, including indolence and apathy.

The prerequisites of success are actually sound vision, diligence, being passionate about goals, striving to build lasting relationships, enduring effort at self-improvement, self-discipline and taking risks without them being quixotic. Beyond that, all that remains is simply luck. Edison had defined genius thus : One per cent inspiration, 99 per cent perspiration. It is now a cliché but there is nothing else that captures the spirit of the theme as it does. People who seemingly are the world's envy and possess much of the world's wealth did not merely strike luck. These are the people who have worked hard at arriving where they are currently and keeping it that way.

It is, however, a different story that there may be people who live lives of inaction and train guns at the 'lucky' guys who have all the wealth and power due to a stroke of fate, some part of which could otherwise have been theirs. What they choose to selectively ignore is that the successful people work hard to put themselves into a position where good fortune can find them.

There is still further a catch to it. If merely hard work was the key, a lot of people would have struck gold by now. But simply working hard does not pay. Edward de Bono, one of the well known motivational writers of today clearly puts it. "Certainly there are people who seem to think that hard work is a substitute for strategy, but filling time is not the same as time management. Being busy is not the same as working. Dealing with the urgent is not the same as dealing with the important."

There will be many people who exhort to others to put in hard work, to add sincerity to purpose but there are only a handful of them who know that thinking clearly, encompassing all factors and then taking a call are the first steps towards progress. Successful people do often enjoy their work that it does not seem like work. The process of clear thinking should be taught to the children early on so that they do not swim in the waters of confusion, wasting precious time. The children as well as young adults have to identify goals step-by-step. It is undoubtedly true that everybody wants to be rich, but the people visualize themselves in future is extremely abstract and cannot be laid in concrete, measurable terms that can be worked upon. The better defined a goal is the chance of attaining it are equally better.

Everything you are and have today is the exact summation of countless thousands of little choices and decisions you made from the day you were first consciously able to make such choices. And stating it simply, those choices were mainly between action and inaction. Or putting it another way, between action and laziness. I'm not talking big, life-changing decisions here. I'am talking about tens of thousands of day by day, minute by minute choices like "shall I get up or lie in bed for another half hour?" It is the small choices which matter. The little day by day disciplines build into an inexorable force propelling you towards success and wealth.

Therefore to wail about the fickle nature of Lady Luck is not a great idea, getting on with life of action and working towards attaining goals is.

***On the basis of reading the above passage, answer the following questions :***

1. On the basis of your reading of the above passage, make notes on it using headings and subheadings. Use recognizable abbreviations (minimum 4) wherever necessary. Give a suitable title to the passage. 5
2. Write a summary of the above passage in about 80 words using the notes. 3

## SECTION B

35 marks

### ADVANCED WRITING SKILL

- Q. 3–5 marks  
4–10 marks  
5–10 marks  
6–10 marks

### ADVERTISEMENTS

#### Points to Remember

##### (a) Types

- (i) Classified
- (ii) Display

Classified Advertisements are covered through different headings :

- Property/To let/For sale/Accommodation available :
- Employment-Situation jobs vacant/Jobs wanted/lost and Found/Vehicles/Pets and Kennels.
- Educational/Missing Persons? Language courses/ Hobby classes.
- Utility services : Packers and Movers/ Tour and Travels
- Vehicles : For sale
- Tenders

##### (b) How to Write an Advertisement

- Write in a box
- Specify the category of the advertisement, underline it.
- Educational. To Let/For Sale etc.
- Be brief, give only relevant information.
- Information in abbreviated and short forms is acceptable.
- Must mention contact address and telephone no.
- classified advertisements should not be spread out but should be written in running lines.

- Language-formal and concise, not in complete sentence.
- Display ads. may be spread out, written in Catchy and persuasive language to make them attractive; language to be in complete sentence, Visual and slogans may be used, designed for commercial purpose.

## **PROPERTY**

### **FOR SALE/PURCHASE/TO-LET ADVERTISEMENTS CHECKLIST**

#### **Points to Remember**

- Details of the kind of house (Flat/ independent house/ first floor/ farm house).
- Details about surrounding-centrally located, facing park, near railway station, airport/shopping complex.
- Covered area and kind of colony-posh colony.
- details of inside of the house : no. of rooms, drawing-cum-dining, kitchen, baths, servant quarters, garage, lawn etc.
- Use adjectives like airy, well-Ventilated, fully furnished, brand new, newly constructed etc.
- Whether to be given on company lease.
- Expected rent/ price.
- contact address and telephone number; e-mail address.
- Begin with 'Available' if you are to sell/ let out your house.
- Begin with 'Wanted' if you require an accommodation on rent/for purchase.

### **DISPLAY ADVERTISEMENTS**

Details to be included :

- Name of company/institute/organisation.
    - Details regarding product, event, educational courses etc.
    - Special offers/discounts, if any.
    - Address of the company/institute/organisation.
1. M/S Wing Sung have launched a new washing machine named 'Soft Wash'. Draft an advertisement for a local daily to promote the sale of the new model. Offer a Festival bonanza : free mobile phone.
  2. You are the Manager of Himalaya Publications, Kashmere Gate, Delh. Draft a display advertisement for a book fair that your publishing house is going to organize next week.

3. You have opened a readymade garment shop in Lajpat Nagar, Delhi. As inaugural offer, you are giving 20% discount on all garments. Design a display advertisement in not more than 50 words.

## MISSING PERSON/PET ANIMALS

### Point to Remembers

Details to be given :

- Name, age, sex of Child/Person/Pet.
  - Built-tall/medium built/slim/fat etc.
  - Height (person).
  - Complexion, colour of hair, eyes (Person).
  - Specify when and where he/she was seen last and in which clothes.
  - Any particular mark/scar or characteristic which will help in locating the person.
  - Specify any message. Reward.
  - Contact-name/address.
  - Pet (specific)-breed, colour of fur/skin etc.
1. Your friend Rajshree aged 13, 160 cms fair scar on forehead, dressed in pink shirt and blue jeans has been missing for three days. Draft a suitable advertisement for the “missing persons” column of a newspaper in about 50 words.
  2. Your grandmother aged 70, wearing spectacles blue sari, mentally upset has been missing for a week. Draft an advertisement for the ‘missing persons’ column of a newspaper in about 50 words.
  3. You are Malay/Malvika of B-1/63 Yamuna Vihar, Delhi. Your pet dog is missing since August 10, 2008. Draft an advertisement for the ‘Missing’ column of a newspapers giving details about the breed of the dog, name, sex, age, mark of identification, contact address etc.

## MATRIMONIALS

### Points to Remember

Write in a box seeking details regarding the girls/boy like :

- (a) Age, height and appearance
- (b) Caste, religion etc.
- (c) Education : Graduate/Post Graduate M.Phil/MBBS/B.Ed. etc.
- (d) Profession : *e.g.*, Working in reputed company or doing own practice/govt. office/hospital etc. capacity/status.

(e) Income : *e.g.*, drawing very high salary/in five figures.

1. You are looking for a suitable bridegroom for your convent educated, beautiful sister who is an engineer, prepare a suitable advertisement to be published under matrimonial column in a newspaper.
2. Draft an advertisement to be published under matrimonial columns of a newspaper for your brother who is an architect and doing his own practice. You want a suitable match for him. Give necessary details.
3. You are seeking a suitable match for your sister who is a doctor working in 'Get Well Clinic,' Delhi as a dentist. Draft an advertisement for matrimonial column of a newspaper giving necessary details.
4. Your sister is a divorcee with no children. She is a school teacher teaching Maths in a senior secondary school. Draft an advertisement to be published in a newspaper under matrimonial column for a suitable match for her.
5. After completing his M.B.A. from I.I.M., Ahmedabad, your son is working as a manager in U.S.A. He wants to marry an Indian girl. Draft an advertisement for the matrimonial column of a newspaper.

## LOST AND FOUND

### For Newspapers/School Notice-board

- Essential Details-to be involved.
  - Use the word 'Lost' or 'Found' at the beginning so that it is clear whether the article/object has been lost or found.
  - Name of the object/article lost or found.
  - Brand. Colour, condition – VIP, brown, leather bag.
  - Where/ when – in a bus, school?
  - What time –
  - Reward/ Contact.
  - For 'Lost' give all the details whereas for 'Found' the details need not be given completely.
- Q.1. You have found a mobile phone in a park in your colony. Draft an advertisement to be published in a local daily under the column 'Lost and Found.'
- Q.2. You have found a sports Kit in your school playground. Write a notice for the 'Lost and Found' notice-board of the school to this effect, specially details required to prove the ownership. You are Partak of class XII Govt. Boy Sr. Sec. School, Bhorgarh.
- Q.3. You have found a Wallet containing some Indian and foreign currency notes and two credit cards in the compartment of A.P. Express while travelling from Delhi to Bhopal. Draft an advertisement to this effect. Give necessary details.

- Q.4. You have lost a cycle outside the coaching center. Draft a notice for the 'Lost and Found' Notice Board of the coaching center giving details of the cycle, contact address and reward. You are Sneha/Siddharth of 15A, Manav Vihar, Delhi.
- Q.5. You have lost your digital camera in the school on Teacher's Day. Draft a notice for the 'Lost and Found' notice Board of your school giving details of the camera, contact address and reward. You are Mudit/Mudita of Sarvodaya Co-Education Vidyalaya, Khera Kalan, Delhi.
- Q.6. You lost your wrist watch in your school Auditorium. Write a notice in not more than 50 words for your school Notice Board giving a detailed description of the watch. You are Anirudha/Arundhati of Class XII Springfields School, Pune.

### **SALE : MOTOR VEHICLES**

#### **Points to Remember**

- Model No., Year of manufacturing, colour.
- Accessories (new seat cover, new mats, stereo etc.).
- Single-hand driven, good condition, non-accidental, mileage, mat, invite for test drive.
- Paper-Insurance papers, pollution under control certificate.
- Any other details-Brokers excuse.
- Expected Price
- Contact address, telephone number.

### **FOR SALE (HOUSEHOLD / OFFICE GOODS)**

- Item name, Brand name and year of manufacturing.
  - General condition-excellent, working condition, looks brand new etc.
  - Reasonable Price
  - Contact address and telephone no. Also mention the day and time on which to contact.
1. You want to sell your Honda Civic car as you are going abroad. Draft an advertisement in about 50 words to be published in 'For Sale' column of the 'Amar Ujala', giving details of the car, expected price, contact address etc. You are Harshit/Harshita of 25B, Adarsh Nagar.
  2. Your cousin Shweta wants to sell his Bajaj Pulsor motorbike as he has been transferred to Chennai. Draft an advertisement on his behalf for a local newspaper under the column 'For Sale.'
  3. Manish/Manisha wants to sell his computer as he has purchased a laptop. Write an advertisement in about 50 words to be published in 'For Sale' column of a local daily.
  4. Your father wants to sell the old furniture of your house. Draft an advertisement to be published



in the 'For Sale' column of a newspaper. Invent relevant details; the category of furniture, material, condition, price expected etc.

5. You are Shantanu, the manager of Shan Multinational Company, Noida. Draft an advertisement offering your washing machine and fridge for sale as you have purchased a new washing machine and a fridge.
6. Your cousin Malvika has been transferred to Delhi. He wants to buy second hand household furniture. Draft an advertisement on his behalf to purchase the household furniture in good condition for the 'Sale and Purchase' Column of the newspaper.
7. You want to purchase a flat in Sector 20, Rohini. Draft an advertisement in about 50 words giving your requirements and preference.
8. You are Manas/Mansi of 31C, Anubhav Apartments, Sector 13, Rohini. You want to purchase a second hand computer in good condition. Draft an advertisement for 'Sale and Purchase' column of the newspaper giving details of your requirement, cost and address.

## **TO LET**

### **Points to Remember**

- Give essential details of the item on sale/for purchase to be let out such as location, details.
  - Size of the accommodation.
- Q.1. Anishi Kulshreshtha a Govt, servant, wants to let out third floor of her flat. Draft an advertisement in not more than 50 words for the 'To Let' column of a newspaper giving details of the flat, expected rent, contact address etc.
  - Q.2. You are Vipul of 120, Preet Vihar, Delhi. You wish to let out your newly renovated office accommodation in a posh locality of Delhi. Draft an advertisement for publication in the 'To Let' column of the times of India. [words : 50 words].
  - Q.3. You are Dr. Madhu, M.D. you are looking for an independent house in Ghaziabad on a reasonable rent for your residence-cum-clinic. Draft a suitable advertisement in not more than 50 words to be published in The Hindustan Times, New Delhi.
  - Q.4. You want let to out the ground floor of your newly constructed independent bungalow with all the modern facilities. Write an advertisement to be published in 'To Let' classified column of the 'Indian Times'. (words limit : 50 words).
  - Q.5. Mrs. Khosla of 26, G.S. Apartment, Rohini wants to let out three rooms of the house as paying guest accommodation exclusively for girls. Draft a suitable advertisement for publication in a newspaper, giving all necessary details like location. Type of accommodation, facilities available, contact address, telephone number etc.

## ACCOMMODATION WANTED

- Q.5. You are Fatima of Dwarka II, Delhi. You are looking for a house on reasonable rent in Gurgaon. Draft an advertisement for 'Accommodation Wanted' column of The Hindu. Giving essential details of your requirements.
- Q.6. You are Ravi Maurya the Chairman of Indra Gandhi Indoor Stadium. You require suitable accommodation on rent to be used as a Guest House for the players coming for Common Wealth Games. Draft an advertisement to be published in a newspaper under the column 'Accommodation Wanted'.
- Q.7. You want to purchase a building to run a playway school in Yamuna Vihar. Draft an advertisement in about 50 words for a newspaper giving your requirements and preference.
- Q.8. Your friend Dr. Atul wants to open a 'Eye Care Clinic' in Nathupura. Draft an advertisement on his behalf in about 50 words for purchasing suitable space for clinic for publication in a newspaper under the classified column 'Property for Sale'.
- Q.9. You are Rashi/Rishab of B-31, Rashmi Apartments, Rani Bagh. You want to sell the Second and Third floor of your house. Draft an advertisement in about 50 words for 'Property for Sale'.
- Q.10. Your father wants to start a coaching center for teaching 'Proficiency in English'. Draft a suitable advertisement for purchasing a spacious hall and an office in Shakarpur, Delhi. Draft an advertisement on his behalf to be published in the newspaper under the column 'Sale and Purchase.'

## SITUATION VACANT

### Points to Remember

#### *Value Points (Sample)*

- Name of Employer with address.
  - Nature of the Post Vacant.
  - No. of Posts.
  - Required qualification (Eligibility).
  - Expected Experience.
  - Salary offered.
  - Whom to apply (with necessary contacts).
  - Time limit for submission of application.
  - Put your advertisement in a box.
- Q.1. You are the Personal Assistant to the General Manager in Satyam Software Company. Draft an advertisement for the 'Situation Vacant' Column for the post of two Managers in you company.

- Q.2. You are Romi/ Reena, running Cute Beauty Parlour in Prashant Vihar. You require two 'Trained female beauticians' for your Parlour. Draft an advertisement for the 'Situation Vacant' Column of a local newspaper stating your specific requirements.
- Q.3. Your school requires two trained experienced coaches for Basketball and Cricket. On behalf of the manager of the school draft an advertisement for the 'Situation Vacant' column of a local newspaper giving necessary details of eligibility condition for the posts.
- Q.4. Draft an advertisement to be published in a newspaper to fill in the vacancy of a librarian cum information officer. Mention necessary details such as qualification, salary offered, experience required etc. Draft this advertisement on behalf of the manager of Blue Bird Public School, Aligarh.
- Q.5. You are the senior Administrator of American Library, Delhi. You want to recruit people for the following posts :
1. Computer Assistant
  2. Assistant Librarian
  3. Peon

Draft an advertisement asking interested people to apply for any of the posts given above. Mention other necessary details for the information of the applicants.

### **SITUATION WANTED**

- Q.1. You are an MBa and have a two years experience as sales Manager in Vatika Company in Delhi. Now, you are looking for a better job in Delhi only. Draft an advertisement to be published in the newspaper.
- Q.2. Draft an advertisement to be published in a newspaper offering your service as a tourist guide. Mention necessary details.
- Q.3. You are a computer Engineer from D.C.E. working as a software developer at Satyam Company want a change, state your preference. Draft an advertisement to this effect stating necessary details.
- Q.4. You are a post graduate in Fine Arts. You are looking for a job in an institution running Hobby Classes. Draft an advertisement to be published in the newspaper giving other necessary details.
- Q.5. Your brother is an architect with specialization in designing schools and other academic institutions. Draft an advertisement on his behalf to be published in the newspaper giving other necessary details.

## WRITING NOTICES

### Points to Remember

#### Format :

1. Name of the issuing agency (school).
2. Word : Notice
3. Date of issue
4. Subject (Heading)
5. (a) Signature of the authorised person.  
(b) Designation of the issuing authority.

#### Content :

Mention	What	:	Event/Activity
	When	:	Date and Time
	WHERE	:	Venue
	WHO	:	Participants, organisers.
	People involved	:	Chief guest. If any

1. Your school has been selected as the center for N.S.D. (National School of Drama) Training for students of 8 to 18 years during the summer vacation. Write a notice for your school Notice Board. You are Shyam, the cultural in-charge of Sarvodaya Bal Vidyalaya, Babana, Delhi.
2. You are the in-charge of Yuva Club of Govt. Sarvodaya Vidyalaya, Sarai Rohilla. You are shocked to notice some of the students smoking outside the school campus. You decide to call an emergency meeting of the members of the Yuva Club to discuss the increasing problem of smoking and tobacco chewing. Write a notice for the Notice Board.
3. You are Neeta/Nitin, the Head girl/the Head boy of Rajkiya Pratibha Vikas Vidyalaya, Shalimar Bagh, Delhi. Write a notice for your school Notice Board informing the bright students of Class X, XI and XII to apply to go to Singapore for achieving above 90% marks. Invent other necessary details.
4. Sarvodaya Bal Vidyalaya, Badli is organising an educational tour to North Eastern states for the students of Classes XI and XII. Write a notice for your school Notice Board inviting students to join the tour. Invent other details. You are Sanchit, the Head boy of the school.
5. You are Antara/Antariksh of Sarvodaya Girls Sen. Sec. School, Kailash Enclave, Pitam Pura. As the Captain of NCC wing of your school write a notice for the students of Classes IX to XII to give their names for the NCC Camp to be organised in Kerala for ten days. Invent other details.
6. You are Ayush/Ayushi the House Captain of Sarvodaya Girls Sen. Sec. School, A Block, Jahangir Puri. Write a notice for your school Notice Board inviting the students for participating in cultural programme to commemorate the 150 year of First War of Independence.

7. You are Asit/Asita of Govt. Co.-Educational School, Shakur Basti. You have to organise a Debate Competition in the school on the topic 'Should there be Uniforms in the Schools'? As the Head Boy/Head Girl of the school. Write a notice for your school Notice Board.
8. You are Fatima/Fahad of Sarvodaya Co.-Educational School, Rani Jhansi Road. There is an acute shortage of water in your area. As the secretary of 'Good Society Club' of your school write a notice for your school Notice Board informing the students about the shortage of water and requesting them to bring their own water bottle.
9. As the Captain of 'Sports' Club of your school. Write a notice for your school Notice Board inviting names for various team events on 'Sports' Day' to be celebrated in your school. Give necessary instructions regarding last date, kit, etc.
10. You are the Editor of your school magazine, 'Dream World'. Write a notice for your school Notice Board inviting Poems and Paintings from students.

## INVITATIONS

### FORMAL INVITATIONS / FORMAL REPLIES

#### Points to Remember

- To be written in a rectangle box.
- To be written in third person; no abbreviation to be used.
- Generally simple present tense is used.
- There is no signature of the writer.
- No punctuation at the end of the lines.
- Each entry to be mentioned in a separate line, *e.g.*, (a) the name of the person who is/are invited (b) formal expressions like 'request the pleasure of your company' (c) time and date of event (d) purpose and occasion of invitation.
- In official invitations, specially time by which the guests are to be seated, name of the chief guest, programme may be given.
- 'Valid for one/two only' be given at the end, in case the number of invitees is to be limited.

### FORMAL REPLIES : ACCEPTANCE / REFUSAL

#### Points to Remember

- Acknowledge the invitation.
- Use third person
- Not to be signed at the end.

- When accepting, confirm dates and time, venue need not be confirmed.
- If declining give reasons (&) Convey your best wishes for the function.
- Give date and address at top left hand corner.

## INFORMAL INVITATION

### Points to Remember

- Use first person – ‘I’, ‘we’ and ‘you’ and avoid using ‘he’, ‘she’ and ‘they’.
- Do not write : ‘subject’ and ‘Receiver’s address’.
- Write in warm and personalised style.
- Avoid writing unnecessary details
- Begin with ‘Dear’ – (name)

### Formal Invitations

1. On the Eve of World Environment Day, Sarvodaya Bal Vidyalaya, Mehrauli is organising a symposium to create awareness about environmental issues. Draft a formal invitation, giving details of the venue, time and date.
2. The Kids’ Paradise is opening a show room in Rohini, Delhi. The inaugural ceremony is fixed for Sunday, at 10 a.m.. Prepare a draft of formal invitation for the purpose. Also mention inaugural discounts if any and attractions.
3. Centre for ‘First War of Independence’, Meerut is organising a light and sound programme at Central Park of Cannought Place, Delhi. Write an invitation letter inviting Mrs. Sheila Dikshit, the Chief Minister of Delhi to inaugurate the programme. You are the secretary of the centre.
4. You are Mudita/Mudit of 21B, Geeta Colony. Write a reply accepting the invitation you got from Jitin Shridhar on the occasion of his getting highest marks in Rajkiya Pratibha Vikas Vidyalaya, Shalimar Bagh.
5. You are Anubha/Anubhav of B-64, Sharda Niketan. Write a reply refusing the invitation you got from your friend Asita/Asit who was selected for IIM, Ahmedabad.
6. You are Swapnil of 25, Buradi. Write a reply accepting the invitation you got from Richa/Rachit on the occasion of his being selecting for the T-20 matches in Dare Devils of Delhi.

## POSTERS

### Points to Remember

**Posters** generally spread a social message to create awareness about an issue or an event of common interest.

- Highlight the main topic of the poster by writing it in bold and capital letters in order to draw attention.

- Include all the important details like :
 

What	Event
When	Date and time
Where	Venue.

□ Write within a box. Name of the agency responsible for release of the poster.

□ Maintain the prescribed word limit of fifty words.

□ Use persuasive language catchy phrases, slogans and emotional appeal and amusing style according to the situation.

□ Can use graphics, varying font size shape.

□ Can make letters light or dark to create the requisite effect.

- Q.1 The Eco club of your school is going to organise a cleanliness Drive to clean the water tank, drains and other surroundings of the colony. Design a poster for the cleanliness drive highlighting the importance of cleanliness. You are Salim/Seema of Sarvodaya Vidyalaya, Alipore
- Q.2. On the occasion of platinum jubilee of your school you are directed to organise a colourful cultural evening in your school. Draft an informative poster to invite the parents of the students and alumni of the school to make the evening a memorable event.
- Q.3. As Head boy/girl of Sarvodaya Girls School, Civil Lines. You have to draft a poster against child labour urging people to participate in large number in rally, which is being organised to protest against the exploitation of children specially working in the Cracker-manufacturing factories and Tobacco Industry. Draft this poster in not more than 50 words.
- Q.4. One week International-book-fair is going to be held at Pragati Maidan from 21<sup>st</sup> to 27<sup>th</sup> August, 2008. As the manager to International Trade Authority draft a poster in not more than 50 words informing the general public about this book fair.
- Q.5. 'Muskaan' is an organization formed by a few committed professionals, artists and journalists who take out time from their office/home to help thousands of deprived people. Draft a poster on their behalf asking people to donate clothes, toys, utensils etc. for the needy.
- Q.6. In collaboration with WHO, the Ministry of Health will organise the fifth phase of Pulse Polio Campaign in September 2008. Draft an attractive and informative poster giving all the relevant details.
- Q.7. On the occasion of World Earth Day design a poster highlighting the need to take care of Climatic changes of our country. You are Veena/Varun President of the cultural club.
- Q.8. 'Sanskar', an NGO is organising an awareness programme regarding the importance of obeying traffic rules. Design a poster to be put up in your school to make the students aware to the 'Traffic Rules'.
- Q.9. To create awareness among the people regarding the importance of rain water harvesting, prepare a poster in not more than 50 words about it to be displayed at an exhibition.
- Q.10. Design a poster in not more than 50 words highlighting the need to conserve electricity to brighten the future of the country by saving our resources. You are secretary of Amber Society.

## REPORT WRITING

### Points to Remember

Reports record happening of events in the recent past.

- Be brief, to the point and systematic, objective and balanced.
- Report an event in the order in which things have happened (Maintain sequence of events.)
- Give it–

#### A. Format :

- a. A bold heading/Title.
- b. Name of the reporter.
- c. Date of Report alongwith name of the place (city).

#### B. Content

- Write the report in 3-4 paragraphs

Para-1. Brief introduction of the incident, like what, who, when, where.

Para-2. 3 Give details of the incident.

Para-4. Concluding remarks regarding action taken or required.

In case of report for school magazine, date and place need not be written.

- Put the Report in a box.
- Use Past Tense as Reports are written after the event is over. Use of Passive voice is also recommended.
- Follow the prescribed word limit. (*i.e.* 100-125 words)
- Basic points for content :
  - a. What                      Event and other details
  - b. Where                    Venue
  - c. When                     Day and date
  - d. Who                      Participants, guests, chief guests, visitors etc.

1. You are Shruti/Shekhar a student of R.P.V. Vidyalaya, Surajmal Vihar. Principals of two schools from Pakistan visited your school as part of a Cultural Exchange Programme. Students of your school put up a Cultural Show in their honour. Write a report about it for your School Magazine.



## REPORT

2. You are Rahul/Reva, the Headboy/Headgirl of Govt. Coed. Sr. Sec. School, Bawana, Delhi. Recently your school hosted the Regional level CBSE Science Exhibition. Write a report of this event for your School Magazine in about 125 words.
3. As you were driving back home from work you were witness to an accident between a Maruti car and a truck. The driver of the car was seriously injured. There was confusion and chaos prevailing on the road. Describe the scene in about 100-125 words. You are Sanjay/Sonika.
4. You are Raman/Rashmi. Your team of seventy students participated in the Health Mela. About twenty schools participated in the Health Mela. Your team won the first prize. Write a report about different stalls, team of doctors, blood donation camp and different models displayed by the students.
5. You are a reporter from the Hindustan Times. You visited the victims of serial cycle blasts at Jaipur, where many people lost their lives and hundreds of them got injured. Prepare a report in about 125 words.
6. Recently thousands of people lost their lives in earthquakes in China. Earthquakes have caused disaster in India also. Keeping in view the frequent occurrence of earthquakes, your school arranged a talk on 'Disaster Management'. Identifying the areas of your state most prone to earthquakes, the speaker explained the precautionary measures to be taken by the public and Government in case of emergency. As a student write a report of the event in 100-125 words for your school magazine.
7. You are Ravi/Rani, secretary Yuva Club of your school. Your school celebrated a 'Yuva-week' by organising a cultural programme in your school, in which many students and teachers took active part. Write a report of the programme for your school magazine, in 100-125 words.
8. Recently the Chief Minister of Delhi inaugurated the "Clean Yamuna Campaign" in which about 250 schools participated. You were shocked to see the miserable condition of the River Yamuna, which reflected a dirty drain of a small town. Write a report in about 125 words about the campaign, for publication in the newspaper. You are Vipul/Meenakshi, a staff correspondent of Rashtriya Sahara.
9. You are Kartik/Kriti, the Head boy/Head girl of Sarvodya School, Rohini. The Deputy Director of Education of your District inaugurated Multi Media Lab for teaching English in your school. Write a report in about 125 words about the inauguration for publication in a news paper.
10. A group of 40 students of Sarvodya School, Pitam Pura, Delhi was selected for an adventure camp to Nainital where the students were given training in mountaineering boating and rafting. It was a seven day adventure camp in Summer Vacation. You were one of students who participated in the camp. Write a report of the camp relating. Your experiences at the camp.

## FACTUAL DESCRIPTION

Be clear that a report is a kind of factual description of certain events. It is reported in the past tense as the report is written only after an event is over.

Factual description of an event includes as thing seen/observed. But factual description of an

object, person or a place presents photographs, view, as the things., person or a place, building is.

It is written in the present tense (except description only after the event is over).

All major aspects parts of the building, place are covered under factual description.

1. The International Book Fair was inaugurated by the chairman of Children's Book Trust, Dr. Kumar. The theme this year was Illustrated Works of Children. You are Abhay/Abha a Class XII student of A.K. International School, Mathura. You visited the exhibition and were impressed with the range of books on display. Write a factual description in about 125 words.
2. You are Gaurav/Garima of Class XII at G. Sr. Sec. School, Surajmal Vihar, Delhi. You recently visited a hill station along with your parents. It was an exhilarating, adventurous and joyful experience. Write factual description of your visit for school magazine, sharing your experiences in 150-200 words.
3. You are Kamal/Kamini of Sarvodaya Vidyalaya, Pooth Kalan, Delhi. A well-planned auditorium has been built in your school, to hold academic and cultural programmes. You have been asked by the editor of your school magazine to write a factual description of the auditorium for school magazine. Write description in not more than 125 words.
4. You are Bhavya/Bhavuk of Bal Bharti Public School, Dwarka. Recently you got a chance to travel by metro-train from Dwarka to Rohini. You had to change twice, at Rajiv Chowk and then at Kashmere Gate station. You were very much impressed with the cleanliness, system of security-check, escalators and lifts for physically challenged. Write factual description of metro-stations and metro train in about 100-125 words.
5. A move has been started by Directorate of Education, Delhi for the modernisation of libraries in Govt. School of Delhi, so that students may take interest in reading and learning a computer and an over-head projector with screen have been installed in it. The librarians have also been provided with educative and informative CD's, so that they can show various interesting programmes to students in their respective library periods. Write a factual description of the modernised library of your school in about 125 words. You are Drishti/Daksh of Sarvodaya School, Nanak Pura, Delhi.
6. Give the factual description of your City Hospital.
7. Give the factual description of Rail Museum in Delhi.
8. You are Rohan/Rohini. 25 students in a school at Pitampura got ill after eating the midday meal. Describe this incident in about 125 words as an eye witness.
9. A group of 50 students of Sarvodaya Vidyalaya Kerala, visited Science Centre during an educational tour. You are Ajay/Abha Head boy/girl of the school. You are asked to write the factual description of the Science Centre in about 200 words.
10. You are Arun/Aruna. A few days ago you went to a bank. Outside the bank you saw that a businessman was robbed of a huge sum when he came out of the bank. Give a factual description of this incident in about 125 words.

## WRITING LETTERS

The best letters give the most important information in the shortest time and most accessible form.

### Points to Remember

- Time available 15-20 minutes.
- Always plan your letter. Think before you write.
- Avoid ambiguity, cliches and be straight forward.
- Give complete information.
- Don't use abbreviations, *e.g.*, Inst., govt. etc. Though contractions (don't, can't etc.) are permissible in modern letter writing, one should avoid them.
- Be polite, courteous and correct even if you are in bad mood.
- Use short and crisp language.
- Write one idea in one paragraph. Use different paragraphs for different points with appropriate linkers.
- Always edit your rough draft.
- Avoid long-winded and rambling turns of phrase. For example, write 'please let me know' 'Not I would appreciate your informing me.....'
- Use correct/appropriate format.
- Avoid vague closing like 'Hoping to hear from you' or 'Thanking you in anticipation-these are outdated. Instead end on a firm and positive note. Such as-this should suit you, I'm sure.
- Follow block style (latest). Do not mix it up with the traditional semi-block style.
- Leave one line space between paragraphs.
- No punctuation in address/date/salutation.
- Don't leave any space at the beginning of a new paragraph, as was done in traditional paragraphs.
- In the complimentary close-write :
  - Yours obediently to the Principal
  - Yours sincerely-When writing to the editor or to employer etc. (or whenever you write Dear Sir/ Madam as salutation.
  - Yours sincerely-to friends and to all the people whom you are addressing by name.
  - Yours affectionately-to relatives
  - Yours truly-to unknown persons or editor at the end, signature of the sender followed by his name in block letters alongwith designation.

- In modern letter writing, 'Yours Sincerely' is often used for business letters, to editor also.

## LETTERS TO THE EDITOR OR A NEWSPAPER

Such letters are written to draw attention of the public authorities towards certain irregularities and common problems.

Such letters are also written to raise certain current issues and express writer's own view point.

### Point to Remember

- Raise the issue by giving certain news items or events.
- Analyze the issue-try to find causes.
- Offer suggestions to face the problem.

### DON'T WRITE THAT THE EDITOR SHOULD TAKE ACTION

- Be courteous, even if critical.
1. You are Saurabh/Swati of Rani Bagh, Delhi. The road leading to your school is full of patholes, causing a lot of congestion. Students and parents are often caught in traffic jams. In spite of several representations MCD has done nothing to improve the conditions. Write a letter to the editor of Local Daily highlighting the problems and drawing the attention of the authorities to take concrete steps at the earliest.
  2. You are Mohan Lal/ Sunita residing at C-25, Model Town, Delhi-7. Write a letter to the editor, Times of India expressing your concern over the govt.'s decision to cut down trees in the Delhi university area to provide a space for rugby field for the Common Wealth Games 2010.
  3. You are Mansi/Manish of M.G. Road, Delhi. You are worried about the hike in prices of essential commodities like LPG gas, petrol, diesel, vegetables, pulses etc. Write a letter to the editor of Hindustan Times, Delhi to draw the attention of Government to take concrete steps to curb the rising prices/inflation in the benefit of a common man.
  4. You are Vipin/Vidya a student of Class XII of Sarvodaya Vidyalaya, Nithari. The students are required to cope with lot of pressure in today's competitive environment. Write a letter to the editor of a national daily highlighting the increasing stress faced by students and suggest ways to combat the same.
  5. Write a letter to the editor of Hindustan Times, B.S.Z. Marg, Delhi-2 . Drawing attention to a newly opened liquor shop in your colony, which has become a menace for the residents. You are Frahan Ahmad, resident of D-32, New Light Colony, Delhi.
  6. Having observed that crime against women is increasing day by day in big cities. You feel that self-defence training should be made compulsory for girls in schools. Write a letter to the editor of 'The Hindu' highlighting the need for such training and drawing the attention of the Government to take concrete steps for safety of women. You are Navin/Naina, a student of class XII, Happy Public School, Delhi.
  7. Write a letter to the editor of The Times of India, New Delhi, expressing your concern for the

youngsters who start smoking at a very early age which further leads them to drug addiction. Give your suggestion to check smoking and drug addiction. You are the prefect of Eco-club of your school.

8. For are Puneet/Pallavi of Govt. S.S. School. Pushp Vihar, Delhi. You are very much moved to know about the killing of innocent people in serial blasts of Jaipur. Write a letter to the editor of Times of India over the wide spread terrorism not only in India but through-out the world; and suggest ways to over come it.
9. You travel by 'Blue Line' buses in Delhi everyday. You are the witness and experience the rash and negligent driving by the bus drivers. You have also read in the news paper about the death of dozens of people only due to these buses. Write a letter to the editor of Hindustan Times highlighting the related problems. Also give some suggestions.
10. You are Vimal/Vimla of 97, Safderjung Enclave, New Delhi. You have observed that subways in Delhi are seldom used by the pedestrians to cross heavy-traffic roads, resulting in accidents and traffic jams. Write a letter to the editor of Hindustan Times highlighting the need for creating awareness among the people about it.

## **LETTERS OF MAKING ENQUIRIES**

### **Points to Remember**

These are formal letters to seek clarification. Making enquiries about certain missing pieces of information in any advertisement or a notice or a poster.

### **While Writing such Letters**

1. Refer to the source of information.
2. Make specific enquiry about
  - Accommodation in a hostel
  - Tariff
  - Type of food available etc.
  - Language : Formal but courteous
1. You are Sakshi/Sanjay of Govt. Sr. Sec. School, Sangam Vihar. You have appeared in class XII examination in Humanities Steam. Write a letter to the Director of YMCA, Delhi, requesting for sending the details regarding Short-Term Courses, duration and fee structure of the course offered by them.
2. You are Ravi/ Akash residing at 20. A13 Dwarka, D.D.A. Flats, New Delhi. You have appeared for class 12th exam (CBSE) this year. As your result is awaited, you wish to do English speaking course from 'The British School', West Patel Nagar, Delhi. Write a letter to the Principal of the Institute requesting for sending the details regarding the course, duration and fee etc.
3. You are Head Boy/Head Girl of Sarvodaya Vidyalaya, Vikas Puri, Delhi. Write a letter to State organising Commissioner of Delhi State Bharat Scouts and Guides, requesting him to provide

details of affiliation fee and other conditions for becoming a member of the organisation. You are Vishal/Vinita of Class XII.

4. You are A. Bose, H.R. Manager of IBM, Lakshya, Delhi. You want to take 25 voice Trainers of your organisation on a trip from Delhi to Mumbai by a deluxe bus. Write a letter to Yatri Global, 23, Palika Enclave, Delhi. Enquiring their terms and conditions for package tours. Ask about duration of the trip, boarding and lodging charges, mode of payment and discount available if any etc.
5. You are Lalit/Lakshmi of Sarvodaya School, Sharda Niketan, Delhi. You have passed Class XII CBSE Exam. in commerce stream obtaining 85% marks in aggregate. Write a letter to the Director, H.P. University Shimla for brochure and Prospectus for admission to 'B.Com. (H).

## LETTERS OF COMPLAINT

Such letters are written to officials of different Departments and business organisations for necessary action or redressal.

These complaints may be related to untimely/short/defective supply or irregular public services such as buses, electrical or water supply.

### Points to Remember

- Use appropriate format
  - (i) Company's name and address.
  - (ii) Date
  - (iii) Ref. if any
  - (v) Salutation
  - (vi) Closing and signature
- **Content:** Complete/all necessary points.
- Request for action required.
- **Language :** Formal and courteous.

## OFFICIAL / BUSINESS COMPLAINTS

1. You are Ankit/ Ankita of 34, Lajpat Nagar, Delhi, Last month you purchased double door frost-free refrigerator from Divya Electronics, against a warranty of two years. For one month, it worked well but now you find that it is making an unbearable noise and not cooling things properly. Write a letter to the Manager/Dealer of Divya Elec. Complaining about the problem you are facing and requesting him for the replacement immediately.
2. You are Ishaan/ Meeta the Head Boy/Girl of Janki Public school., Kirti Nagar, Delhi. There is a heavy flow of traffic just outside your school gate, causing a lot of inconvenience to the school going children. There are frequent cases of accidents also. Write a letter to the Commissioner of Traffic Police, Delhi requesting him to take necessary measures to control the traffic.

3. You are Vandana/Vinod residing at 4 c, Pocket-A Paschim Vihar Delhi. People feed stray animals on the side of the roads. This creates chaos on the roads also. Write a letter to the commissioner of M.C.D, highlighting the problem faced by the people living there and the possibilities of road accidents due to stray animals.
4. You are Somesh/Surabhi residing at C-27, Model Town, New Delhi. Last month you bought a Microwave oven from Neha Electronics, Kamla Nagar, New Delhi. Now you find it is not working properly. Write a letter to the dealer asking/requesting him to replace it immediately as it is within the guarantee period.
5. You are Ajay/Anita of Class XII at Sarvodaya Vidyalaya, Kanjhawala. You happened to watch a lesson of class X in CAL LAB set up in your school by Directorate of Education, Delhi. You are very much impressed by the technique and methodology of teaching through computer. Write a letter to the Director of Education Delhi requesting him to start such programme for students of Class XI and XII.

### **PLACING ORDERS**

1. You are Librarian of R.N. Public School, Saket. Write a letter to Messers Suman Publishers, Delhi, Placing an order for some books for your School library. Mention the details of books (at least 5) and ask for the discount available on the purchase.
2. You are store incharge of G.S.S. School, Najafgarh. Placing an order for at least four items of School furniture like chairs, tables, Almirahs, desks etc. to Pragati furnitures, Hari Nagar, New Delhi.
3. You are sports incharge of Abhinav Public School, Shahdara. Write a letter to Messers Raman Sports Equipments, Darya Ganj, placing an order for sports material (at least 5 items) giving complete details. Ask for the discount available on purchase.
4. You are Prabhat/Pratibha of Sarvodaya Vidyalaya, Jahangir Puri, Delhi. You had placed an order for supply of sports material to Messers Laxmi Sport Equipment, Darya Ganj. You have not yet received the material write a letter to the dealer asking for the immediate supply of the material.
5. You are Science Lab incharge of Divine Public School, Okhla. Write a letter to Messers, Ahmad scientific instruments co. Okhla, for supply of scientific equipments (at least four) giving complete details) for your school science lab.

### **WRITING APPLICATIONS FOR JOBS**

Unemployed people respond to the vacancies advertised under SITUATION VACANT column.

While writing applications for such vacancies REMEMBER

- To write correct contact address.
- To refer to the advertisement write date and name of the newspaper (source of Information).
- Forwarding note to offer your candidature.

- To enclose your curriculum vitae (C.V.. or Bio data) duly signed

C.V should include

- Personal details : Name , D.O.B, Address.
- Academic qualifications.
- Details of Experience.
- Salary expected
- References (Two)

1.

**RAM MANOHAR LOHIA HOSPITAL, NEW DELHI**

**REQUIRES**

***Junior Residents in the following faculties***

1. Paeditrics – 2 posts
2. Orthopaedics – 3 posts.
3. Opthallmic – 2 posts
4. Gynecology – 3 posts.

Minimum Qualification – MBBS (with 1st Div.)

Age – not more than 35 years.

Desirable Qualification – Specialisation in the respective field.

Apply to the Director on prescribed proforma Available from the office (from 10.00 A.M. to 2.00 P.M.) Last Date of submission of forms. – 15.6.08

You are Mohit/Medha of 26, Lajpat Nagar, Delhi. You find the above advertisement suitable for yourself and apply for one of the posts. Write the application with complete Bio-data in response to the above advertisement.

2. You are Sumit/Samila. You come across the following advertisement in a national daily. You consider yourself suitable and eligible for the post. Write an application in response to the advertisement.

Applications are invited for the post of a Nursery Teacher in a reputed school of Delhi. The candidate must have at least 5 years experience of teaching tinytots. The applicant must have a pleasant personality. He/She should be creative and innovative. Attractive salary. Interested candidates should apply to the Principal; AKS International, Indirapuram, New Delhi within 10 days with detailed resume.

3. You are Anil/Asha staying at 24, Gandhi Nagar, Delhi. You have come across an advertisement in Times of India for recruitment of Ground Staff in Kingfisher Airlines. Apply to the Director in response to the advertisement, giving your detailed bio-data (Curriculum Vitae).



4. Required T.G.T.s in N. Science in Govt. School of Delhi. Essential Qualifications – (a) B.Sc. with 50% marks (b) B.Ed. from a recognised University, Desirable Qualification. Teaching experience of 5 years in a secondary school. Apply to Director of Education Govt. of NCT. Delhi within one month from date of Publication of the advertisement in a prescribed form available on payment from the Directorate office. Vijay/Laxmi of 30, Moti Nagar, Delhi comes across the advertisement in Delhi Times dated 7th May 2008 and decides to apply for the above mentioned post. Write the application giving your detailed curriculum Vitae.
5. The General Manager, Axis Bank, Kolkata requires a few Business Development Managers for the Credit Card Section. Write an application for the post, offering your services giving your complete bio-data. You are Shanky/Shreja of Tyag Raj Nagar, Kolkata.

## **WRITING ARTICLES**

### **Point to Remember**

- Give the title at the top.
- Write the name of the writer below it.
- Break the subject matter into 3-4 paragraphs :
  - (i) Para 1- introduction-brief (raise the issue) by showing its existing status.
  - (ii) Para 2 and 3- Body should comprise of analysis. Cause/effects/types and other relevant information.
  - (iii) Para 4- conclusion- should be focussed and brief-It should contain suggestions/reminders etc.
- Systematic presentation of ideas is a must.
- Pay attention to grammatical accuracy. Good vocabulary and spellings. Use sentence linkers to ensure continuity.
- Take care of coherence and relevance of ideas and style.
- Always make a rough draft, following; acronym CODE, collect content  
Organise → Draft → examine and edit

### **FOR PRACTICE**

1. In a study at Universities of California and Los Angles, research findings show that the pregnant women, who used mobile phones were 54 percent more likely to have children with behavioural problems. The likelihood increased with amount of potential exposure to radiation, said Britain's "The Independent." You come across this report in the newspaper and thought of writing an article on uses and hazards of Mobile Phones. Write the article in about 200 words.
2. Neha/Nalin, a student of class XII, comes across the following newsreport :

500 child workers suspected of being employed in hazardous industrial units in central Mumbai, were rescued by an NGO

She/He writes an article on the ills of child labour highlighting how it can be abolished.

3. Tourism plays an important role in promoting economy and culture of a place.

In order to promote tourism in North-Eastern States, our government has introduced new schemes for encouraging Govt. Employees to visit these states. Write an article in about 150–200 words for your school magazine giving ideas on the steps that our government should take to promote tourism. You are Rohan/Rehana of Sarvodaya Co-ed-s. School, G.T. Road, Shahadara.

4. A Seminar was conducted by the Directorate of Education of Govt. of NCT of Delhi, on making moral values and life skills as a part of school curriculum. Write an article giving your views on this matter. You are Vipin/Vibha of G.S.S.S. School, Budh Vihar, Delhi.
5. You are Amita/Amit, a member of Yuva Club of your school. Your team visited Tihar Jail and was much worried on noticing the most pitiable insanitary condition, poor diet and negligence of the jail authorities. Write an article on the need to protect the prisoners and provide them better human treatment.
6. Some colleges conduct entrance test for admission to undergraduate courses like B.Led, English (Hons.) and journalism (Hons). Do you think that the entrance test is the right method of selecting students. Write an article in about 150–200 words. You are Raman/Radhika, a student of class XII at Govt. Coed. Sr. Sec. School, Mayur Vihar.
7. India is a country with diverse cultures, traditions, religious and political beliefs. To keep such a country together, to bind the people and take the nation ahead on the path of progress, democracy is the most suitable form of government. Write an article in 150–200 words. You are Akshay/Asha a class XII student at Rosary Public School, Delhi.
8. Pooja of R.P.V.V. R.K. Puram is happy that the Government has started a campaign to remove encroachment on public land to make Delhi clean and beautiful for the forthcoming Commonwealth Games. Many flyovers, underpasses, hotels parks are also being constructed. Write an article on commonwealth Games 2010– “A Gateway to Beautiful Delhi.”
9. A recent survey shows that inspite of Govt. efforts there are still many communities in India which do not welcome the birth of a girl child. Write an article in about 200 words, giving your opinion on this topic and steps we should take to solve this problem. You are Atul/Aditi living at Delhi.
10. You are Manish/Malvika a class XII student of SV. Rani Bagh. You are quite disturbed to read in newspaper about the number of students committing suicide right after the CBSE results. This is mainly due to academic family and social pressures and expectations from friends and relatives. You strongly feel the need to open guidance and counselling centres in all the schools of Delhi. Write an article expressing your views and concern over this. Supply a suitable title to your article.

## DEBATE / SPEECH

### Point to Remember

1. Always make a rough draft, edit keeping time (15-18 minutes) in mind.

2. Begin with—"Honourable chairperson, Judges, teachers and my dear friends, I stand before you to express my views for/against the motion "TOPIC"-----.
3. Total agreement or disagreement with the topic should be expressed forcefully and clearly. You can use polite sarcasm and humor but no indecorous language should be used.
4. Use argumentative style and logical reasoning.
5. Back up arguments with relevant information.
6. At the end write "Thank you" at extreme end on the left.
7. Use powerful expressions like :
  - I'd like to argue
  - In my opinion-----.
  - I fail to understand-----
  - May I ask?
  - I disagree----etc.
8. Refer to your opponent's view/ views.

## **SPEECH**

1. A recent survey by the Ministry of health shows that the growing tendency of obesity among children of well off families is caused by addiction to junk food and lack of physical exercise and it adversely affects their learning power. Write a speech to be delivered in the morning assembly of the school highlighting the importance of good health and motivating the children to eat healthy, balanced diet.
2. Vinny/ Vishesh is concerned about the spread of waterborne diseases with the on set of the summer season. School children being the most vulnerable to these, she/ he decided to deliver a speech in the morning assembly of the school about precautions to be taken to prevent such diseases. Write the speech in about 200 words.
3. You are the Head girl of Sonia public School, Karol Bagh, Delhi. You feel now a days students are overburdened by the tuition classes after long school hours. There is a lot of pressure on them by their parents to attend the tuition classes. More over they are pressurised to achieve better results. So, much disturbed be this current problem of the students, you decide to deliver a speech in the morning assembly of your school. Write a speech and also give some suggestions to lighten the burden.
4. Global Warming and rapid melting of glaciers has become the concern of every Nation. As incharge of Eco-Club of your school. Write a speech to be delivered in school's Morning Assembly, in order to make the students aware about it. You are Abhinav/Asha of Yuva Public School, Anand Vihar.
5. Computer Games and Video games have become popular with children today. As a result outdoor games seem to have no place in their life any more. You are Saurabh/Surabhi, You had

an opportunity of playing Hide-n-seek, with your cousins, on your visit to their small town in summer vacation. You decide to write a speech on your experiences about the joys of playing outdoor games to be delivered in morning assembly in your school. Write the speech in about 150–200 words.

6. You are Ajay/Nainika. Recently you came across a newspaper report on the burning of a young woman as her parents could not meet the dowry demands. You feel that even after 60 yrs of independence we have not really progressed as a nation. Write an article for newspaper expressing your views and also give suggestions to improve the status of women in Indian society.
7. Many parts of Delhi face the problem of water shortage in summer. Similar conditions prevail in other states also. Write a speech on techniques and advantages of “Rain Water Harvesting”. You are Bhushan/Bala, a student of Eco–Club of your school.
8. Shantanu/Shweta of S.V., Shalimar Bagh is disturbed to see the increasing incidents of road-rage in metropolitan cities, resulting in irrational killings, She/He decides to write a speech highlighting the causes of road-rage and suggesting steps to make people more tolerant and disciplined on roads. Write the speech in not more than 200 words.
9. Lack of quality education is said to be the main cause of poverty, unemployment, backwardness and all social evils in our country. Write a speech on importance of quality education, motivating the youth to participate actively in co-curricular activities, projects, excursions, and multidimensional development of personality. You are Arun/Aruna of R.P.V.V. Shalimar Bagh, Delhi.
10. Information technology has brought about a global revolution in all fields; computer aided education is fast becoming the order of day. The market is also flooded with educational CDs and on-line learning. It is a new phenomenon. Write a speech expressing your views about computer-aided-learning. Can it replace teachers? Supply a suitable title to your speech. You are Seema/Samir of S.V. Saraswati Vihar.

## SECTION C

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# LITERATURE

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7-11 Poetry and Prose

Text Book

Flamingo

### POEMS

#### 1. MY MOTHER AT SIXTY-SIX

– *Kamala Dass*

#### STANZA 1

Driving from my parent's  
home to Cochin last Friday  
morning, I saw my mother,  
beside me,  
doze, open mouthed, her face  
ashen like that  
of a corpse and realized with pain.

#### Questions

- (a) Where was the poet driving to? Who was sitting beside her?
- (b) What did the poet notice about her mother?
- (c) Why was her mother's face looking like that of a corpse?
- (d) Find words from the passage which mean :
  - (i) half asleep
  - (ii) dead body
  - (iii) felt.

#### STANZA 2

"..... and looked out at young  
Trees sprinting, the merry children spilling  
Out of their homes, but after the airport's  
Security Check, standing a few yards.  
away, I looked again at her"

### Questions

1. What did the speaker look out of the window?
2. What do the words 'Young trees' and 'merry children' signify?
3. Who was standing at a few yards and why did she look at her?
4. What seemed to be the state of poet's mind?

### STANZA 3

"I looked again at her, wan, pale  
as a late winter's moon and felt that old  
familiar ache, my childhood fear,  
but all I said was, see you soon, Amma,  
All I did was smile and smile and smile"

### Questions

1. Who looked wan and pale and why?
2. What is the speaker's childhood fear?
3. How did the parting words of the poet and her smile contrast to her feelings?
4. Specify the comparison in the stanza?

### Short Answer Type Questions

1. Where was the poet going and who was with her?
2. What does the poet's mother look like? What kind of image has the poet used to signify her aging decay?
- \*3. What does the poet realise with pain? Why does the poet "Put that thought away" and look outside?
4. Why does the poet look outside? What does she see happening outside?
5. How has the poet contrasted the scene inside the car with the activities going outside?
6. Why has the poet brought the image of the merry children—spilling out of their homes?
7. What does she notice?
8. Why is the poet's mother compared to the late winter's moon?
9. What is the poet's familiar ache and why does it return?
10. Why does the poet smile and what does she say while bidding good bye to her mother?
11. What poetic devices have been used by Kamala Das in 'My Mother at Sixty-Six'?

12. How is the world inside the car different from the outside world?

## 2. AN ELEMENTARY SCHOOL CLASSROOM IN A SLUM

– *Stephen Spender*

### STANZA 1

Far far from gusty waves these children's faces.  
Like rootless weeds,  
the hair torn around their pallor :  
The tall girl with her weighed-down head.  
The paper-seeming boy,  
with rat's eyes.

#### Questions

- (a) Who are these children' and where are they sitting?
- (b) How do the faces and hair of these children look like?
- (c) Why is head of the tall girl 'weighed down'?
- (d) What do you understand by 'The paper-seeming boy, with rat's eyes'?
- (e) What do the image 'rootless weeds,' 'weighed-down', 'Paper-seeming' and 'rat's eyes' suggest?

### STANZA 2

The stunted,  
unlucky heir of twisted bones,  
reciting a father's gnarled disease,  
His lesson, from his desk.  
At back of the dim class one unnoted,  
sweet and young.  
His eyes live in a dream,  
of squirrel's game,  
in tree room,  
other than this.

#### Questions

- (a) Who is the 'unlucky heir' and what did he inherit?
- (b) What is the stunted boy reciting?
- (c) Who is sitting at the 'back of the dim class'?
- (d) 'His eyes live in a dream'—what dreams does he have?
- (e) Pick two images of despair and disease from these lines. What do they hint at?

### STANZA 3

On sour cream walls,  
donation.  
Shakespeare's head,  
cloudless at dawn,  
civilized dome riding all cities  
Belled,  
flowery Tyrolese valley,  
Open-handed map awarding the world its world.

#### Questions

- (a) What is the colour of the classroom walls? What does this colour suggest?
- (b) What do these classroom walls have?
- (c) Which two worlds does the poet hint at? How is the contrast in the two worlds presented?
- (d) Explain :
  - (i) 'Openhanded'
  - (ii) 'Awarding the world its world'.
- (e) Find words from the passage which mean the following:
  - (i) unpleasant,
  - (ii) institutions of the civilized world/ society.

### STANZA 4

.....And yet,  
for these children,  
these Windows,  
not this map,  
their world,  
where all their future's painted with a fog.  
a narrow street sealed in with lead sky far far from rivers.  
capes, and stars of words.

#### Questions

- (a) What do 'these windows' and 'this map' represent? To which of them do the children in the slum school belong?
- (b) What is the future of these children?
- (c) What do these children crave for? What do they want to get rid of?



- (d) Find words from the passage which mean the following :
- (i) cloudy thick air,
  - (ii) distant.

### STANZA 5

Surely, Shakespeare is wicked,  
the map a bad example,  
with ships and sun and love tempting them to steal-  
for lives that style turn in their cramped holes from  
fog to endless night?

#### Questions

- (a) Why is the Shakespear wicked? Why is the map a bad example?
- (b) What tempts them and why?
- (c) How do they live in their 'holes'?
- (d) Explain" 'From fog to endless night'?
- (e) Find words from the passage which mean :
  - (i) secretly,
  - (ii) narrow.

### STANZA 6

..... On their slag heap,  
these children wear skins peeped,  
through by bones and spectacles of  
steel with mended glass,  
like bottle bits on stones.  
All of their time and  
space are foggy slum.  
So blot their maps with  
slums as big as doom.

#### Questions

- (a) What two images are used to describe these slums? What do these images convey?
- (b) What sort of life do such children lead?
- (c) What 'blot' their maps? Whose maps?
- (d) What does the poet convey through 'So blot their maps with slums as big as doom'?

(e) Find words from the passage which mean :

- (i) Waste material/ lava,
- (ii) pieces,
- (iii) hell/ruin.

### STANZA 7

Unless,  
governor, inspector, visitor,  
this map becomes their window  
and these windows that,  
shut upon lives like catacombs.

#### Questions

- (a) Why does the poet invoke 'governor', 'inspector', and 'visitor'? What functions are they expected to perform?
- (b) How can 'this map' become their window?
- (c) What have 'these windows' done to their lives?
- (d) What do you understand by 'catacombs'?
- (e) Which literary device has been used in these lines?

### STANZA 8

Break O break open till they break the  
Town and show the children to green fields,  
and make their world run azure on gold sands,  
and let their tongues run naked into book  
the white and green leaves open history  
their whose language is the sun.

#### Questions

- (a) 'Break O break open', What should they 'break'?
- (b) Explain : ..... till they break the town'.
- (c) Where will; 'their world' extend up to then?
- (d) What other freedom should they enjoy?
- (e) Who create history?
- (f) What poetic device is used in the last line of the stanza?

### Short Answer Type Questions (30-40 words each)

1. Why does Stephen Spender use the image of the despair and disease in the first stanza in the poem and with what effect?
2. In spite of despair and disease the condition of the slum children, they are not devoid of hope. Give an example of their hope and dream.
3. How does the poet picture the condition of the slum children?
4. What is the theme of the poem? How it has been presented?
- \*5. Which images of the slums in the third stanza present the picture of social disparity, injustice and class inequalities?
6. "So blot their maps with slum as big as room" says Stephen Spender. What does the poet want to convey?
- \*7. How can powerful persons- viz governor, inspector, visitor contribute to improve the lot of slum children?
8. Which world these children do belong to? Which world is inaccessible to them?
9. How does the poet begin the poem with all the despair and ends with hope?
10. What does the poet mean by "Shakespeare is wicked and the map is a bad example"?

### 3. KEEPING QUIET

– Pablo Neruda

Read the following extracts and answer the questions that follow each :

#### STANZA 1

"Now we will count to twelve  
And we will all keep still.  
For once on the face of the Earth  
let's not speak in any language,  
lets stop for one second,  
and not move our arms so much.  
It would be an exotic moment  
without rush, without engines,  
we would all be together  
in a sudden strangeness,"

#### Questions

- (i) What is the poet's suggestion?
- (ii) What does the poet want us to realise through total peace and inactivity?

- (iii) How there will be sudden strangeness?
- (iv) Explain 'exotic moment'.

## STANZA 2

"Fishermen in the cold sea  
would not harm whales  
and the man gathering salt  
would look at his hurt hands.  
Those who prepare green wars,  
wars with gas, wars with fire,  
victory with no survivors'  
would put on clean clothes  
and walk about with their brothers  
in the shades, doing nothing."

### Questions

- (i) What is poet's holy wish?
- (ii) What will be the thought of salt-gatherer while looking at his hurt hands?
- (iii) How will the few moments of introspection affect the mood, thought and action of the people.
- (iv) Explain 'Victory with no survivors'?

## STANZA 3

"What I want should not be confused  
with total inactivity.  
Life is what it is about;  
I want no truck with death.  
If we were not so single-minded  
about keeping our lives moving,  
and for once could do nothing."

### Questions

- (i) How the total inactivity may be confused?
- (ii) What is our single mindedness?
- (iii) Why does the poet want all the people to do nothing for a moment?
- (iv) Explain : 'Life is what it is about'?

## STANZA 4

“Perhaps a huge silence  
might interrupt this sadness  
of never understanding ourselves  
and of threatening ourselves with death.  
Perhaps the Earth can teach us  
as when everything seems dead  
and later proves to be alive.  
Now I’ll count up to twelve.  
and you keep quiet and i will go.”

### Questions

- (i) How does the poet interpret sadness?
- (ii) What can earth teach us?
- (iii) Why does the poet recommend peace for a moment and temporary inactivity?
- (iv) Explain : ‘never understanding ourselves.’

### Short Answer Type Questions

*Answer the following in about 30-40 words each*

1. Why does the poet want everyone to stand still and count upto twelve?
2. What is the Sadness that poet refers to in the poem?
- \*3. How does the poet suggest that there is life in nature under apparent stillness?
4. Does the poet suggest total inactivity and death? Give reasons.
- \*5. In what way does the poet condemn the people who prepare green wars? What is his advice to them?

## 4. A THING OF BEAUTY

Read the following stanzas carefully and answer the questions that follow each :

### STANZA 1

A Thing of beauty is a joy forever  
Its loneliness increases, it will never  
Pass into nothingness; but will keep  
a bower quiet for us and a sleep  
full of sweet dreams,  
and health, and quiet breathing.

### Questions

- (i) Why does the poet appreciate a thing of beauty?
- (ii) How is beauty a joy for ever?
- (iii) How is beauty helpful in making us have sweet dreams?
- (iv) Explain—'It will never pass into nothingness'.

### STANZA 2

Therefore on every morrow, are we wreathing  
A flowery band to bind us to the earth,  
spite of Despondence, of the inhuman death  
of noble natures, of the gloomy days,  
of all the unhealthy and o'er darkened ways.

### Questions

- (i) Why does the poet feel that we are wreathing a flowery band?
- (ii) Is the poet happy with the human beings? Why not?
- (iii) What is the contrast between human nature and beautiful things?
- (iv) Explain : o'er darkened ways.

### STANZA 3

For simple sheep; and  
such are daffodils  
with the green world they live in;  
and clear rills  
That for themselves a cooling covert make.  
'Gainst the hot season; the mid forest brake.

### Questions

- (i) Why does the poet say 'Such are Daffodils'?
- (ii) What does the poet mean by the 'green world'?
- (iii) How do daffodils lead a difficult life?
- (iv) Why does the poet give the reference of daffodils here?

### STANZA 4

Rich with a sprinkling of fair musk rose blooms;  
And such too is the grandeur of the dooms

we have imagined for the mightily dead;  
All lovely-tales that we have heard or read;  
An endless fountain of Immortal drink,  
Pouring unto us from the heaven's brink.

### Questions

- (i) How does the rose beautify the earth?
- (ii) Why does the poet call the dooms to be full of grandeur?
- (iii) How does the heaven bliss the mighty dead.
- (iv) Explain : immortal drink.

### Short Answer Type Questions

**Answer the following in about 30-40 words each :**

- 1. Why does the poet call a thing of beauty a joy for ever?
- 2. How does beauty enrich the human beings?
- 3. How do we try to face the gloomy days?
- \*4. Why does the poet criticize the human beings?
- 5. Name the shapes which help us in fighting against the darkness?
- 6. How are sheep blessed by nature?
- 7. How do the daffodils adjust to the hot season?
- 8. How does the heaven help the mighty dead?
- \*9. Why is grandeur associated with the mighty dead?
- 10. What image does the poet use to describe the beautiful bounty of the earth?

## 5. A ROADSIDE STAND

**Read the following stanzas carefully and answer the questions the follow each :**

### STANZA 1

A roadside stand that too pathetically pled'  
It would not be fair to say for a dole of bread  
But for some of the money, the Cash, whose flow supports  
The flower of cities from sinking and withering faint.

### Questions

- (i) Why has the roadside stand been set up?

- (ii) What is the importance of money for cities?
- (iii) Explain “pathetically pled”.
- (iv) What quality of the people who set up the roadside stand is exuded in the above lines?

### STANZA 2

The polished traffic passed with a mind ahead,  
Or if ever aside a moment, then out of sorts  
At having the land scape marred with the artless paint.  
Of signs that with N turned wrong and s turned wrong.

#### Questions

- (i) What does “polished traffic” refer to?
- (ii) In what manner does the traffic pass that way?
- (iii) Explain “out of sorts”.
- (iv) Why and at what are they feeling out of sorts?

### STANZA 3

Sometimes I feel myself i can hardly bear,  
The thought of so much childish longing in vain,  
The sadness that lurks near the open window there,  
That waits all the day in almost open prayer,  
for the squeal of brakes

#### Questions

- (i) What can the poet not tolerate?
- (ii) Who has been longing and for what?
- (iii) Why is the longing referred to as childish?
- (iv) What do the expressions ‘open window’ and ‘open prayer’ signify?

### STANZA 4

Here far from the city we make our roadside stand  
And ask for some city money to feel in hand  
To try if it will not make our being expand,  
And give us the life of the moving pictures promise  
That the party in power said to be keeping from us.



## Questions

- (i) Who are 'we' and what do they want to feel in their hands?
- (ii) How do "we" plan to earn money?
- (iii) What life do they aspire for?
- (iv) Pick out an instance of political interface in the lines of "we"?

## Short Answer Type Questions

*Answer the following in about 30-40 words each :*

- 1. Why and where was the roadside stand set up?
- 2. What role does money play in the development of cities?
- 3. What things are for sale at the roadside stand?
- \*4. Why are the "greedy good-doers" swarming over these people?
- 5. With what purpose do Cars stop at roadside stand? Mention any two?
- 6. What were the things about which the travellers Complained?
- \*7. How does the 'roadside stand' present the pathetic state of rural people?
- 8. Why did the farmers wish to earn money and what did they think of city people?

## 6. AUNT JENNIFER'S TIGERS

**Read the following stanzas carefully and answer the questions that follow each :**

### STANZA 1

Aunt Jennifer's tigers prance across a screen,  
Bright topaz denizens of a world of green.  
They do not fear men beneath the tree,  
They pace in sleek chivalric certainty.

## Questions

- (i) Where do the tigers appear?
- (ii) What is the attitude of tigers towards the men?
- (iii) What does the pace of the tiger reflect?
- (iv) Bring out the difference between the qualities of the tiger and their creator.

### STANZA 2

Aunt Jennifer's fingers fluttering through the wool  
Find even the ivory needle hard to pull.

The massive weight of Uncle's wedding band  
Sits heavily upon Aunt Jennifer's hand.

### Questions

- (i) Why are Aunt Jennifer's fingers fluttering?
- (ii) What is the result of the fluttering?
- (iii) How has Aunt Jennifer's life been effected by the marriage?
- (iv) Explain : 'have the "wedding band" as a massive weight'.

### STANZA 3

"When Aunt is dead, her terrified hands will lie  
Still ringed with ordeals she was mastered by.  
The tigers in the panel that she made  
Will go on prancing, proud and unafraid."

### Questions

- (i) Why are Aunt Jennifer's hands called terrified?
- (ii) What are they still ringed with?
- (iii) Where did she make the tigers?
- (iv) What will happen to her tigers after her death?
- (v) Find words from the stanza which mean:
  - (a) Scared
  - (b) Surrounded by
  - (c) board

### Short Answer Types Questions

**Answer the following in about 30-40 words each :**

1. Answer the following in about 30-40 words each :
2. Pick two qualities of the tigers as depicted in the poem?
- \*3. Bring out the significance of the wedding ring in Aunt Jennifer's life?
4. Has Aunt Jennifer led a happy married life? Why not?
- \*5. The tigers made by Aunt Jennifer are symbolic of her Aspirations? Do you agree? Why? Why not?
6. What do you understand about-mental state of Aunt Jennifer?

## II.

### 1. THE LAST LESSON

#### SHORT ANSWER TYPE QUESTIONS

*Answer the following questions in about 30-40 words each :*

- Q.1. Why was Franz afraid to go to school?
- Q.2. What temptation was Franz able to overcome and proceed to School?
- Q.3. What is the significance of the bulletin? Why was there a crowd in front of it?
- Q.4. How and why was the teacher dressed differently that day?
- Q.5. What noise Franz couldn't hear on reaching school?

#### OR

What was unusual view in the school when he reached the school?

- Q.6. What was the order from Berlin? How was it going to affect learning of Franz?
- Q.7. How did Franz's views regarding his books change?
- Q.8. What was felt by Franz in his attitude towards Mr. Hamel?
- Q.9. Why were the old men of the village present in the class?
- Q.10. When Franz turned to recite participles what had really happened?
- Q.11. According to Mr. Hamel what is wrong with Alsace?
- Q.12. What will others tell the French people after the implementation of the Berlin orders?
- Q.13. How does the teacher hold the parents responsible for the children not studying?
- Q.14. What blame does M. Hamal take upon himself for poor performance level of the children?
- Q.15. What did M. Hamel say about the French language?
- \*Q.16. How is the mother tongue important for the people who are enslaved?
- Q.17. Why was Franz able to understand everything very well on the last day?
- Q.18. What was the atmosphere in the class on the last day?
- Q.19. What changes had taken place in the school in forty years?
- Q.20. "I never saw him look so tall". Who is the person mentioned? What does the speaker mean by saying "I never saw him so tall"?
- Q.21. How did Franz react to the news that teaching of French would be discontinued?
- Q.22. How did M. Hamel gesture to the students at the end of the class to formally announce?

- Q.23. What did M. Hamel write on the blackboard at the end of the class? What is its significance?
- Q.24. Why did Franz remember the last lesson?
- \*Q.25. Why was the last lesson of French an emotional moment for m. Hamel?

### LONG ANSWER QUESTIONS

**Answer the following Questions in about 150 words each :**

- Q.1. "The importance of a thing dawns upon us when it is no longer with us". Do you agree? Give reasons based on the text?
- Q.2. In the story M. Hamel emerges not only as a dedicated teacher but also as a sensitive and understanding human being". Discuss the character of M. Hamel in light of the above statement.
- \*Q.3. Language becomes a tool in the lands of the conquerors to establish their superiority over the losers. Critically analyse the statement with reference to the lesson.
- Q.4. Describe the classroom scene on the last day as painted in the story.
- Q.5. Do you think the title 'The Last Lesson' is appropriate. Give a reasoned answer.
- \*Q.6. "When a people are enslaved, as long as they held fast to their language it is as if they had the keys to their prison." Discuss the significance of this statement in light of The Lesson.

## 2. LOST SPRING

### SHORT ANSWER TYPE QUESTIONS

**Answer the following Questions in about 30-40 words each**

- Q.1. What is the irony in the name Saheb-e-Alam?
- Q.2. What are the living conditions in Seemapuri?
- Q.3. How does an adult and a child rag picker look at garbage differently?
- Q.4. From where has Saheb's family come? Why?
- Q.5. What is the priority of the ragpickers?
- \*Q.6. "Garbage to them is gold", What does this statement mean?
- Q.7. What explanation is given for children (the Red pickers) not wearing footwear?
- \*Q.8. How had rag picking "acquired the proportions of fine art"?
- Q.9. What happens when a child rag picker finds a coin in the garbage?
- Q.10. From where has Saheb managed to procure a pair of shoes?
- \*Q.11. How do children of rag pickers become "partners in survival"?
- Q.12. What is one thing that is out of Sheb's reach? What has he to be content with?

- Q.13. Why did the rag pickers leave their “beautiful land of green fields and rivers”?
- Q.14. What is Saheb’s new job? Mention the two things he gets from it?
- Q.15. Why has Saheb “Lost his carefree look”?
- Q.16. Explain “Saheb in no longer his own master”.
- Q.17. What is the Common lament in Firozabad?
- Q.18. Why don’t the bangle workers organise themselves into a cooperative?
- Q.19. What is the significance of Mukesh’s dream to become a motor mechanic?
- Q.20. Mention two hazards of working in the glass bangle industry?
- Q.21. Which are the two distinct worlds which have become a burden on the child in Firozabad?
- Q.22. What rights of the children are the people unaware of in Firozabad?
- Q.23. What is the significance of bangles for an Indian woman?
- Q.24. Has any change come about with time in Firozabad? Give reasons.
- Q.25. How does the belief in destiny add to the misery of the workers of Firozabad?
- Q.26. What is the city Firozabad famous for?

### LONG ANSWER QUESTIONS

- Q.1. The Lesson “Lost spring vividly depicts the lives of street children. Discuss.
- Q.2. Mukesh is a street child, which traits of Mukesh appeal to you most? Why?
- Q.3. The beauty of the bangles of Firozabad is in direct contrast to the life of the people who make them’. Elaborate.
- Q.4. “Survival in Seemapuri means rag picking”. Give a brief account of the life and activities of squatters from Bangladesh settled in Seemapuri.
- \*Q.5. Banning of child labour is not the only solution. Do you agree? Give reasons and also suggest what should be done to improve their lot?
- Q.6. Bring out the significance of Mukesh’s dream of becoming a mechanic of motor cars?
- Q.7. How different is the attitude of Mukesh from that of Saheb?
- \*Q.8. There is a vast gulf that separates dreams from reality. Discuss with special reference to Mukesh and Saheb.

### 3. DEEP WATER

#### SHORT ANSWER TYPE QUESTIONS

*Answer the following 30-50 words each*

- Q.1. What made the Y.M.C.A. pool safe for learner?
- Q.2. What did William Douglas mother warn him about and why?
- Q.3. How did Douglas develop an aversion to water?
- Q.4. How did Douglas try to feel at ease in the Y.M.C.A. pool?
- Q.5. What did Douglas plan while he was drowning?
- Q.6. Who had thrown Douglas into the pool and why?
- Q.7. What was the immediate effect on Douglas of the drowning incident?
- Q.8. Mention any two long term consequences of the drowning experience?
- Q.9. How did this incident (Douglas drowning) deprive him of the pleasures of water sports?
- Q.10. What did the author do to overcome the fear of water? Did he succeed? Give reasons for your belief?
- Q.11. Who helped him overcome his fear of water? How did he do so?
- \*Q.12. Why did the experience of Conquering his fear of water have a deeper meaning for Douglas?
- Q.13. What were the two sensations Douglas had experienced?
- Q.14. Which two incidents made Douglas fear water?
- Q.15. Mention two qualities of Douglas that helped him conquer his fear?
- Q.16. "The instructor was finished. But I was not finished. What had the instructor finished? Why did 'I' not feel "finished"?
- Q.17. How did Roosevelt prove to be an inspiration for Douglas?

#### LONG ANSWER QUESTIONS

- Q.1. "Piece by piece, he built a swimmer". How did the instructor help the author to become a swimmer and overcome his fear of water?
- Q.2. What emotion did the author experience while he was drowning in the (Yakima) Y.M.C.A. pool? How did he face the frustrating moments?
- \*Q.3. How did the 'near death' experience in the (Yakima) Y.M.C.A. pool have a far reaching effect on the author's life?
- Q.4. 'If we surrender to our fears they overpower us, if we face them they fade away. Do you agree? Why, Why not? Discuss with reference to the lesson.

- Q.5. Imagine you are a student counsellor. Prepare a speech to be delivered in the morning assembly on the topic "Fight your fears."
- Q.6. "There is terror only in fear of death". Comment.

## 4. THE RAT TRAP

### SHORT ANSWER TYPE QUESTIONS

*Answer the following questions in about 30-40 words each :*

- Q.1. How did the peddler earn his livelihood?
- Q.2. What entertaining thought crossed his mind one day?
- Q.3. "The world is a big rat trap". How?
- Q.4. How was the crofter's hospitality a pleasant surprise for the peddler?
- Q.5. Why was the crofter so talkative and friendly with the peddler though he was a stranger?
- Q.6. How did the crofter reveal treat the peddler?
- Q.7. What did the crofter reveal about his past?
- Q.8. Why did he show the thirty kronors to the peddler?
- Q.9. How did the peddler abuse the trust that crofter had reposed in him?
- Q.10. What precautions did the peddler take to avoid being caught after leaving the cottage?
- Q.11. Why did the blacksmith treat the peddler's arrival as a routine affair?
- Q.12. How was the iron master's reaction to the peddler different from the blacksmith's?
- Q.13. Why did the peddler not reveal his real identity to the iron master at once?
- Q.14. Why did the peddler decline the ironmaster's invitation?
- Q.15. Why did the ironmaster send Edla his daughter to the peddler?
- Q.16. What made the peddler accept Edla's invitation?
- Q.17. What doubt did Edla have about the peddler?
- \*Q.18. When did the ironmaster realise that he had mistaken the peddler to be his old acquaintance?
- Q.19. How did the peddler defend himself in the ironmaster's house?
- Q.20. Why did ironmaster not call the sheriff?
- Q.21. Why did Edla insist on entertaining the peddler even after he was exposed?
- Q.22. How did the peddler spend his time at Ramsjo the ironmaster's house?
- Q.23. What news did Edla get at the church?

- Q.24. Why was Edla happy to see the gift left by the peddler?
- Q.25. Why did the peddler sign himself as Captain Van Stahle?
- Q.26. What message does the story put across?

### LONG ANSWER TYPE QUESTIONS

**Answer the following about 250 words**

- Q.1. "The reader's sympathy is with the peddler". Do you agree? Why/not?
- Q.2. The story is not only entertaining but also philosophical. Bring out the entertaining and philosophical elements of the story.
- \*Q.3. "A simple act of mercy and kindness can bring about a change of heart". Discuss the significance of love and kindness with reference to the story 'Rattrap'.
- Q.4. "Man is a social animal. He can survive but not live in isolation." Do you agree? Give a fully reasoned answer with illustration from the text.
- \*Q.5. Imagine you are the Rattrap peddler. Write a letter to Edla thanking her for the change she has brought about in you.
- Q.6. Describe the difference between the ironmaster's behaviour towards the peddler on two different occasions. Why did he behave in different ways.
- Q.7. The iron master and his daughter are poles apart. Discuss.

## 5. INDIGO

### SHORT ANSWER TYPE QUESTIONS

**Answer the following Questions in about 30-40 words each :**

- Q.1. Who was Raj Kumar Shukla? Why was he keen on meeting Gandhi?
- Q.2. How did Shukla pursue Gandhi to visit Champaran?
- Q.3. Why was Gandhi not allowed to draw water from the well of Rajender Prasad's house?
- Q.4. Where did Gandhi stay in Muzaffarpur? How does he comment about it?
- Q.5. What did the peasants of Champaran pay the British landlords as rent?
- Q.6. What would be the impact of synthetic indigo on the price of natural indigo?
- \*Q.7. How did Gandhi make the British realise that Indians could challenge their might?
- Q.8. What did the landlords do when they learnt that Germany had developed synthetic indigo?
- Q.9. How did the sharecroppers react to the landlord's agreement to release them of the fifteen percent agreement?



- Q.10. Why did Gandhi agree to a settlement of 25 percent refund to the farmers?
- Q.11. Was there any change in the plight of the peasants after this episode? Support your answer on basis of the text.
- Q.12. Why did Gandhi receive summons to appear in the court?
- Q.13. "Civil Disobedience had triumphed the first time in India". How did it happen?
- Q.14. Why and when did Gandhi say 'The battle of Champaran is won'?
- Q.15. How did Gandhi supervise the working of his Ashram at Allahabad while he was in Champaran?
- Q.16. What steps did Gandhi take to remove the social and cultural backwardness of the Champaran villagers?
- Q.17. How was Gandhiji's style of politics different from the usual politicians?
- Q.18. Why did Gandhi oppose the inclusion of Charles Freer Andrews in the Champaran movement?
- Q.19. What message does the Champaran episode give?
- Q.20. What were the contents of Gandhi's statement pleading guilty?

### LONG ANSWER TYPE QUESTIONS

**Answer the following Questions in about 150 words each :**

- Q.1. Why do you think the sharecropping arrangement was troublesome to the peasants?
- Q.2. Who was Raj Kumar Shukla? How did he persuade Gandhi to come to his place?
- Q.3. "He began by trying to get the facts." What different facts did he (Gandhiji) collect? What was the outcome.
- \*Q.4. How did Gandhiji negotiate for settlement of refund to peasants? Was it justified? Give reasons.
- Q.5. "Dialogue not violence can resolve situations of conflict and Injustice. Do you agree? Answer with illustrations from the lesson 'Indigo'
- Q.6. "The visit undertaken casually on the entreaty of an unlettered peasant occupied almost a year of Gandhi's life". What events unfolded and with what results?

## 6. POETS AND PANCAKES

### SHORT ANSWER TYPE QUESTIONS

**Answer the following questions in about 30-40 words each:**

- Q.1. What was 'Pancake'? Why was it in great demand in Gemini Studio?
- Q.2. How did the make-up room of the Gemini Studio look like?
- Q.3. Did the person who was subjected to make up feel Comfortable in the make up room? Give reasons.

- Q.4. How was Gemini Studio an example of national integration?
- Q.5. What was the skill/ ability/forte of the make up men of Gemini Studio?
- Q.6. How was hierarchy maintained in the make up department?
- Q.7. What work did the office boy do at Gemini Studio?
- Q.8. With what purpose had the office boy joined Gemini Studio?
- Q.9. Why did the author appear to be doing nothing at Gemini Studio?
- Q.10. How did the lawyer lose his job?
- Q.11. What notion prevailed about Communists at Gemini Studio?
- Q.12. Why was the office boy frustrated? Whom did he vent his anger upon?
- Q.13. What made the lawyer stand out from other's at Gemini Studio?
- Q.14. What were the political affiliations of the people at Gemini Studio?
- Q.15. How did the plays staged by MRA influence Tamil plays deeply?
- Q.16. On what basis did the staff conclude that the poet from England was an editor?
- Q.17. Why is the Englishmen's visit Referred to as Unexplained mystery?
- Q.18. According to the author what are the qualities of a prose writer?
- Q.19. How did the author discover who was the Englishman who visited the studio?
- Q.20. What feeling did the discovery of the identity of the poet give rise to?
- Q.21. What does "The God that failed" refer to?
- Q.22. Why did the book assume significance for the author?
- Q.23. Why did Stephen Spender visit Gemini Studio?
- Q.24. What do you understand about the author's literary inclination from the account?
- Q.25. From where did the author Procure the book "The God that failed"?

### **LONG ANSWER TYPE QUESTIONS**

***Answer in about 125-150 words each :***

- Q.1. Give a detailed account of the structure and functioning of the make up department at Gemini Studio.
- Q.2. Subbu was the man "Who gave direction and definition to Gemini Studio". In light of the above statement determine Subbu's character.
- Q.3. How did the lawyer bring an end to an acting career? How did he stand apart from the group?

- Q.4. "The purpose of the English poet's visit remained an unexplained mystery for the audience". What was the purpose of the visit and why did it remain a mystery?
- \*Q.5. What was the Moral Rearmament Army? Why did it visit Madras and what effect did it make?
- Q.6. Asokamitran has used humor and Satire effectively in poets and Panckes' discuss.

## 7. THE INTERVIEW

### SHORT ANSWER TYPE QUESTIONS

**Answer the following Questions in about 30-40 words each :**

- Q.1. What are the two diverse views on interviews?
- Q.2. Why did Lewis Carroll not consent to be interviewed?
- Q.3. What is Kipling's view towards interview?
- Q.4. What does Umberto Eco mean by "empty spaces"?
- Q.5. How was Eco's first Doctoral dissertation different from others?
- Q.6. How is Eco's style of writing different from the regular academic style?
- Q.7. Why does Eco lay emphasis on the narrative aspect?
- Q.8. Bring out the difference between Roland Barthes and Eco.
- Q.9. Why is Eco uncomfortable being branded a "novelist"?
- Q.10. What myth about readers "The name of the Rose" shattered?
- Q.11. how does an interviewer hold a position of power and influence?
- Q.12. According to Eco what is unusual about the success of "The Name of the Rose"?
- Q.13. Who, in today's world is our chief source of information about personalities?

### LONG ANSWER TYPE QUESTIONS

**Answer in about 125-150 words each :**

- \*Q.1. "The interview is both a much maligned and a supremely Serviceable medium of communication." Do you agree? Why/Why not?
- Q.2. "I can't understand how a man can do all the things he does". Discuss the statement with reference to Umberto Eco.
- Q.3. 'Umberto Eco Escapes being compartmentalised either as an Essay it or a novelist'. Discuss.
- Q.4. What is "The name of the Rose" about? Why did it become an Unprecedented success?
- Q.5. What are the Distractive traits of Unberto. Eco's works?

Q.6. Why are the journalists and the publisher puzzled at the success of the 'Name of the Rose'?

## 8. GOING PLACES

### SHORT ANSWER QUESTIONS

*Answer the following Questions in about 30-40 words each :*

- Q.1. Mention two differences in the character of Jansie and Sophie?
- Q.2. Mention the incident when Geoff plays the role of the protective elder brother to Sophie?
- Q.3. Why did Sophie want to keep her meeting with Danny a secret from Jansie?
- Q.4. How does Sophie's father react when Geoff tells him that Sophie has met Danny Casey?
- Q.5. Pick two instances from the text to prove that Danny Casey is a Celebrity.
- Q.6. How did Geoff give Sophie away?
- Q.7. Why did Sophie like to walk by the canal?
- Q.8. What improvement did Sophie want Geoff to make in his appearance?
- Q.9. Who was Danny Casey? Which country did he play for?
- Q.10. Do you think Sophie had actually met Danny Casey? Why/Why not?
- Q.11. Why did Sophie feel jealous of her brother's silence?
- Q.12. What were the options that Sophie was dreaming of? Why does Jansie discourage her for having such dreams?

### LONG ANSWER TYPE QUESTIONS

*Answer in about 125-150 words each :*

- Q.1. Bring out various aspects of the brother sister relationship with illustration from the text.
- Q.2. "Going places" is a story that borders on fantasy and reality". Discuss.
- Q.3. 'The meeting of Sophie with Danny Casey is a figment of her imagination". Do you agree? Why/Why not?
- Q.4. Bring out the difference in the character of Sophie and Jansie.
- Q.5. On the basis of the text discuss what socio-economic background did Sophie belong to?
- Q.6. Which member of the family was Sophie closest to? Why?
- Q.7. Sophie is a middle class girl who longs like any other teenager to reach out to the horizons. Justify the statement.

# VISTAS

## 1. THE THIRD LEVEL

### SHORT ANSWER TYPE QUESTIONS

*Answer the following Questions in about 30-40 words each :*

- Q.1. How does the psychiatrist interpret Charley's visit to the third level?
- Q.2. Why did the psychiatrists interpretation upset Charley's Wife? How did the psychiatrist pacify her?
- Q.3. What is a first day cover?
- Q.4. Why do stamp collectors mail envelopes to themselves on the first day of the sale?
- Q.5. What was Sam's wish and how did he fulfil it?
- Q.6. How did people spend their time in Galesburg in 1984?
- Q.7. Why did Charley decide to take the subway from the Grand Central?
- Q.8. Why did the Clerk at the third level refuse to accept the money from Charley?
- Q.9. How were Charley and Louisa convinced about the existence of the third level?
- Q.10. What preparation did Charley make to go to Galesburg?
- Q.11. What makes Galesburg a wonderful town?
- Q.12. What did Charley come to know from Sam's letter?
- Q.13. Why couldn't Sam go back to his old business in Galesburg?

### LONGER ANSWER TYPE QUESTIONS

- Q.1. What differences did Charley observe at the 3rd level of the Grand Central?
- \*Q.2. Hobbies provide a refuge from reality from our otherwise humdrum lives. Elaborate the statement in light of the lesson.
- Q.3. Charley is so engrossed with fiction that he loses touch with reality. Do you agree? Give reasons.
- \*Q.4. In our times we have to strike a balance between flights of fancy and practicality. Discuss the statement with reference to the 3rd level.

## 2. THE TIGER KING

### SHORT ANSWER TYPE QUESTIONS

*Answer the following Questions in about 30-40 words each :*

- Q.1. What did the astrologers foretell when the king was born?
- Q.2. Why was the chief astrologer surprised when the infant spoke?
- Q.3. Why was the tiger a danger for the infant?
- Q.4. How did the king justify the killing of the tigers?
- Q.5. In what manner was the prince brought up?
- Q.6. How was the Maharajah in danger of losing his throne?
- Q.7. What alternative to the tiger hunt did the secretary come up with?
- Q.8. How did the Maharajah manage to retain his throne?
- Q.9. What unforeseen hurdle brought the tiger hunt to a standstill?
- Q.10. Why and on what condition did the Maharajah want to marry?
- Q.11. How did the Maharajah reward and later punish the villagers who had discovered the hundredth tiger?
- Q.12. What did the hunters discover about the hundredth tiger after the Maharajah had shot it?
- Q.13. How and why was the 100th tiger honoured?
- Q.14. Why didn't the shopkeeper quote the real price of the wooden tiger?
- Q.15. How did the wooden tiger lead to the death of the Maharajah?
- Q.16. Pick out two instances to prove that Maharajah neglected everything for the sake of tiger hunting.
- Q.17. Why wasn't the Maharajah informed about the hundredth; tiger's survival?
- Q.18. How did the Deewan help the Maharajah achieve his mission?
- Q.19. Hundredth tiger was a Comic figure. Explain.
- Q.20. Why did the Deewan advise the Maharajah against increasing the land tax?
- Q.21. How did the Maharajah exercise his exclusive right on all the tigers of his kingdom?
- Q.22. What did the astrologer promise to do if the king killed the hundredth tiger? Why did he say so?
- Q.23. Why didn't the Maharajah agree to the suggestion of the British officer's Secretary?

## LONGER ANSWER TYPE QUESTIONS

*Answer the following in about 150 words.*

- Q.1. The Diwan in the story is a very resourceful person. Discuss with reference to the lesson.
- Q.2. How did the Maharajah dispel the danger that loomed over his throne?
- \*Q.3. Bring out the element of humour and irony in the story “The Tiger King”.
- Q.4. The King was capricious, arbitrary and whimsical. Do you agree? Give a reasoned answer.
- Q.5. The hundredth tiger played a decisive role in the fate of the Maharajah of Pratibhadapuram. Explain.

## 3. JOURNEY TO THE END OF THE EARTH

### SHORT ANSWER TYPE QUESTIONS

*Answer the following Questions in about 30-40 words each :*

- Q.1. What emotion did the author experience on reaching Antarctica?
- Q.2. Why was the author surprised at the Sight of Antarctica?
- Q.3. Bring out the difference between Gondwana and present day Antarctica?
- Q.4. How were the Himalayas formed?
- Q.5. Why has the average global temperature increased?
- Q.6. Why is Antarctica Still pristine?
- Q.7. Why is Antarctica a crucial element in the debate on climate change?
- Q.8. What is the objective of ‘Students on Ice’ Programme?
- Q.9. Why is the involvement of Students crucial in the ‘students on Ice’ Programme?
- Q.10. Where and how can one experience the real threat of global warming?
- Q.11. How have human beings created a ruckus in 12,000 years of their existence?
- Q.12. Who is Geoff Green? What did he get tired of and why?
- Q.13. Why has the ‘student on Ice’ programme been so successful?
- Q.14. How will the depletion of ozone layer affect the Carbon Cycle?
- Q.15. Why did Geoff Green prefer to include the high school students in ‘Student on Ice’ programme?

## LONGER ANSWER TYPE QUESTIONS

*Answer the following Question in about 125-150 words each :*

- Q.1. A lot can happen in a million years, but what a difference a day makes. In the light of this statement examine the role of the younger generation in protecting the environment.
- Q.2. By whom and with what purpose was the 'students on Ice' programme started? How far has it achieved its goals?
- \*Q.3. 'The pristine purity of Antarctica is under grave threat from humans.' How are human beings threatening Antarctica?
- Q.4. Imagine you are the author. Write a letter to your friend sharing with him your experience of the trip to Antarctica.
- Q.5. You are President of the Environment Club., prepare a speech to be delivered on World Environment Day creating awareness about human interference in environment with special reference to Antarctica?

## 4. THE ENEMY

### SHORT ANSWER TYPE QUESTIONS

*Answer the following in about 30-40 words each :*

- Q.1. Why did Sadao wait before falling in love with Hana?
- Q.2. Give two reasons why Sadao was not sent abroad with the troops.
- Q.3. What was keeping Sadao away from Prof. Harley's House?
- Q.4. Pick two instances from the story which reflect chauvinism in Sadao's father?
- Q.5. How did Hana and Sadao establish the identity of the man washed ashore?
- Q.6. What superstitious belief of the servants made them oppose Sadao's decision to give shelter to the injured man?
- Q.7. Why did Sadao decide to treat the injured man?
- Q.8. What did the servants think about Sadao sheltering an enemy?
- Q.9. What is the scar on the prisoner's neck an indication of?
- Q.10. What two events happened on the seventh day of the injured man's arrival?
- Q.11. Why was Sadao called by the General?
- Q.12. Hana's fears on the messenger's arrival proved false. How?
- Q.13. How did Hana react to the servants leaving the house?
- Q.14. What was the moral dilemma in front of the couple?



- Q.15. What two contradictory foreign elements did the General want Sadao to combine in himself?
- Q.16. Why didn't the old General trust the other surgeons?
- Q.17. What plan did the General suggest to get rid of the prisoner?
- Q.18. Why were private assassins essential in Japan?
- Q.19. Why couldn't the General's plan see the light of the day?
- Q.20. Why did Sadao feel that the General was in the palm of his hand?
- Q.21. How did Sadao's visit of Prof. Harley's home prove significant?
- Q.22. What things did Sadao provide for the wounded prisoner on the boat?
- Q.23. In America Sadao had faced as well as practiced prejudice. Support with instances from the lesson.

### **LONG ANSWER TYPE QUESTIONS**

- \*Q.1. Dr. Sadao and Hana rise above narrow feelings of patriotism to serve the nobler cause of humanity. Justify with reference to the story.
- Q.2. Give an account of the efforts made by Dr. Sadao and Hana to save the life of the injured man.
- Q.3. Discuss the reaction of the servants to the survival and departure of an American in the house.
- \*Q.4. "Prejudices are obstacles in interaction among human beings." In the light of the lesson discuss the statement.
- Q.5. Without his wife's help Sadao wouldn't have been able to save the injured man. Assess the role of Hana in light of this statement.

## **5. SHOULD WIZARD HIT MOMMY**

### **SHORT ANSWER TYPE QUESTIONS**

***Answer the following Questions in about 30-40 words each :***

- Q.1. How did the custom of story telling degenerate into a futile rite?
- Q.2. Pick out instances to prove that Jo was no longer a credulous child.
- Q.3. What was unique about the story that Jack told?
- Q.4. How did the wizard solve as well as create problems?
- Q.5. What was the cause of Roger Skynk's sadness?
- Q.6. Who came to Roger Skunk's help and what did he do?
- Q.7. Pick out the autobiographical elements in Roger Skunk's story?

- Q.8. How did Roger Skunk's mother react to his newly acquired smell?
- \*Q.9. How does the character of the wizard suit Jack?
- Q.10. Did Jo accept Roger Skunk's mother's violence to the wizard? What did she want?
- Q.11. How does Jack justify his ending of the story?
- Q.12. Why does Jo want a different ending to the story?
- Q.13. What is the moral issue of the story?

### **LONG ANSWER TYPE QUESTIONS**

- Q.1. Is the title "Should Wizard Hut Mommy". Justified?
- Q.2. Bring out the difference and the wider implication of Roger Skunk's and his mother's attitude towards the Skunk's smell?
- \*Q.3. Adults should not impose their perspective on kids. Do you agree? Give a reasoned answer.
- Q.4. Why does Jo want wizard to hit Mommy? Justify your answer on the basis of the story?
- \*Q.5. What are the deeper issues raised in the story?
- Q.6. Jack's handling of the ending of his story projects him in a poor light as a father. Discuss with reference to the story?

## **6. ON THE FACE OF IT**

### **SHORT ANSWER TYPE QUESTIONS**

***Answer the following Questions in about 30-40 words each :***

- Q.1. What had happened to Derry's face? How did it affect him?
- Q.2. Who is Mr. Lamb? How does Derry enter his garden?
- Q.3. Why does Derry feel surprised on entering the garden?
- Q.4. How does Mr. Lamb look at the weeds?
- Q.5. Why do the children call Mr. Lamb "Lamey Lamb"?
- Q.6. How does the reader realise that Mr. Lamb is a lonely man?
- Q.7. What draws Derry to Mr. Lamb?
- \*Q.8. How does Mr. Lamb make Derry realise the uselessness of being a recluse?
- Q.9. What did Derry think about the garden before he entered it?
- Q.10. What did Derry overhear his parents talking about?

Q.11. Why does Derry's mother object his going to Mr. Lamb?

Q.12. Why were there no curtains in Mr. Lamb's house?

### **LONG ANSWER TYPE QUESTIONS**

**Answer the following Questions in about 125-150 words each :**

\*Q.1. The play ends on a tragic note but reaffirms hope. Discuss with reference to the story.

Q.2. Derry suffers from a sense of insecurity and alienation. Comment.

Q.3. In spite of his show of bravado, Mr. Lamb is a lonely man. Do you agree? Give a reasoned answer.

Q.4. Rather than feeling sad and merciful towards the physically disabled we should try to integrate them into the mainstream. In light of the story establish the truth of this statement.

\*Q.5. Mr. Lamb infuses Derry with a zest for living. How does he succeed in doing so?

### **7. EVANS TRIES AN O-LEVEL**

#### **SHORT ANSWER TYPE QUESTIONS**

**Answer the following Questions in about 30-40 words each :**

Q.1. What was unusual about the request received by the Examination Board?

Q.2. What did the governor tell the secretary about Evan's previous record?

Q.3. What is the nickname Evans has got and why?

Q.4. Pick out an instance to show that Evans was not genuinely interested in learning German.

Q.5. What preparations were made for Evans to appear for the exam in prison?

Q.6. Who were the visitors who visited Evans at 8.30 am on the day of the exam?

Q.7. What reason does Evans give for not taking off his hat?

Q.8. What duty had been assigned to Reverend Stuart Macleery and what material was he carrying?

Q.9. What was the real reason behind Evans not taking his hat off.

Q.10. Why did the Governor decide to turn on the speaker while the scam has been held?

Q.11. Why had Macleery brought a rubber ring with him? What was its real purpose?

Q.12. What slight irregularity about Evans did Stephens notice?

Q.13. What did Stephen suspect Evans would do? Why did he (Stephen) drop the line of thought?

Q.14. What did Stephen discover in Evan's cell after Macleery had left?

Q.15. Who had impersonated whom in the plan to escape?

- Q.16. How did Evans manage to get blood and how was its clotting prevented?
- Q.17. What was Evans actually doing when the pen was stuck in his mouth?
- Q.18. What two changes are noticed in Mcleery when he leaves after the scam is over?
- Q.19. How did the correction slip help in Evans' escape?
- Q.20. How is Evans able to manage his escape in absence of visitors and letters?
- Q.21. Why did Evans leave the question paper with German written on it in the cell?
- Q.22. What fate did the real Mcleery meet?
- Q.23. How did Evans manage to give a slip to the Governor at the end?

### **LONG ANSWER TYPE QUESTIONS**

***Answer the following Questions in about 125-150 words each :***

- Q.1. Evans was able to turn the table on his captors. What did he do?
- Q.2. Do you agree that the governor was just another good for giggle gullible governor? Give reasons.
- \*Q.3. "Where there is a will, there is a way." To what extent does the story prove it?
- Q.4. What steps were taken by the prison authorities to ensure that the exam was conducted in a fair manner without compromising the security.

## **8. MEMORIES OF CHILDHOOD**

### **SHORT ANSWER TYPE QUESTIONS**

***Answer the following Questions in about 30-40 words each :***

- Q.1. Why wasn't Zitkala-Sa not feeling at home in her new surroundings?
- Q.2. Why did she pine for her lost freedom?
- Q.3. Why did Zitkala-Sa watch the "three young braves"?
- Q.4. "I felt like sinking to the floor"! Who felt so and why?
- Q.5. Why was Zitkala-Sa being keenly watched?
- Q.6. What information did Judewin give to Zitkala-Sa?
- Q.7. Why was Zitkala-Sa resisting the cutting of her hair?
- Q.8. How did Judewin and Zatkala-Sa react differently to the cutting of hair?
- Q.9. When did Zitkala-Sa lose her spirit?
- Q.10. What indignities did Zitkala-Sa have to suffer after she was separated from her mother?

- Q.11. How did Zitkala-Sa resist when she was discovered under the bed?
- Q.12. Why did Bama take unusually long to reach home from school?
- Q.13. What were the entertaining sights which caused her delay in reaching home?
- Q.14. What was the usual scene at the coffee clubs in the bazaar?
- Q.15. Why did Bama feel like shrieking with laughter at the sight of the elderly man?
- Q.16. What was the elderly man carrying and for whom?
- Q.17. Why was Annan not amused when Bama told him the story of the elderly man?
- Q.18. How did Bama react when she came to know the reality of the elderly man carrying the packet?
- Q.19. Why does Bama feel that the landlord has lost all human feelings?
- Q.20. Where did Bama's elder brother study? Why did he often go to the neighbouring village?
- Q.21. Why did the landlords man ask Annan where he lived?
- Q.22. What reason did Annan give for not getting honour and dignity in society?
- Q.23. What advice did Annan give Bama regarding honour and dignity?
- Q.24. What impact did Annan's words have on Bama and with what effect?
- Q.25. Bring out two similarities between Bama and Zitkala-Sa.

### **LONG ANSWER TYPE QUESTIONS**

***Answer the following Questions in about 125-150 words each :***

- Q.1. "The cutting of my Hair" shows insensitivity of the mainstream culture toward marginalized communities. Discuss.
- Q.2. Zitkala-Sa did not tamely surrender but put up a brave fight. How did she show her resistance to the cutting of her hair?
- \*Q.3. The resistance of Zitkala-Sa to the cutting of her hair and Bama's determination to study are sparks which can ignite a change. Discuss in the light of the chapter.
- Q.4. What was Bama's initial reaction to the incident on the street? How did she react to it differently later on.

# SAMPLE PAPER No. 1

## Section A

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### READING SKILLS

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*Maximum Marks : 20*

**A1. Read the passage given below and answer the questions that follow :**

1. Human progress is largely the result of human effort and skill. Once we learn to expect great things of ourselves and prepare to receive the good things of life, they not only can but will be ours. There is genius within us, but we are like sleeping giants. Unless we awaken to this fact and use the larger power, we sleep on and on. The source of all power is within reach of us. "The kingdom of God is within us." To improve, and further improve, is the constant struggle of life's greatest successes. A marked characteristic of a successful man is that he is always improving something somewhere. His daily resolution, upon arising every morning is to make today a better day than yesterday by improving something.
2. "Man is not pulled from in front nor is he pushed from behind," says Paul Meyer. "Rather, he is driven from within, first, by what he thinks, subsequently by what he feels and does." He further reiterates : "People are conditioned beings. Their basic habits of thoughts or attitudes are formed early in childhood, in an environment over which they have little or no control. Yet, they carry these attitudes and act out their entire adult lives with little change. They are regulated in their response to their environment by the negatively conditioned image they hold of themselves and society. People have the unlimited potential to make themselves whatever they choose; their only limitations are those which they place on their own minds."
3. Success is not a relationship between how well one person is doing in comparison with another, but a relationship between what a person is and what a person can become. Success is related to one's own progressive realisation of one's own predetermined worthwhile goals. Success becomes a progressive development of one's potential, an individual journey rather than a destination, a striving towards a goal worthy of that person.
4. To make people change in order to fulfil this progressive realisation of potential requires motivation. A motive is that which leads men into action. It is that which creates the interest and urge, and drives people to act in a specific manner. The two commonly used methods for motivating people are fear and incentive. Fear motivation is based on punishment and works only initially. People learn either to ignore the pressure of fear or flee from it. Incentive motivation is based on reward and appetitive. It is simply a process of "luring" people by offering a "prize" for something they should be done anyway. It creates a second serious problem by causing what was once provided as a privilege to become a right, and the "price" must be continually increased. This creates a behaviour response of causing people to do less and less for more and more reward, developing in them finally a tendency to say, "Why make any effort? I can get all I want for doing nothing at all."

5. A better way is by effecting a positive change in attitudes. Attitudes Motivation does not depend on outside pressure or incentive and ultimately results in a lasting and permanent change. An attitude is a collection of habits of thoughts that are basically consistent with each other. Since the habit is formed through the repeated exposure to an idea or through the repetition of a behaviour pattern, a planned positive change in thought and subsequently in attitude can be effected through the use of the same fundamental learned process of “spaced repetition”. If people are to be motivated to their fuller potential on a continuous, lasting basis, they must be willing to undergo a fundamental change in attitude.
6. Personally motivated people learn to recognise existing opportunities by relating the normally unrelated and by seeing usual things in an unusual way. A man’s purpose is to realise this potential.
7. There has been a growing volume of research by social scientists on the motives of people who work. The most simple definition of motivation is that “which induces action or determines choice”. In their famous book, *Success Through A Positive Mental Attitude*, Hill and W. Clement Stone observe : “A motive is the ‘inner urge’ only within the individual which induces him to action, such as an idea, emotion, desire or impulse.” A lot of theoretical work has been done at the Psychological Service of Pittsburgh in the field of motivation. One important piece of research was based on careful interviews with some 200 engineers and accountants who worked for eleven different firms in the Pittsburgh area. It was clear that with this group of engineers and accountants the real motivators were opportunities to become more expert and to handle more demanding assignments. Pay, job security and working conditions were “hygienic factors”.

**A1. On the basis of reading the above passage, answer the following questions :**

- |  |   |
|--|---|
| (a) What is the distinguishing characteristic of a successful man?                 | 1 |
| (b) How can we say that people are conditioned beings?                             | 2 |
| (c) Bring out the difference between the fear and incentive methods of motivation. | 2 |
| (d) What is the most effective way of motivation? Why?                             | 2 |
| (e) What is motive? How does it motivate a person?                                 | 2 |
| (f) Find out words from the passage which mean the same as the following :         | 3 |
| (i) Firm decision – Para 1.  |   |
| (ii) Inherent quality that can be developed – Para 3.                              |   |
| (iii) Uncommon – Para 6.   |   |

**A2. Read the passage given below and answer the questions that follow :**

The International Labour Organization (ILO) has estimated that 218 million children between the ages of five and seventeen work in developing countries. Of these, 122.3 million children work in the Asia-Pacific region, 49.3 million work in sub-Saharan Africa, and 5.7 million work in Latin America and Caribbean. Most working children in rural areas are found in agriculture; many children work as domestic help; urban children work in trade and services, with fewer in manufacturing and construction.

Child labour ranges from four-year olds tied to rug looms to keep them from running away, to seventeen years old helping out on the family farm. In some cases, a child's work can be helpful to him or her and to the family; working and earning can be a positive experience in a child's growing up. This depends largely on the age of the child, the conditions in which the child works, and whether work prevents the child from going to school.

The Children's Right Division at Human Rights Watch has focused its effort on the worst forms of child labour, those prohibited by the ILO's Worst Form of Child Labour Convention. Children, who work long hours, often in dangerous and unhealthy conditions, are exposed to lasting physical and psychological harm. Working at rug looms, for example, has left children disabled with eye damage, lung disease, stunted growth, and a susceptibility to arthritis as they grow older. Children making silk thread in India dip their hands into boiling water that burns and blisters them, breathe smoke and fumes from machinery, handle dead worms that cause infections, and guide twisting thread that cut their fingers. Children harvesting sugar cane in El Salvador use machetes to cut cane for upto nine hours a day in the hot sun; injuries to their hands and legs are common and medical care is often not available.

Denied an education and a normal childhood, some children are confined and beaten, reduced to slavery. Some are denied freedom of movement—the right to leave the workplace and go home to their families. Some are abducted and forced to work. The human right abuses in these practices are clear and acute. We have found similar problems in Asia, the Middle East, Latin America, and the United States. Children who work for too many hours and too many days, for too little, or sometimes no pay, are subjected to physical abuse, exposed to dangerous pesticides and made to work with dangerous tools. The need of the hour is to start a debate on child rights and work issues.

### Questions

1. On the basis of your reading of the above passage, make notes on it, using headings and sub-headings. Use recognizable abbreviations where ever necessary (minimum 4). Give a suitable title to the passage. 5
2. Write the summary of the passage in about 80 words making use of the notes made. 3



## Section B

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# ADVANCED WRITING SKILLS

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(35)

3. You are Mahip/Mahima the secretary of Consumer Club of Govts.S.S. School, Nanak Pura. Write a notice in not more than 50 words for your school Notice Board inviting students to participate in a competition of web designing/Project on Mass Media at I.I.M. Indore. Invent other necessary details. (5)

OR

You are Prateek/Pratima of Govt. Sarvodaya Vidyalaya A. Block, Shalimar Bagh. Design an attractive and meaningful poster regarding Disaster Management Workshop to be organised in your school. (5)

4. You are Aditi/Aditya of Sarvodaya Vidyalaya, Sharda Niketan, Delhi. You made a visit to the Exhibition and Light and Sound Programme Organised at Central Park, Connaught Place, New Delhi to commemorate the 150th anniversary to Indian Revolt in 1857. You were fascinated at the enthusiasm and patriotism of the people in celebrating the day. Write a report about the cultural programme in about 125 words for your School Magazine. (10)

OR

You are Shraavan/Shruti. Yesterday you witnessed a car accident. When a teenager driving very carelessly hit many people standing on a bus-stop. Six persons got injured and one died on the spot. Describe this incident in about 125 words as an eye witness.

5. You are a Music Teacher of Govt. Sr. Sec. School, Palam Vihar, Delhi. You have to purchase a number of musical instruments for Music room. Place an order to Messers. Sargam Electronics, Darya Ganj, Delhi for supply of required instruments. Invent the details yourself. You are Seema/Samir. (10)

OR

You are Praseon/Pallavi, a member of Eco-club of Blue-Bells School, Kailash Colony, Delhi. You are pained over the increasing level of Environmental Pollution in Delhi. You decide to write a letter to the editor, to be published in local daily, highlighting the causes of environmental pollution and measures to check it. (10)

6. You are Smriti/Sameer studying in Class XII in Bal Bharti Public School, Rohini. You have to deliver a speech on the importance of Mothers on "Mother's Day" highlighting the role played by a mother in multidimensional development of a person. (10)

OR

You are Amit/Amita of Bright Public School, Saket. Write an article on Drug Addiction, highlighting the reasons why youngsters start smoking and taking drugs. Give your suggestion to check smoking and drug addiction. (10)

## Section C

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# LITERATURE

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*Maximum Marks : 45*

**Q.7(A) Read the stanza given below and answer the questions that follow : (4 Marks)**

“Aunt Jennifer’s fingers fluttering through the wool.  
Find even the ivory needle hard to pull  
The massive weight of Uncle’s wedding band  
Sits heavily upon Aunt Jennifer’s hand.”

- (i) Why are Aunt Jennifer’s fingers fluttering?
- (ii) What is the impact of fluttering?
- (iii) How has Aunt Jennifer’s life been affected by the marriage?
- (iv) Explain : ‘Have the wedding band as a massive weight’.

**OR**

“I looked again at her, wan, pale face  
as late winter moon and felt that  
old familiar ache, my childhood’s fear,  
but all I said was, see you soon, Amma,  
all I did was smile and smile and smile.”

- (i) Whom do ‘I’ and ‘her’ refer to?
- (ii) What does childhood fear refer to?
- (iii) What is the difference between appearance and reality in last two lines?
- (iv) Why the poet has compared mother’s face to the late winter moon? (2 × 3 = 6 Marks)

**Q.7(B) Answer any *three* of the following in about 30-40 words each :**

- (i) How do the children of the elementary school classroom in a slum look?
- (ii) How is a thing of beauty a joy for ever according to the poet?
- (iii) What was the reason given by the folk for putting up the roadside stand?
- (iv) Why does the poet criticise the people who prepare green wars?

**Q.8 Answer the following questions in about 30-40 words each (2 × 5 = 10 Marks)**

- (i) Why was Franz tempted to miss the school that day? (The Last Lesson)

- (ii) Describe the plight of the people working at the glass furnances.
- (iii) What was the misadventure William Douglas spoke about?
- (iv) Why was Edla happy on opening the gift left by the peddler?
- (v) How was the make-up room of the Gemini Studio an example of national integration? (Poets and Pancakes)

**Q.9 Answer in about 125-150 words**

**(10 Marks)**

1. With reference to the lesson "Indigo" give a detailed account of the problem of Sharecroppers in Champaran.

**OR**

Interview as a form of journalism is both loved and hated. Give reasons.

**Q.10 Answer in about 100 words**

**(7 Marks)**

1. Doctor Sadao's final solution to the problem was the best possible one in the circumstances. Explain with reference to the lesson 'Enemy'.

**OR**

Imagination is a temporary refuge from reality. Comment with reference to 'The Third Level.'

**Q.11 Answer the following Questions in about 30-40 words each**

**(2×4= 8 Marks)**

- (i) How did the hundredth tiger come to be killed by the Maharaja? What was funny about it?
- (ii) Why did Geoff Green prefer to include high school students in 'Students on Ice' programme?
- (iii) What is the moral of the story 'Should Wizard Hit Mommy'?
- (iv) What had happened to Derry's face? How did it affect him?

## A1. MARKING SCHEME

### SECTION A

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## VALUE POINTS

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- (a) Always trying to improve, making today better than yesterday.
- (b) (i) basic habits, thoughts, attitudes formed in early childhood.  
(ii) carry these attitudes and activities in their adult life without change.  
(iii) regulated in response to their environment *(any two)*
- (c) Fear motivation based on punishment  
□ works only initially  
Incentive Motivation  
□ based on reward and appetitive  
□ process of luring people by offering a prize.
- (d) (i) Attitudes motivation  
(ii) does not depend on outside pressure or incentive.  
(iii) results in lasting and permanent change.
- (e) (i) inner urge within the individual  
(ii) induces him to action
- (f) (i) Resolution  
(ii) Potential  
(iii) Unusual

## A2. MARKING SCHEME

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### NOTE MAKING

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**Suggested Title** – Child Labour : A Global Problem/Child Labour : Violation of Human Rights.

#### Notes

1. Meaning of Child Labour
  - 1.1. Children made to work between 5-7 years.
2. Children employed as
  - 2.1. Domestic help
  - 2.2. In agriculture
  - 2.3. In trade and services
  - 2.4. Manufacturing and construction
3. Global Scenario
  - 3.1. 218 million child labourers in developing countries.
  - 3.2. 122.3 million in Asia-Pacific region.
  - 3.3. 49.3 million in sub-Saharan Africa.
  - 3.4. 5.7 million in Latin America and Carribean.
4. Sometimes a Positive Experience
  - 4.1. helpful to the family
  - 4.2. helps in child's growth.
  - 4.3. Determined by (i) age, (ii) working condition (iii) whether preventing the child from school going.
5. Worst Forms of Child Labour according to ILO.
  - 5.1. Working long hrs.
  - 5.2. In dangerous, unhealthy conditions
  - 5.3. At rug looms, making silk thread.
6. Hazardous effects of child labour
  - 6.1. Exposed to dangerous pesticides
  - 6.2. Eye damage

- 6.3. Lung disease
- 6.4. Stunted growth
- 6.5. Burns and blisters
- 6.6. Breathing problems.
- 7. Against Human Rights
  - 7.1. Deprived of education.
  - 7.2. Denied joys of childhood
  - 7.3. No medical facilities
  - 7.4. Physical abuse of children
  - 7.5. No freedom of movement.
- 8. Need of the Hour
  - 8.1. Debate on
    - (i) Child rights and work issues.

## Section B

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# ADVANCED WRITING SKILLS

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**Note :** The objective of the section on Advanced Writing skills is to list a candidate's writing ability. Hence expression assumes as much importance as the content of the answer.

### 3. NOTICE

Format	1 mark
Content	2 marks
Expression	2 marks

- Suggested Value Points**
- Notice**
- Day and Date of Competition**
- Venue of the Competition**
- Rules for Participating if any**
- Whom to Contact**

Or

- Poster**

Content	3 marks
Expression	2 marks
- Value Points** : Details like date, time and venue of the workshop
  - Chief guest (if any)
  - Need of the day to train people.

### 4. REPORT WRITING

- Format**
  1. title, reporter's name 1 mark
- Content** 4 marks
- Expression** : Grammatical accuracy, appropriate words, spellings 2½  
Coherence and relevance of ideas and style 2½

□ **Suggested Value Points**

**150<sup>TH</sup> ANNIVERSARY CELEBRATIONS OF INDIAN REVOLT IN 1857**

- When
- Where
- Activities/Programmes conducted
- Contents of Exhibition
- Any other special feature(s)

**OR**

□ **Suggested Value Points**

**CAR ACCIDENT**

- When, where
- How many injured/died.
- Action taken by people/police.

## **5. LETTER WRITING**

**Note :** No marks are to be awarded if only format is given. Credit should be given to the candidate's creativity in presentation of ideas. Use of both the traditional and new format is permitted.

□ **Format**

- |                     |                                  |
|---------------------|----------------------------------|
| 1. Sender's address | 2. Date                          |
| 3. Receiver's       | 4. Subject heading               |
| 5. Salutation       | 6. Complimentary Close (2 Marks) |

□ **Content**

□ **Expression**

Grammatical accuracy, appropriate words and spellings (2)

Coherence and relevance of ideas and style(2)

□ **Suggested Value Points**

**ORDER FOR MUSICAL INSTRUMENTS**

- List of Musical Instruments
- Make
- Mode of Payment



- Dead line for delivery

OR

### ENVIRONMENTAL POLLUTION

- Mention the causes
- Measures/Steps to check
- Role of Public
- Role of Government

## 6. ARTICLE WRITING

- **Format** : Title and Writer's Name (1 Mark)
- **Content**
- **Expression**
  - Grammatical accuracy, appropriate words and spellings (2½)
  - Coherence and relevance of ideas and style (2½)
- **Suggested Value Points**

### ROLE OF MOTHER'S

- Physical attachment
- Emotional attachment
- Development of a person

OR

### DRUG ADDICTION

- Reasons of diversion to smoking
- Reason of Drug Addiction
- Steps to be taken

## SECTION C

7. (i) Nervous, tense / moving the puppets. (1 mark)  
(ii) Lack of strength, entangled in the wool. (1 mark)  
(iii) Leads a restricted, subjugated, dominated life, unhappy and dissatisfied (1 mark)  
(iv) Responsibilities that come with marriage have burdened her. (1 mark)

### OR

- (i) "I" refers to poetess – Kamala Dass  
"Her" refers to her mother (1 mark)  
(ii) Fear of separation from her mother (1 mark)  
(iii) In reality poetess – sad, hopeless  
In appearance poetess – smiles, tries to hide real emotions (1 mark)  
(iv) Both are pale.
- 7.(b) (i) Unkempt, Hungry, Diseased (1 mark expression) (1 mark content)  
(ii) \* Loveliness increases with time (1 mark content)  
\* Never comes to an end (1 mark expression)  
(iii) \* Add to their income (1 mark content)  
\* Raise their standard of living like those in the city (1 mark expression)  
(iv) \* Destroy the environment (1 mark content)  
\* Endangering the human race (1 mark expression)
8. (i) \* Unprepared on participles (1 mark content)  
\* Pleasant whether outside (1 mark expression)  
(ii) \* Extreme heat (1 mark content)  
\* Go blind (1 mark expression)  
(iii) \* Throw into the pool. (1 mark content)  
\* Escaped death, scarred for life (1 mark expression)  
(iv) \* Contained three then Knonor notes (1 mark content)  
\* Proof that he had changed (1 mark expression)  
(v) \* People from different states of India under the same roof (1 mark content)  
(1 mark expression)

9.      □ Tenants forced to grow indigo (5 mark content)  
          □ Synthetic indigo introduced (1 mark expression)  
          □ Problem until the agreement  
          □ Gandhi engaged administration in dialogue  
          □ Mass demonstrations by peasants  
          □ Landlords had to bow down

*Loved because*

- An art, source of truth, helps one know about his contemporaries

*Hated because*

- Unwanted interference  
 □ Deminishes a person  
 □ Interviewer unduly powerful
10.      □ Sadeo torn between patriotism and stress.  
          □ Honour, family at stake if caught  
          □ As a doctor can't let the prisoner die  
          □ Adopts the middle path (5 marks content) (5 marks expression)

**OR**

- Modern day life – hectic, strain and stress.  
 □ Unfulfilled hopes and aspirations  
 □ Imagination provides temporary comfort  
 □ Balance to be established between imagination and reality.
11.      (i) 100th tiger infact killed by hunter. (1 content)  
          as tame as a dog,  
          refused to get out of the car (1 expression)
- (ii)      □ Create awareness among the leaders, decision makers of tomorrow.  
          □ Sensitise them to the dangers looming ahead. (1 content) (1 expression)
- (iii)      □ Open ended story  
          □ Parents should be accomodative of the child's perspective. (1 content)  
          (1 expression)

- (iv) □ Burnt by acid
- Became reclusive, withdrawn bitterness towards the world (1 content)  
(1 expression)

# SAMPLE PAPER No. 2

## Section A

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### READING SKILLS

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*Maximum Marks : 20*

**A1. Read the passage given below and answer the questions that follow :**

1. Any kind of mental deformity continues to be a subject of extreme social disgrace and trauma in India. When a child is diagnosed with such disorders, the parents are at first staggered, shocked, numbed, and thus spend a considerable period in this bewilderment. Then comes the gradual acceptance of facts as they stand. This brings forth a fiercely combative approach, making parents extremely defensive, and anxious to protect their children from harassment. More often than not, the child's education takes a back seat in this web of perplexity and despair. The tag of 'abormality' that the child is labelled with, sadly even in the subconscious minds of parents, ruthlessly strikes out the route to an educated life that he/she otherwise would have led. For all our claims on the celebration of linguistic and cultural diversities, the differently abled among us still continue to be called the 'disabled', to be looked upon with disdainful pity and worse still, made the bulk of all jokes.
2. But you can make a difference in the lives of such children by opting for a career in teaching the differently-abled. Think mental disability and there is a string of visuals that come to mind. Amir Khan's worthy attempt in Tare Zameen Par, Russell Crowe's Oscar Winning Act in 'A Beautiful Mind'. Rani Mukherjee's deaf, dumb and blind role in 'Black' would probably hover in, though it is nowhere in the purview of a mental disorder. Dig a bit deeper into memory, and you will probably come up with hazy images of Ajay Devgan helping a limping child with severe speech impairment. This is the aggravatingly cumulative picture that these films have registered in the minds of the average viewer. How many of us remember that Amir Khan's unfortunate student in TZP suffered from dyslexia.
3. All attempts at bringing such anomalies to public awareness have failed to imbibe the minor intricacies of these disorders in people's minds. With the result that the populace is largely ignorant about the existence of disorders like the aspergar syndrome, autism, and the downs syndrome and more importantly, how each demands a different treatment and approach. This article attempts to bring to light one such disorders – autism.
4. According to Merry Barnah, Chairperson, Action for Autism, "In law terms, it is a neurological disorder that affects the way the child reacts to people and the environment, bonds socially, learns a language or communicates needs. The key point is that it is not a short term illness, but a disorder." The characteristics are generally apparent by age three.
5. According to WHO reports, typically about 20 in a population of 10,000 people will be autistic or have autistic symptoms; 80 per cent of those affected by autism are boys. Over 20 laks people are living with autism in India. Over the last five years, the number of diagnosed cases has increased by almost 35 percent. Current research indicates that anything that can produce

structural or functional damage to the central nervous system can also produce the condition of autism.

6. Being a developmental disorder, autistic individuals have difficulty in performing acts which come naturally to others. "Basic behavioural actions like the way we stand, neck movements, motor skills, and the understanding of special areas like social skills, speech and communication are different in autistic people. Hence the basic criterion for diagnosis is the observation of behaviour", explains Baruah.
7. According to Mythily Chari, Founder and Director, Indian Institute for Intervention Services, (IRIS), "Autism, if defined by an educator, can be termed as a learning disability. Children with autism are visual rather than auditory learners. These children display an excellent ability to learn by rote and this is essentially what is required in elementary education. So, often parents put their children into mainstream schools in the early years and they do well. The problems start coming in when they approach class IV to V.
8. Some autistic children do not ever develop speech, while others may develop speech but still have difficulty using language to communicate. Often, there is an unusual speech pattern, such as echoing whatever is said to them, repeating a word over and over, and speaking only to express needs, rather than emotions. "What these children require is essentially, learning by experience," sums up Baruah. Children with autism do have the potential to build up their skills and they can be helped if they receive early, well focused intervention. Depending on the child's individual skill profile and the appropriateness and intensity of intervention he or she receives, children with autism can lead relatively independent lives.

**A1. On the basis of reading the above passage, answer the following questions :**

- (a) How do the parents initially react when their child is diagnosed with mental disorder? 2
- (b) What is autism? How does it affect the child? 2
- (c) How are differently able children looked upon by the people? 2
- (d) Mention any two points of behavioural differences between the autistic and non-autistic children. 2
- (e) Why do the autistic children perform well at the elementary stage of school education? 1
- (f) Find out the words from the passage which mean the same as the following :
  - (i) Vague (Para 2)
  - (ii) Graphic (Para 7)
  - (iii) Suitability (Para 8)

**A2. Read the passage given below and answer the questions that follow :**

Does the prospect of driving fill you with dread? Do you start cursing the moment you sit behind the wheel? Do you dream of the day when you can hire a driver so that your commute to the office, to a party, to anywhere can be made without giving you high blood pressure? If you are nodding yes to all of the above, you have problem.

With the mercury rising, driving in cities – not a task for the fainthearted anyway – has become even difficult. This is because now you don't only have to deal with incessant honking, overtaking from the wrong side and drivers who learned to drive at video game parlours – you also have to deal with the heat.

The problem, however, is that rising temperatures mean rising tempers, so often you just want to take a cricket bat and smash the car that has been honking at you at every red light since you started your journey.

But that won't be pretty, so read our tips on how to stay cool on the road and see which works best for you.

**Roll up the windows, switch on the AC and put on your favourite music :** This works like a charm. The uncouth world outside can't enter your cocoon as your favourite music, whatever it may be, soothes your nerves.

Some people sing in the bathroom, others sing in the car. Singing makes journalist Pranav Shukla happy, So when he drives, he sings for the world. He ensures the windows are rolled down so people can hear him.

"Singing relaxes me and I do it whenever I feel stressed," he says. "So I sing when I drive. It is also a great way to get back at people. You can tick them off without offending anybody or creating a scene. So, if someone comes too close to my car, I sing a song like '*E bhai zara dekh ke chalo...*' loud and clear and with a smile. The guilty part can't help but smile, apologise and move away," he says.

So the next time you see the driver in the car next to you wearing a scowl on his face, sing to him.

**Stay cool with a drink :** No, we don't mean an alcoholic drink. With the sun beating down on you, nothing will cool you better during your drive than a chilled fruit juice, lemon juice or iced tea.

**Eat before you drive :** This is something the doctor ordered. You must have noticed that you get irritable when you are hungry. So it's important that you are not hungry when you drive because your hunger pangs will increase the chances of you picking a fight over a minor issue.

"It is a well-known fact that a healthy meal is a great energy booster," say GP Dr. Sanjay Srinivasan.

"We tend to lose our tempers when we are not at our energetic best. An empty stomach is a cause for irritation for a lot of people. So it's important to keep it filled with something that makes you happy."

So have a good meal or snack before you start driving. You may just be happier on the road.

**Take your lane, drive on and let the world pass you by :** Yes it is difficult to stick on one lane when people drive you crazy zig-zagging past you. But that is actually the correct way to drive. So it keeps you on the safe side of the law.

"It keeps you disciplined and chances of you getting a *challan* are also very low," says executive Anand Mishra. Mishra also advises drivers to mind their own business. "If you don't bother about who is doing what on the road, chances are that you won't get angry either," he says.

So next time you drive, have a joyride.

## Questions

1. Make notes on the above passage using headings, sub-headings, and recognizable abbreviations (minimum 4). Suggest a suitable title. (5)
2. Write a summary of the above passage in about 80 words, using the notes made

## Section B

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# ADVANCED WRITING SKILLS

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(35)

3. Your father has been transferred to the Dubai based branch of his office. He wants to sell his house before leaving for good. Draft an advertisement for the 'For Sale' column of the newspaper for selling your three room flat in Lajpat Nagar in not more than 50 words. (5)

OR

You are Kapil/Kapila of Govt. Sarvodaya Vidyalaya, Mangolpuri. You have been selected to go to Singapore for achieving the highest marks in English, Maths and Economics in the District. Write an informal letter of invitation inviting your friends to the party you are giving in hotel Taj. (5)

4. You are Sumit/Sunita of Govt. Sr. Sec. School, Rohini. Recently you participated in a three day workshop on disaster management where you were trained by the officers of Fire Services, how to evacuate the premises in case of fire and safety measures to be taken at the time of fire, flood and earthquakes. Write a report in not more than 125 words giving details of the workshop. (10)

OR

Write a report on Career-Mela organised by your school. The mela was inaugurated by the Regional Director of Education, Delhi. Give the details of activities performed. You are Jatin/Jaya of A.P. Public School, Punjabi Bagh.

5. You are Siddharth/Sneha of 85, Sadiq Nagar, New Delhi. Read the advertisement given below and write an application to the Advertiser, applying for the post. Also attach your detailed resume with your application.

**SHUBHAM MEDICAL EQUIPMENTS**

*requires for its Mumbai Unit*

**Manager – Accounts**

Qualification	Chartered Accountant/M.Com.
Experience	1-2 years for C.A./10 years for M.Com.
Competency	Knowledge in Finance Management command in communication skill.
Salary	Commensurate with qualification and experience.

*Apply to*

**Shubham Medical Equipments,**  
22, Sector 54, Gurgaon.



**OR**

You are Atul/Anita of Lajpat Nagar, Delhi. You are worried over increasing incidents of thefts, day light and road side robbery, chain snatching etc. Write a letter to the SHO of Police Station of your locality, requesting him to depute PCR Vans and Constables at prime locations so that people can move about fearlessly in their locality. (10)

6. You are Shubha/Shubham of Vidya Mandir School. You are worried over the trend of sending tiny-tots to play way school in order to prepare them for tests and interviews for admission to renowned schools. Write an article for a popular magazine expressing your views, give reasons and suggest what needs to be done to counter the adverse effects on the growth of the children at that tender age. Give your article a suitable title. (10)

**OR**

You Prachi happened to take part in a medical camp organised by your club in a remote village of Delhi. You are surprised to find that most of the people have no awareness of basic health or hygiene among school students. As a concerned citizen you decide to take up their cause and organise workshops where the students can be told about the importance of hygiene. Write a speech for the Morning Assembly emphasising the need of health and hygiene.

## Section C

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# LITERATURE

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*Maximum Marks : 45*

**Q.7(A) Read the stanza given below and answer the questions that follow : (1×4 = 4 Marks)**

“Break O break open till they break the  
town and show the children to green fields,  
and make their world run azure on gold sands,  
and let their tongues run naked into books  
the white and green leaves open history  
theirs whose language is the Sun.”

- (i) ‘Break O break open’. What should they ‘break’?
- (ii) Explain : ‘... till they break the town’.
- (iii) Where will ‘their world’ extend up to then?
- (iv) What other freedom should they enjoy?

**Or**

“What I want should not be confused  
with total inactivity.  
Life is what it is about;  
I want not truck with death.  
If we were not so single-minded  
about keeping our lives moving,  
and for once could do nothing.”

- (i) How the total inactivity may be confused?
- (ii) What is our single mindedness?
- (iii) Why does the poet want all the people to do nothing for a moment?
- (iv) Explain : ‘Life is what it is about’.

**Q.7(B) Answer any three of the following in about 30-40 words each : (2 × 3 = 6 Marks)**

- (i) How has the poet contrasted the scene inside the car with the activities going outside in ‘My Mother at Sixty-Six’?
- (ii) How does beauty enrich the human beings? Explain with reference to ‘A hing of Beauty is a Joy Forever’.

(iii) With what purpose do cars stop at the roadside stand? Mention any two?

(iv) Bring out the significance of the wedding ring in Aunt Jennifer's life.

**Q.8. Answer the following questions in about 30-40 words each : (2 × 5 = 10 Marks)**

(i) What change did Franz notice when he reached the school? Mention any two points as referred to in 'The Last Lesson'.

(ii) Mention hazards of working in the glass bangle industry.

(iii) Why did Edla insist on entertaining the peddler even after he was exposed?

(iv) What would be the impact of synthetic indigo on the price of the natural indigo?

(v) Mention two differences in the character of Jansie and Sophie as depicted in 'Going Places'?

**Q.9. Answer the following in about 125-150 words (10 Marks)**

"Piece by piece, he built a swimmer." How did the instructor help William Douglas to become a swimmer and overcome his fear of water?

**OR**

"Dialogue not violence can resolve situations of conflict and injustice." Do you agree with this statement? Answer with instances from the lesson 'Indigo'.

**Q.10. Answer the following in about 100-125 words (7 Marks)**

How did the prediction of the chief astrologer about the Maharaja's death come true?

**Or**

The resistance of Zitkala-Sa to the cutting of her hair and Bama's determination to study are sparks which can ignite a change. Discuss in the light of 'Memories of Childhood.'

**Q.11. Answer the following in about 30-40 words (2 × 4 = 8 Marks)**

(i) What was the scene under the frozen ice as described by the author in 'Journey to the end of the Earth'.

(ii) Give two reasons why Dr. Sadao was not sent abroad with the troops.

(iii) What was the physical appearance of the wizard as depicted in 'Should Wizard Hit Mommy'?

(iv) What makes Galesburg a wonderful town? (The Third Level).

# हिंदी (ऐच्छिक) कोड सं. 002

## कक्षा - 12

क) अपठित बोध (गद्यांश और काव्यांश बोध)	15 + 5	20
ख) रचनात्मक तथा व्यावहारिक लेखन		25
ग) अंतरा भाग-2, - काव्य-भाग		20
- गद्य-भाग		20
अंतराल भाग-2		15

क) अपठित बोध : (गद्यांश और काव्यांश बोध)		20
1. गद्यांश बोध: गद्यांश पर आधारित बोध, प्रयोग, स्थानान्तरण शीर्षक आदि पर लघूत्तरात्मक प्रश्न		15
2. काव्यांश बोध: काव्यांश पर आधारित पाँच लघूत्तरात्मक प्रश्न		05
ख) रचनात्मक तथा व्यावहारिक लेखन:		25
संज्ञात्मक लेखन से संबंधित दो प्रश्न		
3. निबंध		10
4. कार्यालयी पत्र		05
5. कार्यालय 'अभिव्यक्ति और माध्यम' के आधार पर व्यावहारिक लेखन पर एक निबंधात्मक प्रश्न		10
6. अभिव्यक्ति और माध्यम के आधार पर पाँच लघूत्तरात्मक प्रश्न (1 x 5)		5
ग) अंतरा भाग-2 (20 + 20 अंक)		40
काव्य भाग:		20
7. 1. सप्रसंग व्याख्या (दो में से एक)		8
8. 2. कविता के कथ्य पर दो प्रश्न	3+3	6
9. 3. कविताओं के काव्य-सौंदर्य पर दो प्रश्न	3+3	6
गद्य-भाग:		
10. 1. सप्रसंग व्याख्या (दो में से एक)	3+3	08
11. 2. पाठों की विषय वस्तु पर तीन में से दो प्रश्न	3 + 3	06
12. 3. किसी एक कवि/लेखक का साहित्यिक परिचय		06
पूरक पुस्तक : अंतराल (भाग - 2)		15
14. 1. विषय वस्तु पर आधारित (चार में से तीन लघूत्तर प्रश्न)		09
15. 2. विषय वस्तु पर आधारित एक निबंधात्मक प्रश्न		06
निर्धारित पुस्तकें :		
1. अंतरा भाग-2 एन.सी.ई.आर.टी. द्वारा प्रकाशित		
2. अंतराल भाग-2 (विधाओं का संकलन) एन.सी.ई.आर.टी. द्वारा प्रकाशित		
3. अभिव्यक्ति और माध्यम एन.सी.ई.आर.टी. द्वारा प्रकाशित		

## हिंदी (ऐच्छिक) कोड सं. 002

### कक्षा - 12

### 2009 के प्रश्न-पत्र प्रारूप एवं अंकयोजना में आए विशिष्ट परिवर्तन

पूर्व प्रारूप		परिवर्तित प्रारूप	
प्रश्न	अंक	प्रश्न	अंक
1. अपठित गद्यांशों का बोध	10	अपठित गद्यांशों का बोध	15
2. अपठित काव्यों का बोध	10	अपठित काव्यों का बोध	05
3. निबंध लेखन	05	निबंध लेखन	10
<b>अभिव्यक्ति और माध्यम</b>			
4. 1. पाँच लघूत्तरात्मक प्रश्नों	05	पाँच लघूत्तरात्मक प्रश्नों 1x5	5
2. व्यावहारिक लेखन पर एक प्रश्न	05	व्यावहारिक लेखन पर दो प्रश्नों	5
<b>अंतरा भाग - 2 काव्य-खण्ड</b>			
5. 1. एक सप्रसंग व्याख्या	04	एक सप्रसंग व्याख्या	08
2. कविता के कथ्य पर तीन प्रश्नों	06	कविता के कथ्य पर दो प्रश्नों	06
3. कविता के काव्य-सौंदर्य पर एक प्रश्न	05	कविता के काव्य-सौंदर्य पर दो प्रश्नों	06
<b>गद्य खण्ड</b>			
6. 1. दो सप्रसंग व्याख्या	10	एक सप्रसंग व्याख्या	08
2. पाठों की विषय वस्तु पर तीन प्रश्नों	06	पाठों की विषय वस्तु पर दो प्रश्नों	06
3. कवि/लेखक का साहित्यिक परिचय	05	कवि / लेखक का साहित्यिक परिचय	06
<b>पूरक पुस्तक : अंतराल भाग 2</b>			
7. 1. विषय-वस्तु पर दो प्रश्नों	10	विषय वस्तु पर तीन लघूत्तरात्मक प्रश्नों	09
2. विविध विधाओं पर दो बोधात्मक प्रश्नों	10	विषय वस्तु पर एक निबंधात्मक प्रश्न	06

# अपठित बोध

प्र न 1. अपठित बोध के लिए एक गद्यांश और एक काव्यांश पर प्र न पूछे जायेंगे। काव्यांश में विकल्प दिया जाएगा।

## संकेत

- अपठित गद्यांश/काव्यांश (Unseen Passage) से अभिप्राय है जिसे पहले पढ़ा न गया हो।
- परीक्षा में एक गद्यांश और एक काव्यांश देकर उन पर आधारित प्र न पूछे जाते हैं। सार और तीर्षक भी लिखने को कहा जा सकता है।

प्र नों के उत्तर देने की विधि-

1. सर्वप्रथम दिए गए गद्यांश को कम-से-कम दो बार ध्यानपूर्वक पढ़ना चाहिए, जिससे उसका मूल भाव आपकी समझ में आ जाए।
2. इसके पश्चात् पूछे गए प्र नों को पढ़ना चाहिए।
3. पूछे गए प्र नों के संभावित उत्तरों को रेखांकित कीजिए।
4. ध्यान रखें कि प्र नों के उत्तर अनुच्छेद में दी हुई सामग्री पर आधारित हों।
5. प्र नों के उत्तर अत्यंत सरल भाषा और अपने शब्दों में दीजिए।
6. प्र नों के उत्तर सीधे, संक्षिप्त एवं सटीक होने चाहिए, उनमें अनावश्यक विस्तार, उदाहरण, अलंकार, सूक्तियों, मुहावरों का प्रयोग नहीं करना चाहिए।
7. कभी कठिन शब्दों के अर्थ, विलोम शब्द भी पूछे जाते हैं। शब्दों के अर्थ प्रसंग के अनुकूल होने आवश्यक हैं।
8. उचित स्थानों पर विराम-चिह्नों का प्रयोग करना न भूलें।
9. तीर्षक संक्षिप्त और आकर्षक शब्दों में लिखना चाहिए तथा यह गद्यांश / काव्यांश के मूल भाव पर आधारित हो।

नोट - संकेतार्थ एवं उदाहरणार्थ अभ्यास हेतु निम्नलिखित गद्यांश और काव्यांश दिए जा रहे हैं-

## 2. निम्नलिखित गद्यांश को ध्यानपूर्वक पढ़कर पूछे गए प्रश्नों के उत्तर दीजिए। (निर्धारित अंक - 15)

- क) हमारा मानना है कि जो आनंद दूसरों की बातों को सुनने में है वह स्वयं अपनी बातों को सुनने में नहीं है। दूसरों की बातें सुनने से हमें कुछ मिलता ही है, कुछ प्राप्त ही होता है। ऐसा बहुत कम होता है कि जब दूसरों की बातें हमें बिना कुछ दिए यँ ही चली जायें। यदि ऐसा होता दिखे तो फौरन बात बदल दीजिए या वहाँ से उठ कर चले जाइये। अक्सर हमने पाया है कि दूसरों के अनुभव जब सुनने को मिलते हैं तब उनसे अपने ज्ञान में, अपनी जानकारी में कुछ बढ़ोत्तरी ही होती है, कुछ इजाफ़ा ही होता है, किंतु यह तो तभी होगा न जब हम ध्यानपूर्वक सुनें और दूसरों को बोलने का अवसर देंगे। दूसरों की बातें ध्यान से सुनने वाला व्यक्ति और व्यर्थ की टोकाटाकी न करने वाला व्यक्ति समाज में लोकप्रियता हासिल करता है, यह हमने देखा है।

यँ भी ठीक ही कहा गया है कि मौन सर्वोत्तम भाषण है। अंग्रेजी में कहा गया है 'साइलेंस इज़ गोल्डन'। हिन्दी में एक कहावत है 'एक चुप हज़ार बलायें टालती है'। बिल्कुल ठीक कहा गया है। अक्सर यह देखा गया है कि आदमी जितना बोलकर बिगाड़ता है, उतना करके नहीं बिगाड़ता। ज्यादा बोलेंगे तो इस बात की ज्यादा आशंका रहेगी कि आप कोई ऐसी बात न बोल जायें जो

दूसरों को नागवार प्रतीत हो, या अच्छी न लगे। भले ही आप दिल के साफ हों लेकिन अगर बातचीत के दौरान यँ ही असावधानी में भी आपके मुँह से कोई ऐसी-वैसी बात निकल गई तो आपको बिना वजह लेने के देने पड़ सकते हैं। आप अपने लिये बैठे-बिठाये मुसीबत को न्यौता दे सकते हैं। ऐसी द ा में क्या यह उचित न होगा कि आप ऐसा खतरा मोल ही न लें? क्यों न अपनी जबान को लगाम लगाकर रखा जाये ताकि ऐसी नौबत ही न आने पाये ?

सुनने में जो आनंद आता है, उसका अनुभव करके देखिये। सत्संग कीजिए और सभी दि ाओं से अच्छे-अच्छे ाब्दों, अच्छी-अच्छी स्वर लहरियों का अपने कर्ण-कुहरों में प्रवे ा करने दीजिए। फिर देखिए उसका प्रभाव, फिर देखिए उसका असर। बोलने से आपको क्या मिलेगा, सोचिए तो। और सुनने से फायदे ही फायदे हैं। इसलिए श्रोता बनिए। वक्ता बनने का सुख दूसरों को लेने दीजिए। खामो ि अख्तियार कीजिए और अनुभव करिये खामो ि के आनंद को।

1. उपर्युक्त गद्यां ा का उचित िर्षक दीजिए। 1
2. दूसरों की बातें सुनने में कैसा आनंद आता है ? 2
3. अच्छा श्रोता कौन होता है ? 2
4. मौन को सर्वोत्तम भाषण क्यों माना जाता है ? 2
5. अधिक बोलने से क्या नुकसान उठाना पड़ सकता है ? 2
6. कैसा व्यक्ति समाज में लोकप्रियता हासिल करता है ? 2
7. दूसरों के अनुभव सुनने पर हमें क्या लाभ होता है ? 2
8. उपर्युक्त गद्यां ा में से एक सूक्ति और एक मुहावरा छँट कर लिखिए। 2

ख) जो समाज को जीवन देता है, उसे निर्जीव नहीं कहा जा सकता। तालाबों को जल का स्रोत माना जाता है। उसके चारों ओर समाज ने अपने जीवन को रचा है। उसके साथ निकटता का संबंध बनाने के लिए वैसे ही नाम रख लेता है। दे ा के अलग-अलग राज्यों में, अलग-अलग भाषाओं में तालाबों के कई नाम हैं। पर्यायवाची ाब्दों की सूची में तालाब के अनेक नाम मिलते हैं 'हमीर नाम माला' में तालाबों के पर्यायवाची नाम मिलते हैं। डिंगल भाषा का यह ग्रंथ तालाबों को धरम सुभाव कहता है। लोक धरम सुभाव से जुड़ जाता है। सुख दुःख के सभी प्रसंग तालाब से जुड़ जाएंगे। तालाब बनाना या तालाब की मरम्मत करना पुण्य का काम माना जाता था। जैसलमेर और बाड़मेर में साधन कम होने पर यदि पूरा तालाब बनाना संभव न हो तो सीमित साधनों का उपयोग करते हुए तालाब की पाल पर मिट्टी डालने या मरम्मत करने का काम किया जाता था। परिवार के दुःखद प्रसंग को भी तालाब से जोड़ कर समाज के सुख में बदल दिया जाता था।

समाज और तालाब का आपस में गहरा संबंध है। अकाल पड़ने की स्थिति में तालाब बनाने का काम होता था। इससे लोगों को तात्कालिक राहत मिलती थी। पानी का प्रबंध होने पर कभी आ जाने वाले दुःख को सहने की ाक्ति समाज में आती थी। बिहार के मधुबनी क्षेत्र में छठी सदी में आए एक बड़े अकाल के समय पूरे क्षेत्र के गाँवों ने मिल कर 63 तालाब बनाए थे। आज की संस्थाएँ (सामाजिक और राजनैतिक) जरा विचार करें कि कितना बड़ा संगठन बना होगा और कितने साधन जुटाए गए होंगे। मधुबनी के लोग आज भी क तज्ञता से इन्हें याद रखें हैं।

तालाब का भर जाना एक बड़ा उत्सव बन जाता है, भुज (कच्छ) के सबसे बड़े तालाब हमीरसर के घाट में बनी हाथी की एक मूर्ति अपरा चलने (जल का बाहर निकल आना) की सूचक है। जब जल मूर्ति को छू लेता तो पूरे ाहर में खबर फैल जाती। सारा ाहर तालाब के घाटों पर आ जाता। एक त्योहार मन जाता। भुज के राजा घाट पर आते और पूरे ाहर की उपस्थिति में तालाब की पूजा करते और तालाब का आ िर्वाद लेकर लौटते। यह उत्सव प्रजा और राजा को घाट तक ले आता था। कोई भी तालाब अकेला नहीं है। जगन्नाथपुरी के मंदिर के पास बिंदुसागर में दे ा भर के हर जल स्रोत का, नदियों और समुद्रों तक का

पानी मिला है। दे ी की एकता की घड़ी में बिंदुसागर राष्ट्रीय एकता का सागर कहला सकता है। यह सागर जुड़े भारत का प्रतीक है।

1. तालाबों को क्या माना जाता रहा है और क्यों ? 2
2. तालाब बनाने को कैसा काम माना जाता था ? 2
3. समाज और तालाब का आपस का कैसा संबंध है ? 2
4. तालाब कब उत्सव बन जाता है? लेखन ने कौन सा उदाहरण दिया है ? 2
5. मधुबनी में तालाब कब, क्यों, कितने और किसने बनाये होंगे ? 2
6. अपरा चलने का क्या अर्थ है? स्पष्ट करो। 2
7. बिंदुसागर को राष्ट्रीय एकता का सागर क्यों कहा जा सकता है ? 2
8. उपरोक्त गद्यां ी के लिए उपयुक्त ीर्षक दीजिए। 1

ग) अच्छा साहित्य सोते हुए को भी जाग्रत करने की सामर्थ्य रखता है। ओज की कविताओं को सुनकर बाजू फड़कने लगते हैं, ीरीर में झनझनाहट होने लगती है तथा दे ी के लिए कार्य करने वाले विचार उत्पन्न होने लगते हैं। यह अच्छे साहित्य का ही परिणाम है। साहित्य कमजोर तथा ीषितों को उत्साहित करने का कार्य करता है। यह साहित्य ही है जिसने कई बार हारी हुई लड़ाइयों को भी जीतने में मदद की है। साहित्य दे ी की वास्तविक स्थिति का सजीव चित्रण करता है। जिससे प्रभावित होकर समाज के जागरूक लोग सामाजिक बुराइयों को पहचानने, उनका कारण समझने तथा उन्हें मिटाने के तरीके ढूँढकर उन्हें समाप्त कर देते हैं। उदाहरण के लिए रूसी क्रांति में वहाँ के साहित्य और साहित्यकारों की बहुत बड़ी भूमिका थी। रूसी साहित्यकारों ने जार ीही के अत्याचारों के किस्से साहित्य के माध्यम से जन-जन तक पहुँचाए। उनका इन अत्याचारों के बताने का तरीका इतना प्रभावपूर्ण था कि जनता एकजुट होकर जार ीही के विरुद्ध हो गई और विद्रोह कर दिया।

जिस समय भारतीय संस्कृति और सभ्यता को समाप्त करने का षडयंत्र किया जा रहा था, उस समय कबीरदास, तुलसीदास जैसे साहित्यकारों ने जनता को अपनी रचनाओं के माध्यम से शिक्षित करने का कार्य किया। भूषण जैसे कवि ने अपनी ओजभरी रचनाओं से राष्ट्रप्रेम और दे ी के लिए सब कुछ न्यौछावर करने का जो संदेश दिया उससे भारतीयों में जो ी आ गया। राष्ट्रीयता की रक्षा करने में इन कवियों का पूरा-पूरा योगदान था। इन्होंने अपने राष्ट्रीय दायित्व को पहचाना तथा उसी के अनुसार कार्य किया। मुं ी प्रेमचंद जैसे साहित्यकारों ने अपने लेखों के माध्यम से अपने काल की समस्याओं -गरीबी, अि ीक्षा, भ्रष्टाचार और सांप्रदायिकता आदि पर अपना द ीष्टिकोण प्रस्तुत किया तथा उनका संभावित समाधान भी प्रस्तुत किया। तत्कालीन सरकारों द्वारा उनके विचारों को साहित्य तक ही सीमित रखने का परिणाम यह रहा कि वही समस्याएँ आज भी मुँह बाए खड़ी हैं।

1. साहित्य कमजोर तथा ीषितों के लिए क्या मदद करता है ? 2
2. साहित्य दे ी की कैसी स्थिति का चित्रण करता है? इस का क्या प्रभाव होता है ? 2
3. मुं ी प्रेमचंद जैसे साहित्यकारों का क्या योगदान है ? 2
4. राष्ट्रीयता की रक्षा करने में कवियों का क्या योगदान था ? 2
5. कबीर और तुलसी जैसे साहित्यकारों ने अपनी रचनाओं से क्या कार्य किया ? 2
6. रूसी क्रांति में वहाँ के साहित्यकारों की क्या भूमिका रही ? 2
7. तत्कालीन सरकारों द्वारा प्रेमचंद जैसे साहित्यकारों के विचारों को साहित्य तक ही सीमित रखने का क्या परिणाम हुआ है? 2



घ) प्रत्येक मनुष्य हेतु 'नेकी कर कुएं में डाल' वाली बात को जीवन में उतारना भी क्षमा हेतु आसान तरीका है। यह भी अच्छी तरह समझ लें कि स्पर्धा और अनुकरण दोनों ही परेशानी बढ़ाने वाली चीजें हैं, जो क्षमा करने में बाधक बनती हैं। अपनी स्वाभाविकता से अपने क्षेत्र में श्रेष्ठ बनने की पूरी कोशिश करना ही श्रेयस्कर मार्ग है।

लेक्सपियर ने भी सावधान करते हुए स्पष्ट किया है कि 'त्रु को झोंकने के लिए भाड़ को इतना तेज न करो कि स्वयं जल जाओ'। अतः 'क्षमा ही सबसे बड़ी बुद्धिमानी, सभी दुःखों से श्रेष्ठतम है।' एक पुरानी कहावत भी है कि जिस व्यक्ति को क्रोध नहीं आता वह तो मूर्ख है, बुद्धिमान वह है जो क्रोध करे ही नहीं। कन्फ्यूसियस के मत में भी किसी का बुरा चाहना या किसी के अन्याय का शिकार होना, स्वयं उतना कष्टकर नहीं जितना कि मन ही मन बार-बार उन बातों से घुटते रहना। इसी कारण जर्मनी के दार्शनिक 'शापेनहावर ने कहा है कि इस घुटन से बचने का एकमात्र उपाय यह है कि अपने मन में जहाँ तक हो सके किसी से भी दुश्मनी मत रखो। एक श्रेष्ठ विवेकी व्यक्ति को किसी विरोधी के आक्षेप न तो दुःखी रख सकते हैं और न ही नीचा दिखा सकते हैं जब तक कि आप स्वयं ऐसा होने नहीं दें। यदि उनके कठोर शब्दों को आप अपने मन में बैठने नहीं देंगे तो शब्द भला कैसे आपको पीड़ित कर पायेंगे। इस प्रकार मात्र यह मार्ग सही है कि हम अपने आपको किसी महानतम कार्य से जोड़ दें। कोई हमारे बारे में अच्छा-बुरा कहता है इन सबसे अपने-आपको अलग रखकर केवल लक्ष्य प्राप्ति का ही हमें ध्यान रहे।

देना प्रेम और लक्ष्य के प्रति प्रेम के अतिरिक्त सब बातें अपने दिल-दिमाग से भूल ही जाना हमारे लिए सभी दुःखों से श्रेयस्कर होता है। तभी हम अपने लक्ष्य के प्रति पूर्ण समर्पित हो, शीघ्र लक्ष्य प्राप्त कर सकते हैं। जीवन एक संग्राम है, यदि लक्ष्य प्राप्त करना है तो, सब तरह की विचारधारा के लोगों से संघर्ष करते हुए समान विचारधारा के लोगों को संगठित कर हम सरलता से अपनी मंजिल प्राप्त कर सकते हैं। एक श्रेष्ठ व्यक्ति के पास लड़ने-झगड़ने और पश्चाताप करने के लिए भूले से भी समय नहीं होता वह सदैव अपनी शक्ति का रचनात्मक कार्यों में अधिक उपयोग कर अपनी एक अलग पहचान बनाता है।

सदैव दूसरे के चेहरे पर मुस्कान लाने का प्रयत्न करें तथा सदैव क्षमा करने हेतु हर व्यक्ति की अच्छाइयों को याद रखें तथा उसकी बुराइयों को भूल जाएँ, यही मानसिक शांति का रामबाण उपचार है। पूर्व अमेरिकी राष्ट्रपति अब्राहम लिंकन ने अपने आलोचकों को सदैव उच्च पद प्रदान किए। उनकी यही मान्यता थी कि हम घटनाक्रम और परिस्थितियों की उपज हैं अतः त्रु के प्रति घृणा न करके उसके प्रति दया कर उसे क्षमा करें तथा इस बात के लिए सदैव धन्यवाद ही दें कि उसने हमें उनके जैसी बदले की भावना रखने वाला नहीं बनाया। उदारता सबके लिए रखें, घृणा किसी के लिए नहीं।

1. उपर्युक्त गद्यांश का उचित शीर्षक दीजिए। 1
2. क्षमा में कौन-कौन सी चीजें बाधक होती हैं ? 2
3. अपने आप को महानतम कार्य से जोड़ने के क्या लाभ हैं ? 2
4. जीवन को एक संग्राम क्यों कहा गया है ? 2
5. हमें मानसिक शांति कब प्राप्त हो सकती है ? 2
6. कन्फ्यूसियस के अनुसार सबसे कष्टपूर्ण स्थिति क्या है? इससे बचने का एकमात्र उपाय क्या है ? 2
7. त्रु के प्रति कैसा व्यवहार करना चाहिए ? 2
8. उपरोक्त गद्यांश में से कोई दो कहावतें छांट कर लिखो। 2

प्र न 2 काव्यांशों पर आधारित पाँच लघूत्तरात्मक प्रश्नों का उत्तर 1x5

क) कंटकित यह पंथ भी हो जाएगा आसान क्षण में,  
पाँव की पीड़ा क्षणिक यदि तू करे अनुभव न मन में,  
संघट्टित सुख-दुःख क्या हृदय की भावना के रूप हैं दो,  
भावना की ही प्रतिध्वनि गूँजती भूँदिली गगन में,  
एक ऊपर भावना से भी मगर है अक्षित कोई,  
भावना भी सामने जिसके विवश हो व्याकुल, मुसाफिर!  
पंथ पर चलना तुझे तो मुस्कराकर चल मुसाफिर!

उपरोक्त काव्यांशों को ध्यानपूर्वक पढ़कर पूछे गए प्रश्नों के उत्तर दीजिए-

1. कविता का शीर्षक लिखिए। 1
2. कंटकित मार्ग से क्या तात्पर्य है ? 1
3. मार्ग आसान कब हो जाता है ? 1
4. सुख-दुःख क्या है ? 1
5. भावना कब विवश हो जाती है ? 1

ख) तिनका-तिनका लाकर चिड़िया

रचती है आवास नया।

इसी तरह से रच जाता है

सर्जन का आकाश नया।

मानव और दानव में यूँ तो

भेद नजर नहीं आएगा।

एक पोंछता बहते आँसू

जी भर एक रूलाएगा।

रचने से ही आ पाता है

जीवन में विवश वास नया।

कुछ तो इस धरती पर केवल

खून बहाने आते हैं।

आग बिछाते हैं राहों में  
फिर खुद भी जल जाते हैं।  
जो होते खुद मिटने वाले  
वे रचते इतिहास नया।

मंत्र ना १ का पढ़ा करे कुछ  
द्वार-द्वार पर जा करके।  
फूल खिलाने वाले रहते  
घर-घर फूल खिला करके।

**उपरोक्त काव्यांश को पढ़कर पूछे गए प्रश्नों के उत्तर दीजिए-**

1. सर्जन का नया आका १ कैसे बनता है ? 1
2. मानव और दानव में क्या अंतर है ? 1
3. जीवन में नया विवास किस प्रकार आता है ? 1
4. 'कुछ तो.....जल जाते हैं'। पंक्तियों का भाव स्पष्ट कीजिए। 1
5. ना १ का मंत्र पढ़ने और फूल खिलाने से क्या तात्पर्य है ? 1

ग) लोहे के पेड़ हरे होंगे, तू गान प्रेम का गाता चल,  
नम होगी यह मिट्टी जरूर, आँसू के कण बरसाता चल।  
सिसकियों और चीत्कारों से, जितना भी हो आका १ भरा,  
कंकालों का हो ढेर, खप्परो से चाहे हो पटी धरा।  
आ १ का स्वर पवन को लेकिन, लेना ही होगा,  
जीवित सपनों के लिए मार्ग मुर्दों को देना ही होगा।  
रंगों के सात घट उंडेल, यह अधियाली रंग जाएगी।  
उषा को सत्य बनाने को जावक नभ पर छितराता चल।।  
आद ों से आद १ भिड़े प्रज्ञा प्रज्ञा पर टूट रही।  
प्रतिमा प्रतिमा से लड़ती है, धरती की किस्मत फूट रही।

**उपरोक्त काव्यांश को पढ़कर पूछे गए प्रश्नों के उत्तर दीजिए-**

1. 'लोहे के पेड़ हरे होंगे' से कवि का क्या आशय है ? 1

2. कवि ने संसार की किस दशा की ओर संकेत किया है ? 1
3. 'जीवित सपनों के लिए मार्ग मुर्दों को देना ही होगा' पंक्ति का भाव स्पष्ट कीजिए ? 1
4. कवि ने मानव को क्या सँदेश दिया है ? 1
5. प्रतिमा का प्रतिमा के साथ लड़ने से कवि का क्या आशय है ? 1

घ) लहरता है

सुहानी-सी उषा में

तुम्हारा रेतीली आँचल

हवा के संग

बुन रहा वात्सल्य का कंबल

सुबह की घाटियों में

प्यार का संबल

सुरीली बीन-सी मौसम

नमन में मन!

बसी हो माँ!

समय के हर सफर में

सुबह-सी शाम-सी

दिन में-बिखरती रोती-सी

दिनाओं में-

मधुर मकरंद-सी

दूर हो फिर भी

महक उठता है जीवन

नमन में मन!

**उपरोक्त काव्यांश को पढ़कर पूछे गए प्रश्नों के उत्तर दीजिए-**

1. हवा के संग माँ का आँचल क्या बुनता है ? 1
2. सुबह की घाटियों में आँचल क्या-क्या रूप धारण कर लेता है ? 1
3. समय के सफर में माँ किस प्रकार बसी है ? 1

4. माँ दूर होने पर भी दिशाओं में किस प्रकार बसी है ? 1
5. इन पंक्तियों में माँ के आँचल की वर्णित दो प्रमुख विशेषताएँ बताइए। 1

ड) फैली खेतों में दूर तलक मखमल की कोमल हरियाली,  
लिपटी जिससे रवि की किरणें चांदी की सी उजली जाली।  
तिनकों के हरे-हरे तन पर हिल हरित रूधिर है रहा झलक,  
यामल भूतल पर झुका हुआ नभ का चिर निर्मल नील फलक।

**उपरोक्त काव्यांश को पढ़कर पूछे गए प्रश्नों के उत्तर दीजिए-**

1. कविता का शीर्षक लिखिए। 1
2. इस कविता में किसकी गोभा का वर्णन किया गया है ? 1
3. कवि ने खेतों की हरियाली की तुलना किसके साथ की है ? 1
4. धरती पर झुका हुआ आकाश कैसा लगता है ? 1
5. खेतों पर जब सूर्य की किरणें पड़ती हैं तो दृश्य कैसा लगता है? 1

च) रोमांचित-सी लगती वसुधा आई जौ गेहूं में बाली,  
अरहर-सनई की सोने की किंकणियाँ हैं गोभा जाली।  
उड़ती भीनी तैलाक्त गंध फूली सरसों पीली-पीली,  
लो, हरित धरा से झाँक रही नीलम की कली, तीसी नीली।  
अब रजत स्वर्ण मंजरियों से लद गई आम्र तरु की डाली,  
झर रहे ढाँक, पीपल के दल हो उठी कोकिला मतवाली।

**काव्यांश को पढ़कर पूछे गए प्रश्नों के उत्तर दीजिए-**

1. धरती रोमांचित-सी क्यों लग रही है ? 1
2. 'तैलाक्त-गंध से यहाँ क्या अभिप्राय है ? 1
3. नीलम की कली किसे और क्यों कहा गया है? 1
4. आम में क्या परिवर्तन आया है ? 1
5. कविता का उचित शीर्षक लिखिए। 1

# सृजानात्मक लेखन से संबंधित दो प्रश्न

## निबंध

निर्धारित अंक 10

### प्रश्न 3. निबंध

आकर्षक भूमिका	2
विषय निर्वहन	2
विषय प्रतिपादन क्षमता और भाषा-शैली	4
समग्र प्रभाव/उपसंहार	2

### भारत विषयक निबंध

- क) विविधता में एकता : भारत की विशेषता
- ख) प्रगतिशील भारत की समस्याएं
- ग) इक्कीसवीं सदी का भारत
- घ) सब से प्यारा देश हमारा
- ड) भारत की सामाजिक समस्याएँ

### सामान्य विषयों पर आधारित निबंध

- क) मेरे जीवन का लक्ष्य
  - ख) पुलों का महार-दिल्ली
  - ग) परीक्षा का तनाव
  - घ) मोबाइल फोन : कितने सुविधा जनक
  - ड) हमारी राष्ट्रभाषा हिन्दी
- विविध विषयों पर निबंध
- क) जीवन में खेलों का महत्व
  - ख) मनोरंजन के आधुनिक साधन
  - ग) बदलते जीवन-मूल्य
  - घ) सर्वशिक्षा अभियान
  - ड) स्टिंग आपरेटिव - कितने सार्थक

## साहित्यिक निबंध

- क) साहित्य जीवन का मार्ग-दर्शक
- ख) साहित्य और समाज
- ग) राष्ट्र-निर्माण में साहित्यकार की भूमिका
- घ) मेरा प्रिय कवि
- ङ) साहित्य का उद्देश्य

## विविध समस्याओं पर आधारित निबंध

- क) आतंकवाद और विध्वंस-शक्ति
- ख) महानगरीय जीवन-अभिलाषा या वरदान
- ग) एकल परिवार और वरिष्ठ नागरिक
- घ) भ्रूण-हत्या और बालिका-जीवन
- ङ) भ्रष्टाचार-कारण और निवारण

## नारी विषयक निबंध

- क) नारी का आधुनिक समाज में स्थान
- ख) राष्ट्र-निर्माण में नारी का योगदान
- ग) महिलाओं के लिए संसद में आरक्षण
- घ) नारी और नौकरी
- ङ) नारी चांद पर, लेकिन जीवन धरा पर

## भारतीय संस्कृति तथा पर्व से संबंधित निबंध

- क) भारतीय संस्कृति
- ख) हमारे राष्ट्रीय पर्व
- ग) हमारे पर्व: हमारी संस्कृति
- घ) त्यौहारों का महत्व
- ङ) आधुनिकता और भारत

## विज्ञान संबंधी निबंध

- क) विज्ञान-वरदान या अभिलाषा
- ख) इंटरनेट-भारत का सुखद भविष्य
- ग) केबल संस्कृति और भारतीय समाज

- घ) सूचना प्रौद्योगिकी क्रांति और सूचना प्रौद्योगिकी की उपलब्धियाँ  
 ङ) कम्प्यूटर आज की आव यकता

### विद्यार्थी और युवा पीढ़ी से संबंधित निबंध

- क) विद्यार्थी और अनु ासन  
 ख) मानसिक तनाव से घिरा आज का युवा वर्ग  
 ग) आद र्ण विद्यार्थी  
 घ) राष्ट्र-निर्माण में युवा-पीढ़ी का योगदान  
 ङ) विद्यार्थी और राजनीति

### सूक्ति परक निबंध

- क) मन के हारे हार है, मन के जीते जीत  
 ख) करत-करत अभ्यास के जड़मति होत सुजान  
 ग) परहित सरिस धर्म नहिं भाई  
 घ) नर हो न निरा र्ण करो मन को  
 ङ) मज़हब नहीं सिखाता आपस में बैर रखना।

## पत्र-लेखन

निर्धारित अंक -5

### प्रश्न 4. पत्र-लेखन

पत्र के आरंभ की व्यवस्थित औपचारिकताएँ	1
पत्र की नीचे की औपचारिकताएँ	1
प्रभाव ाली विषय प्रतिपादन	2
भाषा- ैली	1

### औपचारिक - पत्र

- अपने नगर की जल-व्यवस्था के सुधार-हेतु प्र ासन का ध्यान आकर्षित करने का निवेदन करते हुए 'नवभारत-टाइम्स' नई दिल्ली के प्रधान संपादक को पत्र लिखिए।
- निरंतर बढ़ती हुई मंहगाई की ओर सरकार का ध्यान आक ष्ट करने के लिए किसी दैनिक समाचार-पत्र के संपादक को पत्र लिखिए।
- हिंसा प्रधान फिल्मों को देखकर बाल वर्ग पर पड़ने वाले दुष्प्रभाव का वर्णन करते हुए 'हिंदुस्तान' के संपादक को पत्र लिखिए।
- नगर में बढ़ते हुए अपराधों के प्रति चिंता व्यक्त करते हुए उच्चाधिकारियों का ध्यान आक ष्ट कराने हेतु दैनिक समाचार-पत्र, 'पंजाब-केसरी' के संपादक को पत्र लिखिए।



5. समाचार-पत्रों, पत्रिकाओं और दूरदर्शन में प्रदर्शित अलील विज्ञानों की ओर ध्यान आकर्षित करते हुए किसी प्रतिष्ठित दैनिक समाचार - पत्र के संपादक को पत्र लिखिए।

### पुलिस-अधीक्षक को पत्र

1. पुलिस अधीक्षक को अपने क्षेत्र में कार-चोरी की बढ़ती हुई घटनाओं को रोकने और रात्रि-पहरे की समुचित व्यवस्था के लिए पत्र लिखिए।
2. मोबाइल फोन अभद्र शब्दों का प्रयोग करने वाले अपरिचित की शिंकायत करते हुए अपने क्षेत्र के थाना-प्रभारी को पत्र लिखिए।
3. मौहल्ले में दिन-दहाड़े महिलाओं के पर्स और चेन छीनने की घटनाओं की जानकारी देते हुए पुलिस - अधीक्षक को पत्र लिखिए।
4. उत्तम नगर थानाध्यक्ष को पत्र लिखकर लाउडस्पीकर के कारण उत्पन्न कठिनाइयों की शिंकायत कीजिए।
5. आपके पड़ोस में आतंकवादी रह रहा है। आपने उस मकान में कुछ आतंकवादी गतिविधियाँ देखी हैं। इसकी पूर्ण जानकारी आप अपने नगर के उच्च पुलिस अधिकारी को पत्र लिख कर दीजिए ताकि किसी दुर्घटना से पूर्व ही उचित कार्यवाही हो सके।

### शिकायत संबंधी पत्र

1. अपने क्षेत्र में डाक-वितरण की व्यवस्था ठीक न होने की शिंकायत करते हुए डाकपाल को शिंकायती पत्र लिखिए।
2. नगर पालिका द्वारा भेजे गए त्रुटिपूर्ण जलकर के बिल को ठीक कराने हेतु अधिासी अभियंता को पत्र लिखिए।
3. बस कंडक्टर के अभद्र व्यवहार की शिंकायत करते हुए दिल्ली परिवहन निगम के महाप्रबंधक को पत्र लिखिए।
4. टेलीफोन का कनेक्शन कटने के संबंध में महानगर टेलीफोन के प्रबंधक को शिंकायती पत्र लिखिए।
5. स्वास्थ्य अधिकारी को अपने इलाके में फैली गंदगी और सफ़ाई की कुव्यवस्था की शिंकायत करते हुए पत्र लिखिए।

### व्यावसायिक पत्र (आवेदन पत्र)

1. सहायक अध्यापक पद के लिए दिल्ली शिक्षा निदेशालय के निदेशक को आवेदन पत्र लिखिए।
2. विद्याभवन, लोदी इस्टेट के प्रधानाचार्य को पुस्तकालय सहायक के पद हेतु आवेदन-पत्र लिखिए।
3. यूनियन बैंक, राजस्थान में हिंदी-ऑफिसर के पद हेतु विज्ञापन के संदर्भ में आवेदन-पत्र प्रस्तुत कीजिए।
4. गृह मंत्रालय, लोकनायक भवन, नयी दिल्ली के निदेशक को हिन्दी टंकक (टाइपिस्ट) के लिए आवेदन पत्र लिखिए।
5. 'जनसत्ता' नामक दैनिक समाचार-पत्र को खेलविभाग के लिए संवाददाताओं की आवश्यकता है। इस पद के लिए खेलों का अच्छा ज्ञान और रूचि के साथ-साथ हिन्दी-अंग्रेजी भाषा में अच्छी गति से लिखने का अभ्यास अत्यंत आवश्यक है। इस पद के लिए आवेदन-पत्र लिखिए।

### कार्यालय संबंधी पत्र

1. भारत सरकार के गृह मंत्रालय के सचिव की ओर से मुख्य सचिव, हरियाणा सरकार को सूखा-पीड़ितों के लिए सहायता अनुदान देने का पत्र लिखें।
2. उपायुक्त, गुड़गाँव की ओर से चार व्यक्तियों को टंकक (टाइपिस्ट) के पद पर नियुक्ति से संबंधित कार्यालय आदेश जारी करें।
3. दयानंद मॉडल स्कूल, गोल मार्केट के प्रधानाचार्य की ओर से पांच सहायक अध्यापकों की रिक्तियों के लिए समाचार-पत्र में विज्ञापन के प्रकाशन हेतु पत्र लिखें।

- मुख्य सचिव, पंजाब सरकार की ओर से राज्य के समस्त उपायुक्तों को राज्य में सांप्रदायिक सद्भाव बनाए रखने के लिए परिपत्र लिखें।

### प्रार्थना-पत्र

- चरित्र प्रमाणपत्र प्राप्त करने हेतु अपने विद्यालय के प्रधानाचार्य को पत्र लिखिए।
- परीक्षा की उत्तर-पुस्तिकाओं के पुनर्मूल्यांकन के लिए प्रधानाचार्य को पत्र लिखिए।
- अपने विद्यालय के प्रधानाचार्य को एक पत्र लिखिए जिसमें सहपाठी के प्रोत्साहनीय और साहसिक व्यवहार के लिये उसे सम्मानित करने का अनुरोध किया गया हो।
- अन्य राज्य के आए हुए छात्र की ओर से दाखिले के लिये शिक्षा-अधिकारी को प्रार्थना-पत्र लिखिए।
- आप सर्वोदय विद्यालय, किचनर रोड के छात्र हैं। अपने विद्यालय के प्रधानाचार्य को गणित की पढ़ाई न होने के संबंध में पत्र लिखें।

## ‘अभिव्यक्ति और माध्यम’

निर्धारित अंक -10

प्रश्न 5. ‘अभिव्यक्ति और माध्यम’ पुस्तक के आधार पर व्यावहारिक लेखन पर एक निबंधात्मक प्रश्न 5

### विभिन्न माध्यमों के लिए लेखन

- श्रोताओं या पाठकों को बाँधकर रखने की दृष्टि से प्रिंट माध्यम, रेडियो और टी.वी. में सबसे सशक्त माध्यम कौन सा है? स्पष्ट कीजिए।
- जनसंचार के आधुनिक माध्यमों में सबसे पुराना माध्यम कौन सा है? इसकी विशेषताएँ एवं सीमाएँ स्पष्ट कीजिए।
- जनसंचार के एक प्रमुख साधन के रूप में रेडियो की भूमिका स्पष्ट कीजिए।
- रेडियो समाचार की संरचना पर प्रकाश डालिए।
- रेडियो के लिए समाचार लिखते समय किन बुनियादी बातों का ध्यान रखना आवश्यक है ?
- जनसंचार के माध्यम के रूप में टेलीविज़न की भूमिका स्पष्ट कीजिए।
- टी.वी. पर प्रसारित होने वाले समाचार किन-किन चरणों से गुजर कर दूर तक पहुँचते हैं ?
- रेडियो एवं टेलीविज़न समाचार की भाषा - शैली कैसी होनी चाहिए ?
- इंटरनेट पत्रकारिता क्या है ? इसके स्वरूप एवं इतिहास पर प्रकाश डालिए।
- ‘इंटरनेट पत्रकारिता सूचनाओं को तत्काल उपलब्ध कराता है, परंतु इसके साथ ही उसके कुछ दुष्परिणाम भी हैं।’ स्पष्ट कीजिए।
- हिंदी नेट संसार का परिचय देते हुए स्पष्ट कीजिए कि हिंदी वेब पत्रकारिता की सबसे बड़ी समस्या क्या है ?
- दूरदर्शन, इंटरनेट एवं प्रिंट माध्यम की सीमाओं एवं विशेषताओं की तुलना कीजिए।

## पत्रकारीय लेखन के विभिन्न रूप और लेखन प्रक्रिया

13. पत्रकारीय लेखन क्या है? स्पष्ट कीजिए।
14. पत्रकारीय लेखन और साहित्यिक रचनात्मक लेखन में अंतर स्पष्ट कीजिए।
15. अच्छे लेखन के लिए किन-किन बातों को ध्यान में रखना आवश्यक है।
16. समाचार लेखन से आप क्या समझते हैं? पत्रकार कितने प्रकार के होते हैं ?
17. समाचार लेखन के छह प्रकारों को उदाहरण सहित स्पष्ट कीजिए।
18. फ़ीचर से क्या अभिप्राय है? फ़ीचर का उद्देश्य स्पष्ट करते हुए इसकी विशेषताओं पर प्रकाश डालिए।
19. फ़ीचर लिखते समय किन-किन बातों पर ध्यान देना आवश्यक है? फ़ीचर कितने प्रकार के होते हैं ?
20. विशेष रिपोर्ट क्या है? विशेष रिपोर्ट किस प्रकार लिखी जाती है ?
21. स्पष्ट कीजिए कि संपादक एक समन्वयक का कार्य करता है और संपादकीय लेखन किसी भी अख़बार की अपनी आवाज़ होती है।
22. निम्नलिखित पर टिप्पणी लिखिए - क) स्तंभ लेखन ख) संपादक के नाम पत्र ग) लेख घ) साक्षात्कार (इंटरव्यू)
23. एक अच्छे एवं सफल साक्षात्कार के लिए किन-किन बातों पर ध्यान देना आवश्यक है ?

## विशेष लेखन - स्वरूप और प्रकार

24. विशेष लेखन से आप क्या समझते हैं ? स्पष्ट कीजिए।
25. विशेष लेखन के दायरे में कौन-कौन से क्षेत्र आते हैं जिनमें विशेषज्ञता अनिवार्य है?
26. स्पष्ट कीजिए कि विशेष लेखन की भाषा-शैली विशेष होती है।
27. विशेष लेखन के क्षेत्र में विशेषज्ञता कैसे प्राप्त की जा सकती है?
28. बीट रिपोर्टिंग से आप क्या समझते हैं?
29. बीट रिपोर्टिंग और विशेषीकृत रिपोर्टिंग के अंतर को स्पष्ट कीजिए।
30. समाचार पत्रों में कारोबार और व्यापार जगत का क्या महत्व है ?
31. समाचार पत्रों में खेल समाचारों की भूमिका स्पष्ट कीजिए।

## सृजनात्मक लेखन - कैसे बनती है कविता

32. कविता कैसे बनी ? कविता-लेखन से संबंधित दो भिन्न मत क्या हैं ?
33. कविता क्या है ? कविता लेखन के आवश्यक तत्व कौन-कौन से हैं ?
34. कविता-लेखन में शब्दों के महत्व पर प्रकाश डालिए।

35. कविता-लेखन में बिम्बों की भूमिका स्पष्ट कीजिए।
36. 'छंदों का प्रयोग एवं परिवे । चित्रण की जानकारी कविता की दुनिया में प्रवे । करने के लिए आव यक है।' स्पष्ट कीजिए।
37. कविता-लेखन के लिए आव यक प्रमुख घटकों को स्पष्ट कीजिए।

### नाटक लिखने का व्याकरण

38. 'नाटक' किसे कहते हैं? स्पष्ट कीजिए।
39. 'कविता, कहानी, उपन्यास की तरह नाटक भी साहित्य के अंतर्गत आता है फिर भी यह साहित्य की अन्य विधाओं से अलग है।' कैसे ?
40. नाटक लिखते समय लेखक को किन-किन बातों पर ध्यान देना चाहिए ?
41. नाटक के महत्वपूर्ण तत्वों की विवेचना कीजिए।
42. एक अच्छे नाटक की भाषा- ैली कैसी होनी चाहिए ?
43. 'नाटक स्वयं में एक जीवंत माध्यम है।' इस कथन के आलोक में नाटक में स्वीकार और अस्वीकार की धारणा स्पष्ट कीजिए।
44. 'नाटक की कहानी बे ाक भूतकाल या भविष्यकाल से संबंधित हो, तब भी उसे वर्तमानकाल में घटित होना पड़ता है।' स्पष्ट कीजिए।
45. 'संवाद चाहे कितनी भी कठिन भाषा में क्यों न लिखे गए हों, स्थिति और परिवे । की माँग के अनुसार यदि वे स्वाभाविक जान पड़ते हैं तो द ाकों तक संप्रेषित होने में कोई मुि कल नहीं है।' क्या आप इस बात से सहमत हैं?

### कैसे लिखें कहानी

46. 'कहानी किसी एक की नहीं, वह कहने वालों की है, सुनने वालों की भी।' इस कथन के आलोक में कहानी के स्वरूप पर प्रका । डालते हुए स्पष्ट कीजिए कि कहानी का हमारे जीवन से क्या संबंध है ?
47. कहानी के इतिहास पर प्रका । डालते हुए स्पष्ट कीजिए कि प्राचीन काल में मौखिक कहानियाँ लोकप्रिय क्यों थी ?
48. कहानी लेखन में कल्पना तत्व के महत्व को स्पष्ट कीजिए।
49. 'कहानी का केन्द्र बिन्दु कथानक होता है।' इस कथन पर प्रका । डालिए।
50. 'कहानी को रोचक और प्रमाणिक बनाने में दे ाकाल और वातावरण का चित्रण अत्यधिक महत्व भूमिका निभाता है।' स्पष्ट कीजिए।
51. कहानी में पात्रों के स्वरूप की भूमिका पर प्रका । डालिए।
52. 'संवाद पात्रों के चरित्र को उद्घाटित करते हैं और कहानी को गति देते हैं।' स्पष्ट कीजिए।
53. स्पष्ट कीजिए कि कथानक के बुनियादी तत्वों में द्वन्द्व का वि ेष स्थान है।
54. किसी भी कहानी में चरमेस्कर्ष का चित्रण अत्यंत ध्यानपूर्वक करना क्यों आव यक होता है ?
55. कहानी के प्रमुख तत्वों पर संक्षेप में प्रका । डालिए।

## नए अप्रत्याशित विषयों पर लेखन

56. 'नए और अप्रत्याशित विषयों पर लेखन से आप क्या सझमते हैं ?
57. नए और अप्रत्याशित विषयों पर लेखन में क्या बाधाएँ आती हैं ? क्या अप्रत्याशित लेखन की कोई तकनीक है ?
58. नए और अप्रत्याशित विषयों पर लेखन को किस प्रकार सरल बनाया जा सकता है ?

अथवा

नए और अप्रत्याशित विषयों पर लेखन के लिए किस प्रकार तैयारी करनी चाहिए ?

## उत्तर संकेत

### विभिन्न माध्यमों के लिए लेखन

1. सबसे साक्षर माध्यम टी.वी., आधार दूर-श्रव्य। सुनने और पढ़ने की अपेक्षा देखने की सुविधा के कारण प्रभावशाली। साक्षर होना आवश्यक नहीं। बिना शब्दकोश या विचार विमर्श के भी संप्रेषण में समर्थ।
2. सबसे पुराना माध्यम - मुद्रित। आरंभ-चीन, भारत में प्रथम छापाखाना सन् 1556 गोवा में। मुद्रित माध्यम - पत्रिकाएँ, समाचार पत्र, पुस्तकें आदि। विशेषताएँ - शब्दों का स्थायित्व, किसी भी समय कहीं पर भी पढ़ने की सुविधा, लंबे समय तक रखने की सुविधा। सीमाएँ - पाठकों का साक्षर होना आवश्यक, प्रकाशन की निश्चित समय सीमा, आवंटित जगह का अनुपालन।
3. रेडियो एक रेखीय (लीनियर) श्रव्य माध्यम। ध्वनि, शब्दों का खेल। श्रोता का साक्षर होना आवश्यक नहीं। अखबार की तरह पीछे लौटकर सुनने की सुविधा नहीं। भ्रामक अथवा अरूचिकर कार्यक्रम को बंद करने की सुविधा। प्रसारणकर्ताओं के लिए श्रोताओं को बाँधकर रखना एक चुनौती।
4. उलटा पिरामिड शैली। तीन भाग-1 इंद्रों या मुखडा 2-बॉडी 3-समापन। (इस शैली में समापन के अन्तर्गत प्रासंगिक तथ्य और सूचनाएँ दी जा सकती हैं)
5. साफ-सुथरी और टाइपड कॉपी। जटिल शब्द, संक्षिप्ताक्षर एवं अनावश्यक विस्तार से बचें, बड़ी संख्याओं को शब्दों में लिखें, अत्याधिक आँकड़ों का प्रयोग न हो, डेडलाइन और संदर्भ का ध्यान, उच्चारण की सुविधा के लिए आमबोल चाल के शब्दों का प्रयोग।
6. टेलीविज़न देखने और सुनने का माध्यम, दूरियों की अहमियत ज्यादा, कम से कम शब्दों में ज्यादा से ज्यादा ख़बर बताने की कला का प्रयोग। समाचार में दूर्य होने के कारण महत्वपूर्ण। सीमाएँ - ज्वलंत समस्या के दूर्य जनता को भड़का सकते हैं, बाल-बुद्धि को विकृत करने की संभावना।
7. चरण-1 फ्लैश या ब्रेकिंग न्यूज 2.ड्राईएंकर 3.फ़ोन-इन 4.एंकर विजुअल 5. एंकर-बाइट 6. लाइव 7.एंकर पैकेज
8. भाषा-शैली सभी वर्गों एवं स्तरों के अनुरूप हो, भाषा के स्तर एवं गरिमा से समझौता न हो, भाषा सरल एवं वाक्य छोटे हों, ग़ैर जरूरी विशेषणों, कठिन शब्दों, मुहावरों एवं भ्रामक शब्दों के स्थान पर आम बोलचाल के शब्दों का प्रयोग हो।
9. इंटरनेट पर समाचारों का प्रकाशन एवं आदान-प्रदान ही इंटरनेट पत्रकारिता है। विश्व स्तर पर इंटरनेट पत्रकारिता का प्रथम दौर 1982-1992, दूसरा दौर - 1993-2001 और तृतीय दौर 2002 से अब तक। भारत में इंटरनेट का आरंभ- 1993। वेबसाइट पर विद्वत् पत्रकारिता का श्रेय - तहलका डॉटकॉम। भारत की पहली साइट -रीडिफ़। हिंदी पत्रकारिता में हिंदी की सर्वश्रेष्ठ साइट - बी.बी.सी.।

10. इंटरनेट माध्यम और औजार दोनों। दुष्परिणाम -युवावर्ग को नग्नता एवं अलीलता की ओर आकर्षित करने में समर्थ, संस्कारों में विकृति, अपराध जगत को नई दिशा, पुस्तकें पढ़ने की इच्छा की कमी का एक कारण।
11. हिंदी का संपूर्ण पोर्टल इंदौर के नयी दुनिया समूह से शुरू हुआ। मात्र इंटरनेट में उपलब्ध अखबार-प्रभासाक्षी। हिंदी वेब पत्रकारिता की सबसे बड़ी समस्या - हिंदी के फ़ोंट की। कोई 'की बोर्ड' नहीं है, डायनमिक फ़ोंट की कमी के कारण साइट न खुलने की समस्या।
12. दूरदर्शन विशेषताएँ - देखने सुनने की सुविधा, कम शब्दों में ज्यादा खबर, तात्कालिक खबर, खबर की पुष्टि। सीमाएँ - सामाजिक समस्याओं के प्रदर्शन से उत्तेजना फैलाने में समर्थ, अपरिपक्व बुद्धि को विकृत करने में समर्थ। इंटरनेट विशेषताएँ - सभी विषयों से संबंधित जानकारी देने में समर्थ, माध्यम और औजार दोनों, रिपोर्ट सत्यापन एवं पुष्टिकरण। सीमाएँ - मँहगा साधन, अलीलता की ओर आकर्षित करने वाला, पुस्तकें पढ़ने की रुचि का हास। प्रिंट विशेषताएँ - शब्दों में स्थायित्व, समयानुसार पढ़ने की सुविधा, संरक्षण संभव। सीमाएँ - साक्षरता आवश्यक, तात्कालिक खबरों का अभाव, नियत स्पेस।

### पत्रकारीय लेखन के विभिन्न रूप और लेखन प्रक्रिया

13. अखबार पाठकों को सूचना देने, जागरूक और शिक्षित बनाने, उनका मनोरंजन करने का दायित्व निभाते हैं। पत्रकार अपने पाठकों, दार्शिकों और श्रोताओं तक सूचनाएँ पहुँचाने के लिए लेखन के विभिन्न रूपों का इस्तेमाल करते हैं। इसे ही पत्रकारीय लेखन कहते हैं।
14. पत्रकारिता जल्दी में लिखा गया साहित्य है। पत्रकारीय लेखन का संबंध समसामयिक और वास्तविक घटनाओं और मुद्दों से है जबकि साहित्यिक रचनात्मक लेखन कल्पना को भी स्थान देता है। पत्रकारीय लेखन तथ्यों पर आधारित एवं पाठकों की रुचियों और आवश्यकताओं को ध्यान में रखकर लिखा जाता है। जबकि रचनात्मक लेखन में लेखक को काफी छूट होती है।
15. वाक्य छोटे हों, सरल वाक्य संरचना, सामान्य बोलचाल के शब्दों का प्रयोग, विषय चयन तथ्यों द्वारा पुष्ट हो, लेख उद्देश्यपूर्ण हो, लेखन में रंग भरने के लिए मुहावरे लोकोक्तियों का प्रयोग, लेखक में तथ्यों को जुटाने एवं बारीकी से विचार करने का धैर्य होना आवश्यक है।
16. पत्रकारीय लेखन का सबसे जाना-पहचाना रूप समाचार लेखन है। समाचार, कहानी भाषा कथा लेखन की शैली से बिल्कुल भिन्न 'उल्टा पिरामिड' शैली में लिखा जाता है। पत्रकार तीन प्रकार के होते हैं 1. पूर्णकालिक 2. अंशकालिक 3. फ्रीलांसर यानी स्वतंत्र पत्रकार।
17. किसी समाचार को लिखते हुए मुख्यतः छह सवालों का जवाब देने की कोशिश की जाती है क्या हुआ ? किसके साथ हुआ, कहाँ हुआ ? कब हुआ ? कैसे और क्यों हुआ ? इन्हीं छह प्रश्नों को छह ककार कहा जाता है।
18. फ़ीचर एक सुव्यवस्थित, संज्ञानात्मक और आत्मनिष्ठ लेखन है जिसका उद्देश्य पाठकों को सूचना देना, शिक्षित करना और मनोरंजन करना होता है। फ़ीचर सच्ची घटना पर लिखा जाता है, सारगर्भित होता है। बोझिल नहीं, अतीत, वर्तमान या भविष्य किसी से भी संबंधित हो सकता है। जिज्ञासा, सहानुभूति, संवेदनशीलता, आलोचना आदि भाव उद्दीप्त करने में समर्थ।
19. फ़ीचर की थीम सूचनाओं, तथ्यों और विचारों में गुँथी होनी चाहिए, पात्रों की मौजूदगी हो, बात इस तरह से बतायी जाय कि पाठक को लगे वह स्वयं देख-सुन रहा है, फ़ोटो - रेखांकन या ग्राफ़िक्स का प्रयोग हो, सूचनात्मक हो। फ़ीचर खोजपरक, साक्षात्कार, रूपात्मक, यात्रा संबंधी, समाचार बैकग्राउंडर, व्यक्तिचित्र कई प्रकार का हो सकता है।
20. सामान्य समाचारों के अलावा गहरी छानबीन, विशेष लेखन और व्याख्या के आधार पर विशेष रिपोर्ट प्रकाशित होती है। इन्हें तैयार करने के लिए किसी घटना, समस्या या मुद्दे की गहरी छानबीन कर, तथ्यों को एकत्रित कर विशेष लेखन के द्वारा उसके नतीजे, प्रभाव और कारण को स्पष्ट किया जाता है। विशेष रिपोर्ट के प्रकार-खोजी, इन डेपथ, विशेषणात्मक एवं विवरणात्मक रिपोर्ट।

21. संपादक विभिन्न डेस्कों द्वारा चयनित समाचारों के लिए जिम्मेदार होता है, प्रशासकीय जिम्मेदारियों के साथ समाचार पत्र समय पर छपने वाला जाए संपादक की जिम्मेदारी है। प्रत्येक पृष्ठ की सामग्री के बीच समन्वय करता है। संपादकीय लेखन अखबार की अपनी आवाज होता है। जिसके द्वारा वह किसी घटना, समस्या या मुद्दे के प्रति अपनी राय प्रकट करता है।
22. क) स्तंभ लेखन- विचारपरक लेखन का एक रूप, लेखकों की लोकप्रियता उसे एक नियमित स्तंभ लिखने का मौका देती है, स्तंभ की पहचान स्तंभकार के नाम से।  
ख) संपादक के नाम पत्र- जनमत को प्रतिबिंबित करता है, इसके जरिये पाठक न केवल विभिन्न मुद्दों पर राय देता है अपितु जनसमस्या भी उठाता है। ग) लेख - संपादकीय पृष्ठ पर विशेषज्ञों द्वारा लेख लिखे जाते हैं। लेखों में किसी विषय या मुद्दे पर विस्तार से चर्चा कर तथ्यों का विशेषण कर निष्कर्ष तक पहुँचकर लेखक अपना मत व्यक्त करता है। घ) साक्षात्कार- एक स्पष्ट मकसद और ढाँचा होता है। साक्षात्कार के माध्यम से फीचर, विशेष रिपोर्ट इत्यादि पत्रकारीय लेखन के लिए कच्चा माल तैयार होता है।
23. न सिर्फ़ ज्ञान बल्कि संवेदनशीलता, कूटनीति, धैर्य एवं साहस का होना अनिवार्य, साक्षात्कार से संबंधित विषय की सम्यक जानकारी, प्रश्न वहीं हों जिनकी जिज्ञासा एक आम पाठक के मन में होती है, अगर रिकार्ड करना संभव न हो तो नोट्स ले लें, सवाल-जवाब या आलेख रूप में लिखें, साक्षात्कार के उद्देश्य के विषय में स्पष्ट जानकारी आवश्यक।

### विशेष लेखन - स्वरूप और प्रकार

24. पाठकों की रुचियाँ बहुत व्यापक होती हैं। वे साहित्य, विज्ञान, कारोबार से लेकर खेल तक सभी विषयों पर पढ़ना चाहते हैं। इस प्रकार सामान्य लेखन से हटकर जब किसी खास विषय पर लेखन किया जाता है उसे विशेष लेखन कहते हैं।
25. आमतौर पर रोज़मर्रा की रिपोर्टिंग और बीट को छोड़कर वे सभी क्षेत्र विशेष लेखन के दायरे में आते हैं जिनमें विशेषज्ञता की आवश्यकता होती है जैसे-अर्थ-व्यापार, खेल, विज्ञान-प्रौद्योगिकी, कृषि, रक्षा, पर्यावरण, शिक्षा, स्वास्थ्य, फिल्म-मनोरंजन, अपराध, सामाजिक मुद्दे, कानून आदि।
26. विशेष लेख का पाठक वर्ग अलग होता है जो अपने विषय या क्षेत्र को विस्तार और गहराई से जानना चाहते हैं। विशेष लेखन की भाषा सरल किंतु तकनीकी शब्दावली युक्त होनी चाहिए। शैली सामान्य लेख से हटकर होनी चाहिए।
27. विशेषज्ञता का अभिप्राय है-व्यावसायिक रूप से प्रशिक्षित न होने के बावजूद उस विषय में जानकारी और अनुभव के आधार पर अपनी समझ को इस हद तक विकसित करना कि घटनाओं या मुद्दों की सहजता से व्याख्या कर पाठकों को उसके मायने समझा सकें। विशेषज्ञता के लिए स्वयं का अपडेट रहना, विषयक पुस्तकें पढ़ना, शब्दकोश। इनसाइक्लोपीडिया का सहारा लेना, सरकारी-गैर सरकारी संगठनों का सम्पर्क, निरंतर दिलचस्पी और सक्रियता आवश्यक है।
28. संवाददाताओं के बीच काम का विभाजन उनकी रुचि और ज्ञान के आधार पर किया जाता है। मीडिया की भाषा में इसे बीट कहते हैं।
29. बीट रिपोर्टिंग के लिए संवाददाता को उस क्षेत्र की जानकारी और दिलचस्पी होना पर्याप्त है जबकि रिपोर्टिंग में तथ्य का बारीकी से विशेषण कर पाठकों को उसके मायने बताने होते हैं। बीट कवर करने वाले को संवाददाता विशेषीकृत रिपोर्टिंग करने वाले को विशेष संवाददाता कहते हैं।
30. सामान्य व्यक्ति कुछ भी खरीदता है, बैंक में जमा करता है, काराबोर की योजना बनाता है या आर्थिक फ़ायदे-नुकसान को वहन करता है तो इन सबका संबंध कारोबार-व्यापार और अर्थ जगत से जुड़ी खबरों से होता है। इसलिए पाठक की रुचि अनुसार अगर अखबार में आर्थिक पृष्ठ नहीं होता तो उसे संपूर्ण नहीं माना जाता है।
31. कोई भी समाचार पत्र या समाचार बुलेटिन खेल समाचारों के बिना पूर्ण नहीं माना जाता है। खेल विशेषांक, खेल परिशिष्ट पाठकों को आकर्षित करते हैं क्योंकि खेल पत्रकार अपनी भाषा-शैली से न केवल सूचनाएँ देता है अपितु ऊर्जा, जोश, रोमांच और उत्साह का संचार भी करता है।

## सृजनात्मक लेखन - कैसे बनती है कविता।

32. पारंपरिक लोरियों, मांगलिक गीतों, श्रमिकों द्वारा गुनगुनाए गीतों और तुकबंदी में कविता के स्वर मुखरित होते हैं। कविता लेखन का पहला मत- अन्य कलाओं की तरह कविता लेखन की प्रणाली सिखाई नहीं जा सकती क्योंकि इसका संबंध मानव संवेदनाओं से है।
- दूसरा मत- उचित प्राक्षण के द्वारा कविता लेखन को अन्य कलाओं की भाँति सरल बनाया जा सकता है।
33. कविता संवेदना के निकट होती है। जिसमें मन को छूने, सृष्टि से जुड़ने और उसे अपना बना लेने की क्षमता होती है। आवयक तत्व - शब्द, बिंब, छंद परिवे । चित्रण।
34. शब्दों से मेलजोल कविता की पहली शर्त है। शब्दों से खेलना, उनके अर्थों की परतों को खेलना ही कविता की दुनिया में प्रवेश करना है। कवि की भावनाओं और संवेदनाओं को शब्द ही आकार देते हैं।
35. बाह्य संवेदनाएं मन के स्तर पर बिंबों में बदल जाती हैं। बिंब कवि की भावनाओं को चित्र के रूप में पाठक के समक्ष प्रस्तुत कर देता है जिससे कविता मन को छूकर सरलता से समझ में आ जाती है।
36. छंद (आंतरिक लय) कविता का अनिवार्य तत्व है। छंद के अनुपासन की जानकारी के बिना आंतरिक लय का निर्वाह असंभव है। कविता की भाषा, बिंब, छंद, संरचना सभी परिवे । के इर्द-गिर्द घूमते हैं इसलिए वातावरण, परिवे । और संदर्भ के अनुसार ही भाषा, बिंब और छंद का चयन किया जाता है।
37. भाषा का सम्यक ज्ञान आवयक, संकेत चिन्हों का ज्ञान, छंद ज्ञान, समय विशेष में प्रचलित प्रवृत्तियों का ज्ञान, कम शब्दों में अधिक कहने की क्षमता, शब्द चयन एवं शब्द गठन, भावानुसार अनुपासन, नवीन दृष्टिकोण एवं प्रस्तुतिकरण की नवीन शैली।

## नाटक लिखने का व्याकरण

38. नाटक साहित्य की वह विधा है। जिसे पढ़ा, सुना और देखा भी जा सकता है। रंगकर्मियों के द्वारा जब इसे रंगमंच में प्रस्तुत किया जाता है। तब उसमें संपूर्णता आती है।
39. अन्य विधाएँ अपने लिखित रूप में ही एक निश्चित और अंतिम रूप को प्राप्त कर लेती हैं, वहीं एक नाटक अपने लिखित रूप में सिर्फ एक आयामी होता है। अन्य विधाएँ केवल पढ़ने या सुनने तक ही सीमित होती हैं, नाटक की दृश्यता का गुण उसे अन्यो से अलग कर देता है।
40. समय का बंधन, संक्षिप्त और सांकेतिक भाषा का प्रयोग हो, घटनाओं का क्रम शून्य से शिखर की ओर विकास करें, संवादों में अनकही बातों की व्यंजित करने की शक्ति हो, शिल्प और संरचना की पूर्ण जानकारी।
41. महत्वपूर्ण तत्व - समय सीमा, शब्द, कथ्य, संवाद एवं शिल्प चयन।
42. नाटक का मंचन होता है इसलिए भाषा सहज, स्वाभाविक एवं प्रसंगानुकूल होनी चाहिए। दृशिक नाटक के संवादों का पूरा आनंद लेने इसलिए भाषा परिवे । से मेल खाए। अगर नाटककार परंपरागत शैली से हटकर नई शैली का प्रयोग करता है। तो दृशिक उसे ज़्यादा स्वीकार करते हैं।
43. नाटक में स्वीकार से अस्वीकार को ज़्यादा महत्व दिया जाता है। जिस नाटक में असंतुष्टि, छटपटाहट, प्रतिरोध, अस्वीकार जैसे नकारात्मक तत्व होते हैं वह उतना ही गहरा और सशक्त साबित होगा। जब-जब किसी विचार व्यवस्था या तात्कालिक समस्या को विषय बनाया गया नाटक बहुत चर्चा में नहीं रहे।



44. कहानी, कविता, उपन्यास आदि को हम अपनी सुविधानुसार कई दिनों में थोड़ा-थोड़ा पढ़कर समाप्त कर सकते हैं किंतु नाटक को तो दार्शिकों ने एक निश्चित समय सीमा में एक ही स्थान पर देखना होता है। इसलिए नाटक के मंच निर्देशक वर्तमानकाल में ही लिखे जाते हैं।
45. नाटक देखते समय दर्शक मानसिक रूप से उस परिवेश में पहुँच जाता है जिससे संबंधित वह नाटक है। ऐसी स्थिति में संवाद स्वाभाविक होने पर उसके मर्म का स्पर्श करते हुए उसके लिए ग्राह्य हो जाते हैं।

## कैसे लिखें कहानी

46. कहानी जीवन का अविभाज्य अंग है। हर व्यक्ति अपनी बातें दूसरों को सुनाना और दूसरों की बातें सुनाना और दूसरों की बातें सुनना चाहता है। कहानी लिखने का मूलभाव सबमें होता है, कुछ इसे विकसित कर पाते हैं कुछ नहीं किसी घटना, पात्र या समस्या का क्रमबद्ध ब्यौरा जिसमें परिवेश, द्वंद्वतात्मकता, क्रमिक विकास एवं चरम उत्कर्ष का बिंदु हो, उसे कहानी कहा जाता है।
47. कहानी का इतिहास उतना ही पुराना है जितना मानव इतिहास। प्राचीन काल में मौखिक कहानियाँ संचार का एक साधक माध्यम थी। धर्म प्रचारकों एवं शिक्षकों ने शिक्षा देने के लिए, सिद्धांत एवं विचारों को लोगों तक पहुँचाने के लिए इन्हें माध्यम बनाया इसलिए ये लोकप्रिय होती चली गई।
48. कल्पना करना मानव का स्वाभाविक गुण है। वह वही सुनना पसंद करता है जो उसे अच्छा लगता है। कथावाचक लोगों की पसंद के अनुसार कल्पना से कथा को रोचक बनाता है, इस प्रकार कल्पना कहानी का एक अंग बन जाती है।
49. कथानक एक प्रारंभिक नक्शा होता है जो किसी घटना, जानकारी, अनुभव या कल्पना पर आधारित होता है। कहानीकार उद्देश्य को पूरा करने के लिए एक काल्पनिक ढाँचा बनाता है। संपूर्ण कहानी कथानक के इर्द-गिर्द घूमती हुई कल्पना से विस्तार पाती है।
50. पात्रों का अध्ययन कहानी की एक बुनियादी शर्त है। प्रत्येक पात्र का एक स्वभाव होता है जो किसी न किसी उद्देश्य से जुड़ा होता है। पात्रों का चयन, आपसी संबंध, व्यवहार, गुण-अवगुण का वर्णन ही कहानी को सफल बनाते हैं।
52. संवाद पात्रों को स्थापित करते हैं, विकसित करते हैं, और कहानी को गति देते हैं। जिस घटना या प्रतिक्रिया को होती हुई नहीं दिखाया जा सकता उसे संवादों में दर्शाया जाता है। संवाद के बिना पात्र की कल्पना असंभव है।
53. कहानी में द्वंद्व दो विरोधी तत्वों की टकराहट, बाधा या अंतर्द्वंद्व के कारण होता है। द्वंद्व पाठक में जिज्ञासा पैदा करते हैं और कहानी को रोचक बनाते हैं। द्वंद्व के बिंदु जितने स्पष्ट होंगे कहानी सफलता से आगे बढ़ेगी।
54. चरम उत्कर्ष का चित्रण ध्यानपूर्वक करना आवश्यक है क्योंकि भावों या पात्रों की अतिरिक्त अभिव्यक्ति प्रभाव को कम कर सकती है। कहानीकार का अतिरिक्त आग्रह कहानी को भाषण में बदल सकता है। चरम उत्कर्ष पाठक को स्वयं सोचने के लिए प्रेरित करे यह सर्वोत्तम है।
55. प्रमुख तत्व - कथानक, पात्र, संवाद, द्वंद्व, देशकाल और वातावरण एवं चरमोत्कर्ष।

## नए और अप्रत्याशित विषयों पर लेखन

56. नए एवं अप्रत्याशित विषयों के बारे में कम से कम समय में अपने विचारों को संकलित कर सुंदर ढंग से उनकी प्रस्तुति करना ही नए एवं अप्रत्याशित विषयों पर लेखन कहलाता है।

57. बाधाएँ – रंत्त की बुरी लत, लिखित अभिव्यक्ति की क्षमता का विकास न होना, मौलिक अभ्यास एवं प्रयास की कमी। परंपरागत विषयों से हटकर लिखने का अभ्यास ही दक्षता दिला सकता है क्योंकि इसे लिखने की कोई तकनीक (फार्मूला) नहीं है।
58. लिखने से पूर्व संबंधित विचारों की रूपरेखा तैयार हो, गुरुआत आकर्षक एवं निर्वाह योग्य, वर्णन सिलसिलेवार बढ़े, बातें आपस में जुड़ी एवं तालमेल में हो, सुसंबद्धता एवं सुसंगति के प्रति सचेतता, 'मै' शैली का प्रयोग।

## 6. अभिव्यक्ति और माध्यम पर आधारित लघूत्तरात्मक प्रश्न निर्धारित अंक -5

- जनसंचार के प्रमुख माध्यमों में सबसे पुराना माध्यम कौन सा है? इसकी दो खूबियाँ बताइए।
- 'छापाखाना' के अविष्कार का श्रेय किस जाता है? भारत में पहला छापाखाना कब और कहाँ खुला?
- रेडियो समाचार की संरचना किस शैली में होती है?
- टी.वी. खबरों के प्रमुख चरण कौन-कौन से हैं?
- फ्लैट या ब्रेकिंग न्यूज से क्या तात्पर्य है?
- एंकर पैकेज को स्पष्ट कीजिए।
- रेडियो एवं टेलीविजन की भाषा कैसी होनी चाहिए।
- वेब पत्रकारिता से आप क्या समझते हैं?
- भारत में इंटरनेट पत्रकारिता का कौन सा दौर चल रहा है?
- वेबसाइट पर विद्यमान पत्रकारिता प्रारंभ करने का श्रेय किस साइट को जाता है?
- पत्रकारिता से संबंधित वर्तमान समय की चार साइटों के नाम लिखिए।
- भारत की पहली पत्रकारिता साइट किसे माना जा सकता है?
- हिन्दी के हिन्ही चार अखबारों के नाम लिखिए जिनके वेब संस्करण उपलब्ध हैं?
- सिर्फ इंटरनेट में ही उपलब्ध अखबार कौन सा है?
- पत्रकारिता के लिहाज़ से वर्तमान समय में सर्वश्रेष्ठ साइट कौन सी है?
- हिन्दी वेबपत्रकारिता की सबसे बड़ी समस्या क्या है?
- पत्रकारीय लेखन से आप क्या समझते हैं?
- पत्रकार कितने प्रकार के होते हैं?
- पत्रकारीय लेखन और सजनात्मक-साहित्यिक लेखन में मूल अंतर क्या है?
- पत्रकारीय लेखन में किस प्रकार की भाषा-शैली का प्रयोग होना चाहिए?
- उल्टा पिरमिड-शैली का विकास कब, किस प्रकार हुआ?
- समाचार लेखन के छह ककार स्पष्ट कीजिए।
- इंद्रों से आप क्या समझते हैं?

24. फ़ीचर लेखन क्या है?
25. फ़ीचर की भाषा- शैली कैसी होनी चाहिए?
26. फ़ीचर कितने प्रकार के हो सकते हैं?
27. 'विशेष रिपोर्ट' से क्या अभिप्राय है?
28. विशेष रिपोर्ट कितने प्रकार की होती है? उनके नाम लिखिए।
29. 'इन-डेपथ' रिपोर्ट से आप क्या समझते हैं?
30. विश्लेषणात्मक रिपोर्ट और विवरणात्मक रिपोर्ट में क्या अंतर है?
31. संपादकीय लेखन क्या होता है?
32. संपादक के नाम पत्र से आप क्या समझते हैं?
33. समाचार माध्यमों में साक्षात्कार/इंटरव्यू का क्या महत्व है?
34. सफल साक्षात्कार के लिए आवश्यक किन्हीं दो गुणों को बताइए?
35. विशेष लेखन क्या है?
36. बीट से आप क्या समझते हैं?
37. संवाददाता एवं विशेषसंवाददाता में मुख्य अंतर क्या है?
38. अखबारों में विशेष लेख लिखने वाले कौन होते हैं?
39. विशेष लेखन की भाषा- शैली कैसी होनी चाहिए।
40. विशेष लेखन के अन्तर्गत आने वाले किन्हीं छः क्षेत्रों के नाम बताइए।
41. व्यापार-कारोबार की भाषा की एक विशेषता बताइए।
42. खेल समाचार की भाषा की एक विशेषता स्पष्ट कीजिए।
43. फ्री-लांसर पत्रकार किसे कहते हैं?
44. खोजी पत्रकारिता से क्या अभिप्राय है?
45. उल्टा पिरामिड शैली में समाचार लिखने का क्रम क्या होता है?
46. पर्यावरण पर छपने वाली किन्हीं दो पत्रिकाओं के नाम लिखिए।
47. 'खेल' एवं 'विज्ञान' के क्षेत्र में छपने वाली किन्हीं दो-दो पत्रिकाओं के नाम लिखिए।
48. खेल पत्रकार के लिए वांछित किन्हीं दो योग्यताओं को स्पष्ट कीजिए।
49. 'व्यापार एवं कारोबार' से संबंधित पत्रकार के लिए किन योग्यताओं का होना आवश्यक है?
50. कविता से आप क्या समझते हैं?
51. कविता लेखन को अन्य कलाओं की तरह सिखाया क्यों नहीं जा सकता?

52. 'कविता लेखन' का सबसे पहला उपकरण किसे माना जा सकता है?
53. 'प्ले विद द वर्ड्स' से क्या अभिप्राय है?
54. बिंब किस प्रकार कविता के अर्थ में सहायक होते हैं?
55. 'चित्र-भाषा' से आप क्या समझते हैं?
56. कविता के सम्पूर्ण घटक किस प्रकार परिवे । और संदर्भ से परिचालित होते हैं?
57. कविता के लिए आव यक किन्हीं दो घटकों का परिचय दीजिए।
58. नाटक से आप क्या समझते हैं?
59. 'नाटक' साहित्य की अन्य विधाओं से अलग कैसे है?
60. 'नाटक' में संपूर्णता कैसे आती है?
61. 'समय के बंधन' का नाटक में क्या महत्व है?
62. नाटक के मंच-निर्दे । हमे ॥ वर्तमान काल में क्यों घटित होते हैं?
63. नाटक में 'स्वीकार' की अवधारणा क्या है?
64. नाटक में नकारात्मक तत्वों की उपस्थिति क्यों आव यक है?
65. अच्छे नाटक की एक वि ेषता बताइए।
66. कहानी क्या है?
67. प्राचीनकाल में मौखिक कहानी लोकप्रिय क्यों थी?
68. कहानी का केन्द्रबिन्दु किसे कहते हैं?
69. कथानक से आप क्या समझते हैं?
70. कहानी में द्वंद्व के तत्व से क्या अभिप्राय है?
71. कहानी का प्रमाणिक बनाने के लिए किस बात का ध्यान रखना आव यक है?
72. कहानी में संवाद क्या करते हैं?
73. अप्रत्यािात विषयों पर लेखन क्या है?
74. रटंत कुटेव (बुरी लत) क्यों है?
75. रटंत की आदत किस प्रकार मौलिक प्रयास को बाधित करती है?
76. अप्रत्यािात विषयों के लेखन में ध्यान रखने योग्य किन्हीं दो बातों का उल्लेख कीजिए।
77. लेखन के संदर्भ में सुसंबद्धता और सुसंगति से क्या अभिप्राय है?
78. कविता के आव यक तत्व कौन-कौन से हैं?
79. नाटक के प्रमुख तत्व कौन से हैं?
80. कहानी के आव यक तत्व बताइए।

प्रश्न 7. निम्नलिखित काव्यांशों की सप्रसंग व्याख्या कीजिए :

8

## 1. जयशंकर प्रसाद - कार्नेलिया का गीत

अरूण यह मधुमय दे । हमारा।  
जहाँ पहुँच अनजान क्षितिज को मिलता एक सहारा।  
सरस तामरस गर्म विभा पर नाच रही तर्की ।खा मनोहर।  
छिटका जीवन हरियाली पर -मंगल कुम कुम सारा।  
लघु सुरधनु से पंख पसारे - ।तिल मलय समीर सहारे।  
उड़ते खग जिस ओर मुँह किए-समझ नीड़ निज प्यारा।  
बरसाती आँखों के बादल -बनते जहाँ भरे करूणा जल।  
लहरें टकराती अनंत की -पाकर जहाँ किनारा।  
हेम कुंभ ले उषा सवेरे-भरती ढुलकाती सुख मेरे।  
मंदिर ऊँघते रहते जब-जग कर रजनी भर तारा।

## 2. सूर्यकान्त त्रिपाठी 'निराला' गीत गाने दो मुझे

चोट खा कर राह चलते  
हो । के भी हो । छूटे  
हाथ जो पाथेय थे, ठग-  
ठाकुरों ने रात लूटे  
कंठ रूकता जा रहा है,  
आ रहा है काल देखो  
भर गया है ज़हर से  
संसार जैसे हार खाकर  
देखते हैं लोग लोगों को  
सही परिचय न पा कर  
बुझ गयी है लौ प ।था की  
जल उठो फिर सींचने को

## 3. सरोज स्मृति

दुःख ही जीवन की कथा रही

क्या कहूँ आज तो नहीं कही  
हो इसी कर्म पर वज्र पात  
यदि धर्म रहे नत सदा माथ  
इस पथ पर, मेरे कार्य सकल  
हों भ्रष्ट गीत के से तदल  
कन्ये, गत कर्मों का अर्पण  
कर, करता मैं तेरा तर्पण

4. सच्चिदानंद हीरानंद वात्स्यायन 'अज्ञेय' 'यह टीम अकेला'

यह वह वि वास, नही जो अपनी लघुता में भी काँपा,  
वह पीड़ा, जिस की गहराई को स्वयं उसी ने नापा :  
कुत्सा, अपमान, अवज्ञा के धुँधुआते कडुवे तम में  
यह सदा-द्रवित, चिर-जागरूक, अनुरक्त -नेत्र  
उल्लंब-बाहु, वह चिर-अखंड अपनाया  
जिज्ञासु, प्रबुद्ध, सदा श्रद्धामय, इस को भक्ति को दे दो-  
यह दीप, अकेला, स्नेह भरा  
है गर्व भरा मदमाता, पर इस को भी पंक्ति को दे दो

5. मैंने देखा, एक बूँद

मैंने देखा  
एक बूँद सहसा  
उछली सागर के झाग से  
रंग गई क्षण-भर  
ढलते सूरज की आग से  
मुझ को दीख गया  
सूने विराट के सम्मुख  
हर आलोक -छुआ - अपनापन  
है उन्मोचन  
न वरता के दाग से।

## 6. केदार नाथ सिंह - दिशा

हिमालय किधर है?

मैंने उस बच्चे से पूछा जो स्कूल के बाहर

पतंग उड़ा रहा था

उधर-उधर - उसने कहा

जिधर उसकी पतंग भागी जा रही थी

मैं स्वीकार करूँ

मैंने पहली बार जाना

हिमालय किधर है

## 7. एक कम - विष्णु खरे

1947 के बाद से

इतने लोगों को इतने तरीकों से

आत्मनिर्भर मालामाल और गति मील होते देखा है

कि अब जब आगे कोई हाथ फैलाता है

पच्चीस पैसे एक चाय या दो रोटी के लिए

तो जान लेता हूँ

मेरे सामने एक ईमानदार आदमी, औरत या बच्चा खड़ा है

मानता हुआ कि हाँ मैं लाचार हूँ कंगाल या कोढ़ी

या मैं भला चंगा हूँ और कामचोर और

एक मामूली धोखे बाज़

## 8. सत्य

जब हम सत्य को पुकारते हैं

तो वह हमसे परे हटता जाता है

जैसे गुहारते हुए युधिष्ठिर के सामने से

भागे थे विदुर और भी घने जंगलों में

सत्य पायद जानना चाहता है

कि उसके पीछे हम कितनी दूर तक भटक सकते हैं

कभी दिखता है सत्य

और कभी ओझल हो जाता है।  
और हम कहते रह जाते हैं कि रूको यह हम हैं  
जैसे धर्मराज के बार बार दुहाई देने पर  
कि ठहरिए स्वामी विदुर  
यह मैं हूँ आपका सेवक कुंतीनंदन युधिष्ठिर  
वे नहीं ठिठकते

### 9. हम कह नहीं सकते

न तो हममें कोई स्फुरण हुआ और न हो कोई ज्वर  
किंतु षोष सारे जीवन हम सोचते रह जाते हैं  
कैसे जानें कि सत्य का वह प्रतिबिम्ब हममें समाया या नहीं  
हमारी आत्मा में जो कभी कभी दमक उठता है।  
क्या वह उसी की छुअन है  
जैसे विदुर कहना चाहते तो वह बता सकते थे  
सोचा होगा माथे के साथ अपना मुकुट नीचा किए  
युधिष्ठिर ने  
खांडवप्रस्थ से इंद्रप्रस्थ लौटते हुए।

### 10. वसंत आया - रघुवीर सहाय

और यह कैलेंडर से मालूम था।  
अमुक दिन अमुकबार मदन महीने की होवेगी पंचमी  
दफ्तर में छुट्टी थी यह था प्रमाण  
और कविताएँ पढ़ते रहने से यह पता था  
कि दहर-दहर दहकेंगे कहीं ढाक के जंगल  
आम बौर आवेंगे  
रंग-रस-गंध से लदे-फँदे दूर के विदे । के  
वे नंदन-वन होवेंगे य तस्वी  
मधुमस्त पिक भौर आदि अपना-अपना क तित्व  
अभ्यास करके दिखावेंगे  
यही नहीं जाना था कि आज के नगण्य दिन जानूँगा  
जब मैंने जाना, कि वसंत आया।



## 11. तोड़ो

तोड़ो तोड़ो तोड़ो

ये पत्थर ये चट्टानें

ये झूठे बंधन टूटें

सुनते हैं, मिट्टी में रस है, जिससे उगती दूब है।

अपने मन के मैदानों पर व्यापी कैसी ऊब है

आधे आधे गाने

## 12. भरत-राम का प्रेम - तुलसीदास

बिधि न सकेउ सहि मोर दुलारा। नीच बीचु जननी मिसु पारा।

यहउ कहत मोहि आजु न सोभा। अपनी समुझि साधु सुचि कोभा।

मातु मंदि भई साधु सुचाली। उर सन आनत कोटि कुचाली।

फरै कि कोदव बालि सुसाली। मुकुता प्रसव कि संबुक काली।

सपनेहुँ दोसक लेसु न काहू। मोर अभाग उदधि अवगाहू।

बिनु समझे निज अघ परिपाकू। जारिउँ जायँ जननि कहि काकू।

## 13. भूपति मरनु पेम पनु राखी। जननी कुमति जगतु सबु साखी।

देखिन जाहि बिकल महतारी। जरहिं दुसह जर पुर नर नारी।

महीं सकल अनरथ कर मूला। सो सुनि समुझि सहिउँ सब सूला।

सुनि बन गवनु कीन्ह रघुनाथा। करि मुनि वेष लखनु सिय साथा।

बिन पानहिन्ह पयोदेहि पाएँ। संकरू साखि रहेऊँ ऐहि धाएँ।

बहुरि निहारि निषाद सनेहू। कुलिस कठिन उर भएऊ न बेहू।

अब सबु आँखिन्ह देखेऊँ आई। जिअत जीव जड़ सबहू सहाई।

जिन्हहि निरखि मग साँपिनी बीछी।

तजिहि विषम बिषु तापस तीछी।।

## 14. राधौ! एक बार फिर आवौ।

ए बर बाजि बिलोकि आपने बहुरी बनहि सिधावौ

जे पय प्यादू पोखि कर - पंकज बारबार चुचुकारे।

क्यों जीवहि मेरे राम लाड़िले। ते अब निपट बिसारे

भरत सौगुनी सार करत हैं अति प्रिय जानि तिहारे

तदपि दिनहि दिन होत झाँवरे मनहुँ कमल हिम मारे

सुनहु पथिक। जो राम मिलहि वन कहियो मातु संदेसो  
तुलसी मोहि और सबहिन ते इन्हको बड़ो अदेसो।

### 15. मलिक मुहम्मद जायसी - बारहमासा

अगहन देवस घटा निसि बाढ़ी  
दूभर दुख सो जाइ किमि काढ़ी  
अब धनि देवस बिरह भा राती।  
जरै विरह ज्यो दीपक बाती  
कापौ हिया जनावी सीऊ।  
तौ पै जाइ होइ संग पीऊ।  
घर घर चीर रचा सब काहूँ।  
मोर रूप रंग लै गा नाहूँ।  
पलटि न बहुरा गा जो बिछोई  
अबहुँ फिरै फिरै रंग सोई।  
सियरि अगिनि बिरहिनि हिम जारा  
सुलगि सुलगि दगधै भै छारा  
यह दुःख दगध न जानै कंतू।  
जोबन जरम करै भसमंतू।  
पिय सौ कहेहु संदेसरा ऐ भँवरा ऐ काग।  
सो धनि बिरहेँ जरि गई तेहिक धुँआ हम लाग।

16. पूस जाइ थरथर तन काँपा। सुरूज जड़ाडू लंक दिसि तापा।  
विरह बाढ़ि मा दारू न सीऊ। कँपि कँपि मरौ लेहि हरि जीऊ॥  
कंत कहाँ हो लागौ हियरे। पंथ अपार सूझ नहीं निभरे।  
सौर सुपेती आवै जूड़ी। जानहुँ सेज हिवंचल बूढ़ी।  
चकई निसि बिछुरै दिन मिला। हौं निसि बासर बिरह कोकिला।  
रैन अकेलि साथ नहीं सखी। कैसे जिऔ बिछोही पँखी  
बिरह सैचान भवै तन चाँड़ा। जीयत खाइ मुँए नहि छाँड़ा।  
रकत ढरा माँसू गरा हाड़ भए सब संख।  
धनि सारस होइ ररि मुई आइ समेटहु पंख॥

17. नैन चुवहिं जस माँहुट नीरू। तेहि जल अंग लाग सर चीरू।  
 टूटहि बूंद परहि जस ओला। विरह पवन होइ मारैं झोला।  
 केहिक सिंगार को पहीर पटोरा। गियँ नहि हार रही होइ डोरा  
 तुम बिन कंता धनि हरूई तन तिनुवर भा डोल।  
 तेहि पर बिरह जराइ कै चहै उड़ावा झोल॥
18. फाग करहि सब चाँचरि जोरी। मोहि जिय लाइ दीन्ह जसि होरी  
 जौ पै पिमहिं जरत अस भावा। जरत मरत मोहि रोस न आवा  
 रातिहु देवस इहै मन मोरें। लागौं कंत छार जेऊँ तोरें  
 यह तन जारौं छार कै कहौ कि पवन उड़ाउ।  
 मकु तेहि मारग होइ परौ कंत धरै जहँ पाउ ॥
19. के पतिया लए जाएत रे मोरा पिअतम पास।  
 हिए नहि सहए असह दुख रे भेल साओन मास॥  
 एकसरि भवन पिआ बिनु रे मोहि रहलो न जाए।  
 सखि अनकर दुख दारून रे जग के पतिआए॥  
 मोर मन हरि हर लए गेल रे अपने मन गेल  
 गोकुल तेजि मधुपुर बस रे कन अपजस लेल॥  
 विद्यापति कवि गाओल रे धनि धरू मन आस।  
 आओत तोर मन भावन रे एहि कातिक मास॥
20. सखि हे, कि पुछीस अनुभव मोए।  
 सेह पिरिति अनुराग बखानिअ तिल तिल नूतन होय॥  
 जनम अवधि हम रूप निहारल नयन न तिरपित भेल॥  
 सेहो मधुर बोल स्रवनहि सूनल स्रुति पथ परस न गेल॥  
 कत मधु-जामिनि रभस गमाओलि न बूझल कइसन केलि॥  
 लाख लाख जुग हिअ हिअ राखल तइओ हिअ जरनि न गेल॥  
 कत बिदगध जन रस अनुमोदए अनुभव काहु न पेख॥  
 विद्यापति कह प्रान जुड़ाइते लाखे न मील ल एक॥

## 21. दंडक - केशवदास

बानी जगरानी को उदारता बखानी जाइ

ऐसी मति उदित उदार कौन की भई।  
 देवता प्रसिद्ध सिद्ध रिषिराज तपबद्ध  
 कहि कहि हारे सब कहि न काहू लई।  
 भावी भूत वर्तमान जगत बखानत है  
 'केसोदास' क्यों हू ना बखानी काहू पै गई।  
 पति बनें चारमुख पूत बने पाँच मुख  
 नाती बने षटमुख तदपि नई नई॥

22. कवित्त - घनानंद

बहुत दिनान को अवधि आस पास परे,  
 खरे अरबरनि भरे हैं उठि जान को।  
 कहि कहि आवन छबीले मनभावन को,  
 गहि गहि राखीत ही दै दै सनमान को॥  
 झूठी बतियानि की पत्यानि तें उदास है कै,  
 अब न घिरत घन आनंद निदान को।  
 अघर लगे हैं आनि करि कै पयान प्रान,  
 चाहत चलन ये सँदेसो लै सुजान को॥

23. पूरन प्रेम को मंत्र महा पन जा मधि सोधि सुधरि है लेख्यौ।  
 ताही के चारू चरित्र विचित्रनि यो पचिकै रचि राखि बिसेख्यौ।  
 ऐसो हियो हितपत्र पवित्र जो आन-कथा न कहूँ अवरेख्यौ।  
 सो घन आनंद जान अजान लौं टूक कियो पर बाँचि न देख्यौ।

**प्रश्न 8. निम्नलिखित प्रश्नों के उत्तर दीजिए :-**

1. 'मैंने भ्रमव I जीवन संचित, मधुकरियों की भीख लुटाई'  
 पंक्ति का भाव स्पष्ट कीजिए।
2. 'मैंने निज दुर्बल पद-बल पर, उससे हारी-होड़ लगाई'  
 इन पंक्तियों में 'दुर्बल पद बल' और 'हारी होड़' में निहित व्यंजना स्पष्ट कीजिए।
3. 'कार्नेलिया का गीत' में भारतवर्ष की क्या क्या विशेषताएँ बताई गई हैं ?
4. 'उड़ते खग' और 'बरसाती आँखों के बादल' में क्या विशेष अर्थ व्यंजित होता है ?

5. 'जहाँ पहुँच अनजान क्षितिज को मिलता एक सहारा' पंक्ति का आशय स्पष्ट कीजिए।
6. 'सूर्यकान्त त्रिपाठी निराला' गीत क्यों गाना चाहते हैं ?
7. ठग-ठाकुरों ने किससे क्या लूट लिया है ?
8. 'ठग-ठाकुरों' से कवि का संकेत किसकी ओर है ?
9. 'जल उठो फिर सींचने को' इस पंक्ति का भाव सौंदर्य स्पष्ट कीजिए।

### सरोज-स्मृति

10. 'मेरे बसंत की प्रथम गीति' के द्वारा कवि क्या कहना चाहता है ?
11. 'आकाश बदल कर बना मही' में 'आकाश' और 'मही' शब्द किसकी ओर संकेत करते हैं ?
12. 'वह लता वहीं की, जहाँ कली तू खिली' पंक्ति के द्वारा किस प्रसंग को उद्घाटित किया गया है ?

### सच्चिदानंद हीरानंद वात्स्यायन 'अज्ञेय' - यह दीप अकेला

13. 'दीप अकेला' के प्रतीकार्थ को स्पष्ट करते हुए यह बताइए कि उसे कवि ने स्नेह भरा, गर्वभरा एवं मदमाता क्यों कहा है ?
14. 'यह अद्वितीय - यह मेरा-यह मैं स्वयं विसर्जित' - पंक्ति के आधार पर व्यष्टि के समष्टि में विसर्जन की उपयोगिता बताइए।
15. 'यह दीप अकेला' कविता का मूलभाव लिखिए।
16. 'रंग गई क्षण भर, ढलते सूरज की आग से' पंक्ति के आधार पर बूंद के क्षण भर रंगने की सार्थकता बताइए।
17. 'क्षण के महत्व' को उजागर करते हुए कविता का मूल भाव लिखिए।
18. 'मैं ने देखा एक बूंद' कविता में कवि ने सत्यता के दर्शन कैसे किए हैं ?

### केदार नाथ सिंह बनारस

19. बनारस शहर के लिए जो मानवीय क्रियाएँ इस कविता में आई हैं उनका व्यंग्यार्थ स्पष्ट कीजिए।
20. बनारस में वसंत का आगमन कैसे होता है और उसका क्या प्रभाव इस शहर पर पड़ता है ?
21. 'खाली कटोरों में वसंत का उतरना' से क्या आशय है ?
22. 'दिशा' कविता के आधार पर बताइए कि बच्चे का इधर उधर कहना क्या प्रकट करता है ?

### एक कम

23. 1947 के बाद भारतीय समाज कैसा हो गया और कैसा नहीं रहा ?
24. हाथ फैलाने वाले व्यक्ति को कवि ने ईमानदार क्यों कहा है ? स्पष्ट कीजिए।

25. 'मैं तुम्हारा विरोधी प्रतिद्वंद्वी या हिस्सेदार नहीं' से कवि का क्या अभिप्राय है ?

### सत्य

26. सत्य हमसे परे क्यों और किस प्रकार हटता चला जाता है ? सत्य क्या जानना चाहता है ?

27. सत्य का दिखना और ओझल होने से कवि का क्या तात्पर्य है ?

28. सत्य और संकल्प के परस्पर संबंध पर अपने विचार व्यक्त कीजिए।

29. सत्य नामक कविता किस सामाजिक यथार्थ के उद्देश्यों को साथ लेकर चलती है ?

30. 'प्रकृति मनुष्य की सहचरी है' इस विषय पर विचार व्यक्त कीजिए।

31. 'वसंत आया' कविता में कवि की चिंता क्या है ? कविता का प्रतिपाद्य लिखिए।

### तोड़ों

32. 'पत्थर' और 'चट्टान' किसके प्रतीक हैं ?

33. कवि को धरती और मन की भूमि में क्या क्या समानताएँ दिखाई पड़ती हैं ?

### तुलसीदास

34. 'फरै कि कोदव बालि सुसाली। मुकुता प्रसव कि संबुक काली।' पंक्ति में छिपे भाव और चित्राल्प सौन्दर्य को स्पष्ट कीजिए।

35. भरत का आत्म परिताप उनके चरित्र के किस उज्ज्वल पक्ष की ओर संकेत करता है ?

36. 'मही सकल अनरथ कर मूल' पंक्ति द्वारा भरत के विचारों-भावों का स्पष्टीकरण कीजिए।

37. 'रहि चकि चित्रलिखी-सी' पंक्ति का मर्म अपने शब्दों में स्पष्ट कीजिए।

38. गीतावली में संकलित पद 'राघौ एक बार फिर आवो' में निहित करुणा और संदेश को अपने शब्दों में स्पष्ट कीजिए।

### मलिक मुहम्मद जायसी

39. पाठ्य पुस्तक में संकलित पदों के आधार पर नागमती के विरह वर्णन की विशेषताओं पर प्रकाश डालिए।

40. विरहावस्था में विद्यापति की राधा की मनोदशा और जायसी की नागमती की मनोदशा का तुलनात्मक अंतर स्पष्ट कीजिए।

### विद्यापति

41. 'सेह पिरित अनुराग बखानिअ तिलतिल नूतन होए' से कवि का क्या आशय है ?

42. कोयल और भौरों के कलरव का नायिका पर क्या प्रभाव पड़ता है ?

43. नायिका कबसे अपने प्रियतम का रूप निहार रही है परन्तु फिर भी उसके नेत्र संतुष्ट क्यों नहीं हुए हैं ?

## केशवदास

44. माँ सरस्वती की उदारता किसी से भी क्यों नहीं बखानी गई ?
45. चारमुख, पाँचमुख और षट्मुख किन्हे कहा गया है और उनका देवी सरस्वती से क्या संबंध है ?
46. कविता में पंचवटी के किन गुणों का उल्लेख किया गया है ?

## घनानन्द

47. संकलित पदों के आधार पर घनानन्द की विरह दशा का वर्णन कीजिए।
48. कवि ने 'चाहत चलन ये संदेसो ले सुजान को' क्यों कहा है ?
49. कवि मौन होकर प्रेमिका के कौन से प्रण पालन को देखना चाहता है ?
50. पठित सवैये के आधार पर बताइए कि प्राण पहले कैसे पल रहे थे और अब क्यों दुखी है ?

## कविताओं के काव्य सौन्दर्य पर प्रश्न

3 + 3 = 6

प्रश्न 9. निम्नलिखित काव्यांशों का काव्य सौन्दर्य स्पष्ट कीजिए:

### जयशंकर प्रसाद

1. श्रमित स्वप्न की मधुमाया में  
गहन विपिन की तरू छाया में  
पथिक उनींदी श्रुति में किसने  
यह विहाग की तान उठाई।
2. हेम कुंभ ले उषा सवेरे, भरती तुलकती सुख मेरे  
मदिर ऊँघते रहते जब-जग कर रजनी भर तारा

### सूर्यकान्त त्रिपाठी निराला - देवसेना का गीत

3. लौटा लों यह अपनी थाती  
मेरी करूणा हा हा खाती  
विश्रव! न सँभलेगी यह मुझसे  
इससे मन की लाज गँवाई

## गीत गाने दो मुझे

4. चोट खाकर राह चलते  
हो । के भी हो । छूटे  
हाथ जो पाथेय थे, ठग-  
ठाकुरों ने रात लूटे  
कंठ रूकता जा रहा है।  
आ रहा है काल देखो

## सरोज स्मृति

5. वह लता वहीं की, जहाँ कली  
तू खिली, स्नेह से हिली, पली  
अंत भी उसी गोद में ारण  
ली, मैं द ग वर महामरण!

## सच्चिदानंद हीरानंद वात्स्यायन - 'अज्ञेय'

6. यह प्रक त, स्वयंभू ब्रह्म, अयुतः इस को भी ाक्ति को दे दो।  
यह दीप, अकेला, स्नेह भरा,  
है गर्व भरा मदमाता, पर इस को भी पंक्ति को दे दो।

## केदार नाथ सिंह - बनारस

7. यह धीरे-धीरे होना  
धीरे-धीरे होने की सामूहिक लय  
द द्वा से बँधे है समूचे ाहर को  
इस तरह कि कुछ भी गिरता नहीं है।
8. अद्भूत है इसकी बनावट  
यह आधा जल में है  
आधा मंत्र में  
आधा फूल में है  
आधा ाव में  
आधा नींद में है  
आधा ाख में  
अगर ध्यान से देखो



तो यह आधा है  
और आधा नहीं है

9. ताब्दियों से इसी तरह  
गंगा के जल में  
अपनी एक टाँग पर खड़ा है यह शहर  
अपनी दूसरी टाँग से  
बिल्कुल बेखबर

#### 10. विष्णु खरे - एक कम

कि अब जब आगे कोई हाथ फैलाता है  
पच्चीस पैसे एक चाय या दो रोटी के लिए  
तो जान लेता हूँ  
मेरे सामने एक ईमानदार आदमी, औरत या बच्चा खड़ा है।

11. मैं तुम्हारा विरोधी प्रतिद्वन्द्वी या हिस्सेदार नहीं  
मुझे कुछ देकर या न देकर भी तुम  
कम से कम एक आदमी से तो निर्भीक रह सकते हो

#### सत्य

12. हम कह नहीं सकते  
न तो हममें कोई स्फुरण हुआ और न ही कोई ज्वर  
किंतु दोष सारे जीवन हम सोचते रह जाते हैं  
कैसे जानें कि सत्य का वह प्रतिबिंब हममें समाया या नहीं  
हमारी आत्मा में जो कभी कभी दमक उठता है  
क्या वह उसी की छुअन है।

#### रघुवीर सहाय वंसत आया

13. ऐसे किसी बँगले के किसी तरु (अशोक)  
पर कोई चिड़िया कुऊकी  
चलती सड़क के किनारे लाल बजरी पर चुरमुराए पावँ तले  
ऊँचे तरुवर से गिरे

बड़े बड़े पियराए पत्ते  
कोई छः बजे सुबह जैसे गरम पानी से नहाई हो  
खिली हुई हवा आई, फिरकी सी आई, चली गई।

### तोड़ो

14. ये ऊसर बंजर तोड़ो  
ये चरती परती तोड़ो  
सब खेत बनाकर छोड़ो  
मिट्टी में रस होगा ही जब वह पोसेगी बीज को  
हम इसको क्या कर डालें इस अपने मन की खीज को ?  
गोड़ो गोड़ो गोड़ो

### तुलसीदास

#### भरत-राम का प्रेम

15. पुलकि समीर सभा भए ठाढे, नीरज नयन नेह जल बाढ़े।  
कहब मोर मुनिनाथ निबाहा। एहिं ते अधिक कहौ मैं काहा।
16. मातु मंदि भई साधु सुचाली। उर मन आनत कोटि कुचाली  
फरै कि कोदव बालि सुसाली। मुकुता प्रसव कि संबुक काली
17. कबहुँ समुझि वनगमन राम को रहि चकि चित्रलिखी सी  
तुलसीदास वह समय कहे तें लागति प्रीति सिखी सी
18. भरत सौगुनी सार करत हैं अति प्रिय जानि तिहारे  
तदपि दिनहिं दिन होत झाँवरे मनहुँ कमल हिममारे
19. जे पय प्याइ पोखि-कर -पंकज वार वार चुचुकारे  
क्यों जीवहिं, मेरे राम लाडिले। ते अब निपट बिसारें।

#### मलिक मुहम्मद जायसी - बारहमासा

20. सियरि अगिनि बिरहिनि हिय जारा। सुलगि सुलगि दगधै भै छारा।  
यह दुख दगध न जाने कंतू। जोबन जरम करै भसमंतू।।
21. सौर सुपेती आवै जूड़ी। जानहुँ सेज हिवंचल बूढ़ी।  
चकई निसि बिछुरै दिनमिला। हौं निसि बासर बिरह कोकिला।

22. रैन अकेलि साथ नहीं सखी। कैसे जिऔं बिछोही पँखी।  
बिरह सैचान भँवै तन चाँड़ा। जीयत खाइ मुँ नहिं छाँड़ा।
23. नैन चुवहि जस माँहुट नीरू। तेहि जल अंग लाग सर चीरू  
टूटहिं बुंद परहि जस ओला। विरह पवन होइ मारै झोला।।

### विद्यापति

24. मोर मन हरि हर लए गेल रे अपनो मन गेल।  
गोकुल तेजि मधुपुर बसरे कन अपजस लेल।।
25. जनम अवधि हम रूप निहारल नयन न तिरपित भेल।  
सहो मधुर बोल स्रवनहि सूनल स्रूति पथ परस न गेल।।
26. कुसुमित कानन हेरि कमलमुखि  
मूदि रहए दु नयनि  
कोकिल - कलरव, मधुकर-धुनि सुनि  
कर देइ झाँपइ कान।
27. तोहर विरह दिन छन छन तनु छिन  
चौदसि-चाँद-समान  
भनइ विद्यापति सिबसिंह नर-पति  
लखिमादेइ-रमान ।।

### केशवदास - दंडक

28. बानी जगरानी की उदारता बखानी जाइ  
ऐसी मति उदित उदार कौन की भई।  
देवता प्रसिद्ध सिद्ध रिषिराज तपब ६  
कहि कहि हारे सब कहि न काहू लई।
29. पति बनै चारमुख पूत बनै पाँचमुख  
नाती बनै षटमुख तदपि नई नई।।

### लक्ष्मण-उर्मिला

30. अघओध की बेरी कदी बिकटी निकटी प्रकटी मुरूज्ञान-गटी  
चहुँ ओरनि नाचति मुक्तिनटी गुन घूरजटी जटी पंचवटी।।

31. तेलनि तूलनि पूँछि जरी न जरी  
जरी लंक जराइ - जरी ॥

### घनानंद -कवित्त

32. अधर लगे हैं आनि करि कै पयान प्रान,  
चाहत चलन ये सँदेसो लै सुजान को।
33. रूई दिए रहौंगे कहाँ लौ बहरायबे की ?  
कबहूँ तौ मेरियै पुकार कान खोलिहै।
34. तब तौ छवि पीवत जीवत हैं,  
अब सोचन लोचन जात जरे।  
हित-तोष के तोष सु प्रान पले,  
बिललात महादुख दोष भरे।
35. तब हार पहार से लागत है,  
अब आनि कै बीच पहार परे।
36. सो घनआनंद जान अजान लौ,  
टूक कियौ पर बाँचि न देख्यौ॥

## ‘गद्य खण्ड’

निर्धारित अंक -6

### प्रश्न 10. सप्रसंग व्याख्या (दो में से एक प्रश्न)

#### प्रेमघन की छाया - स्मृति

- मेरे पिताजी फ़ारसी के अच्छे ज्ञाता और पुरानी हिंदी कविता के बड़े प्रेमी थे। फ़ारसी कवियों की उक्तियों को हिंदी कवियों की उक्तियों के साथ मिलाने में उन्हें बड़ा आनंद आता था। वे रात को प्रायः रामचरितमानस और रामचंद्रिका, घर के सब लोगों को एकत्र करके बड़े चित्ताकर्षक ढंग से पढ़ा करते थे। आधुनिक हिंदी-साहित्य में भारतेन्दु जी के नाटक उन्हें बहुत प्रिय थे। उन्हें भी वे कभी-कभी सुनाया करते थे। जब उनकी बदली हमीरपुर ज़िले की राठ तहसील से मिर्जापुर हुई तब मेरी अवस्था आठ वर्ष की थी। उसके पहिले ही से भारतेन्दु के संबंध में एक अपूर्व मधुर भावना मेरे मन में जगी रहती थी। ‘सत्य हरि चंद्र’ नाटक के नायक राजा हरि चन्द्र और कवि हरि चंद्र में मेरी बाल-बुद्धि कोई भेद नहीं कर पाती थी।
- भारतेन्दु - मंडल की किसी सजीव स्मृति के प्रति मेरी कितनी उत्कंठा रही होगी, यह अनुमान करने की बात है। मैं नगर से बाहर रहता था। एक दिन बालकों की मंडली जोड़ी गई। जो चौधरी साहब से मकान से परिचित थे, वे अगुआ हुए। मील डेढ़ का सफ़र तै हुआ। पत्थर के एक बड़े मकान के सामने हम लोग जा खड़े हुए। नीचे का बरामदा खाली था। ऊपर का बरामदा सघन लताओं के जाल से आवृत था। बीच-बीच में खंभे और खुली जगह दिखाई पड़ती थी। उसी ओर देखने के लिए मुझसे कहा गया। कोई दिखाई न पड़ा। सड़क पर कई चक्कर लगे। कुछ देर पीछे एक लड़के ने उँगली से ऊपर की ओर इशारा किया। लता-प्रतान के बीच एक मूर्ति खड़ी दिखाई पड़ी। दोनों कंधों पर बाल बिखरे हुए थे। एक हाथ खंभे पर था देखते ही देखते यह मूर्ति दृष्टि से ओझल हो गई। बस, यह पहली झाँकी थी।

3. एक बार एक आदमी साथ करके मेरे पिताजी ने मुझे एक बारात में का पी भेजा। मैं उसी के साथ घूमता-फिरता चौखंभा की ओर जा निकला। वहीं पर एक घर में से पं. केदारनाथ जी पाठक निकलते दिखाई पड़े। पुस्तकालय में वे मुझ प्रायः देखा करते थे। इससे मुझे देखते ही वे वहीं खड़े हो गए। बात ही बात में मालूम हुआ कि जिस मकान में वे निकले थे, वह भारतेन्दु जी का घर था। मैं बड़ी चाह और कुतूहल की दृष्टि से कुछ देर तक उस मकान की ओर न जाने किन-किन भावनाओं में लीन होकर देखता रहा। पाठक जी मेरी यह भावुकता देख बड़े प्रसन्न हुए और बहुत दूर मेरे साथ बातचीत करते हुए गए। भारतेन्दु जी के मकान के नीचे का यह हृदय-परिचय बहुत गीघ्र गहरी मैत्री में परिणत हो गया।
4. चौधरी साहब से तो अब अच्छी तरह परिचय हो गया था। अब उनके यहाँ मेरा जाना एक लेखक की हैसियत से होता था। हम लोग उन्हें एक पुरानी चीज़ समझा करते थे। इस पुरातत्व की दृष्टि में प्रेम और कुतूहल का एक अद्भुत मिश्रण रहता था। यहाँ पर यह कह देना आवश्यक है कि चौधरी साहब एक खासे हिंदुस्तानी रईस थे। वसंत पंचमी, होली इत्यादि अवसरों पर उनके यहाँ खूब नाचरंग और उत्सव हुआ करते थे। उनकी हर एक अदा से रिसायत और तबीयतदारी टपकती थीं कंधों तक बाल लटक रहे हैं। आप इधर से उधर टहल रहे हैं। एक छोटा सा लडका पान की तैयारी लिए पीछे-पीछे लगा हुआ है। बात की काँट-छाँट का क्या कहना है। जो बातें उनके मुँह से निकलती थी, उनमें एक विलक्षण वक्रता रहती थी। उनकी बातचीत का ढंग उनके लेखों के ढंग से एकदम निराला होता था। नौकरों तक के साथ उनका संवाद सुनने लायक होता था। अगर किसी नौकर के हाथ से कभी कोई गिलास बगैरह गिरा तो उनके मुँह से यही निकला कि 'कारे बचा त नाही'। उनके प्रश्नों के पहिले 'क्यों साहब' अकसर लगा रहता था।

### सुमिरिनी के मनके

#### क) बालक बच गया।

- 5) बालक ने सीखा सिखाया उत्तर दिया कि मैं यावज्जन्म लोकसेवा करूँगा। सभा 'वाह-वाह' करती सुन रही थी, पिता हृदय उल्लास से भर रहा था। एक वृद्ध महात्मा ने उसके सिर पर हाथ फेरकर आशीर्वाद दिया और कहा कि जो तू इनाम माँगे वही दें। बालक कुछ सोचने लगा। पिता और अध्यापक इस चिंता में लगे कि देखें यह पढ़ाई का पुतला कौन सी पुस्तक माँगता है। बालक के मुख पर विलक्षण रंगों का परिवर्तन हो रहा था, हृदय में कर्तृत्व और स्वाभाविक भावों की लड़ाई की झलक आँखों में दीख रही थी। कुछ खाँसकर, गला साफ़ कर नकली परदे के हट जाने पर संबंध विस्मित होकर बालक ने धीरे से कहा 'लड्डू। पिता और अध्यापक निराशा हो गए। इतने समय तक मेरा वास घुट रहा था। अब मैंने सुख से साँस भरी। उन सबने बालक की प्रवृत्तियों का गला घोटने में कुछ उठा नहीं रखा था। पर बालक बच गया।

#### ख) घड़ी के पुर्जे

6. धर्म के रहस्य जानने की इच्छा प्रत्येक मनुष्य न करे, जो कहा जाए वही कान ढलकाकर सुन ले, इस सत्ययुगी मत के समर्थन में घड़ी का दृष्टांत बहुत तालियाँ पिटवाकर दिया जाता है। घड़ी समय बतलाती है। किसी घड़ी जाननेवाले से समय पूछ लो और काम चला लो। यदि अधिक करो तो घड़ी देखना स्वयं सीख लो किंतु तुम चाहते हो कि घड़ी का पीछा खोलकर देखें, पुर्जे गिन लें, उन्हें खोलकर फिर जमा दें, साफ़ करके फिर लगा लें - यह तुमसे नहीं होगा। तुम उसके अधिकारी नहीं। यह तो वेदशास्त्रज्ञ धर्माचार्यों का ही काम है कि घड़ी के पुर्जे जानें, तुम्हें इससे क्या ?
7. घड़ी देखना तो सिखा दो, उसमें तो जन्म और कर्म की पख न लगाओं, फिर दूसरों से पूछने का टंटा क्यों ? गिनती हम जानते हैं, अंक पहचानते हैं, सुइयों की चाल भी देख सकते हैं, फिर आँखें भी हैं तो हमें ही न देखने दो, पड़ोस की घड़ियों में दोपहर के बारह बजे हैं। आपकी घड़ी में आधी रात है, जरा खोलकर देख न लेने दीजिए कि कौन-सा पेंच बिगड़ रहा है, यदि पुर्जे ठीक हैं और आधी रात ही है तो हम फिर सो जाएँगे, दूसरी घड़ियों को गलत न मान लेंगे पर ज़रा देख तो लेने दीजिए। पुर्जे खोलकर फिर ठीक करना उतना कठिन काम नहीं है, लोग सीखते भी हैं, सिखाते भी हैं, अनाड़ी के हाथ में चाहे घड़ी मत दो पर जो घड़ीसाजी का इम्तहान पास कर आया है उसे तो देखने दो।

## ग) ढेले चुन लो

8. जैसे राजपूतों की लड़कियाँ पिछले समय में रूप देखकर, जस सुनकर स्वयंवर करती थी, वैसे वैदिक काल के हिंदु ढेले छुआकर स्वयं पत्नीवरण करते थे। आप कह सकते हैं कि जन्मभर के साथी की चुनावट मट्टी के ढेलों पर छोड़ना कैसी बुद्धिमानी है। अपनी आँखों से जगह देखकर, अपने हाथ से चुने हुए मिट्टी के डगलों पर भरोसा करना क्यों बुरा है और लाखों-करोड़ों कोस दूर बैठे बड़े-बड़े मट्टी और आग के ढेलों-मंगल और नै चर और ब हस्पति की कल्पित चाल के कल्पित हिसाब का भरोसा करना क्यों अच्छा है, यह मैं क्या कह सकता हूँ। बकौल वात्स्यायन के, आज का कबूतर अच्छा है कल के मोर से, आज का पैसा अच्छा है कल के मोहर से।

## कच्चा चिट्ठा

9. मैं कहीं जाता हूँ तो छूँछे हाथ नहीं लौटता। यहाँ कोई विशेष महत्व की चीज़ तो नहीं मिली पर गाँव के भीतर कुछ बढ़िया मण्डपमूर्तियाँ, सिक्के और मनके मिल गए। इक्के पर कौलाम्बी लौटा। एक दूसरे रास्ते से। एक छोटे-से गाँव के निकट पत्थरों के ढेर के बीच, पेड़ के नीचे एक चतुर्मुख शिव की मूर्ति देखी। वह वैसे ही पेड़ के सहारे रखी थी जैसे उठाने के लिए मुझे ललचा रही हो। अब आप ही बताइए, मैं करता ही क्या ? यदि चांद्रायण व्रत करती हुई बिल्ली के सामने एक चूहा स्वयं आ जाए तो बेचारी को अपना कर्तव्य पालन करना ही पड़ता है। इक्के से उतरकर इधर-उधर देखते हुए उसे चुपचाप इक्के पर रख लिया। 20 सेर वजन में रही होगी। 'न कूकुर भूँका, न पहरू जागा।' मूर्ति अच्छी थी। पसोवे से थोड़ी सी चीज़ों के मिलने की कमी इसने पूरी कर दी। उसे लाकर नगरपालिका में संग्रहालय से संबंधित एक मंडप के नीचे अन्य मूर्तियों के साथ रख दिया।
10. कौवा भी काला होता है, कोयल भी काली होती है। दोनों में भेद ही क्या है। परंतु वसंत ऋतु के आते ही पता चला जाता है। कि कौन कोयल। संग्रहालय को देखकर बोला "बहुत कीमती संग्रह!" मैंने पूछा कि कीमती से आपका क्या तात्पर्य है। रूपयों में बतावें तो समझ में आवे। हँसकर बोला, 'रूपयों में बता दूँ तो आपका ईमान डिग जाए।' वैसे ही हँसकर मैंने जवाब दिया कि 'ईमान ! ऐसी कोई चीज़ मेरे पास हई नहीं तो उसके डिगने का कोई सवाल नहीं उठता। यदि होता तो इतना बड़ा संग्रह बिना पैसा-कौड़ी के हो ही नहीं सकता।'
11. आखिर इस मूर्ति में कौन सा सुरखाब का पर लगा था जो दो रूपए में मिली और दस हजार रूपए उस पर न्यौछावर कर फेंके जा है, यह मूर्ति उन बोधिसत्व की मूर्तियों में है जो अब तक संसार में पाई गई मूर्तियों में सबसे पुरानी है। यह कुषाण सम्राट कनिष्क के राज्यकाल के दूसरे वर्ष स्थापित की गई थी। ऐसा लेख उस मूर्ति के पदस्थल पर उत्कीर्ण है। इस षोर के मार लेने से मेरा दिल दूना हो गया और नए सिरे से फिर मुँह में खून लग गया। षोर से रोज़ मिलता नहीं पर चीतल, साँभर तो हर बार मिलते ही रहते हैं षोर की केवल आशा मात्र रहती है। परंतु इसी आशा से शिवाकार, अनुप्राणित रहता है और शिवाकारी जंगल-जंगल की खाक छानता फिरता है।

## संवादिया

12. संवाद सुनाते समय बड़ी बहुरिया सिसकने लगी। हरगोबिन की आँखें भी भर आईं।.. बड़ी हवेली की लक्ष्मी को पहली बार इस तरह सिसकते देखा है हरगोबिन ने। वह बोला, 'बड़ी बहुरिया, दिल को कड़ा कीजिए।' 'और कितना करूँ दिल?..... माँसे कहना, मैं भाई-भाभियों की नौकरी करके पेट पालूँगी। बच्चों की जूठन खाकर एक कोने में पड़ी रहूँगी, लेकिन यहाँ अब नहीं। .....अब नहीं रह सकूँगी।.....कहना, यदि माँ मुझे यहाँ से नहीं ले जाएगी तो मैं किसी दिन गले में घड़ा बाँधकर पोखरे में डूब मरूँगी।...बथुआ-साग खाकर कब तक जीऊँ? किसलिए.....किसके लिए ?'
13. हरगोबिन संवादिया।.....संवाद पहुँचाने का काम सभी नहीं कर सकते। आदमी भगवान के घर से संवादिया बनकर आता है। संवाद के प्रत्येक शब्द को याद रखना, जिस सुर और स्वर में संवाद सुनाया गया है, ठीक उसी ढंग से जाकर सुनाना सहज काम नहीं। गाँव के लोगों की गलत धारणा है कि निठल्ला, कामचोर और पेटू आदमी ही संवादिया का काम करता है। न आगे नाथ,

न पीछे पगहा। बिना मज़दूरी लिए हो जो गाँव-गाँव संवाद पहुँचावे, उसको और क्या कहेंगे ?.....औरतों का गुलाम। ज़रा-सी मीठी बोली सुनकर ही नौ में आ जाए, ऐसे मर्द को भी भला कहेंगे ? किंतु, गाँव में कौन ऐसा है, जिसके घर की माँ-बेटी का संवाद हगोबिन ने नहीं पहुँचाया है?.....लेकिन ऐसा संवाद पहली बार ले जा रहा है वह।

14. बूढ़ी माता बोली, 'मैं तो बबुआ से कह रही थी कि जाकर दीदी को लिवा लाओ, यहीं रहेगी। वहाँ अब क्या रह गया है ? जमीन-जायदाद तो सब चली ही गई। तीनों देवर अब गहर में जाकर बस गए हैं। कोई खोज-खबर भी नहीं लेते। मेरी बेटी अकेली.....।' नहीं मायजी। जमीन-जायदाद अभी भी कुछ कम नहीं। जो है, वही बहुत है। टूट भी गई है, है तो आखिर बड़ी हवेली ही। 'सवांग नहीं है, यह बात ठीक है! मगर, बड़ी बहुरिया का तो सारा गाँव ही परिवार है। हमारे गाँव की लक्ष्मी है बड़ी बहुरिया।..... गाँव की लक्ष्मी गाँव को छोड़कर गहर कैसे जाएगी? यों, देवर लोग हर बार आकर ले जाने की ज़िद करते हैं।'

### 15. गांधी, नेहरू और यास्सेर अराफ़ात

'याद है। मैं कोहाट से रावलपिंडी गया था.....मिस्टर जॉन कैसे हैं? मैंने जॉन साहब का नाम सुन रखा था। वे हमारे गहर के जाने-माने बैरिस्टर थे, मुस्लिम सज्जन थे। संभवतः गांधी जी उनके यहाँ ठहरे होंगे। फिर सहसा ही गांधी जी के मुँह से निकला-‘अरे, मैं उन दिनों कितना काम कर लेता था। कभी थकता ही नहीं था।.....’ हमसे थोड़ा ही पीछे, महादेव देसाई, मोटा सा लट्ट उठाए चले आ रहे थे। कोहाट और रावलपिंडी का नाम सुनते ही आगे बढ़ आए और उस दौरे से जुड़ी अपनी यादें सुनाने लगे। और एक बार जो सुनाना शुरू किया तो आश्रम के फाटक तक सुनाते चले गए। किसी-किसी वक्त गांधी जी, बीच में हँसते हुए कुछ कहते। वे बहुत धीमी आवाज़ में बोलते थे, लगता अपने आपसे बातें कर रहे हैं, अपने साथ ही विचार विनिमय कर रहे हैं। उन दिनों को स्वयं भी याद करने लगे हैं।

16. उस रोज़ खाने की मेज़ पर बड़े लब्धप्रतिष्ठ लोग बैठे थे - शेख अब्दुल्ला, खान अब्दुल गफ़ार खान, श्रीमती रामे वरी नेहरू, उनके पति आदि। बातों-बातों में कहीं धर्म की चर्चा चली तो रामे वरी नेहरू और जवाहरलाल जी के बीच बहस-सी छिड़ गई। एक बार तो जवाहरलाल बड़ी गरमजोशी के साथ तनिक तुनककर बोले, 'मैं भी धर्म के बारे में कुछ जानता हूँ।' रामे वरी चुप रहें। गीन ही जवाहरलाल ठंडे पड़ गए और धीरे से बोले, आप लोगों को एक किस्सा सुनाता हूँ।' और उन्होंने फ्रांस के विख्यात लेखक, अनातोले फ्रांस द्वारा लिखित एक मार्मिक कहानी कह सुनाई।
17. धीरे-धीरे बातों का सिलसिला शुरू हुआ। हमारा वार्तालाप ज़्यादा दूर तक तो जा नहीं सकता था। फ़िलिस्तीन के प्रति साम्राज्यवादी कृतियों के अन्यायपूर्ण रवैए की हमारे देश के नेताओं द्वारा की गई भर्त्सना, फ़िलिस्तीन आंदोलन के प्रति विनाल स्तर पर हमारे देशवासियों की सहानुभूति और समर्थन आदि। दो-एक बार जब मैंने गांधी जी और हमारे देश के अन्य नेताओं का जिक्र किया तो अराफ़ात बोले - 'वे आपके ही नहीं, हमारे भी नेता हैं। उतने ही आदरणीय जितने आपके लिए।' बीच बीच में आतिथ्य भी चल रहा था। अराफ़ात हमें फल छील-छीलकर खिला रहे थे। हमारे लिए चाय बना रहे थे।

### लघुकथाएँ

#### शेर

18. उल्लू ने कहा, 'शेर के मुँह के अंदर स्वर्ग है।' मैंने कहा, 'नहीं, यह कैसे हो सकता है।' उल्लू बोला, 'नहीं यह सच है और यही निर्वाण का एकमात्र रास्ता है।' और उल्लू भी शेर के मुँह में चला गया। अगले दिन मैंने कुत्तों के एक बड़े जुलूस को देखा जो कभी हँसते-गाते थे और कभी विरोध में चीखते - चिल्लाते थे। उनकी बड़ी-बड़ी लाल जीभें निकली हुई थी, पर सब दम दबाए थे। कुत्तों का यह जुलूस शेर के मुँह की तरफ बढ़ रहा था। मैंने चीखकर कुत्तों को रोकना चाहा, पर वे नहीं रुके और उन्होंने मेरी बात अनसुनी कर दी। वे सीधे शेर के मुँह में चले गए।

## पहचान

19. लोगों ने काफी सस्ती दरों पर हॉट सिलवा लिए और फिर उन्हें पता लगा कि अब वे खा भी नहीं सकते हैं। लेकिन खाना भी काम करने के लिए बहुत आवश्यक नहीं माना गया। फिर उन्हें कई तरह की चीजें कटवाने और जुड़वाने के हुकम मिलते रहे और वे वैसा ही करवाते रहे। राज प्रतिदिन प्रगति करता रहा। फिर एक दिन खैराती, रामू और छिछू ने सोचा कि लाओ आँखें खोलकर तो देखें। अब तक अपना राज स्वर्ग हो गया होगा। उन तीनों ने आँखें खोलीं तो उन सबको अपने सामने राजा दिखाई दिया। वे एक-दूसरे को न देख सके।

## चार हाथ

20. कई साल तक षोष और प्रयोग करने के बाद वैज्ञानिकों ने कहा कि ऐसा असंभव है कि आदमी के चार हाथ हो जाएँ। मिल मलिक वैज्ञानिकों से नाराज़ हो गया। उसने उन्हें नौकरी से निकाल दिया और अपने-आप इस काम को पूरा करने के लिए जुट गया। उसने कटे हुए हाथ मंगवाए और अपने मजदूरों के फिट करवाने चाहे, पर ऐसा नहीं हो सका। फिर उसने मजदूरों के लकड़ी के हाथ लगवाने चाहे, पर उनसे काम नहीं हो सका। फिर उसने लोहे के हाथ फिट करवा दिए, पर मजदूर मर गए। आखिर एक दिन बात उसकी समझ में आ गई। उसने मजदूरी आधी कर दी और दुगुने मजदूर नौकर रख लिए।

## साझा

21. हाथी ने कहा, 'अपने और पराए की बात मत करो। यह छोटी बात है। हम दोनों ने मिलकर मेहनत की थी हम दोनों उसके स्वामी हैं। आओ, हम मिलकर गन्ने खाएँ।' किसान के कुछ कहने से पहले ही हाथी ने बढ़कर अपनी सूँड से एक गन्ना तोड़ लिया और आदमी से कहा, 'आओ खाएँ' गन्ने का एक छोर हाथी की सूँड में था और दूसरा आदमी के मुँह में। गन्ने के साथ-साथ आदमी हाथी के मुँह की तरफ खींचने लगा तो उसने गन्ना छोड़ दिया। हाथी ने कहा, 'देखो हमने एक गन्ना खा लिया।' इसी तरह हाथी और आदमी के बीच साझे की खेती बँट गई।

## जहाँ कोई वापसी नहीं

22. इन्हीं गाँवों में एक का नाम है - अमझर - आम के पेड़ों से घिरा गाँव-जहाँ आम झरते हैं। किंतु पिछले दो-तीन वर्षों से पेड़ों पर सूनापन है, न कोई फल पकता है, न कुछ नीचे झरता है। कारण पूछने पर पता चला कि जब से सरकारी घोषणा हुई है कि अमरौली प्रोजेक्ट के अंतर्गत नवागाँव के अनेक गाँव उजाड़ दिए जाएँगे, तब से न जाने कैसे, आम के पेड़ सूखने लगे। आदमी उजड़ेगा, तो पेड़ जीवित रहकर क्या करेंगे ? टिहरी गढ़वाल में पेड़ों को बचाने के लिए आदमी के संघर्ष की कहानियाँ सुनी थी, किंतु मनुष्य के विस्थापन के विरोध में पेड़ भी एक साथ मिलकर मूक सत्याग्रह कर सकते हैं, इसका विचित्र अनुभव सिर्फ सिंगरौली में हुआ।
23. ये लोग आधुनिक भारत के नए 'रणार्थी' हैं, जिन्हें औद्योगीकरण के झंझावत ने अपनी घर-जमीन से उखाड़कर हमें आ के लिए निर्वासित कर दिया है। प्रकृति और इतिहास के बीच यह गहरा अंतर है। बाढ़ या भूकंप के कारण लोग अपना घरबार छोड़कर कुछ अरसे के लिए जरूर बाहर चले जाते हैं, किंतु आफत टलते ही वे दोबारा अपने जाने-पहचाने परिवार में लौट भी आते हैं किंतु विकास और प्रगति के नाम पर जब इतिहास लोगों को उन्मूलित करता है, तो वे फिर कभी अपने घर वापस नहीं लौट सकते। आधुनिक औद्योगीकरण की आँधी में सिर्फ मनुष्य ही नहीं उखड़ता, बल्कि उसका परिवार और आवास स्थल भी हमें आ के लिए नष्ट हो जाते हैं।



24. ायद पैतीस वर्ष पहले हम कोई दूसरा विकल्प चुन सकते थे, जिसमें मानव सुख की कसौटी भौतिक लिप्सा न होकर जीवन की जरूरतों द्वारा निर्धारित होती। पर्चि चम जिस विकल्प को खो चुका था। भारत में उसकी संभावनाएँ खुली थी, क्योंकि अपनी समस्त कोर्िाों के बावजूद अंग्रेजी राज हिंदुस्तान को संपूर्ण रूप से अपनी 'सांस्कृतिक कॉलोनी' बनाने में असफल रहा था। भारत की सांस्कृतिक विरासत यूरोप की तरह म्यूजियम्स और संग्रहालयों में जमा नहीं थी - वह उन रिातों से जीवित थी, जो आदमी को उसकी धरती, उसके जंगलों, नदियों - एक ाब्द में कहें - उसके समूचे परिवेर्ा के साथ जोड़ते थे। अतीत का समूचा मिथक संसार पोथियों में नहीं, इन रिातों की अदृश्य लिपि में मौजूद रहता था।
25. यूरोप में पर्यावरण का प्रान मनुष्य और भूगोल के बीच संतुलन बनाए रखने का है - भारत में यहाँ प्रान मनुष्य और उसकी संस्कृति के बीच पारंपरिक संबंध बनाए रखने का हो जाता है। स्वातंत्र्योत्तर भारत की सबसे बड़ी ट्रेजेडी यह नहीं है कि ासक वर्ग ने औद्योगिकरण का मार्ग चुना, ट्रेजेडी यह रही है कि पर्चि चम की देखादेखी और नकल में योजनाएँ बनाते समय-प्रकृति, मनुष्य और संस्कृति के बीच का नाजुक संतुलन किस तरह नष्ट होने से बचाया जा सकता है - इस ओर हमारे पर्चि चम -रिक्षित सत्ताधारियों का ध्यान कभी नहीं गया। हम बिना पर्चि चम को मॉडल बनाए, अपनी ातों और मर्यादाओं के आधार पर, औद्योगिक विकास का भारतीय स्वरूप निर्धारित कर सकते हैं, कभी इसका ख्याल भी हमारे ासकों को आया हो, ऐसा नहीं जान पड़ता।

### यथास्मै रोचते विश्वम्

26. यदि साहित्य समाज का दर्पण होता तो संसार को बदलने की बात न उठती। कवि का काम यथार्थ जीवन को प्रतिबिंबित करना ही होता तो वह प्रजापति का दर्जा न पाता। वास्तव में प्रजापति ने जो समाज बनाया है, उससे असंतुष्ट होकर नया समाज बनाना कविता का जन्मसिद्ध अधिकार है। यूनानी विद्वानों के बारे में कहा जाता है कि वे कला को जीवन की नकल समझते थे और अफलातून ने असार संसार को असल की नकल बताकर कला को नकल की नकल कहा था। लेकिन अरस्तू ने ट्रेजेडी के लिए जब कहा था कि उसमें मनुष्य जैसे हैं उससे बढ़कर दिखाए जाते हैं, तब नकल-नवीस कला का खंडन हो गया था और जब वाल्मीकि ने अपने चरित्र-नायक के गुण गिनाकर नारद से पूछा कि ऐसा मनुष्य कौन है? तब नारद ने पहले यही कहा- 'बहवो दुर्लभा चैव ये त्वया कीर्तिता गुणाः।' दुर्लभ गुणों को एक ही पात्र में दिखाकर आदि कवि ने समाज को दर्पण में प्रतिबिंबित न किया था, वरन् प्रजापति की तरह नयी सृष्टि की थी।
27. कवि की यह सृष्टि निराधार नहीं होती। हम उसमें अपनी ज्यों की त्यों आकृति भले ही न देखें पर ऐसी आकृति जरूर देखते हैं जैसी हमें प्रिय है, जैसी आकृति हम बनाना चाहते हैं। जिन रेखाओं और रंगों से कवि चित्र बनाता है, वे उसके चारों ओर यथार्थ जीवन में बिखरे होते हैं और चमकीले रंग और सुघर रूप ही नहीं, चित्र में पार्व भाग में काली छायाएँ भी वह यथार्थ जीवन से ही लेता है। राम के साथ वह रावण का चित्र न खींचे तो गुणवान, वीर्यवान, कर्तज्ञ, सत्यवाक्य, दृढव्रत, चरित्रवान, दयावान, विद्वान में उसके गुणों के प्रकाशित होने का अवसर ही न आए।
28. कवि अपनी रूचि के अनुसार जब विव को परिवर्तित करता है तो यह भी बताता है कि विव में उसे क्या रूचता है जिसे वह फलता-फूलता देखना चाहता है। उसके चित्र के चमकीले रंग और पार्वभूमि की गहरी काली रेखाएँ - दोनों ही यथार्थ जीवन से उत्पन्न होते हैं। इसलिए प्रजापति-कवि गंभीर यथार्थवादी होता है, ऐसा यथार्थवादी जिसके पाँव वर्तमान की धरती पर हैं और आँखें भविष्य के क्षितिज पर लगी हुई हैं। इसलिए मनुष्य साहित्य में अपने सुख-दुख की बात ही नहीं सुनता, वह उसमें आा का स्वर भी सुनता है। साहित्य थके हुए मनुष्य के लिए विश्रान्ति ही नहीं है, वह उसे आगे बढ़ने के लिए उत्साहित भी करता है।
29. यदि समाज में मानव-संबंध वही होते जो कवि चाहता है, तो ायद उसे प्रजापति बनने की जरूरत न पड़ती। उसके असंतोष की जड़ ये मानव-संबंध ही हैं। मानव-संबंधों से परे साहित्य नहीं है। कवि जब विधाता पर साहित्य रचता है, तब उसे भी मानव-संबंधों की परिधि में खींच लाता है। इन मानव-संबंधों की दीवाल से ही हैमलेट की कवि सुलभ सहानुभूति टकराती है और ाक्सपियर एक महान ट्रेजेडी की सृष्टि करता है। ऐसे समय जब समाज के बहुसंख्यक लोगों का जीवन इन मानव-संबंधों

के पिंजड़े में पंख फड़फड़ाने लगे, सींकचे तोड़कर बाहर उड़ने के लिए आतुर हो उठे, उस समय कवि का प्रजापति रूप और भी स्पष्ट हो उठता है। वह समाज के द्रष्टा और नियामक के मानव-विहग से क्षुब्ध और रुद्धस्वर को वाणी देता है। वह मुक्त गगन के गीत गाकर उस विहग के पंखों में नयी क्वि भर देता है। साहित्य जीवन का प्रतिबिंबित रहकर उसे समेटने, संगठित करने और उसे परिवर्तन करने का अजेय अस्त्र बन जाता है।

30. साहित्य का पांचजन्य समर भूमि में उदासीनता का राग नहीं सुनाता। वह मनुष्य को भाग्य के आसरे बैठने और पिंजड़े में पंख फड़फड़ाने की प्रेरणा नहीं देता। इस तरह की प्रेरणा देने वालों के वह पंख कतर देता है। वह कायरों और पराभव-प्रेमियों को ललकारता हुआ एक एक बार उन्हें भी समरभूमि में उतरने के लिए बुलावा देता है। कहा भी है - 'क्लीबानां घाष्ट्यजननमुत्साहः पूमानिनाम्' भरत मुनि से लेकर भारतेंदु तक चली आती हुई हमारे साहित्य की यह गौरव वाली परंपरा है। इसके सामने निरूद्धे य कला, विकृति काम-वासनाएँ, अहंकार और व्यक्तिवाद, निराशा और पराजय के 'सिद्धान्त' जैसे ही नहीं ठहरते जैसे सूर्य के समाने अंधकार।
31. अभी भी मानव-संबंधों के पिंजड़े में भारतीय जीवन विहग बंदी है। मुक्त गगन में उड़ान भरने के लिए वह व्याकुल है। लेकिन आज भारतीय जनजीवन संगठित प्रहार करके एक के बाद एक पिंजड़े की तीलियाँ तोड़ रहा है। धिक्कार है उन्हें जो तीलियाँ तोड़ने के बदले उन्हें मजबूत कर रहे हैं, जो भरतभूमि में जन्म लेकर और साहित्यकार होने का दंभ करके मानव मुक्ति के गीत गाकर भारतीय जन को पराधीनता और पराभव का पाठ पढ़ाते हैं। ये द्रष्टा नहीं हैं, इनके दर्पण में इन्हीं की अंहवादी विकृतियाँ दिखाई देती हैं। लेकिन जिन्हें इस देश की धरती से प्यार है, इस धरती से प्यार है, इस धरती पर बसनेवालों से स्नेह है, जो साहित्य की युगांतरकारी भूमिका समझते हैं, वे आगे बढ़ रहे हैं। उनका साहित्य जनता का रोष और असंतोष प्रकट करता है, उसे आत्मविश्वास और दृढ़ता देता है, उनकी रुचि जनता की रुचि से मेल खाती है और कवि उसे बताता कि इस विश्व को किसी दिशा में परिवर्तित करना है।

## दूसरा देवदास

32. संभव का ध्यान कलावे की तरफ नहीं था। वह गंगा जी की छटा निहार रहा था। तभी एक और पतली नाजुक सी कलाई पुजारी की तरफ बढ़ आई। पुजारी ने उस पर कलाव बाँध दिया। उस हाथ ने थाली में सवा पाँच रूपये रखे। लड़की अब बिल्कुल बराबर में खड़ी, आँख मूँदकर अर्चन कर रही थी। संभव ने यकायक मुड़कर उसकी ओर गौर किया। उसके कपड़े एकदम भीगे हुए थे, यहाँ तक कि उसके गुलाबी आँचल से संभव के कुर्ते का एक कोना भी गीला हो रहा था। लड़की के लंबे गीले बाल पीठ पर काले चमकीले ताल की तरह लग रहे थे। दीपकों के नीम उजाले में, आकाश और जल की साँवली सांध्य-बेला में, लड़की बेहद सौम्य, लगभग काँस्य प्रतिमा लग रही थी।
33. अभी तक उसके जीवन में कोई लड़की किसी अहम भूमिका में नहीं आई थी। लड़कियाँ या तो क्लास में बाँयी तरफ की बेंचों पर बैठनेवाली एक कतार थी या फिर ताई चाची की लड़कियाँ जिनके साथ खेलते खाते वह बड़ा हुआ था। इस तरह बिल्कुल अकेली, अनजान जगह पर, एक अनाम लड़की का सद्य-स्नातक दिशा में सामने आना, पुजारी का गलत समझना, आशीर्वाद देना, लड़की का घबराना और चल देना सब मिलाकर एक नयी निराली अनुभूति थी जिसमें उसे कुछ सुख और ज्यादा बेचैनी लग रही थी। उसने मन ही मन तय किया कि कल शाम पाँच बजे से ही वह घाट पर जाकर बैठ जाएगा। पौड़ी पर इस तरह बैठेगा कि कल वाले पुजारी के देवालय पर सीधी आँख पड़े।
34. भीड़ लड़के ने दिल्ली में भी देखी थी, बल्कि रोज़ देखता था। दफ़्तर जाती भीड़, खरीद फरोख्त करती भीड़, तमाशा देखती भीड़, सड़क क्रास करती भीड़। लेकिन इस भीड़ का अंदाज़ निराला था। इस भीड़ में एकसूत्रता थी। न यहाँ जाति का महत्व था, न भाषा का, महत्व उद्देश्य का था और वह सबका समान था, जीवन के प्रति कल्याण की कामना। इस भीड़ में दौड़ नहीं थी, अतिक्रमण नहीं था और भी अनोखी बात यह थी कि कोई भी स्नानार्थी किसी सैलानी आनंद में डुबकी नहीं लगा रहा था। दूर जलधारा के बीच एक आदमी सूर्य की ओर उन्मुख हाथ जोड़े खड़ा था। उसके चेहरे पर इतना विभोर, विनीत भाव था मानों उसने

अपना सारा अहम त्याग दिया है, उसके अंदर 'स्व' से जनित कोई कुंठा शेष नहीं है, वह शुद्ध रूप से चेतनस्वरूप, आत्माराम और निर्मलानंद है।

35. रोपवे के नाम में कोई धर्मांडंबर नहीं था। 'उषा ब्रेको सर्विस' की खिड़की के आगे लंबा क्यू था। वही मंसा देवी पर चढ़ाने वाली चुनरी और प्रसाद की थैलियाँ बिक रही थी। पाँच, सात और ग्यारह रूपय की। कई बच्चे बिंदी-पाउडर और उसके साँचे बचे रहे थे, तीन-तीन रूपए। उन्होंने अपनी हथेली पर कलात्मक बिंदियाँ बना रखी थी। नमूने की खातिर। उससे पहले संभव ने कभी बिंदी जैसे श्रृंगार प्रसाधन पर ध्यान नहीं दिया था। अब यकायक उसे ये बिंदियाँ बहुत आकर्षक लगी। मन ही मन उसने एक बिंदी उस अज्ञातयौवना के माथे पर सजा दी। माँग में तारे भर देने जैसे कई गाने उसे आधे अधूरे याद आकर रह गए। उसका नंबर बहुत जल्द आ गया। अब वह दूसरी कतार में था जहाँ से केबिल कार में बैठना था। सभी काम बड़ी तत्परता से हो रहे थे।

### कुटज

36. इन्हीं में एक छोटा-सा बहुत ठिगना पेड़ है, पत्ते चौड़े भी हैं, बड़े भी हैं। फूलों से तो ऐसा लदा है कि कुछ पूछिए नहीं। अजीब सी अदा है, मुसकुराता जान पड़ता है। लगता है, पूछ रहा है कि क्या तुम मुझे भी नहीं पहचानते? पहचानता तो हूँ अब यह पहचानता हूँ। नाम भूल रहा हूँ। प्रायः भूल जाता हूँ। रूप देखकर प्रायः पहचान जाता हूँ, नाम नहीं याद आता। पर नाम ऐसा है कि जब तक रूप के पहले ही हाजिर न हो जाए तब तक पहचान अधूरी रह जाती है। भारतीय पंडितों का सैकड़ों बार का कचारा-निचोड़ा प्रश्न सामने आ गया- रूप मुख्य है या नाम? नाम बड़ा है या रूप? पद पहले है या पदार्थ? पदार्थ सामने है, पद नहीं सूझ रहा है। मन व्याकुल हो गया।
37. यह जो मेरे सामने कुटज का लहराता पौधा खड़ा है वह नाम और रूप दोनों में अपनी अपराजेय जीवनी शक्ति की घोषणा कर रहा है। इसीलिए यह इतना आकर्षक है। नाम है कि हजारों वर्ष से जीता चला आ रहा है। कितने नाम आए और गए। दुनिया उनको भूल गई, वे दुनिया को भूल गए। मगर कुटज है कि संस्कृत की निरंतर स्फीयमान शब्दावली में जो जमके बैठा, सो बैठा ही है। और रूप की तो बात ही क्या है। बलिहारी है इस मादक गोभा की। चारों ओर कुपित यमराज के दारुण निःवास के समान धधकती लू में भी यह हरा भी है और भरा भी है, दुर्जन के चित्र से भी अधिक कठोर पाषाण की कारा में रुद्ध अज्ञात जलप्रोत से बरबस रस खींचकर सरस बना हुआ है। और मूर्ख के मस्तिष्क से भी अधिक सूने गिरि कांतार में भी ऐसा मस्त बना है कि ईर्ष्या होती है। कितनी कठिन जीवनी-शक्ति! प्राण ही प्राण को पुलकित करता है, जीवनी-शक्ति ही जीवनी-शक्ति को प्रेरणा देती है।
38. दुरंत जीवन-शक्ति हैं। कठिन उपदे शक्ति हैं। जीना भी एक कला है। लेकिन कला ही नहीं, तपस्या है। जियो तो प्राण ढाल दो ज़िंदगी में, मन ढाल दो जीवनरस के उपकरणों में! ठीक है। लेकिन क्यों? क्या जीने के लिए जीना ही बड़ी बात है? सारा संसार अपने मतलब के लिए ही तो जी रहा है। याज्ञवल्क्य बहुत बड़े ब्रह्मवादी ऋषि थे। उन्होंने अपनी पत्नी को विचित्र भाव से समझाने की कोशिश की कि सब कुछ स्वार्थ के लिए है। पुत्र के लिए पुत्र प्रिय नहीं होता, पत्नी के लिए पत्नी प्रिया नहीं होती - सब अपने मतलब के लिए प्रिय होते हैं - 'आत्मनस्तु कामाय सर्वं प्रियं भवति।' विचित्र नहीं है यह तर्क? संसार में जहाँ कहीं प्रेम है, सब मतलब के लिए। सुना है, पर्शुचम के हॉब्स और हेल्वेसियस जैसे विचारकों ने भी ऐसी ही बात कही है। सुनके हैरानी होती है। दुनिया में त्याग नहीं है, प्रेम नहीं है, परार्थ नहीं है, परमार्थ नहीं है - है केवल प्रचंड स्वार्थ।
39. कुटज क्या केवल जी रहा है। वह दूसरे के द्वार पर भीख माँगने नहीं जाता, कोई निकट आ गया तो भय के मारे अधमरा नहीं हो जाता, नीति और धर्म का उपदे शक्ति नहीं देता फिरता, अपनी उन्नति के लिए अफसरों का जूता नहीं चाटता फिरता, दूसरों को अवमानित करने के लिए ग्रहों की खुशामद नहीं करता। आत्मोन्नति हेतु नीलम नहीं धारणा करता, अँगूठियों की लड़ी नहीं पहनता, दाँत नहीं निपोरता बगलें नहीं झँकता। जीता है और शान से जीता है - काहे वास्ते, किस उद्देश्य से? कोई नहीं जानता। मगर कुछ बड़ी बात है। स्वार्थ के दायरे से बाहर की बात है। भीष्म पितामह की भाँति अवधूत की भाषा में कह रहा है - चाहे सुख

हो या दुख, प्रिय हो या अप्रिय' जो मिल जाए उसे जान के साथ, हृदय से बिल्कुल अपराजित होकर, सोल्लास ग्रहण करो। हार मत मानो।

40. दुख और सुख तो मन के विकल्प हैं। सुखी वह है जिसका मन वृष्ण में है, दुखी वह है जिसका मन परवृष्ण में है। परवृष्ण में होने का अर्थ है खुशामद करना, दाँत निपोरना, चाटुकारिता, हाँ-हजूरी। जिसका मन अपने वृष्ण में नहीं है वही दूसरे के मन का छंदावर्तन करता है, अपने को छिपाने के लिए मिथ्या आडंबर रचता है, दूसरों को फंसाने के लिए जाल बिछाता है। कुटज इन सब मिथ्याचारों से मुक्त है। वह वृष्ण में है। वह वैरागी है। राजा जनक की तरह संसार में रहकर, संपूर्ण भोगों को भोगकर भी उनसे मुक्त है।

## ‘गद्य खण्ड’

निर्धारित अंक -8

प्रश्न 11. पाठ की विषयवस्तु पर आधारित (तीन में से दो प्रश्न) (4 + 4)

### प्रेमघन की छाया-स्मृति

1. लेखक ने अपने पिताजी की किन-किन विशेषताओं का उल्लेख किया है?
2. बचपन में लेखक के मन में भारतेन्दु जी के संबंध में कैसी भावना जगी रहती थी ?
3. लेखक का हिंदी साहित्य के प्रति झुकाव किस तरह बढ़ता गया ?
4. ‘निस्संदेह’ शब्द को लेकर लेखक ने किस प्रसंग का जिक्र किया है ?
5. ‘इस पुरातत्व की दृष्टि में प्रेम और कुतूहल का अद्भुत मिश्रण रहता था।’ यह कथन किसके संदर्भ में कहा गया है और क्यों? स्पष्ट कीजिए।
6. ‘भारतेन्दु जी के मकान के नीचे का यह हृदय - परिचय बहुत गीघ्र गहरी मैत्री में परिणत हो गया।’ कथन का आय स्पष्ट कीजिए।

### सुमिरिनी के मनके

7. ‘बालक बच गया। उसके बचने की आशा है क्योंकि वह ‘लड्डू की पुकार जीवित वृक्ष के हरे पत्तों पर मधुर मर्मर था, मरे काठ की अलमारी की सिर दुखानेवाली खड़खड़ाहट नहीं।’ कथन के आधार पर बालक की स्वाभाविक प्रवृत्तियों का उल्लेख कीजिए।
8. बालक द्वारा लड्डू माँगे जाने पर पिता एवम् अध्यापक निराशा क्यों हो गए ?
9. लेखक ने धर्म का रहस्य जानने की इच्छा का स्पष्टीकरण ‘घड़ी के पुर्जे’ के दृष्टान्त द्वारा किस प्रकार किया है ?
10. घड़ीसाज़ी का इन्तहान पास करने से लेखक का क्या तात्पर्य है ?
11. ‘जहाँ धर्म पर कुछ मुट्ठीभर लोगों का एकाधिकार धर्म को संकुचित अर्थ प्रदान करता है वहीं धर्म का आम आदमी से संबंध उसके विकास एवं विस्तार का द्योतक है।’ तर्क सहित व्याख्या कीजिए ?
12. क्या आपके विचार से जीवनसाथी का चुनाव मिट्टी के ढेलों पर छोड़ना उचित है? तर्क सहित उत्तर दें।
13. ‘आज का कबूतर अच्छा है कल के मोर से, आज का पैसा अच्छा है कल की मोहर से।’ - कथन का आय स्पष्ट कीजिए।

## कच्चा चिट्ठा

14. 'अपना सोना खोटा तो परखवैया का कौन दोस ?' से लेखक का क्या तात्पर्य है ?
15. 'चांद्रायण व्रत करती हुई बिल्ली के सामने एक चूहा स्वयं आ जाए तो बेचारी को अपना कर्तव्य पालन करना ही पड़ता है।' - लेखक ने यह वाक्य किस संदर्भ में कहा और क्यों ?
16. 'ईमान! ऐसी कोई चीज़ मेरे पास हुई नहीं तो उसके डिगने का कोई सवाल नहीं उठता। यदि होता तो इतना बड़ा संग्रह बिना पैसा-कौड़ी के हो ही नहीं सकता।' - के माध्यम से लेखक क्या कहना चाहता है ?
17. भद्रमथ ि लालेख की क्षतिपूर्ति कैसे हुई ? स्पष्ट कीजिए।

## संवदिया

18. बड़ी बहुरिया के मायके में जलपान करते समय हरगोबिन के मन में क्या विचार आ रहे थे ?
19. हरगोबिन चाहकर भी बहुरिया का संवाद क्यों नहीं सुना सका ?
20. गाड़ी पर सवार होने के बाद संवदिया के मन में काँटे की चुभन का अनुभव क्यों हो रहा था। उससे छुटकारा पाने के लिए उसने क्या उपाय सोचा ?
21. 'संवदिया डटकर खाता है और अफर कर सोता है लेकिन आज उसे नींद नहीं आ रही थी' इस आधार पर हरगोबिन के मानसिक द्वन्द्व को स्पष्ट कीजिए।

## गांधी, नेहरू और यास्सेर अराफात

22. रोगी बालक के प्रति व्यवहार से गांधी जी की कौन -सी चारित्रिक विशेषताएँ प्रकट होती हैं ?
23. का मीर के लोगों ने नेहरू जी का स्वागत किस प्रकार किया ?
24. अराफात के आतिथ्य प्रेम को दर्शाने वाली किसी घटना का वर्णन कीजिए।
25. अराफात ने ऐसा क्यों बोला कि 'गांधी जी आपके ही नहीं हमारे भी नेता हैं। उतने ही आदरणीय जितने आपके लिए।' स्पष्ट कीजिए।

## लघुकथाएँ

26. 'रेर' कहानी के आधार पर स्पष्ट कीजिए कि - 'प्रमाण से अधिक महत्वपूर्ण विवास है।'
27. 'रेर' कहानी में हमारी व्यवस्था पर जो व्यंग्य किय गया है, उसे स्पष्ट कीजिए।
28. खैराती, रामू और छिदू ने जब आँखें खोली तो उन्हें सामने राजा ही क्यों दिखाई दिया ?
29. यदि आप मिल मालिक होते तो उत्पादन बढ़ाने हेतु क्या करते ?
30. 'साझा' लघुकथा किस पर व्यंग्य करती है ?

## जहाँ कोई वापसी नहीं

31. आधुनिक भारत के 'नए' ऋणार्थी किन्हें कहा गया है ?
32. प्रकृति के कारण विस्थापन और औद्योगीकरण के कारण विस्थापन में क्या अंतर है ?
33. यूरोप और भारत की पर्यावरण संबंधी चिंताएँ किस प्रकार भिन्न हैं ?
34. 'प्रकृति, मनुष्य और संस्कृति के मध्य अटूट संबंध है।' स्पष्ट कीजिए।
35. औद्योगीकरण ने पर्यावरण को खतरे में डाल दिया है, कैसे ?

### यथास्मै रोचते विश्वम्

36. 'कवि के चित्र चमकीले रंग और पार्व भूमि की गहरी काली रेखाएँ -दोनों ही यथार्थ जीवन से उत्पन्न होते हैं।' आचार्य स्पष्ट कीजिए।
37. 'साहित्य समाज का दर्पण है।' कैसे ?
38. 'साहित्य थके हुए मनुष्य के लिए विश्रान्ति ही नहीं है, वह उसे आगे बढ़ने के लिए उत्साहित भी करता है।' -स्पष्ट कीजिए।
39. 'मानव संबंधों से परे साहित्य नहीं है' - कथन की समीक्षा कीजिए।
40. पंद्रहवीं - सोलहवीं सदी में हिन्दी - साहित्य ने मानव जीवन के विकास में क्या भूमिका निभाई ?
41. साहित्य के 'पांचजन्य' से लेखक का क्या तात्पर्य है ? 'साहित्य का पांचजन्य' मनुष्य को क्या प्रेरणा देता है ?
42. 'साहित्यकार के लिए स्रष्टा और द्रष्टा होना अत्यंत अनिवार्य है' - स्पष्ट कीजिए।
43. 'प्रजापति - कवि गंभीर यर्थाथवादी होता है, ऐसा यर्थाथवादी जिसके पाँव वर्तमान की धरती पर हैं और आँखें भविष्य के क्षितिज पर लगी हुई हैं।' लेखक ने ऐसा क्यों कहा है ?

### दूसरा देवदास

44. 'दूसरा देवदास' में संभव की लड़की से पहली मुलाकात का वर्णन कीजिए।
45. 'गंगापुत्र के लिए गंगा मैया ही जीविका और जीवन है' - कथन के आधार पर गंगा पुत्रों के जीवन-परिवेश पर प्रकाश डालिए।
46. 'मनोकामना की गाँठ भी अद्भुत, अनूठी है, इधर बांधों उधर लग जाती है।' इस कथन के आधार पर पारो की मनोदशा का वर्णन कीजिए।
47. 'दूसरा देवदास' कहानी के शीर्षक की सार्थकता स्पष्ट कीजिए।

### कुटज

48. लेखक ने 'कुटज' शब्द की व्याख्या किस-किस रूप में की है ?
49. 'नाम' क्यों बड़ा है ? लेखक के विचारानुसार उत्तर दीजिए।
50. कुटज किस प्रकार अपनी अपराजेय शक्ति की घोषणा करता है ?

51. 'दुःख और सुख मन के विकल्प है' का आर्य स्पष्ट कीजिए।
52. कुटज हमें क्या सदैव देता है ?
53. लेखक क्यों मानता है कि स्वार्थ से बढ़कर जिजीविषा से भी प्रचंड कोई न कोई व्यक्ति अवश्य है ?

## 'कवि / लेखक साहित्यिक परिचय'

निर्धारित अंक -6

प्रश्न 12. कवि / लेखक साहित्यिक परिचय

निम्नलिखित कवियों/ लेखकों के जीवन और रचनाओं का संक्षिप्त परिचय देते हुए उनकी प्रमुख साहित्यिक विशेषताओं का उल्लेख कीजिए :

- क) हजारी प्रसाद द्विवेदी अथवा असगर वजाहत
- ख) रामचन्द्र शुक्ल अथवा ममता कालिया
- ग) पंडित चंद्रधर तार्मा गुलेरी अथवा निर्मल वर्मा
- घ) रामविलास तार्मा अथवा ब्रजमोहन व्यास
- ङ) फणीश्वरनाथ 'रेणु' अथवा भीष्म साहनी

अथवा

- क) जयशंकर प्रसाद अथवा तुलसीदास
- ख) सच्चिदानंद हीरानंद वात्स्यायन अज्ञेय अथवा मलिक मुहम्मद जायसी
- ग) केदारनाथ सिंह अथवा विद्यापति
- घ) विष्णु खरे अथवा घनानंद
- ङ) रघुवीर सहाय अथवा केदारदास

प्रश्न 13. अंतराल भाग - 2 (पूरक पाठ्य पुस्तक) विषयवस्तु पर आधारित लघूत्तरात्मक प्रश्न

पाठ 1. सूरदास की झोपड़ी - प्रेमचन्द (लघूत्तरात्मक प्रश्न)

(3+3+3=9)

1. 'चूल्हा ठंडा किया होता, तो दुःख मनो का कलेजा कैसे ठंडा होता?' इस कथन के आधार पर सूरदास की मनःस्थिति का वर्णन कीजिए।
2. सूरदास की झोपड़ी किसने और क्यों जलाई ?
3. जगधर के मन में किस तरह का ईर्ष्या भाव जगा और क्यों ?
4. सूरदास जगधर से अपनी आर्थिक हानि को गुप्त क्यों रखना चाहता था ?
5. जगधर, भैरों तथा अन्य लोग सूरदास के चरित्र पर प्रश्न क्यों उठाते हैं ?
6. सच्चे खिलाड़ियों के बारे में लेखक क्या बताता है ?

7. सूरदास की झोपड़ी जलने पर सुभागी के मन में उठी भावनाओं को बताइए।
8. सूरदास की झोपड़ी में लगी आग पर आस-पास के लोगों ने क्या किया ?
9. सुभागी के प्रति किन विचारों से मर्माहत हो कर सूरदास रोने लगा ?

## पाठ 2. आरोहण - संजीव

10. पत्थर की जाति से लेखक का क्या आशय है ? उसके विभिन्न प्रकारों के बारे में लिखिए।
11. महीप अपने विषय में बात पूछे जाने पर उसे टाल क्यों देता था ?
12. बूढ़े तिरलोक सिंह को पहाड़ पर चढ़ना जैसी नौकरी की बात सुनकर अजीब क्यों लगा ?
13. रूप सिंह पहाड़ पर चढ़ना सीखने के बावजूद भूपसिंह के सामने बौना क्यों पड़ गया था ?
14. रूप सिंह घर लौटते हुए किस मनः स्थिति में था और क्यों ?
15. 'राम और सीता की जोड़ी में मैं सिर्फ लक्ष्मण था। इस कथन के पीछे रूप सिंह की कौन-सी पीड़ा छिपी थी ?
16. 'आरोहण' कहानी का उद्देश्य बताइए।
17. पर्वतारोहण पर्वतीय प्रदेशों के लोगों की आजीविका का साधन कैसे है ? 'आरोहण' पाठ के आधार पर स्पष्ट कीजिए।

## पाठ-3. बिस्कोहर की माटी - विश्वनाथ त्रिपाठी

18. कोइयों किसे कहते हैं? उसकी विशेषताएँ बताइए।
19. बिसनाथ पर क्या अत्याचार हो गया ?
20. गर्मी और लू से बचने के उपायों का विवरण दीजिए। क्या आप भी उन उपायों से परिचित हैं ?
21. लेखक बिसनाथ ने किन आधारों पर अपनी माँ की तुलना बत्तख से की है ?
22. बिस्कोहर में हुई बरसात का जो वर्णन बिसनाथ ने किया है उसे अपने शब्दों में लिखिए।
23. ऐसी कौन सी स्थिति है जिसके साथ लेखक को मृत्यु का बोध अजीब तौर से जुड़ा मिलता है ?
24. चैत की चाँदनी में लेखक के साथ क्या घटित हुआ ?
25. कसेरिन दाई के बारे में लिखिए। उनके साथ छत पर लेटकर तीन वर्ष के बिसनाथ को कैसा लगता था ?
26. बिस्कोहर गाँव में साँपों की प्रजातियाँ कौन-सी थीं ? उनके विषय में सोचकर लेखक को कैसा लगता था ?
27. 'बच्चा दुध ही नहीं चाँदनी भी पी रहा है, चाँदनी भी माँ जैसा ही स्नेह - ममता दे रही है।' आशय स्पष्ट कीजिए।

## पाठ 4. अपना मालवा : खाऊ-उजाड़ सभ्यता में प्रभाषजोशी

28. मालवा में जब सब जगह बरसात की झड़ी लगी रहती है तब मालवा के जनजीवन पर इसका क्या असर पड़ता है ?



29. अब मालवा में वैसा पानी नहीं गिरता जैसा गिरा करता था। उसके क्या कारण हैं ?
30. 'मालवा में विक्रमादित्य और भोज और गुंज रिनसां के बहुत पहले हो गए।' पानी के रखरखाव के लिए उन्होंने क्या प्रबंध किए?
31. मालवा की यात्रा के समय लेखक ने क्या-क्या देखा ?
32. 'अपना मालवा' पाठ के आधार पर नर्मदा के विभिन्न रूपों का वर्णन कीजिए।
33. 'नई दुनिया' के रिकार्ड से मालवा के बारे में क्या पता चलता है ?
34. 'अमेरिका की घोषणा है कि वह अपनी खाऊ-उजाड़ू जीवन पद्धति पर कोई समझौता नहीं करेगा।' इस घोषणा पर अपनी टिप्पणी दीजिए।
35. नवरात्र की पहली सुबह को लेखक ने किस प्रकार व्यक्त किया है ?

### 13. अंतराल भाग-2 निबंधात्मक प्रश्न

(निर्धारित अंक - 6)

#### पाठ 1. सूरदास की झोपड़ी -प्रेमचंद

1. 'यह फूस की राख न थी, उसकी अभिलाषाओं की राख थी।' संदर्भ सहित विवेचन कीजिए।
2. सूरदास की झोपड़ी में आग किसने लगाई यह जानने के लिए जगधर क्यों बेचैन था ? झोपड़ी जल जाने पर भी सूरदास का किसी से प्रति रोध न लेना क्या इंगित करता है? पाठ के आधार पर समझाइए।
3. झोपड़ी की राख ठंडी होने पर सूरदास ने राख में क्या टटोला ? उस पर क्या-क्या प्रतिक्रियाएँ हुई ?
4. 'सूरदास उठ खड़ा हुआ विजय-गर्व की तरंग में राख के ढेर को दोनों हाथों से उड़ाने लगा।' इस कथन के संदर्भ में सूरदास की मनोदशा का वर्णन कीजिए।
5. 'तो हम सौ लाख बार बनाएँगे' इस कथन के संदर्भ में सूरदास के चरित्र का विवेचन कीजिए।

#### पाठ 2. आरोहण - संजीव

6. 'तू तो प्रायः लोग घर छोड़कर कहीं न कहीं जाते हैं, परदे जाते हैं किन्तु घर लौटते समय रूप सिंह को एक अजीब किस्म की लाज, अपनत्व और झिझक क्यों घेरने लगी ?
7. 'तौला और भूप ने मिलकर किस तरह पहाड़ पर अपनी मेहनत से नई जिंदगी की कहानी लिखी ?
8. सैलानी ( लोखर और रूप सिंह) घोड़े पर चलते हुए उस लड़के के रोजगार के बारे में सोच रहे थे जिसने उनको घोड़े पर सवार कर रखा था और स्वयं पैदल चल रहा था। आप बाल मजदूरी के विषय में अपने विचार व्यक्त कीजिए।
9. पहाड़ों की चढ़ाई में भूप दादा का कोई जवाब नहीं। उनके चरित्र की विशेषताएँ बताइए।
10. इस कहानी को पढ़कर आपके मन में पहाड़ों पर स्त्री की स्थिति की क्या छवि बनती है? उस पर अपने विचार व्यक्त कीजिए।
11. चिड़िया और गीध की कहानी से मिली सीख को भूप सिंह ने अपने जीवन में कैसे उतारा ?
12. 'पहाड़ों में जीवन अत्यंत कठिन होता है' पाठ के आधार पर अपने विचार व्यक्त कीजिए।
13. 'आरोहण' कहानी की मूल समस्या क्या है ? विवेचना करें।

### पाठ 3. बिस्कोहर की माटी-विशनाथ त्रिपाठी

14. 'बच्चे का माँ का दूध पीना सिर्फ दूध पीना नहीं, माँ से बच्चे के सारे संबंधों का जीवन-चरित होता है' -टिप्पणी कीजिए।
15. 'फूल केवल गंध ही नहीं देते दवा भी करते हैं' कैसे ?
16. 'प्रकृति सजीव नारी बन गई' - इस कथन के संदर्भ में लेख की प्रकृति, नारी और सौंदर्य संबंधी मान्यताएँ स्पष्ट कीजिए।
17. लेखक ने प्राकृतिक सौंदर्य और प्राकृतिक आपदाओं का साथ-साथ वर्णन किया है। स्पष्ट करें।
18. वर्तमान समय-समाज में माताएँ नवजात शिशु को दूध नहीं पिलाना चाहतीं। आपके विचार से माँ और बच्चे पर इसका क्या प्रभाव पड़ रहा है ?

### पाठ 4. अपना मालवा : खाऊ उजाड़ सभ्यता में - प्रभाष जोशी

19. 'हमारी आज की सभ्यता इन नदियों को अपने गंदे पानी के नाले बना रही है।' क्यों और कैसे ?
20. हमारे आज के इंजीनियर ऐसा क्यों समझते हैं कि वे पानी का प्रबंध जानते हैं और पहले जमाने के लोग कुछ नहीं जानते थे?
21. लेखक को क्यों लगता है कि 'हम जिसे विकास की औद्योगिक सभ्यता कहते हैं वह उजाड़ की अपसभ्यता है' ? आप क्या मानते हैं ?
22. धरती का वातावरण गरम क्यों हो रहा है ? इसमें यूरोप और अमेरिका की क्या भूमिका है ? टिप्पणी कीजिए।
23. अपनी यात्रा के दौरान लेखक ने मालवा के प्राकृतिक सौंदर्य का चित्रण किस प्रकार किया है ?
24. 'अपना मालवा' पाठ का उद्देश्य स्पष्ट करें।
25. मालव धरती गहन गंभीर  
डग-डग रोटी, पग-पग नीर।  
वर्तमान मालवा के संबंध में उपरोक्त कहावत कहाँ तक सार्थक सिद्ध होती है।
26. लेखक की पर्यावरण संबंधी चिन्ता सिर्फ मालवा तक सीमित न हो कर सार्वभौमिक हो गई है - स्पष्ट कीजिए।

**(मॉडल) प्रश्न-पत्र का प्रारूप - 2009**  
**हिन्दी (ऐच्छिक)**  
**कक्षा - 12**

प्रश्नों के प्रकार	अपठित बोध	लेखन	साहित्य	अंक	कुल अंक	विशेष टिप्पणी	स्तर	
अति लघूत्तरात्मक प्रश्न	काव्यों का बोध	---	---	1x5	5	भाव ग्रहण योग्यता, अवबोध और प्रयोग	सरल 20 प्रश्न	
	गद्यांश का बोध	अभिव्यक्ति और माध्यम	---	2x7	15			
				1x1	5			
लघूत्तरात्मक प्रश्न			काव्यों का (अंतरा) अर्थग्रहण संबंधी प्रश्न	3x2	6	पठन, अवबोध व लेखन कौशल संबंधी	कठिन	
			काव्य-सौंदर्य गद्यांश का (अंतरा) विचारात्मक प्रश्न	3x2	6		कठिन	
			पूरक पुस्तक (अंतराल) विषय-वस्तु संबंधी प्रश्न	4x2	8		औसत	
				3x3	9		औसत	
दीर्घोत्तर प्रश्न	(व्याहारिक लेखन) निबंध पत्र (अभिव्यक्ति और माध्यम) प्रश्न			10x1	10	अवबोध व लेखन-कौशल पठन, अवबोध संबंधी	औसत	
				5x1	5		औसत	
					5x1	5	औसत	
				सप्रसंग व्याख्या काव्यों का (अंतरा)	8x1	8	पठन, अवबोध व लेखन कौशल	कठिन
				सप्रसंग व्याख्या गद्यांश का (अंतरा)	6x1	6		20 प्रश्न
				जीवनी (कवि/लेखक)	6x1	6		औसत
				निबंधात्मक प्रश्न (अंतराल)	6x1	6		औसत
					100	60 प्रश्न		

नोट : प्रश्न संख्या कोष्ठक भीतर व अंक कोष्ठक के बाहर है।

# (मॉडल) प्रतिदर्श प्रश्न पत्र न. 1

कोड संख्या - 002

कक्षा - 12

हिन्दी (ऐच्छिक)

समय : 3 घंटे

अधिकतम अंक : 100

1. निम्नलिखित गद्यांशों को ध्यानपूर्वक पढ़कर पूछे गए प्रश्नों के उत्तर दीजिए :-

संभवतः भारतीय सभ्यता की उत्कृष्ट उपलब्धि भारतीय दर्शन है, बल्कि यँ कहें भारतीय दर्शन और भारतीय धर्म। जैसा कि हम गीन देखेंगे, मानव मनोदशा की दो कार्य अवस्थाएँ हैं - कल्पनाशील और ग्रहणशील, एक जो ब्रह्मांड का अन्वेषण करता है और दूसरा जो इस पर प्रतिक्रिया करता है। यूरोप में ये दोनों भिन्न हैं, कई बार परस्पर विरुद्ध भी लेकिन भारत में अधिकांशतः अभिन्न। मैं इसलिए प्रस्ताव रखता हूँ कि दर्शन और धर्म, दोनों को एक ही शीर्षक से इस अध्याय के अंतर्गत रखा जाए।

भारतीय दर्शन अन्य सभ्यताओं के दर्शन से नितान्त भिन्न है। इसके तीन विशेष गुण हैं। पहला है - निरंतरता। भारतीय विचारक लगभग तीन हजार वर्षों से ब्रह्मांड के स्वरूप और अर्थ की खोज कर रहे हैं। इस शोध की तुलना केवल चीनी विचारक ही कर सकते हैं। दूसरा गुण है - मतैक्य। आमतौर पर सभी भारतीय विचारक इस बात से सहमत हैं कि ब्रह्मांड अपने वास्तविक स्वरूप में एक इकाई है और यह ऐक्य आध्यात्मिक है। अतः ब्रह्मांड जैसा कि वह प्रतीत होता है निश्चय ही एक इकाई नहीं है, बल्कि विषमजातीय विभिन्नता है। यह कहा जा सकता है कि अपने प्रत्यक्ष रूप में यह असंख्य वस्तुओं और व्यक्तियों का समूह है। अतः ब्रह्मांड के वास्तविक स्वरूप और प्रकट स्वरूप में अंतर होना अनिवार्य है। एक ऐसा अंतर जिसकी व्याख्या कुछ इस प्रकार की जा सकती है - ब्रह्मांड एक ऐसी वास्तविकता है जो विभिन्नता में प्रकट होती है जैसे कि एक धुन में स्थाई स्वर। जैसे अलग स्वरों की विभिन्नता का योग एक राग या धुन में प्रकट होता है। वस्तुतः यह सत्य है कि सभी भारतीय विचारक इस अंतर से सहमत हैं। तीसरा गुण यहाँ हम दर्शन और धर्म के बीच की कड़ी पर आ पहुँचते हैं। भारतीय दर्शन कभी भी बौद्धिक गतिविधियों तक परिसीमित नहीं रहा है। औपचारिक रूप से कहें तो निसंदेह यह सत्य के लिए खोज का रास्ता है, लेकिन भारत में दर्शन सत्य जानने से कहीं अधिक और आगे ले जाता है, यह जीवन को जीने का रास्ता भी दिखाता है। वास्तव में यह अंतिम आश्रय की तरफ जीवन का रास्ता है। भारतीय दर्शन के इस व्यावहारिक प्रभाव के पीछे अपरिहार्य रूप से भारतीय दार्शनिकों के सिद्धांत हैं।

भारतीय दर्शन यह सिखाता है कि जीवन का एक अर्थ है और एक उद्देश्य भी। अतः हमारा कर्तव्य है कि इसके अर्थ को खोजें और अंतिम लक्ष्य प्राप्त करने का सौभाग्य प्राप्त करें। इसलिए दर्शन सिखाता है कि जब तक सफलता न मिले तब तक अर्थ और उसके अवयवों का उद्घाटन करें। आखिर लक्ष्य किसलिए? यथार्थ में उपलब्धि प्राप्त करना, इस अर्थ में कि उपलब्धि सिर्फ जानने में नहीं है बल्कि उसका एक अंग बनने में है। इस उपलब्धि के बीच में बाधा क्या आती है? कई बाधाएँ हैं, परन्तु मुख्य है उपेक्षा।

अधिकांशतः रूप से अप्रशिक्षित मन यह नहीं जानता कि प्रत्यक्ष दिखने वाली दुनिया ही वास्तव में वास्तविक दुनिया नहीं है। यह दर्शन ही है जो उसे प्रशिक्षित करता है और इस प्रशिक्षण से इस उपेक्षा (अविद्या), जिसके कारण यह वास्तविकता देख नहीं पाता, उसे मुक्ति (मोक्ष) दिलाता है। इसलिए दर्शन सिर्फ ज्ञान की कुंजी नहीं है बल्कि वास्तविकता जानने का एक रास्ता भी है। इस रास्ते पर चलना ही, जानना नहीं, बल्कि प्रयास करना, प्रयास सफल होने के चरम तक। इसलिये एक दार्शनिक बनने के लिए सिर्फ बौद्धिकता का अनुसरण करना ही आवश्यक नहीं है।

क) इस गद्यांशों का उपयुक्त शीर्षक लिखिए।

1

- ख) भारतीय दर्शन की क्या विशेषता है? 2
- ग) भारतीय दर्शन अन्य सभ्यताओं से भिन्न क्यों हैं? 2
- घ) भारतीय दर्शन क्या सिखाता है? 2
- ड) दर्शन मनुष्य को कैसे प्रशिक्षित करता है? 2
- च) भारतीय विचारकों के अनुसार ब्रह्मांड कैसा है? 2
- छ) मानव मनोदशा की कार्य अवस्थाएं क्या कार्य करती हैं? 2
- ज) भारतीय दर्शन का व्यावहारिक पक्ष क्या है? 2

2. निम्नलिखित काव्यांशों को ध्यानपूर्वक पढ़कर पूछे गए प्रश्नों के उत्तर दीजिए :- (1x5=5)

तना?

किस बात पर है तना?

जहाँ बिठाल दिया गया था, वहीं पर है बना;

प्रगति तिल जगती में, तिल भर नहीं डोला है,

खाया है, मोटाया है, सहलाया चोला है;

लेकिन हम तने से फूटीं,

दिशा-दिशा में गईं

ऊपर उठीं,

नीचे आईं

हर हवा के लिए दोल बनीं, लहराईं।

क) 'तना किस बात पर है तना' - पंक्ति का अर्थ बताइए।

ख) तने की क्या स्थिति है?

ग) तने से फूटने वाली कहाँ-कहाँ गईं?

घ) कवि क्या कहना चाहता है?

ड) कविता में निहित कोई दो अंशकार बताइए।

अथवा

ऊषा की सुकुमार रीति से रंचित थी जिसकी चितवन,

प्रातः-स्वप्न-सा कहां खो गया वह मेरा भोला बचपन!

मैं दुल सुनहरी चंचलता वह आज कहां हा! लीन हुई

यौवन की मोहलक सरिता में, क्या पीड़ा की मीन हुई!

सरल हँसी जिसमें सोती थी पड़ी हुई पीड़ा चुपचाप,  
आज अश्रु से लिखती उर में अतीत का भूला इतिहास!

- क) इस कविता का तीर्षक लिखिए।
- ख) कवि ने भूला इतिहास किसे कहा है?
- ग) कौन-सी चंचलता कहां चली गयी है?
- घ) कवि अश्रुओं में क्या लिख रहा है?
- ड) कवि ने प्रातः स्वप्न के समान किसे खो दिया है?

3. निम्नलिखित में से किसी एक विषय पर निबंध लिखिए :- (10)

- क) समय का सदुपयोग
- ख) दिन-दिन बढ़ता प्रदूषण
- ग) भ्रूण-हत्या एवं लैंगिक समानता
- घ) एकल परिवार और वरिष्ठ नागरिक
- ड) आधुनिकता और भारत

4. कृष्णा नगर, लखनऊ डाकघर से मालवीय नगर, नई दिल्ली को भेजा मनीआर्डर अपने गंतव्य तक नहीं पहुँचा। इसकी विवेकायत करते हुए प्रेषक विपिन राय की ओर से डाकपाल का पत्र लिखिए। 5

अथवा

नगरपालिका नई दिल्ली के प्रशासक को पत्र लिखिए, जिसमें बाजारों में पटरियों के समीप जगह-जगह खड़े किए गए स्कूटरों, कारों आदि से ग्राहकों को होने वाली परेशानियों का उल्लेख हो।

5. दूरदर्शन (टी.वी.) पर प्रसारित होने वाली खबरों के विभिन्न चरण कौन-कौन से हैं? 5

6. निम्नलिखित प्रश्नों के उत्तर एक या दो वाक्यों में दीजिए। 5

- क) ट्राइएंकर किसे कहते हैं?
- ख) मुद्रित माध्यम के लिए लेखन में ध्यान देने योग्य दो बातें लिखिए।
- ग) इंटरनेट पत्रकारिता किसे कहते हैं?
- घ) बीट किसे कहते हैं?
- ड) विशेष लेखन के किन्हीं चार क्षेत्रों का उल्लेख कीजिए।

7. निम्नलिखित काव्यांश की सप्रसंग व्याख्या कीजिए :- 8

यह दीप अकेला स्नेह भरा

है गर्वभरा मदमाता, पर इसको भी पंक्ति को दे दो।

यह जन है - गाता गीत जिन्हें फिर और कौन गाएगा?

पनडुब्बा - ये मोती सच्चे फिर कौन क ती लाएगा?  
यह समिधा - ऐसी आग हठीला बिरला सुलगाएगा।  
यह अद्वितीय - यह मेरा - यह मैं स्वयं विसर्जित  
यह दीप, अकेला, स्नेह भरा  
है गर्व भरा मदमाता, पर इसको भी पंक्ति को दे दो।

अथवा

जननी निरखति बान धनुहियाँ।  
बार-बार उर नैननि लावति प्रभुजू की ललित पनहियाँ।  
कबहू प्रथम ज्यों जाई जगावति कहि प्रिय बचन सवारे।  
“उठहु तात! बलि मातु बदन पर, अनुज सखा सब द्वारे।।”  
कबहुँ कहति यों, “बड़ी बार भई जाहु भूप पहुँ, भैया।  
बंधु बोलि जेइयं जो भावै गई निछावर मैया।।”  
कबहुँ समुझि वनगमन राम को रहि चकि चित्रलिखी सी।  
तुलसीदास वह समय कटे तें लागति प्रीति सिखी सी।।

8. निम्नलिखित में से किन्हीं दो प्रश्नों के उत्तर दीजिए :- 3+3=6

- क) ‘मैंने भ्रमवर्षा जीवन संचित, मधुकरियों की भीख लुटाई’ - ‘देवसेना का गीत’ की इस पंक्ति का भाव स्पष्ट कीजिए।  
ख) ‘तोड़ो’ कविता में कवि को धरती और मन की भूमि में क्या-क्या समानताएँ दिखाई पड़ती हैं?  
ग) ‘जीयत खाई मुँह नहिं छाँड़ा’ - पंक्ति के संदर्भ में नायिका की विरह - दर्द का वर्णन अपने शब्दों में कीजिए।

9. निम्नलिखित काव्यांशों में से किन्हीं दो का काव्य-सौन्दर्य स्पष्ट करो :- 3+3=6

- क) इस पथ पर, मेरे कार्य सकल  
हों भ्रष्ट गीत के से तदल  
कन्ये, गत कर्मों का अर्पण  
कर, करता मैं तेरा तर्पण
- ख) तोहर बिरह दिन छन छन तनु छिन  
चौदसि चाँद समान
- ग) तब हार पहार से लागत हे,  
अब आनि के बीच पहार परे।

9. निम्नलिखित गद्यांश की सप्रसंग व्याख्या कीजिए :-

6

मैं कहीं जाता हूँ तो छूँछे हाथ नहीं लौटता। यहाँ कोई विशेष महत्त्व की चीज़ तो नहीं मिली, पर गाँव के भीतर कुछ बढ़िया मण्डप मूर्तियाँ, सिक्के और मनके मिल गए। इक्के पर कौआ गाँबी लौटा। एक-दूसरे रास्ते से। छोटे-से गाँव के निकट पथरों के ढेर के बीच, पेड़ के नीचे, एक चतुर्मुख शिव की मूर्ति देखी। वह वैसे ही पेड़ के सहारे रखी थी जैसे उठाने के लिए मुझे ललचा रही हो। अब आप ही बताइए, मैं करता ही क्या? यदि चांद्रायण व्रत करती हुई बिल्ली के सामने एक चूहा स्वयं आ जाए तो बेचारी को अपना कर्तव्य पालन करना ही पड़ता है। इक्के से उत्तर कर इधर-उधर देखते हुए उसे चुपचाप इक्के पर रख लिया। 20 सेर वजन में रही होगी। “न कूकुर भूँका, न पहरू जागा।” मूर्ति अच्छी थी। पसोवे से थोड़ी-सी चीजों के मिलने की कमी इसने पूरी कर दी। उसे लाकर नगरपालिका में संग्रहालय से संबंधित एक मंडप के नीचे, अन्य मूर्तियों के साथ रख दिया।

अथवा

यदि समाज में मानव-संबंध वही होते हैं जो कवि चाहता है, तो कवि उसे प्रजापति बनने की ज़रूरत न पड़ती। उसके असंतोष की जड़ से मानव संबंध ही है। मानव-संबंधों से परे साहित्य है। कवि जब विधाता पर साहित्य रचता है, तब उसे भी मानव संबंधों की परिधि में खींच लाता है। इन मानव-संबंधों की दीवाल से ही हैमलेट की कवि सुलभ-सहानुभूति टकराती है और वेक्सपियर एक महान ट्रेजेडी की सृष्टि करता है। ऐसे समय जब समाज के बहुसंख्यक लोगों का जीवन इन मानव-संबंधों के पिंजड़े में पंख फड़फड़ाने लगे, सींकचे तोड़ कर बाहर उड़ने के लिए आतुर हो उठे, उस समय कवि का प्रजापति रूप और भी स्पष्ट हो उठता है। वह समाज के द्रष्टा और नियामक के मानव - विहंग से क्षुब्ध और रूढ़स्वर को वाणी देता है। वह मुक्त गगन के गीत गाकर उस विहंग के पंखों में नयी शक्ति भर देता है। साहित्य जीवन का प्रतिबिंबित रह कर उसे समेटने, संगठित करने और उसे परिवर्तित करने का अजेय अस्त्र बन जाता है।

11. निम्नलिखित में से किन्हीं दो प्रश्नों के उत्तर दीजिए :-

4+4=8

क) “बालक बच गया। उसके बचने की आशा है क्योंकि वह ‘लड्डू’ की पुकार जीवित वृक्ष के हरे पत्तों का मधुर मर्मर था, मरे काठ की अलमारी की सिर दुखाने वाली खड़खड़ाहट नहीं” - कथन के आधार पर बालक की स्वाभाविक प्रवृत्तियों का उल्लेख कीजिए।

ख) ‘जहाँ कोई वापसी नहीं’ के आधार पर प्रकृति के कारण विस्थापन और औद्योगीकरण के कारण विस्थापन में अंतर स्पष्ट कीजिए।

ग) नाम क्यों बड़ा है? ‘कूटज’ पाठ के आधार पर लेखक हजारी प्रसाद द्विवेदी के विचार अपने शब्दों में लिखिए।

12. ‘जय शंकर प्रसाद’ अथवा विद्यापति के जीवन और रचनाओं का संक्षिप्त परिचय देते हुए उनकी किन्हीं दो प्रमुख काव्यगत विशेषताओं का उल्लेख कीजिए।

6

अथवा

‘फणीश्वर नाथ रेणु’ अथवा ‘भीष्म साहनी’ के जीवन और रचनाओं का संक्षिप्त परिचय देते हुए उनकी भाषा-शैली की किन्हीं दो प्रमुख विशेषताओं का उल्लेख कीजिए।

13. निम्नलिखित में से किन्हीं तीन प्रश्नों के उत्तर ‘अन्तराल भाग-2’ के आधार पर दीजिए :-

3x3=9

क) ‘सूरदास की झोंपड़ी’ कहानी के आधार पर स्पष्ट कीजिए कि सूरदास जगधर से अपनी आर्थिक हानि को गुप्त क्यों रखना चाहता था?

ख) ‘फूल केवल गंध ही नहीं देते, दवा भी करते हैं’, कैसे? बिस्कोहर की माटी पाठ के आधार पर स्पष्ट कीजिए।



- ग) यूं तो प्रायः लोग घर छोड़ कर कहीं न कहीं जाते हैं, परदे 1 जाते हैं किंतु घर लौटते समय रूपसिंह को एक अजीब किस्म की लाज, अपनत्व और झिझक क्यों घेरने लगी?
- घ) 'अपना मालवा-खाऊ उजाड़ सभ्यता में' के लेखक प्रभाष जो 11 को क्यों लगता है कि 'हम जिसे विकास की औद्योगिक सभ्यता कहते हैं वह उजाड़ की अपसभ्यता है? आप क्या मानते हैं?

13. 'तो हम सौ लाख बार मनायेंगे' इस कथन के संदर्भ में सूरदास के चरित्र का विवेचन कीजिए।

6

अथवा

'बच्चे का माँ का दूध पीना सिर्फ दूध पीना नहीं, माँ से बच्चे के सारे संबंधों का जीवन - चरित होता है' - बिस्कोहर की माटी के आधार पर टिप्पणी कीजिए।

**(मॉडल) प्रतिदर्श प्रश्न पत्र - 1**  
**अंक योजना**  
**कक्षा - 12**  
**हिन्दी ऐच्छिक**

समय : 3 घंटे

अधिकतम अंक : 100

1. अपठित गद्यांशों पर बोध

- क) भारतीय दर्शन / भारतीय दर्शन का स्वरूप / दर्शन और धर्म 1
- ख) भारतीय दर्शन की विशेषता यह है कि यह दर्शन और धर्म का समन्वय है। इस में बौद्धिकता की अपेक्षा व्यावहारिकता अधिक दिखाई देती है। 2
- ग) भारतीय दर्शन अन्य सभ्यताओं के दर्शन से एकदम भिन्न है। मानव मनोदशा की कार्य अवस्थाएं भारतीय दर्शन में एकदम अभिन्न हैं, जबकि यूरोप में भिन्न और परस्पर विरुद्ध हैं। 2
- घ) भारतीय दर्शन जीवन का अर्थ सिखाता है। यह सिखाता है कि अंतिम लक्ष्य की प्राप्ति के लिए निरंतर प्रयास किया जाए और स्वयं भी उस का एक अंग बन जाएं। 2
- ङ) दर्शन मनुष्य को प्रशिक्षित कर उसे ज्ञान देता है और जीवन की वास्तविकता से परिचित कर मोक्ष दिलाता है। 2
- च) भारतीय विचारकों के अनुसार ब्रह्मांड एक ऐसी वास्तविकता है जो विभिन्नता में प्रकट होती है जैसे एक राग या धुन विभिन्न स्वरों में एक साथ प्रकट होती है। 2
- छ) मानव मनोदशा की दो कार्य अवस्थाएं हैं - कल्पना शील और ग्रहण शील। एक ब्रह्मांड का अन्वेषण करता है और दूसरा इस पर प्रतिक्रिया करता है।
- ज) भारतीय दर्शन का व्यावहारिक पक्ष यह है कि यह सत्य की खोज का रास्ता है और सत्य जानने से कहीं अधिक जीवन का जीने का रास्ता भी दिखाता है। 2

**कुल अंक : 15**

2. क) 'तना किस बात पर है तना?' का अर्थ है कि वह एक स्थान पर ही खड़ा रहता है फिर भी उसे न जाने किस बात की अकड़ और अभिमान है। 1
- ख) प्रगति शील संसार में वह जहाँ बिठा दिया था, वहीं खड़ा है उसमें कोई परिवर्तन नहीं आया। 1
- ग) तने से फूटने वाली शाखाएँ ऊपर, नीचे प्रत्येक दिशा में गईं और हवा के साथ खुशी से लहराईं। 1
- घ) कवि कहना चाहता है कि अभिमानी और घमंडी व्यक्ति जीवन में एकाकी हो जाता है, उसकी उन्नति रूक जाती है और सामाजिक संपर्क नष्ट हो जाते हैं। 1
- ङ) तना किस बात पर है तना? - यमक अलंकार, प्रथम अलंकार  
खाया है, मोटाया है, सहनाया चोला है - अनुप्रास अलंकार, अत्यानुप्रास अलंकार  
दिशा-दिशा - पुनरुक्ति प्रकृत 1

**कुल अंक : 5**

अथवा

- क) मेरा बचपन 1  
ख) कवि ने अपने बचपन को भूला इतिहास कहा है। 1  
ग) कवि की बचपन की चंचलता मोहक यौवन की गंभीरता में बदल गयी है। 1  
घ) कवि अपने अश्रुओं से अपने हृदय पर बचपन की भूली बातों को लिख रहा है। 1  
ड) कवि ने अपने बचपन को दिन में देखे हुए स्वप्न के समान खो दिया है। 1

कुल अंक : 5

3. निबंध का अंक विभाजन इस प्रकार है :-

1. आकर्षक भूमिका 2  
2. विषय - निर्वहन 2  
3. विषय प्रतिपादन क्षमता / भाषा शिल्प 4  
4. समग्र प्रभाव / उपसंहार 2

कुल अंक : 10

4. पत्र :-

- पत्र के आरंभ की औपचारिकताएं 1  
पत्र की नीचे की औपचारिकताएं 1  
कलात्मक और प्रभावशाली ढंग से विषय - प्रतिपादन 2  
भाषा - शैली 1

कुल अंक : 5

5. अंक विभाजन इस प्रकार है :-

- दूरदर्शन समाचार की भूमिका 1  
चरण 4

कुल अंक : 5

दूरदर्शन पर प्रसारित समाचारों का मूल आधार - जैसा प्रिंट मीडिया या रेडियो पत्रकारिता में, आधार - सूचना देना।

सूचनाएं कई चरणों में -

फ्लैट या ब्रेकिंग न्यूज़

ड्राई एंकर

फोन-इन

एंकर विजुअल

एंकर बाइट

लाइव

एंकर पैकेज

आवकतानुसार वाक्यों का प्रयोग, शब्दों को जोड़ने का काम करता है और निहित अर्थों को सामने लाता है।

अथवा

रिपोर्ट के प्रकार 2

ध्यान रखने योग्य बातें 3

कुल अंक : 5

पत्र-पत्रिकाओं और अखबारों में रिपोर्ट-गहरी छानबीन, विशेषण और व्याख्या का परिणाम, विशेष समस्या, मुद्दे या घटना छानबीन के बाद लिखा जाता है, महत्वपूर्ण तथ्यों का संकलन, तथ्यों का विशेषण के माध्यम से परिणाम, प्रभाव और कारणों को स्पष्ट किया जाता है। विशेष रिपोर्ट के प्रकार -

खोजी रिपोर्ट

इन डेपथ रिपोर्ट

विशेषणात्मक रिपोर्ट

विवरणात्मक रिपोर्ट

विशेष रिपोर्ट के लेखन में ध्यान रखने योग्य बातें -

1. लेखन कार्य उल्टा-पिरामिड शैली
2. कभी-कभी फीचर शैली
3. विस्तृत रिपोर्ट में उल्टा-पिरामिड और फीचर शैली को आपस में मिला लिया जाता है।
4. लंबी रिपोर्ट को श्रृंखला बद्ध करके कई दिन छापा जाता है।
5. रिपोर्ट की भाषा सरल, सहज और आम बोलचाल की भाषा।
6. क) जब तक खबर के दायरे नहीं आते एंकर, दूरियों को रिपोर्टर से मिली जानकारियों को सीधे-सीधे बताता है कि कब, कहाँ, क्या, कैसे हुआ।  
ख) 1. लेखन में भाषा एवं वर्तनी का ध्यान रखना चाहिए।  
2. समय सीमा एवं आवंटित जगह का ध्यान रखना चाहिए।  
ग) इंटरनेट पर खबरों का आदान-प्रदान या प्रकाशन ही इंटरनेट पत्रकारिता है।  
घ) संवाददाताओं के बीच काम का विभाजन उनकी रुचि एवं ज्ञान के आधार पर किया जाता है, मीडिया की भाषा में इसे बीट कहते हैं।  
ड) खेल, अपराध, राजनीति, अर्थ-व्यापार।
7. किसी एक काव्याङ्क की व्याख्या अपेक्षित है।  
अंक विभाजन इस प्रकार है :-

1. संदर्भ / कवि व कविता का नामोल्लेख	1
2. प्रसंग / पूर्वापर संबंध	1
3. व्याख्या	4
4. टिप्पणी / विशेष कथन (किन्ही चार का उल्लेख करने पर)	2

कुल अंक : 8

यह दीप अकेला ..... पंक्ति के दे दो।

1. संदर्भ - कवि प्रयोगवादी कवि सच्चिदानंद हीरानंद वात्स्यायन अज्ञेय - कविता - यह दीप अकेला
2. प्रसंग - व्यक्ति के प्रतीक के रूप में दीपक का चित्रण - जो स्नेह भरा, गर्वभरा, मदमाता किन्तु है। अकेले दीप को पंक्ति में शामिल - महत्ता, सार्थकता बढ़ जाएगी। यही स्थिति मनुष्य की है।
3. व्याख्या - स्नेह रूपी तेल, गर्व से भरा, मदमाता, अहंकार और मस्ती में चूर, पंक्ति में शामिल करने की आवश्यकता, व्यक्तिगत सत्ता को सामाजिक सत्ता से जोड़ना, गीत गाता मनुष्य - भीड़ से अलग विंष्ट जन, गोताखोर - सागर की गहराई से सच्चे मोती (विंष्ट उपलब्धियाँ निकालना), जलती हुई हवन समिधा-यज्ञ की अग्नि सुलगाने में सक्षम (बलिदानी व क्रांतिकारी), स्व का भाव, एकाकी एवं प्रेम से परिपूर्ण, स्वयं समर्पित, हठीला गर्वीला, विंष्ट व्यक्तित्व - स्वतंत्रता, मौलिकता, रचनात्मक, विलक्षण कार्य शैली, इसे पंक्ति/ समाज में सम्मिलित कर लिया जाये।
4. विशेष कथन - वैयक्तिक उपलब्धियों और विशेषताओं का समाज के लिए महत्त्व, व्यक्ति की सजील प्रतिभा की व्यंजना, सत्ता का सार्वभौमिकरण, व्यक्तित्ववादी कविता, तत्सम अन्दावली प्रधान की खड़ी बोली हिन्दी, अनुप्रास अंलकार, प्रतीकात्मकता, रूपक अंलकार, प्रान अंलकार, लाक्षणिकता, छंद मुक्त।

अथवा

जननि निरखति ..... प्रति

1. संदर्भ - कवि - रामभक्त विरोमणि तुलसीदास  
कविता - पद - गीतावली से उद्धृत
2. प्रसंग - राम के वनमगन के पंचात् माता कौशल्या के हृदय की वेदना का मार्मिक वर्णन।
3. व्याख्या - माता कौशल्या का राम के बचपन की चीजों को देख व स्मरण कर व्याकुल होना, चीजों का वेदना को बढ़ाने में उद्दीपन का कार्य करना, राम के बचपन के धनुष का देखना, शैव कालीन जूतियों को देखकर हृदय व नेत्रों से लगाना, श्री राम के वनगमन की बात भूल जाना, उनके गहन कक्ष में जाकर उन्हें जगाना -, अचानक स्मरण हो आना कि राम वन चले गए हैं तो चित्रवत्, स्तब्ध चकित हो जाना, कवि द्वारा कौशल्या की मार्मिक दर्शा का वर्णन न हो सकता, कौशल्या की दर्शा मोरनी के समान है जो प्रसन्न होकर नाचती है अंत में पैरों को देखकर रो पड़ती है।
4. विशेष कथन - माता कौशल्या की अर्ध विक्षिप्तावस्था का मार्मिक वर्णन, वात्सल्य रस व करुण रस, राम के बचपन की चीजों का उद्दीपनकारी चित्रण, अनुप्रास अंलकार, उपमा अंलकार, पुनरुक्तिप्रकाश, संवादात्मकता से नाटकीयता, अवधी मिश्रित ब्रजभाषा।

8. केवल दो प्रश्नों के उत्तर अपेक्षित हैं :-

अंक विभाजन

उपयुक्त कथ्य

भाषा मैथिली

2

1

कुल अंक : 6 अंक

- क) देवसेना का अपने अतीत पर दृष्टिपात करना, आजीवन हृदय में कोमल भावनाओं को संजोना, भ्रम व भ्रम का किये कार्य। जो द्वार पर आया उसे लौटा, उसी के लिए कोमल भावनाएँ संजोना व्यर्थ। अंत में संचित कोमल भावनाओं को भीख में लुटा दिया, उसी संचित ..... पूंजी को सुरक्षित नहीं रख सकी।
- (ख) धरती और मन दोनों बंजर, सजन में बाधा, धरती में पत्थर व कठोरता, मन में भावों, विचारों का पोषण नहीं, धरती की चट्टान, कठोरता को तोड़ कर उपजाऊ बनाने की आवश्यकता, मन की खीज को खोद कर सजन योग्य मनाने की आवश्यकता।
- (ग) नायिका नागमति पति के वियोग में विरह व्यथा से व्याकुल, पूस की ठण्ड, विरह रूपी बाज नायिका के शरीर पर नजरे गड़ाए चारों ओर चक्कर लगा रहा है, उसे जीते जी खा रहा है, उसके मरने के बाद ही पीछा छोड़ेगा, प्रिय की निकटता ही बचा सकती है, मांस गल चुका, रक्त बह गया, हड्डियाँ खंड के समान सफेद, मरणासन्न दशा-पति आकर पंखों को समेट ले।

9. दो काव्यांशों का काव्य-सौन्दर्य अपेक्षित है :

अंक विभाजन :-

भाव सौन्दर्य

(1½)

शिल्प - सौन्दर्य (भाषा, अलंकार आदि अन्य कोई तीन विशेषताएं)

(1½)

(क) इस पथ पर ..... तेरा तर्पण।

**भाव-सौन्दर्य-पुत्री** के लिए कुछ न कुछ कर पाने पर कवि अकर्मण्यता के पाप-बोध से ग्रसित, उसके सत्कर्म शीत ऋतु के कमल-दल की भांति नष्ट हो जाएं, चिंता नहीं। सत्कर्मों को पुत्री सरोज को अर्पित कर श्रद्धांजलि देना चाहता है। प्रार्थना चित का भाव।

**शिल्प-सौन्दर्य**-तत्सम शब्दावली से सुकल खड़ी बोली हिन्दी, उपमा अलंकार, अनुप्रास अलंकार, समासिकता, तुकान्त, छंद मुक्त।

(ख) तोहर विरह ..... चाँद समान। भाव-सौन्दर्य - विरहिणी नायिका की मनोदशा का मार्मिक अंकन, वियोगिनी नायिका प्रियतम के विरह में प्रतिदिन, प्रतिक्षण क्षीण, उसकी दशा का कृष्णपक्ष की चौदहवीं के चाँद के समान, धीरे-धीरे बहंत दुर्बल हो गई है।

**काव्य-सौन्दर्य**-मैथिली भाषा, वीप्सा अलंकार, उपमा, अनुप्रास अलंकार, वियोग की चरमावस्था का अंकन।

(ग) तब हार पहार ..... पहार परे। **भाव-सौन्दर्य**-संयोगकालीन और वियोग कालीन अवस्थाओं के अंतर की अभिव्यक्ति। संयोगावस्था में नायिका सुजान के गले में पड़ा हार दोनों के मिलन में बाधक, वियोगावस्था में वियोग के पहाड़ बीच में आ गए।

**शिल्प-सौंदर्य** - ब्रज भाषा का प्रयोग, अनुप्रास, उपमा, यमक अलंकार, वियोग श्रृंगार रस।

10. किसी एक गद्यांश की सप्रसंग व्याख्या अपेक्षित है :-

अंक विभाजन इस प्रकार है :-

- |  |   |
|--|---|
| (1) संदर्भ/लेख तथा लेखक कानामोल्लेख          | 1 |
| (2) प्रसंग/पूर्वापर संबंध                    | 1 |
| (ग) व्याख्या/प्रमुख भावबिंदुओं का स्पष्टीकरण | 3 |
| (घ) भाषागत विशेषताएं / टिप्पणी               | 1 |
| मैं कहीं जाता ..... साथ रख दिया।             | 6 |

(1) संदर्भ : लेख-आत्मकथा का अंश 'कच्चा चिट्ठा'

लेखक - ब्रजमोहन ब्यास

(2) प्रसंग :- जीवन की घटनाओं का लेखा-जोखा, संग्रहालय के लिए मूर्तियाँ, फिलालेख एवं अन्य सामग्री जुटाने के लिए प्रयास का वर्णन।

(3) व्याख्या बिंदु :- लेखक जहाँ भी जाए खाली हाथ नहीं लौटता, महत्वपूर्ण वस्तु लेकर आना, कौशांबी की यात्रा, पसोवा गांव से मणमूर्तियाँ, सिक्के और मनके, कौशांबी लौट रहा था - रास्ता दूसरा - गांव के पास पत्थरों के ढेर के बीच, पेड़ के नीचे चतुर्भुज फिरोज की मूर्ति का दिखना, लेखक की ललचायी नज़र - जैसे चांद्रायण व्रत करती बिल्ली की नज़र चूहे पर, मूर्ति उठाकर चुप-चाप इक्के पर रख लेना, 20 सेर की मूर्ति उठा कर संग्रहालय से संबंधित मंडप में रखना।

(4) टिप्पणी/विशेष :- आत्मकथात्मक शैली, देहाज शब्द, तत्सम शब्द, चित्रात्मकता, कहावत का प्रयोग, उदाहरण ..... चांद्रायण करती बिल्ली।

अथवा

यदि समाज में ..... अस्त्र बन जाता है।

(1) संदर्भ :-

लेख - यथास्मै रोचते विवृण्वन् निबंध संग्रह-विराम चिह्न।

प्रसंग :- कवि की प्रजापति की भूमिका एवं दायित्व, मानव संबंधों और विधाता पर रचना करने का वर्णन।

व्याख्या बिंदु - काव्य मानव संबंधों पर आधारित होता है लेकिन यदि कवि संतुष्ट नहीं तो उसमें परिवर्तन करता है। यथार्थ के साथ आदर्श की स्थापना, इसके लिए ईश्वर को भी मानव रूप में चित्रित करता है यदि समाज के लोगों का जीवन (मानवीय संबंधों) दुःख पीड़ा के पिंजड़े से निकलना चाहे तो कवि का सफ़ा रूप प्रकट होता है, वह साहित्य द्वारा समाज की बुराईयों को दूर कर परिवर्तित करने की प्रेरणा देता है। मानव रूपी पक्षी के पंखों में नई शक्ति व आशा का संचार करता है। अन्याय व अत्याचार से लड़ने की शक्ति देता है, स्वतंत्र आकाश के गीत गाता है। साहित्य जीवन का प्रतिबिंब बन उसे समेटने, इकट्ठा करने और परिवर्तित करने का अस्त्र बन जाता है।

टिप्पणी/विशेष :- विचारात्मक शैली, तत्सम, तद्भव, देहाज शब्दों का प्रयोग, मुहावरों का प्रयोग, गद्य में रूपक-मानव विहंग, मानव संबंधों के पिंजरे, अजेय-अस्त्र, साहित्य के द्वारा प्रेरणा एवं आशा का संचार।

11. दो प्रश्नों के उत्तर अपेक्षित हैं :

अंक विभाजन :- विषय वस्तु

भाषा

- (क) बालक से शिक्षकों ने प्रश्नों के उत्तर पूछे छोटे बालक का उत्तर देना अस्वाभाविक, इनाम में लड्डू मांगना-बाल सुलभ मनोवृत्ति, बचपन के बचने की आशा-जीवित वृक्ष के हरे पत्तों के माध्यम से जीवंतता का परिचय, बालक का लड्डू मांगना - स्वाभाविक, मरे काठ की खड़खड़ाहट-रटे रटाये प्रश्नों से बचपन का नष्ट होना।
- (ख) प्रकृति के कारण विस्थापन अस्थायी, बाढ़ व भूकंप में घर छोड़ना, मुसीबत के टलते ही पुराने परिवेश में लौटना, औद्योगिकरण के कारण विस्थापन स्थायी, लौटकर वापस न आना, परिवेश और आवास-स्थल से संपर्क टूट जाना।
- (ग) रूप मुख्य है या नाम, नाम बड़ा या रूप - नाम बड़ा - सामाजिक स्वीकृति का होना, रूप व्यक्ति सत्य जबकि नाम समाज सत्य। नाम पद है जिस पर सामाजिक मुहर लगी होना, आधुनिक लोग इसे 'सोशल-सेक्शन' कहते हैं। नाम - समाज स्वीकृति इतिहास प्रमाणिक, लोगों के चित्त में समाया हुआ।

11. अंक विभाजन इस प्रकार हैं :-

कवि/लेखक का जीवन परिचय	2
रचनाएं (किन्हीं चार का उल्लेख करने पर)	2
काव्यगत विशेषताएं/भाषा-शैली	2

कवि :- जयशंकर प्रसाद :- जीवन परिचय :- जन्म :- सन् - 1888 ई. काशी में सुहानी साहू परिवार में, विद्यालयी शिक्षा - आठवीं तक, प्रतिभा के धनी, मृत्यु-सन् 1937 ई.

रचनाएं - पद्य गद्य दोनों - कामायनी, आँसू, प्रेमपथिक, झरना, लहर, करुणालय, अजात शत्रु, चंद्रगुप्त, स्कंदगुप्त, कंकाल, तितली, आकाश दीप, आँधी आदि।

काव्यगत विशेषताएं - खड़ी बोली हिन्दी का परिष्कृत रूप, भाषा सहज एवं कोमल कांत पदावली युक्त, तत्सम शब्दों का प्रयोग, लक्षणा, व्यंजना शब्द चित्रण, ध्वन्यात्मकता, मानवीकरण, संगीतात्मकता एवं चित्रात्मकता, प्रतीक, बिम्ब, अलंकारों का सुन्दर प्रयोग।

अथवा

विद्यापति :- जीवन परिचय :- जन्म - सन् 1380 ई0, बिहार के मधुबनी जिले के बिस्पी नामक गांव में, जन्मकाल की प्रमाणिक सूचना नहीं, मिथिला नरेश राजा विश्वसिंह के अभिन्न मित्र, राजकवि एवं सलाहकार। साहित्य, संस्कृत, संगीत, ज्योतिष, इतिहास, दर्शन, न्याय, भूगोल के प्रकाण्ड पण्डित। मृत्यु - 1460 ई।

रचनाएं :- कीर्तिलता, कीर्तिपताका, लिखनावली, विद्यापति पदावली आदि। काव्यगत विशेषताएं :- आदिकाल और भक्तिकाल के संधि कवि, भक्ति और श्रृंगार की प्रधानता, राधा-कृष्ण के माध्यम से लौकिक प्रेम का चित्रण, देवी देवताओं की स्तुति, प्रकृति की मनोहर छवि का चित्रण, मानवीय-प्रेम, पद-लालित्य एवं व्यावहारिक जीवन का भावपूर्ण चित्रण, आम बोलचाल की मैथिली भाषा।

अथवा

लेखक - फणीश्वर नाथ रेणु : जीवन परिचय

जन्म - सन् 1921 ई., बिहार के पूर्णिया जिले के औराही हिंगना नामक गांव में। 1942 ई0 के 'भारत छोड़ो' स्वाधीनता आंदोलन में भाग, राजनीति में प्रगतिशील विचारधारा के समर्थक। 1953 में साहित्य संजनों के क्षेत्र में आए। मृत्यु - 1977 ई।

रचनाएं - उपन्यास - मैला आँचल, परती परिकथा, कहनी-संग्रह-ठुमरी, अग्निखोर, तीसरी कसम, उर्फ मारे गए गुलफाम, आदि।

भाषा शैली - प्रथम आँचलिक कथा-शैली, आँचल विशेषताओं को आधार बनाया, आँचलिक शब्दावली और मुहावरों का प्रयोग, गहरी मानवीय संवेदना के कारण अभाव-ग्रस्त जनता की बेबसी और पीड़ा की अनुभूति, कला सजग आँखें, बदलते सामाजिक यथार्थ की पकड़, भाषा संवेदनशील, संप्रेषणीय एवं भावप्रधान, द्वंद्व को उभारने में सक्षम।



भीष्म साहनी :- जीवन परिचय।

जन्म :- सन् 1915 ई., जन्म रावलपिंडी पाकिस्तान में, प्रारंभिक शिक्षा घर में, गवर्नमेंट कॉलेज लाहौर से अंग्रेजी साहित्य में पी.एच.डी की उपाधि, नयी कहानियों का कुशल संपादन। मृत्यु सन् 2003 ई।

रचनाएं :- कहानी संग्रह - भाग्य रेखा, पटरियाँ, वाडचू उपन्यास - तमस, झरोखे, मय्यादास की माड़ी, नाटक - माध्वी, हानू, कबिरा खड़ा बाजार में आदि। तमस उपन्यास के लिए साहित्य अकादमी पुरस्कार, हिन्दी अकादमी दिल्ली से 'लाका-सम्मान'।

भाषा- पंजाबी - भाषा सीधी-सादी, क्लिष्ट शब्दों का प्रयोग नहीं, वर्णनात्मक पंजाबी। उर्दू शब्दों का प्रयोग, भाषा पंजाबी में पंजाबी भाषा की सोंधी महक, छोटे-छोटे वाक्यों से विषय रोचक एवं प्रभावी, संवादों के प्रयोग से ताज़गी।

13. केवल तीन प्रश्नों के उत्तर अपेक्षित हैं। अंक विभाजन इस प्रकार है -

कथ्य/विषय वस्तु 2

भाषा 1

(क) अंधे भिखारी के लिए दरिद्रता लज्जा की बात नहीं, बल्कि धन-संचय लज्जा की बात है। लोग कहेंगे कि इतने रूपये कहाँ से आए, वह भीख क्यों मांगता था। जगधर उससे गुप्त रखता था, सूरदास नहीं चाहता था कि धन खोने की बात से जगधर को खुशी मिले।

(ख) फूल गंध ही नहीं दवा भी देते हैं, कमल कोइयाँ, हरसिंगार मनभावन गंध, पीली सरसों के खेतों में तेल की गंध, भरभंडा या सत्यानाशी - आँख आ जाने (दुखने पर) पर दूध आँख में लगाने से ठीक, नीम के फूल चेचक के रोगी के पास रखने से ठीक, बेर के फूल सूँघने से बरें-ततैया का डंक झर जाता है।

(ग) ग्यारह वर्ष पूर्व रूपसिंह का घर छोड़ कर भाग जाना, अपने परिवार की कोई खोज खबर न लेना और अचानक पर्वतारोहण की अपनी नौकरी के सिलसिले में ग्यारह वर्ष बाद अपने गाँव माही आने से लज्जा, उसके मन में गाँव और परिवार के प्रति अपनत्व जाग्रत होना, किंतु मालिक के साथ होने और गाँव में अभी तक कोई पक्की सड़क न बनी होने के कारण झिझक।

(घ) गलतफहमी के निवारक - विकास की औद्योगिक सभ्यता का भ्रम, वास्तव में उजाड़ की ओर ले जा रही है। अपसभ्यता है, पाश्चात्य दृष्टिकोण से अपनाई जाने वाली सभ्यता - उजाड़ कर बर्बाद कर देगी। मानव जाति और प्रकृति दोनों का विनाश पर्यावरणीय असंतुलन, मौसम का चक्र बिगाड़ दिया।

14. केवल एक प्रश्न अपेक्षित है :-

अंक विभाजन इस प्रकार है :-

कथ्य 05

भाषा पंजाबी 01

(क) सूरदास के चरित्र की विशेषताएं :-

(1) कर्मशील व्यक्तित्व (2) हर न मानने वाला (3) सहनशील (4) दृढ़ निश्चयी एवं (5) आशावादी।

जन्म के बाद बच्चे का माँ की गोद में दूध ग्रहण करना, माँ का दूध अमृत समान पौष्टिक। माँ का आँचल आत्मीयता एवं सुरक्षा, गोद में रोना, हँसना, चिपटना, माँ को पैर मारना। माँ के पेट का स्पर्श, गंध महसूस करना। माँ के दूध से बच्चे का जीवन निर्माण होना, सेहत और स्वास्थ्य के लिए लाभदायक होना।

**प्रतिदर्श प्रश्नपत्र संख्या - 2**  
**हिन्दी (ऐच्छिक)**  
**कक्षा - 12**

निर्धारित समय : 3 घंटे

अधिकतम अंक : 100

1. निम्नलिखित गद्यांशों को ध्यानपूर्वक पढ़कर पूछे गए प्रश्नों के उत्तर दीजिए। 15

वनों में भी पीपल या अश्वत्थ का विशेष महत्व है। यह हिमालय की ऊँचाईयों को छोड़कर सर्वत्र पाया जाता है। यह बरगद का भाई है, कभी-कभी बरगद-पीपल दोनों के लिए अश्वत्थ शब्द का प्रयोग हुआ है। पर बरगद से पीपल इसीलिए विभिन्न है कि यह सर्वांग मनोहर है, विशेषकर इसमें जब नए किसलय निकलते हैं और बिना किसी हवा के संस्पर्श के हिलते दिखते हैं, तो ऐसा लगता है कि हजार-हजार छोटी-छोटी झंडियाँ किसी विशेष आगमन की सूचना देती हैं। पलाश के फूल तो अंगारे की तरह दिखते हैं, पर पीपल के नए पल्लव ऐसे मनोहर होते हैं कि हजार-हजार पक्षी दौड़-दौड़कर आगे हैं। उस पीपल की बात करना चाहता हूँ।

पीपल का पेड़ भारत का दुर्निवार पेड़ है इसे कोई लगाए न लगाए, कहीं उग आता है। पुराने मकानों की संधियों में चिड़िया पीपल का गोदा खाकर उसके बीच जाती है, पीपल उग आता है। किसी-किसी पेड़ की डाली पर बीज पड़ जाता है, पीपल उग आता है और अपनी जड़ें दूर-दूर फैलाता जाता है। गाँवों में लाग इसे काटते हुए डरते हैं। पीपल का पेड़ बड़ा पवित्र है। पीपल के पत्तों पर लोग रामनाम लिखते हैं। पीपल की छांह में गाँवों की पंचायत जुटती थी, ताकि लोग वहां झूठ न कहें। पीपल सत्य है, क्योंकि निरंतरता है।

- (क) पीपल कहाँ-कहाँ पाया जाता है ? 2
- (ख) 'अश्वत्थ' शब्द का प्रयोग किनके लिए किया है और क्यों ? 2
- (ग) बरगद से पीपल विभिन्न क्यों है ? 2
- (घ) लेखक ने पीपल को 'दुर्निवार' क्यों कहा है ? 2
- (ङ) लोग पीपल को काटते हुए क्यों डरते हैं ? 2
- (च) गाँवों में पीपल की छांह में पंचायत क्यों जुटती थी ? 2
- (छ) पीपल के हिलते हुए पत्ते कैसे प्रतीत होते हैं ? 2
- (ज) इस गद्यांश का उपयुक्त शीर्षक लिखिए। 1

2. निम्नलिखित काव्यांशों को ध्यानपूर्वक पढ़कर पूछे गए प्रश्नों के उत्तर दीजिए। (1x5=5)

मत कहो तुम ये पेड़  
हैं ये लज्जावसन  
इस माँ वसुन्धरा के।  
इस संहार के बाद  
अशोक की तरह

सचमुच तुम बहुत पछताओगे  
बोलो फिर किसकी गोद में  
सिर छिपाओगे ?

गीतल छाया  
फिर कहाँ से पाओगे ?  
कहाँ से पाओगे फिर फल ?  
कहाँ से मिलेगा ?

स्य- यमला को  
सीचने वाला जल ?  
रेगिस्तानों में  
तब्दील हो जायेंगे खेत  
बरसेंगे कहां से

उमड़-घुमड़कर बादल ?  
थके हुए मुसाफिर  
पायेंगे कहां से  
श्रमहारी छाया ?

- (क) पेड़ों को लज्जावसन क्यों कहा है ?  
(ख) कवि अ गोक की तरह पछताने की बात क्यों करता है ?  
(ग) पेड़ कटने से क्या कुप्रभाव पड़ेगा ?  
(घ) खेत कौन-सा रूप धारण कर लेंगे ?  
(ङ) मुसाफिर किस-चीज से वंचित हो जायेंगे ?

अथवा

निर्भय स्वागत करो म ल्यु का,  
म ल्यु एक है विश्राम-स्थल  
जीव जहां से फिर चलता है,  
धारण कर नव जीवन-संबल

म ल्यु एक सरिता है जिसमें  
श्रम से कातर जीव नहाकर।

फिर नूतन धारणा करता है,  
काया-रूपी वस्त्र बहाकर

प्र न :-

1. निर्भय होकर मृत्यु का स्वागत क्यों करना चाहिए ?
2. 'धारण कर नव जीवन-संबल' से क्या तात्पर्य है ?
3. कवि ने मृत्यु और नदी में क्या समानता स्थापित की है ?
4. 'काया रूपी वस्त्र' में कौन-सा अलंकार है ?
5. उपर्युक्त पद्यांश का उचित शीर्षक दीजिए।

3. निम्नलिखित में से किसी एक विषय पर एक निबन्ध लिखिए।

10

- (क) गिरते नैतिक मूल्य और साहित्यकार की भूमिका।
- (ख) आधुनिक भारत के निर्माण में विज्ञान की भूमिका।
- (ग) नारी साक्षर - देश साक्षर
- (घ) मजहब नहीं सिखाता आपस में बैर रखना।
- (ङ) इंटरनेट : वरदान या अभिशाप

4. नवनिर्मित बी.आर.टी. (BRT) से संबंधित समस्याओं की ओर ध्यान आकर्षित करते हुए दिल्ली परिवहन निगम के निदेशक को पत्र लिखिए।

5

अथवा

दिल्ली दूरदर्शन को निदेशक का दिल्ली दूरदर्शन केन्द्र से प्रसारित कार्यक्रमों को रोचक बनाने के लिए पत्र लिखकर अपने सुझाव दीजिए।

5. समाचार लेखन के छः प्रकारों का वर्णन उदाहरण सहित कीजिए।

5

अथवा

कविता क्या है? कविता के प्रमुख घटकों को स्पष्ट कीजिए।

6. निम्नलिखित प्रश्नों के उत्तर एक या दो वाक्यों में दीजिए।

1x5=5

1. संचार की भाषा में एंकर पैकेज से क्या अभिप्राय है?
2. इंटरनेट पत्रकारिता के लोकप्रिय होने के दो कारण लिखिए।
3. संपादकीय लेखन क्या है?
4. नाटक के आवयक्त तत्व कौन-कौन से हैं?
5. श्रव्य माध्यम की क्या सीमाएँ हैं?

7. निम्नलिखित काव्यां 1 की सप्रसंग व्याख्या कीजिए :

8

चोट खाकर राह चलते  
हो 1 के भी हो 1 छूटे  
हाथ जो पाथेय थे, ठग  
ठाकुरों ने रात लूटे,  
कंठ रूकता जा रहा है,  
आ रहा है काल देखो।

भर गया है जहर से  
संसार जैसे हार खाकर  
देखते हैं लोग लोगों को,  
सही परिचय न पाकर  
बुझ गई है लौ प था की,  
जल उठो फिर सींचने को।

अथवा

सिंधु तर यो उनको बनरा तुम पै धनरेख गई न तरी।  
बाँधेई बाँधत सो न बन्यो उन बरिधि बाँधिकै बाट करी।  
श्री रघुनाथ-प्रताप की बात तुम्हें दसकंठ न जानि परी।  
तेलनि तूलनि पूँछि जरी न जरी, जरी लंक जराई-जरी।।

8. निम्नलिखित में से किन्हीं दो प्र नों के उत्तर दीजिए।

3+3=6

- (क) 'सत्य' कविता के आधार पर सत्य और संकल्प के अंतर्संबंध को स्पष्ट कीजिए।  
(ख) 'एक कम' कविता में कवि ने हाथ फ़ैलाने वाले व्यक्ति को ईमानदार क्यों कहा है ?  
(ग) माघ महीने में विरहिणी को क्या अनुभूति होती है ? 'बारहमासा' के आधार पर उत्तर दीजिए।

9. निम्नलिखित में से किन्हीं दो काव्यां ों में निहित काव्य-सौंदर्य स्पष्ट कीजिए।

3+3=6

- (क) किसी अलक्षित सूर्य को देता हुआ अर्घ्य ताब्दियों से इसी तरह गंगा के जल में अपनी एक टांग पर खड़ा है यह 1हर अपनी दूसरी टांग से बिल्कुल बेखबर।  
(ख) चलती सड़क के किनारे लाल बजरी पर चुरमुराए पाँव तले ऊँचे तरूवर से गिरे बड़े-बड़े बजे सुबह जैसे गरम पानी से नहाई हो- खिली हुई हवा आई, फिरकी-सी आई, चली गई।  
(ग) मातु मंदि भई साधु सुचाली। उन सन आनत कोटि कुचालि। फरै कि कोदव बालि सुसाली। मुकुट प्रसव कि सबुंक काली।

10. निम्नलिखित गद्यांशों की सप्रसंग व्याख्या कीजिए।

(क) धर्म के रहस्य जानने की इच्छा प्रत्येक मनुष्य न करे, जो कहा जाए वही कान ढलकाकर सुन ले, इस सत्ययुगी मत के समर्थन में घड़ी का दण्डांत बहुत तालियाँ पिटवा कर दिया जाता है। घड़ी समय बतलाती है। किसी घड़ी अधिक जानने वाले से समय पूछ लो और काम चला लो। यदि अधिक करो तो घड़ी देखना स्वयं सीख लो, किंतु तुम चाहते हो कि घड़ी का पीछा खोलकर देखें, पुर्जे गिन लें, उन्हें खोलकर फिर जमा दें, साफ करके फिर लगा लें – यह तुमसे नहीं होगा। तुम उसके अधिकारी नहीं। यह तो वेदशास्त्रज्ञ धर्माचार्यों का ही काम है कि घड़ी के पुर्जे जानें, तुम्हें इससे क्या?

अथवा

(ख) दुख और सुख तो मन के विकल्प हैं। सुखी वह है जिसका मन विलास में है, दुःखी वह है जिसका मन परवलास में है। परवलास होने का अर्थ है खुशामद करना, दाँत निपोरना, चाटुकारिता, हाँ-हजूरी। जिसका मन अपने विलास में नहीं है वही दूसरे के मन का छंदावर्तन करता है, अपने को छिपाने के लिए मिथ्या आडंबर रचता है, दूसरों को फंसाने के लिए जाल बिछाता है। कुटज इन सब मिथ्याचारों से मुक्त है। वह विलासी है। वह वैरागी है। राजा जनक की तरह संसार में रहकर, संपूर्ण भोगों को भोगकर भी उनसे मुक्त है।

11. निम्नलिखित में से किन्हीं दो प्रश्नों के उत्तर दीजिए।

4+4=8

(क) बड़ी बहुरिया का संवाद हरगोबिन क्यों नहीं सुना सका ?

(ख) बचपन में लेखक के मन में भारतेन्दु जी के संबंध में कैसी भावना जगी रहती थी ?

(ग) पाठ-‘जहां-से कोई वापसी नहीं’ के आधार पर बताइए कि प्रकृति के कारण विस्थापन और औद्योगिकरण के कारण विस्थापन में क्या अंतर है ?

11. विष्णु खरे अथवा घनानंद के जीवन और रचनाओं का संक्षिप्त परिचय देते हुए उनकी प्रमुख काव्यगत विशेषताओं का उल्लेख कीजिए।

6

अथवा

रामचन्द्र शुक्ल अथवा ममता कालिया के जीवन और रचनाओं का संक्षिप्त परिचय देते हुए उनकी भाषा शैली की प्रमुख विशेषताओं का उल्लेख कीजिए।

12. निम्नलिखित में से किन्हीं तीन प्रश्नों के उत्तर ‘अन्तराल भाग-2’ के आधार पर दीजिए।

3x3=9

(क) ‘बिस्कोहर की माटी’ पाठ के आधार पर बताइए कि बिसनाथ पर क्या अत्याचार हो गया ?

(ख) बूढ़े तिरलोक को पहाड़ पर चढ़ना जैसी नौकरी की बात सुनकर अजीब क्यों लगा ? ‘आरोहण’ पाठ के आधार पर उत्तर दीजिए।

(ग) मालवा में जब सब जगह बरसात की झड़ी रहती है तब मालवा के जनजीवन पर इसका क्या असर पड़ता है ?

घ) झोपड़ी में आग लग जाने पर भी सूरदास अपने रूप ढूँढ़ता रहा, क्यों?

13. लेखक को क्यों लगता है कि 'हम जिसे विकास की औद्योगिक सभ्यता कहते हैं वह उजाड़ की अपसभ्यता है।' 'अपना मालवा' पाठ के आधार पर स्पष्ट कीजिए।

6

अथवा

'सूरदास उठ खड़ा हुआ और विजय-गर्व की तरंग में राख के ढेर को दोनों हाथों से उड़ाने लगा।' – इस कथन के संदर्भ में सूरदास की मनोदशा का वर्णन कीजिए।

# प्रतिदर्श प्रश्न पत्र - 3

## हिन्दी (वैकल्पिक)

### कक्षा - 12

निर्धारित समय : 3 घण्टे

अधिकतम अंक : 100

1. निम्नलिखित गद्यांशों को ध्यानपूर्वक पढ़कर पूछे गए प्रश्नों के उत्तर दीजिए। 15
- बाजार आमंत्रित करता है कि आओ मुझे लूटो। सब कुछ भूल जाओ। मुझे देखो। मेरा रूप और भला किसके लिए है। कुछ नहीं चाहते हो, तो भी देखने में क्या हरज है। अजी आओ भी। इस आमंत्रण में यह खास खूबी है कि आग्रह नहीं है। आग्रह तिरस्कार जगाता है। किन्तु ऊँचे बाजार का आमंत्रण मूक होता है तथा उससे चाह जागती है। चाह मतलब अभाव। चौक बाजार में खड़े होने पर आदमी को लगता है कि उसके पास अभी काफी नहीं है उसे और चाहिए। मेरे यहां कितना परिमित है तथा यहाँ कितना अतुलित है। ओह !
- बाजार में एक जादू है वह जादू हमारी आँख की राह काम करता है। वह रूप कस जादू है पर जिस प्रकार चुंबक का जादू लोहे पर ही चलता है ठीक वैसे ही इस जादू की भी मर्यादा है। जब भरी हो तथा मन खाली हो, ऐसे हालात में जादू का असर खूब होता है। अगर जब खाली पर मन भरा न हो, तो भी जादू चल जाएगा। मन खाली है तो बाजार की बहुत सी चीजों का निमंत्रण उस तक पहुंच जाएगा। और कहीं उसी वक्त जब भरी हुई तब तो फिर वह मन किसकी मानने वाला है।
- यहां एक अंतर चिह्न लेना बहुत जरूरी है। मन खाली न रहना चाहिए, इसका अर्थ यह नहीं है कि वह मन बंद ही रहना चाहिए। क्योंकि जो बंद हो जाएगा, वह मृत्यु हो जाएगा। मृत्यु होने का हक बस परमात्मा का है जो सनातन भाव से संपूर्ण है बाकी सब अपूर्ण है। इससे मन बंद नहीं रह सकता। सब कामनाओं का निरोध कर लोगे, यह झूठ है और यदि इच्छानिरोधस्तपः का ऐसा ही नकारात्मक अर्थ हो तो ऐसा तप झूठ है। वैसे तप की राह रेगिस्तान को भले जाती होगी, मोक्ष की राह वह नहीं है। डाट देकर मन को बंद करके रखना जड़ता है। लोभ का जीतना यह अर्थ नहीं है कि जहां लोभ होता है, अर्थात् मन में, वहां नकार हो। यह तो लोभ की ही जीत है तथा आदमी की हार। अपनी आँखें फोड़ डालीं, तब लोभनीय वेगदमन से बचे तो क्या हुआ ? ऐसे क्या लोभ खत्म हो जाएगा ? और कौन कहता है कि आँखें फूटने पर कोई भी रूप दिखना बंद हो जाएगा ? आँखें बंद कर डालने की कोशिश तो अच्छी नहीं। वह अकारण है और यह तो हठवाला योग है। आयद मात्र जिदद् है, योग नहीं है। इससे मन कमजोर भले हो जाए और पीला तथा आतकत जैसे विद्वान का ज्ञान। वह ऐसे में मुक्त नहीं होता। इससे वह व्यापक की बजाय संकीर्ण मूंदकर मन तो बंद करना नहीं चाहिए। वह मन कब पूर्ण है ? नाम में पूर्णता होती तो परमात्मा से अलग हम महा मृत्यु ही न होते ? अपूर्ण है, आयद इसी से हम हैं। बच्चा ज्ञान सदा हंसी अपूर्णता के बोध को हम में गहरा करता है। नेक कर्म सदा इस अपूर्णता की स्वीकृति के साथ होता है। इसलिए उपाय कोई नहीं हो सकता है जो बलात् हुए मन को रोकने को न कहे, जो मन को भी इसलिए सुनें क्योंकि वह बेकार में हमें प्राप्त नहीं हुआ है। हाँ मनमानेपन की छूँ मन को न हो, चूंकि वह अखिल का अंग है, खुद कुल नहीं है।
- (क) बाजार के आकर्षण को देखकर मनुष्य को क्या लगता है ? 2
- (ख) बाजार के रूप को जादू क्यों कहा गया है ? 2
- (ग) मनुष्य की जब भरी हो तथा मन खाली हो तो वह क्या करता है ? 2
- (घ) मृत्यु का अधिकार किसे है ? 2
- (ङ) “इच्छानिरोधस्तपः” शब्द की व्याख्या कीजिए। 2



- (च) हठ वाला योग से क्या तात्पर्य है? 2
- (छ) मन को मनमानेपन की छूट देनी चाहिए या उसे रोकना चाहिए।
- (ज) इस गद्यांश का उपयुक्त शीर्षक लिखिए। 1

2. निम्नलिखित काव्यांश को ध्यानपूर्वक पढ़कर पूछे गए प्रश्नों के उत्तर लिखिए।

तिरती है समीर सागर पर  
 अस्थिर सुख पर दुःख की छाया  
 जग के दग्ध हृदय पर  
 निर्दय विप्लव की प्लावित माया  
 यह तेरी रण-तरी  
 भरी आकांक्षाओं से,  
 घन, मेरी-गर्जन से सजग सुप्त अंकुर  
 उर में पृथ्वी के आकाशों से  
 नवजीवन की, ऊँचा कर सिर  
 ताक रहे हैं, ऐ विप्लव के बादल

- (क) अस्थिर सुख पर दुःख की छाया पंक्ति में दुःख की छाया किसे कहा गया है ? और क्यों ? 1
- (ख) कवि आम जनता को अधिकार दिलाने के लिए क्या चाहता है ? 1
- (ग) प्रस्तुत कविता में कवि शोषक तथा शोषित वर्ग के प्रति कैसी भावना रखता है ?
- (घ) कवि ने समाज में फैली कौन सी भावना की ओर इंगित किया है ? 1
- (ङ) अनुप्रास तथा मानवीकरण अलंकारों का प्रयोग कौन-कौन सी पंक्तियों में हुआ है ? 1

अथवा

ब्रह्मा से कुछ लिखा भाग्य में  
 मनुज नहीं लाया है,  
 अपना सुख उसने अपने  
 भुजबल से ही पाया है  
 प्रकृति नहीं कर झुकती है।  
 कभी भाग्य के बल से,  
 सदा हारती वह मनुष्य के

उदमय से, श्रमजल से।  
 ब्रह्मा का अभिलेख पढ़ा-  
 करते निरुद्यमी प्राणी,  
 धोते वीर कु-अंक भाल के  
 बहा ध्रुवों से पानी।  
 भाग्यवाद आवरण पाप का  
 और अस्त्र शोषण का,  
 भाग्य दूसरे जन का।

- (क) प्रकृति मनुष्य के आगे कब झुकती है ? 1
- (ख) भाग्य लेख कैसे लोग पढ़ते हैं ? 1
- (ग) भाग्यवाद को “पाप का आवरण” और “शोषण का अस्त्र” क्यों कहा गया है ? 1
- (घ) इस काव्यांश से आपको क्या प्रेरणा मिलती है ? 1
- (ङ) इस काव्यांश का उपयुक्त शीर्षक लिखिए।
3. निम्नलिखित में से किसी एक विषय पर निबन्ध लिखिए। 10
- (क) आरक्षण: उजले मैले पक्ष
- (ख) बढ़ते अपराध और कानून व्यवस्था
- (ग) राष्ट्र निर्माण में साहित्य की भूमिका
- (घ) कंप्यूटर : आज की आवश्यकता
- (ङ) मन के हारे हार है, मन के जीते जीत
4. अपने क्षेत्र की कानून व्यवस्था बिगड़ने की ओर अपने नगर के पुलिस कमिश्नर का ध्यान आकर्षित करते हुए पत्र लिखिए।  
 अथवा  
 “नवभारत टाइम्स” के संपादक को पत्र लिखकर सरकारी कार्यालयों में बढ़ते भ्रष्टाचार की प्रवृत्ति पर सरकार का ध्यान आकर्षित कीजिए।
5. देहाकाल और वातावरण कहानी लेखन में किस प्रकार आवश्यक है? 5  
 अथवा  
 बीट रिपोर्टिंग और विषीकृत रिपोर्टिंग में क्या अंतर है ?
6. निम्नलिखित प्रश्नों के उत्तर एक या दो वाक्यों में दीजिए :- 1x5=5
1. उल्टा पिरामिड शैली से क्या आशय है?
2. ‘फ्रीलांसर’ पत्रकार किसे कहा जाता है?

3. 'व्यापार-अर्थ' की भाषा का एक उदाहरण दीजिए।
4. नाटक में अस्वीकार की अवधारणा क्या है?
5. फ़्लैट या ब्रेकिंग न्यूज में क्या तात्पर्य है?
7. निम्नलिखित काव्यांशों की सप्रसंग व्याख्या कीजिए।

8

अरूण यह मधुमय देता है हमारा।

जहाँ पहुँच अनजान क्षितिज को मिलता एक सहारा

सरस तमरस गर्म विभा पर - नाच रही तरुणियाँ मनीषा

छिटका जीवन हरियाली पर - मंगल कुकुम सारा।

लघु सुरधनु से पंख पसारें - गीतल मलय समीर सहारे।

उड़ते खग जिस ओर मुँह किए - समझ नीड़ निज प्यारा।

बरसाती आँखों के बादल - बनते जहाँ भरे करुणा जल।

लहरें टकराती अनंत की - पाकर जहाँ किनारा

हेम कुंभ ले ऊषा सवेरे - भरती दुलकाती सुख मेरे।

मंदिर ऊँघते रहते जब - जगकर रजनी भर तारा।

अथवा

विधि न सकेउ सहि मोर दुलारा। नीच बीच जननी मिसु पारा।

यह कहत मोहि आजुन सोभा। अपनी समुझि साधु सुचि कोभा।

मातु मंदि मैं साधु सुचाली। उर अस आनत कोटि कुचाली।

फरह कि कोदव बालि सुसाली। मुकुता प्रसव कि संबुक काली।

सपनेहु दोस क लेसु न काह। मोर अभाग उदधि अवगाहू।

बिनु समझे निज अध परिपाकू। जारिउँ जायं जननि कही काकू।

हृदय हेरि हारेउँ सब ओराँ। एकहि भाँति भलेहि भल मोरा।

गुरू गोसाँई साहिब सिय रामू। लागत मोहि नीक परिनामू।

साधु समौं गुरू प्रभु निकट कहउँ सुथल सतिमाउ।

प्रेम प्रपंच कि झूठ फुर जानहिं मुनि रघुनाउ।

8. निम्नलिखित में से किन्हीं दो प्रश्नों के उत्तर दीजिए।

3+3=6

(क) "यह अद्वितीय - यह मेरा - यह मैं स्वयं विसर्जित" - पंक्ति के आधार पर व्यष्टि की समष्टि में विसर्जन की उपयोगिता बताइए।

(ख) “प्रकृति मनुष्य की सहचरी है” इस विषय पर विचार व्यक्त करते हुए आज के संदर्भ में इस कथन की वास्तविकता पर प्रकाश डालिए।

(ग) सत्य हमसे परे क्यों और किस प्रकार हटता चला जाता है ? सत्य क्या जानना चाहता है ?

9. निम्नलिखित में से किन्हीं दो काव्यों में निहित काव्य सौंदर्य स्पष्ट कीजिए।

3+3=6

(क) पूरन प्रेम को मंत्र महापन जा मधि सोधि सुधारि है लेख्यौ।

ताही के चारू चरित्र विचित्रनि यों पचिकै रचि राखि बिसेख्यौ।

ऐसो हियो हितपत्र पवित्र जो आन-कथा न कहुं अवरेख्यौ।

सो घनआनंद जान अजान लौं टूक कियौ पर बांचि न देख्यौ।

(ख) अघओघ की बेरी कटी विकटी निकटी प्रकटी गुरुज्ञान-गटी।

चहुं ओरनि नाचति मुक्तिनटी गुन धूरजटी पंचवटी।।

(ग) कुसुमित कानन हेरि कमलमुखि

मूदि रहए दु नयान

कोकिल-कलरव, मधुकर-धुनि सुनि,

कर देइ झाँपइ कान।

9. निम्नलिखित गद्यांशों में से किसी एक की सप्रसंग व्याख्या कीजिए।

6

(क) साहित्य का पांचजन्य समर भूमि में उदासीनता का राग नहीं सुनाता। वह आदमी को भाग्य के सहारे बैठने तथा पिंजड़े में पंख फड़फड़ाने की प्रेरणा नहीं देता। इस प्रकार की प्रेरणा देने वालों के वह पंख कतर देता है। वह कायरों एवं पराभव-प्रेमियों को ललकारता हुआ एक बार तो उन्हें भी समरभूमि में उतरने के लिए बुलावा भेजता है। कहा भी है - “क्लीबाना धाष्टर्यजननमुत्साहः पूरमानाम्” भरत मुनि से लेकर लेखक भारतेन्दु तक चली आती हुई हमारे साहित्य की यह अत्यंत गौरवशाली परंपरा है। इसके सामने निरुद्धेयकला, विकृति, काम-वासनाएं, व्यक्तिवाद और अहंकार, पराजय और निराशा के ‘सिद्धान्त’ वैसे ही नहीं ठहरते जैसे सूरज के सामने अंधेरा।

(ख) कुटज क्या सिर्फ जी रहा है। वह दूसरे के दरवाजे पर भीख मांगने नहीं जाता, कोई निकट आ गया तो डर के मारे अधमरा नहीं हो जाता, धर्म और नीति का उपदेश नहीं देता फिरता, अपनी उन्नति के लिए किसी के अफसर का जूता नहीं चाटता फिरता। दूसरों को अपमानित करने हेतु नीलम नहीं धारण करता, अंगूठियों की लड़ी नहीं डालता, दाँत नहीं निफोरता, वह बगले नहीं झाँकता। जीता है और जान से जीता है - जिस वास्ते, किस उद्देश्य से ? कोई नहीं जानता। पर कुछ बड़ी बात है। स्वार्थ के दायरे से बहुत बाहर की बात है। भीष्म पितामह की तरह अवधूत की भाषा में कह रहा है - “चाहे दुख हो या सुख प्रिय हो या अप्रिय” जो मिल जाए उसे जान के साथ, दिल से बिल्कुल अपराजित होकर, सोल्लास ग्रहण करो। कभी हार मत मानो।”

11. निम्नलिखित में से किन्हीं दो प्रश्नों के उत्तर दीजिए :

4+4=8

(क) ‘संवदिया’ कहानी की मूल संवेदना स्पष्ट कीजिए।

(ख) ‘तेरे’ कहानी में लेखक असगर वज़ाहत ने हमारी व्यवस्था पर क्या व्यंग्य किया है, स्पष्ट कीजिए।

(ग) “चांद्रायण व्रत करती हुई बिल्ली के सामने एक चूहा स्वयं आ जाए तो बेचारी को अपना कर्तव्य पालन करना ही पड़ता है।” - “कच्चा चिट्ठा” पाठ के लेखक ने यह वाक्य किस संदर्भ में कहा और क्यों ?

12. सूर्यकान्त त्रिपाठी ‘निराला’ अथवा तुलसीदास के जीवन और रचनाओं का संक्षिप्त परिचय देते हुए काव्यगत विशेषताओं का उल्लेख कीजिए। 6

13. निम्नलिखित में से किन्हीं तीन प्रश्नों के उत्तर “अन्तराल-भाग-2” के आधार पर दीजिए : 3+3+3=9

(क) “चूल्हा ठंडा किया होता, तो दुश्मनों का कलेजा कैसे ठंडा होता ?” इस कथन के आधार पर सूरदास की मनःस्थिति का विवेचन कीजिए।

(ख) “हमारी आज की सभ्यता इन नदियों को अपने गंदे पानी के नाले बना रही है।” अपना मलवा लेख में आए इस कथन पर अपने विचार व्यक्त कीजिए।

(ग) “आरोहण” कहानी में पत्थर की जाति से लेखक का क्या आशय है ? उसके विभिन्न प्रकारों के विषय में लिखिए।

(घ) लेखक बिसनाथ ने किन आधारों पर अपनी माँ की तुलना बत्तख से की है ?

14. निम्नलिखित में से किसी एक प्रश्न का उत्तर विस्तार पूर्वक दीजिए : 6

(क) “प्रकृति सजीव नारी बन गई” - इस कथन के संदर्भ में लेखक की प्रकृति, नारी और सौन्दर्य संबंधी मान्यताएं स्पष्ट कीजिए।

(ख) “अपना मालवा” लेख के आधार पर स्पष्ट कीजिए कि धरती का वातावरण दिन प्रतिदिन क्यों गर्म हो रहा है ? इसमें यूरोप और अमेरिका की क्या भूमिका है ?

## CLASS XII

# MATHEMATICS

Units	Weightage (Marks)
(i) Relations and Functions	10
(ii) Algebra (Matrices and Determinants)	13
(iii) Calculus	44
(iv) Vector and Three dimensional Geometry.	17
(v) Linear Programming	06
(vi) Probability	10
<b>Total : 100</b>	

### Design

Type of Questions	Weightage of each question	Number of questions	Total Marks
(i) Very short answer (VSA)	01	10	10
(ii) Short Answer (SA)	04	12	48
(iii) Long Answer (LA)	06	07	42

### Internal Choice

There will be internal choice in 4 questions of short answer type and in 2 questions of Long answer type.

### NOTE

Questions requiring Higher Order thinking skills (HOTS) have been added in every chapter. Such questions are marked with a star, and to help the students, hints to their solutions are given along with the answers.

## CHAPTER 1

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# RELATIONS AND FUNCTIONS

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### POINTS TO REMEMBER

1. **Empty relation** is the relation  $R$  in  $X$  given by  $R = \phi \subset X \times X$ .
2. **Universal relation** is the relation  $R$  in  $X$  given by  $R = X \times X$ .
3. **Reflexive relation**  $R$  in  $X$  is a relation with  $(a, a) \in R, \forall a \in X$ .
4. **Symmetric relation**  $R$  in  $X$  is a relation satisfying  $(a, b) \in R \Rightarrow (b, a) \in R$ .
5. **Transitive relation**  $R$  in  $X$  is a relation satisfying
$$(a, b) \in R \text{ and } (b, c) \in R \Rightarrow (a, c) \in R.$$
6. **Equivalence relation**  $R$  in  $X$  is a relation which is reflexive, symmetric and transitive.
7. A function  $f = X \rightarrow Y$  is *one-one (or injective)* if
$$f(x_1) = f(x_2) \Rightarrow x_1 = x_2, \forall x_1, x_2 \in X$$
8. A function  $f : X \rightarrow Y$  is onto (or surjective) if given any  $y \in Y, \exists x \in X$  such that  $f(x) = y$ .
9. A function  $f : X \rightarrow Y$  is called *bijective* if it is one-one and onto.
10. For  $f : A \rightarrow B$  and  $g : B \rightarrow C$ , the function  $g \circ f : A \rightarrow C$  is given by  $(g \circ f)(x) = g[f(x)] \forall x \in A$ .
11. A function  $f : X \rightarrow Y$  is invertible if  $\exists g : Y \rightarrow X$  such that  $g \circ f = I_X$  and  $f \circ g = I_Y$ .
12. A function  $f : X \rightarrow Y$  is invertible if and only if  $f$  is one-one and onto.
13. A binary operation  $*$  on a set  $A$  is a function  $* : A \times A \rightarrow A$ .
14. An operation  $*$  on  $A$  is *commutative* if  $a * b = b * a, \forall a, b \in A$ .
15. An operation  $*$  on  $A$  is *associative* if  $(a * b) * c = a * (b * c) \forall a, b, c \in A$ .
16. An element  $e \in A$ , is the identity element for  $* : A \times A \rightarrow A$  if
$$a * e = a = e * a, \forall a \in A.$$
17. An element  $a \in A$  is *invertible for  $*$*  :  $A \times A \rightarrow A$  if there exists  $b \in A$  such that  $a * b = e = b * a$ , where  $e$  is the identity for  $*$ . The element  $b$  is called inverse of  $a$  and is denoted by  $a^{-1}$ .

## VERY SHORT ANSWER TYPE QUESTIONS

1. If  $A$  is the set of students of some boys school then write, which types of following relations are. (Universal, Empty or neither of the two).

$$R_1 = \{(a, b) : a, b \text{ are ages of students and } |a - b| \geq 0\}$$

$$R_2 = \{(a, b) : a, b \text{ are weights of students, and } |a - b| < 0\}$$

$$R_3 = \{(a, b) : a, b \text{ are weights of students and } |a - b| > 0\}$$

$$R_4 = \{(a, b) : a, b \text{ are students studying in same class}\}$$

$$R_5 = \{(a, b) : \text{age of } a \text{ is greater than age of } b\}$$

2. If  $A = \{2, 3, 4, 5\}$  then write whether each of the following relations on set  $A$  is a function or not? Give reasons also.

(i)  $\{(2, 3), (3, 4), (4, 5), (5, 2)\}$

(ii)  $\{(2, 4), (3, 4), (5, 4), (4, 4)\}$

(iii)  $\{(2, 3), (2, 4), (5, 4)\}$

(iv)  $\{(2, 3), (3, 5), (4, 5)\}$

(v)  $\{(2, 2), (2, 3), (4, 4), (4, 5)\}$

- \*3. If  $f : R \rightarrow R$ ,  $g : R \rightarrow R$  defined by

$$f(x) = \frac{3x - 7}{8}, \quad g(x) = \frac{8x + 7}{3} \text{ then}$$

find (i)  $(f \circ g)(7) =$

(ii)  $(g \circ f)(7) =$

4. If  $f, g$  are the functions,

given by  $f = \{(1, 2), (2, 3), (3, 7), (4, 6)\}$

$$g = \{(0, 4), (1, 2), (2, 1)\}$$

find  $f \circ g$ .

5. If  $f(x) = \frac{x}{x+1} \quad \forall x \neq -1$

write  $(f \circ f)(x)$

6. If  $f : R \rightarrow R$  defined by

$$f(x) = \frac{2x - 1}{5}, \text{ find } f^{-1}(x) = ?$$



7. Check the following functions for one-one. Also, give the reason for your answer.

(i)  $f : R \rightarrow R$  s.t  $f(x) = x^2 + 1 \quad \forall x \in R$

(ii)  $f : R - \{0\} \rightarrow R - \{0\}$  such that  $x \cdot f(x) = 1$

(iii)  $f : R \rightarrow R$  such that  $f(x) = |x|$ .

(iv)  $f : R \rightarrow R$  such that  $f(x) = x^3$ .

(v)  $f : R \rightarrow R$  such that  $f(x) = (x - 1)(x - 2)(x - 3)$

(vi)  $f : R \rightarrow R$  such that  $f(x) = [x] \quad \forall x \in R$

where  $[ \cdot ]$  denotes the greatest integer function.

(vii)  $f : R \rightarrow R, f(x) = \sin x \quad \forall x \in R$

(viii)  $f : [0, \pi] \rightarrow [-1, 1], f(x) = \cos x \quad \forall x \in [0, \pi]$

(ix)  $f : \left(-\frac{\pi}{2}, \frac{\pi}{2}\right) \rightarrow R, f(x) = \tan x$ .

8. Check whether the following functions are onto or not. Give one reason for your Answer.

(i)  $f : [-1, 1] \rightarrow \left[\frac{-\pi}{2}, \frac{\pi}{2}\right], f(x) = \sin^{-1} x$ .

(ii)  $f : R \rightarrow \left[-\frac{\pi}{2}, \frac{\pi}{2}\right], f(x) = \tan^{-1} x$ .

(iii)  $f : R \rightarrow R, f(x) = x^3$

(iv)  $f : R - \{0\} \rightarrow R, f(x) = \frac{1}{x}$ .

(v)  $f : N \rightarrow N, f(x) = x^3$ .

(vi)  $f : (0, \infty) \rightarrow R, f(x) = x^2$ .

(vii)  $f : R \rightarrow \{-1\} \rightarrow R, f(x) = \frac{x}{x+1}$ .

(viii)  $f : R \rightarrow [-1, 1], f(x) = \frac{\sin \pi [x]}{x^2 + 1}$  where

$[ \cdot ]$  denotes the greatest integer function.

9. If '\*' is a Binary operation defined on  $R$  then if

(i)  $a * b = a^2 - b^2$ , write  $8 * (3 * 1)$

(ii)  $a * b = \frac{ab}{2}$  write  $(4 * 2) * 6$

(iii)  $a * b = \frac{|a - b|}{3}$  then write  $10 * (7 * 3)$

(iv)  $a * b = \frac{a}{b^3}$  find  $5 * (3 * 1)$ .

### SHORT ANSWER TYPE QUESTIONS

10. Check the following relations for each of (i) Reflexivity; (ii) Symmetricity; (iii) Transitivity; (iv) Equivalence Relation.

(a)  $R_1 = \{(A, B); |A| = |B|, A, B \text{ are line segments in the same plane}\}$

(b)  $R_2 = \{(a, b), (b, b), (c, c), (a, c), (b, c)\}$  in the set  $A = \{a, b, c\}$

(c)  $R_3 = \{(a, b) : a \geq b, a, b, \in R\}$

(d)  $R_4 = \{(a, b) : a \text{ divides } b, a, b \in A\}$  where  $A = \{2, 3, 4, 5\}$

(e)  $R_5 = \{(a, b), (b, a), (a, a)\}$  in  $\{a, b, c\}$ .

(f)  $R_6 = \{(a, b) : a \geq b, a, b \in N\}$

\*(g)  $R_7 = \{(a, b) : a, b \in R, a \leq b^3\}$

(h)  $R_8 = \{(a, b) : a - b \text{ is multiple of } 5, a, b, \in R\}$

(i)  $R_9 = \{(a, b) : b = 3a \text{ and } a, b \in R\}$

(j)  $R_{10} = \{(a, b) : a - b \text{ is an integer, } a, b \in R\}$

11. Check the injectivity and surjectivity of the following functions.

(i)  $f : R \rightarrow R, f(x) = \frac{3x - 7}{5}$ .

(ii)  $f : N \rightarrow N$ , defined by  $f(x) = x \forall x \in N$ .

(iii)  $f : R \rightarrow R$ , defined by  $f(x) = x^2$ .

(iv)  $f : R \rightarrow R$ , defined by  $f(x) = |x|$ .

\*(v)  $f : N \rightarrow N$ , defined by  $f(x) = \begin{cases} x + 1, & \text{if } x \text{ is odd} \\ x - 1, & \text{if } x \text{ is even.} \end{cases}$

(vi)  $f : R \rightarrow R$ , defined by  $f(x) = (x + 1)^2 + 4$ .

(vii)  $f : R \rightarrow \left(-\frac{\pi}{4}, \frac{\pi}{4}\right)$  defined by  $f(x) = \tan^{-1} 2x$ .

(viii)  $f : R \rightarrow [-1, 1]$  defined by  $f(x) = \sin 2x$ .

- \*(ix)  $f : R \rightarrow R$ , defined by  $f(x) = \frac{x}{x^2 + 1}$ .
- (x)  $f : R \rightarrow Z$ , defined by  $f(x) = [x]$ , where  $[ \cdot ]$  denotes the greatest integer function.
- (xi)  $f : R - \{-1\} \rightarrow R$ , defined by  $f(x) = \frac{x}{x + 1}$ .
- \*(xii)  $f : R \rightarrow R$ , defined by  $f(x) = (x - 1)(x - 2)$ .
- \*12. If  $A = N \times N$  and a Binary operation '\*' is defined on  $A$  as  $* : A \times A \rightarrow A$  such that  $(a, b) * (c, d) = (ac, bd)$ . Check whether '\*' is commutative and Associative. Find the identity element for '\*' on  $A$  if any.
13. Let \* is a Binary operation defined on  $R$  by  $a * b = |a^2 - b^2|$ , then
- Is '\*' commutative?
  - Show that '\*' is not associative by giving one example for it.
14. If \* is a Binary operation defined on  $R - \{0\}$  defined by  $a * b = \frac{2a}{b^2}$ , then
- Is '\*' Commutative?
  - Is '\*' Associative?
15. Let \* be a binary operation on  $Q - \{1\}$  such that  $a * b = a + b - ab$ .
- Prove that \* is commutative and associative
  - Also find the identity element in  $Q - \{1\}$  (if any)
16. If  $f : R \rightarrow R$ , defined by  $f(x) = \frac{3x - 1}{4}$  find  $f^{-1}(x)$  if after checking  $f(x)$  for one-one and onto.
17. If  $f : R \rightarrow \{-1, 1\}$ , defined by  $f(x) = \sin x$  invertible? If not, give reason. If yes, find  $f^{-1}(x)$ .
- \*18. If  $f : R \rightarrow R$ ,  $f(x) = \frac{2x - 1}{3}$ , then find (fog) (x) and (gof) (x). Are they equal?
19. If  $f(x) = \sin x$ ,  $g(x) = x^2$  then find fog and gof. Are they equal?

## CHAPTER 2

# INVERSE TRIGONOMETRIC FUNCTIONS

### POINTS TO REMEMBER

Principal value branches of the branches of the inverse trigonometric function with their domains and Ranges :

Function : Domain  $\rightarrow$  Range

$$\sin^{-1} : [-1, 1] \rightarrow \left[ \frac{-\pi}{2}, \frac{\pi}{2} \right].$$

$$\cos^{-1} : [-1, 1] \rightarrow [0, \pi].$$

$$\operatorname{cosec}^{-1} : R - (-1, 1) \rightarrow \left[ \frac{-\pi}{2}, \frac{\pi}{2} \right] - \{0\}.$$

$$\sec^{-1} : R - (-1, 1) \rightarrow [0, \pi] - \left\{ \frac{\pi}{2} \right\}.$$

$$\tan^{-1} : R \rightarrow \left( \frac{-\pi}{2}, \frac{\pi}{2} \right).$$

$$\cot^{-1} : R \rightarrow (0, \pi)$$

Note :  $(\sin x)^{-1} = \frac{1}{\sin x}$ ,  $\sin^{-1} x \neq (\sin x)^{-1}$  etc.

### VERY SHORT ANSWER TYPE QUESTIONS (1 Mark for Each Part)

1. Write the principal value of

(i)  $\sin^{-1}(-\sqrt{3}/2)$

(ii)  $\sin^{-1}(\sqrt{3}/2)$ .

(iii)  $\cos^{-1}(-\sqrt{3}/2)$

(iv)  $\cos^{-1}(\sqrt{3}/2)$ .

(v)  $\tan^{-1}\left(-\frac{1}{\sqrt{3}}\right)$

(vi)  $\tan^{-1}\left(\frac{1}{\sqrt{3}}\right)$ .

(vii)  $\operatorname{cosec}^{-1}(-2)$ .

(viii)  $\operatorname{cosec}^{-1}(2)$

(ix)  $\cot^{-1}\left(-\frac{1}{\sqrt{3}}\right)$

(x)  $\cot^{-1}\left(\frac{1}{\sqrt{3}}\right)$ .

(xi)  $\sec^{-1}(-2)$ .

(xii)  $\sec^{-1}(2)$ .

$$(xiii) \quad \sin^{-1}\left(\frac{-\sqrt{3}}{2}\right) + \cos^{-1}\left(\frac{-1}{2}\right) + \tan^{-1}\left(-1/\sqrt{3}\right)$$

2. Simplify each of following using principal value :

$$(i) \quad \tan^{-1}\left(\frac{1}{\sqrt{3}}\right) - \sec^{-1}\left(\frac{2}{\sqrt{3}}\right).$$

$$(ii) \quad \sin^{-1}\left(-\frac{1}{2}\right) - \cos^{-1}\left(\frac{\sqrt{3}}{2}\right).$$

$$(iii) \quad \tan^{-1}(1) - \cot^{-1}(-1).$$

$$(iv) \quad \cos^{-1}\left(-\frac{1}{2}\right) + \sin^{-1}\left(-\frac{1}{2}\right).$$

$$(v) \quad \tan^{-1}(\sqrt{3}) + \cot^{-1}\left(\frac{1}{\sqrt{3}}\right).$$

$$(vi) \quad \operatorname{cosec}^{-1}(\sqrt{2}) + \sec^{-1}(\sqrt{2}).$$

$$(vii) \quad \tan^{-1}(1) + \cot^{-1}(1) + \sin^{-1}(1).$$

$$(viii) \quad \cot^{-1}(\sqrt{3}) - \sin^{-1}\left(-\frac{1}{2}\right).$$

$$(ix) \quad \sin^{-1}\left(\sin \frac{4\pi}{5}\right).$$

$$(x) \quad \cos^{-1}\left(\cos \frac{7\pi}{5}\right).$$

$$(xi) \quad \tan^{-1}\left(\tan \frac{5\pi}{6}\right).$$

$$(xii) \quad \operatorname{cosec}^{-1}\left(\operatorname{cosec} \frac{3\pi}{4}\right).$$

### SHORT ANSWER TYPE QUESTIONS (4 Marks for Each Part)

$$3. \quad \text{Show that } \tan^{-1}\left(\frac{\sqrt{1+\cos x} + \sqrt{1-\cos x}}{\sqrt{1+\cos x} - \sqrt{1-\cos x}}\right) = \frac{\pi}{4} + \frac{x}{2}.$$

$$4. \quad \text{Prove } \sin^{-1} x + \sin^{-1} y = \sin^{-1}\left[x\sqrt{1-y^2} + y\sqrt{1-x^2}\right].$$

$$5. \quad \text{Prove } \sin^{-1} x - \sin^{-1} y = \sin^{-1}\left[x\sqrt{1-y^2} - y\sqrt{1-x^2}\right].$$

$$6. \quad \text{Prove } \cos^{-1} x + \cos^{-1} y = \cos^{-1}\left[xy - \sqrt{(1-x^2)(1-y^2)}\right].$$

$$*7. \quad \text{Prove } \tan^{-1}\left(\frac{a \cos x - b \sin x}{b \cos x + a \sin x}\right) = \tan^{-1}\left(\frac{a}{b}\right) - x, \quad \frac{a}{b} \tan x + 1 > 0.$$

$$8. \quad \text{Prove } \tan^{-1}\left(\frac{\cos x}{1 - \sin x}\right) - \cot^{-1}\left(\frac{\sqrt{1+\cos x}}{\sqrt{1-\cos x}}\right) = \frac{\pi}{4} \quad x \in (0, \pi/2).$$

$$9. \quad \text{Prove } \tan^{-1}\left(\frac{x}{\sqrt{a^2 - x^2}}\right) = \sin^{-1} \frac{x}{a} = \cos^{-1}\left(\frac{\sqrt{a^2 - x^2}}{a}\right).$$

$$10. \quad \text{Prove } \cot^{-1}\left[2 \tan \cos^{-1} \frac{8}{17}\right] + \tan^{-1}\left[2 \tan \sin^{-1} \frac{8}{17}\right] = \tan^{-1} \frac{300}{161}.$$

11. Prove  $\tan^{-1} \left( \frac{\sqrt{1+x^2} + \sqrt{1-x^2}}{\sqrt{1+x^2} - \sqrt{1-x^2}} \right) = \frac{\pi}{4} + \frac{1}{2} \cos^{-1} x^2.$

12. Solve  $\cot^{-1} 2x + \cot^{-1} 3x = \frac{\pi}{4}.$

13. Solve  $\tan^{-1} 2x + \tan^{-1} 3x = \frac{\pi}{4}.$

14. Prove  $\cot \left[ \tan^{-1} x + \tan^{-1} \frac{1}{x} \right] + \cos^{-1}(1 - 2x^2) + \cos^{-1}(2x^2 - 1) = \pi.$

15. (i) Prove  $\tan^{-1} \left( \frac{a-b}{1-ab} \right) + \tan^{-1} \left( \frac{b-c}{1+bc} \right) + \tan^{-1} \left( \frac{c-a}{1+ac} \right) = 0, \quad a, b, c > 0.$

(ii) Find the value of  $\cot^{-1} \left[ \sin^{-1} \left( -\frac{\pi}{2} \right) \right].$

\*16. Prove that

(i)  $3 \sin^{-1} x = \sin^{-1}(3x - 4x^3), \quad x \in \left[ \frac{-1}{2}, \frac{1}{2} \right].$

(ii)  $3 \cos^{-1} x = \cos^{-1}(4x^3 - 3x), \quad x \in \left[ \frac{1}{2}, 1 \right].$

## CHAPTER 3 and 4

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# MATRICES AND DETERMINANTS

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### POINTS TO REMEMBER

**Matrix** : A matrix is an ordered rectangular array of numbers or functions. The numbers or functions are called the elements of the matrix.

**Order of Matrix** : A matrix having ' $m$ ' rows and ' $n$ ' columns is called the matrix of order  $m \times n$ .

**Zero Matrix** : A matrix having all the elements zero is called zero matrix or null matrix.

**Diagonal Matrix** : A square matrix is called a diagonal matrix if all its non diagonal elements are zero. The diagonal elements may or may not be zero.

**Scalar Matrix** : A diagonal matrix in which all diagonal elements are equal is called a scalar matrix.

**Identity Matrix** : A scalar matrix in which each diagonal element is 1, is called an identity matrix or a unit matrix.

$$\begin{aligned} \therefore A &= [a_{ij}]_{n \times n} \\ a_{ij} &= 0 \text{ when } i \neq j \\ &= 1 \text{ when } i = j \text{ is a identity matrix.} \end{aligned}$$

**Transpose of a Matrix** : If  $A = [a_{ij}]_{m \times n}$  be an  $m \times n$  matrix then the matrix obtained by interchanging the rows and columns of  $A$  is called the transpose of the matrix. If  $A = [a_{ij}]_{m \times n}$ . Then transpose  $A = A' = [a_{ji}]_{n \times m}$ . Transpose of  $A$  is denoted by  $A'$  or  $A^T$ .

**Symmetric Matrix** : A square matrix  $A = [a_{ij}]$  is said to be symmetric if  $A' = A$ .

**Skew symmetric Matrix** : A square matrix  $A = [a_{ij}]$  is said to be a skew symmetric matrix if  $A' = -A$ .

**Inverse of a Matrix** : Inverse of matrix.

$$A^{-1} = \frac{\text{Adj } A}{|A|}.$$

where (Adj  $A$ ) is the adjoint matrix which is the transpose of the cofactor matrix.

**Singular Matrix** : A square matrix is called singular if  $|A| = 0$ , otherwise it will be called a nonsingular matrix.

**Determinant** : To every square matrix  $A = [a_{ij}]$  of order  $n \times n$ , we can associate a number (real or complex) called determinant of  $A$ . It is denoted by  $\det A$  or  $|A|$ .

If  $A$  is a nonsingular matrix then its inverse exists and  $A$  is called invertible matrix.

$$(AB)' = B'A'$$

$$(AB)^{-1} = B^{-1}A^{-1}$$

$$(A^t)^{-1} = (A^{-1})^t$$

If  $A$  is any non singular matrix of order  $n$ , then  $|\text{adj } A| = |A|^{n-1}$

If  $A$  be any given square matrix of order  $n$ . Then  $A(\text{adj } A) = (\text{adj } A) \cdot A = |A|I$ .

Where  $I$  is the identity matrix of order  $n$ .

$|A B| = |A||B|$  where  $A$  and  $B$  are square matrices of same order.

**Area of triangle** with vertices  $(x_1, y_1)$ ,  $(x_2, y_2)$  and  $(x_3, y_3) = \Delta = \frac{1}{2} \begin{vmatrix} x_1 & y_1 & 1 \\ x_2 & y_2 & 1 \\ x_3 & y_3 & 1 \end{vmatrix}$

The points  $(x_1, y_1)$ ,  $(x_2, y_2)$ ,  $(x_3, y_3)$  are collinear if  $\begin{vmatrix} x_1 & y_1 & 1 \\ x_2 & y_2 & 1 \\ x_3 & y_3 & 1 \end{vmatrix} = 0$ .

### VERY SHORT ANSWER TYPE QUESTIONS (1 Mark Each)

1. What is the matrix of order  $2 \times 2$  whose general element  $a_{ij}$  is given by  $a_{ij} = \begin{cases} i - j & \text{if } i \geq j \\ i + j & \text{if } i < j \end{cases}$
2. If the matrix  $P$  is the order  $2 \times 3$  and the matrix  $Q$  is of order  $3 \times m$ , then what is the order of the matrix  $PQ$ ?
3. If  $A = \begin{bmatrix} 1 & 1 \\ 0 & 1 \end{bmatrix}$  find  $A^2$ .
4. If  $A = [1 \ 3 \ 2]$  and  $B = \begin{bmatrix} 6 \\ 2 \\ 3 \end{bmatrix}$ , find  $AB$ .
5. What is the element  $a_{23}$  in the matrix  $A = \lambda[a_{ij}]_{3 \times 3}$   
where  $\lambda \in R$  and  $a_{ij} = \begin{cases} |2i - j| & \text{if } i > j \\ 2i + j + 3 & \text{if } i \leq j \end{cases}$
6. Let  $P$  and  $Q$  be two different matrices of order  $3 \times n$  and  $n \times p$  then what is the order of the matrix  $4Q - P$ , if it is defined.
7. Let  $A$  be a  $5 \times 7$  type matrix, then what is the number of elements in the second column.
8. If  $\begin{bmatrix} a + b & 2 \\ 5 & 3a - b \end{bmatrix} = \begin{bmatrix} 3 & 2 \\ 5 & 5 \end{bmatrix}$ , find the value of  $a$ .
9. Write the matrix  $X$  if  $3X - \begin{bmatrix} 8 & -2 \\ 6 & 0 \end{bmatrix} = \begin{bmatrix} 7 & 5 \\ 0 & 0 \end{bmatrix}$ .



- \*10. How many matrices of order  $2 \times 3$  are possible with each entry 0 or 1?
11. Give an example of two non zero  $3 \times 3$  matrices  $A$  and  $B$  such that  $AB = 0$ .
12. If  $A = \begin{bmatrix} 2 & -3 & 0 \\ -1 & 4 & 5 \end{bmatrix}$ , then find  $(3A)^r$ .
13. If  $A = \begin{bmatrix} 2 & 3 \\ 1 & 0 \end{bmatrix} = P + Q$  where  $P$  is symmetric and  $Q$  is skew-symmetric matrix, then find the matrix  $P$ .
14. If  $A = \begin{bmatrix} \cos 20^\circ & \sin 20^\circ \\ \sin 70^\circ & \cos 70^\circ \end{bmatrix}$ , what is  $|A|$ ?
15. Find the value of the determinants  $\begin{vmatrix} a + ib & c + id \\ -c + id & a - ib \end{vmatrix}$ .
16. Find the value of  $xy$  if  $\begin{vmatrix} 3x^3 & 8 \\ -4 & 4y^3 \end{vmatrix} = -4$ .
17. Write the cofactor of the element 5 in the determinants  $\begin{vmatrix} 2 & -3 & 6 \\ 6 & 0 & 4 \\ 1 & 5 & -7 \end{vmatrix}$ .
18. Write the minor of the element  $b$  in the determinant  $\begin{vmatrix} a & d & g \\ b & e & h \\ c & f & i \end{vmatrix}$ .
- \*19. If  $\begin{vmatrix} 3x & 1 \\ 5 & -x \end{vmatrix} = \begin{vmatrix} -1 & 1 \\ 5 & 2 \end{vmatrix}$ , find the value(s) of  $x$ .
- \*20. If  $x \in R$ ,  $0 \leq x \leq \frac{\pi}{2}$ , and  $\begin{vmatrix} 2 \sin x & -1 \\ 1 & \sin x \end{vmatrix} = \begin{vmatrix} 3 & 0 \\ -4 & \sin x \end{vmatrix}$ , then find the values of  $x$ .
21. If  $A = [a_{ij}]$  is  $3 \times 3$  matrix and  $A_{ij}$  is denote the co-factors of the corresponding elements  $a_{ij}$ 's, then what is the value of  $a_{21}A_{11} + a_{22}A_{12} + a_{23}A_{13}$ ?
- \*22. If  $A$  is a square matrix of order 3 and  $|A| = -2$ , find the value of  $|-3A|$ .
23. Find the area of triangle with vertices  $A(0, 2)$ ,  $B(0, 4)$ ,  $C(1, 2)$ .
24. For what value(s) of  $\lambda$ , the points  $(\lambda, 0)$ ,  $(2, 0)$  and  $(4, 0)$  are collinear?
25. If  $A = [a_{ij}]$  is a  $3 \times 3$  matrix and  $M_{ij}$ 's denotes the minors of the corresponding elements  $a_{ij}$ 's then, write the expression for the value of  $|A|$  by expanding  $|A|$  by third column.

26. If  $0 < x < \frac{\pi}{2}$  and the matrix  $\begin{bmatrix} 2 \sin x & 3 \\ 1 & 2 \sin x \end{bmatrix}$  is singular, find the value of  $x$ .
27. For what value of  $\lambda$ , the matrix  $\begin{bmatrix} -3 & 5 \\ \lambda & \lambda + 1 \end{bmatrix}$  has no inverse?
- \*28. If  $A$  is a square matrix of order 3 such that  $|\text{adj } A| = 125$ , find  $|A|$ .
29. In the system of equations  $A_x = B$ , write the condition that the given system of equations has infinite solutions.
30. If  $A = \begin{bmatrix} 5 & -3 \\ 6 & 8 \end{bmatrix}$ , find  $\text{adj}(\text{adj } A)$
31. If  $A = 2B$ , where  $A$  and  $B$  are square matrices of order  $3 \times 3$  and  $|B| = 5$ . What is  $|A|$ ?
32. If the matrix  $A = \begin{bmatrix} \sin \alpha & \cos \alpha \\ -\cos \alpha & \sin \alpha \end{bmatrix}$ , find  $AA'$ .
33. If  $B = \begin{bmatrix} -2 & -1 \\ 3 & 0 \end{bmatrix}$ , and  $C = \begin{bmatrix} 3 & 0 \\ -1 & 2 \end{bmatrix}$ . Find  $2B - 3C$ .
- \*34. Let  $A$  be a non singular matrix of order  $3 \times 3$  such that  $|A| = 5$ . What is  $|\text{adj } A|$ ?
35. Find a  $2 \times 2$  matrix  $B$  such that.
- $$\begin{bmatrix} 6 & 5 \\ 5 & 6 \end{bmatrix} B = \begin{bmatrix} 11 & 0 \\ 0 & 11 \end{bmatrix}$$
36. If  $\begin{bmatrix} 2x + 1 & 3y \\ 0 & y^2 + 5y \end{bmatrix} = \begin{bmatrix} x + 3 & y + 2 \\ 0 & 6 \end{bmatrix}$ , find  $x$  and  $y$ .
37. If  $A = \begin{bmatrix} 3 & 0 & 0 \\ 0 & x & 0 \\ 0 & 0 & 3 \end{bmatrix}$ . For what value of  $x$ ,  $A$  will be a scalar matrix.
- \*38. Find  $\Delta$  if  $\Delta = \begin{bmatrix} a - b & b - c & c - a \\ b - c & c - a & a - b \\ c - a & a - b & b - c \end{bmatrix}$ .
39. Determine the value of  $x$  for which the matrix  $A = \begin{bmatrix} -2 & 4 \\ 6 & 3x \end{bmatrix}$  is singular?
40. If  $A = \begin{bmatrix} 5 & -2 \\ 3 & -2 \end{bmatrix}$ , write the matrix  $A(\text{adj } A)$ .
41. Write the adjoint of the matrix  $A = \begin{bmatrix} 2 & 3 \\ 1 & 4 \end{bmatrix}$ .

42. Find the value of 
$$\begin{bmatrix} P & 0 & 0 \\ a & q & 0 \\ b & c & r \end{bmatrix}$$
.

43. If  $A$  is a  $2 \times 2$  matrix and  $A(\text{adj } A) = \begin{bmatrix} 12 & 0 \\ 0 & 12 \end{bmatrix}$ , what is  $|A|$ .

\*44. If  $A = \begin{bmatrix} 0 & 0 \\ -3 & 0 \end{bmatrix}$ , Find  $A^{20}$ ?

\*45. If  $A, B, C$  are angles of triangle. Find the value of  $\Delta$  if  $\Delta = \begin{vmatrix} \sin(A+B+C) & \sin B & \cos C \\ -\sin B & 0 & \tan A \\ \cos(A+B) & -\tan A & 0 \end{vmatrix}$ .

46. If  $A = \begin{vmatrix} x+y & y+z & z+x \\ z & x & y \\ 1 & 1 & 1 \end{vmatrix}$ . Write the value of  $\det A$ .

47. If  $A = \begin{bmatrix} 4 & x+2 \\ 2x-3 & x+1 \end{bmatrix}$  is symmetric matrix, then find  $x$ .

48. If  $A = \begin{bmatrix} 4 & -2 \\ 2 & 1 \end{bmatrix}$ , find  $|5A|$ .

49. If  $A = \begin{bmatrix} 3 & -4 \\ 1 & 2 \end{bmatrix}$ . Find  $2|A|$ .

50. If  $A = \begin{bmatrix} \sin x & -\cos x \\ \cos x & \sin x \end{bmatrix}$ ,  $0 < x < \frac{\pi}{2}$  and  $A + A' = I$  where  $I$  is unity matrix, find the value of  $x$ .

### SHORT ANSWER TYPE QUESTIONS (4 Marks Each)

51. Construct a matrix  $A = [a_{ij}]_{3 \times 4}$  whose entries are given by  $a_{ij} = \frac{i-j}{i+j}$ .

52. Find  $x, y, z$  and  $w$  if  $\begin{bmatrix} x-y & 2x+z \\ 2x-y & 3x+w \end{bmatrix} = \begin{bmatrix} -1 & 5 \\ 0 & 13 \end{bmatrix}$ .

53. Find  $A$  and  $B$  if  $2A + 3B = \begin{bmatrix} 1 & -2 & 3 \\ 2 & 0 & -1 \end{bmatrix}$  and  $A - 2B = \begin{bmatrix} 3 & 0 & 1 \\ -1 & 6 & 2 \end{bmatrix}$ .

54. Let  $A = \begin{bmatrix} 1 & 0 \\ 2 & 3 \end{bmatrix}$ ,  $B = \begin{bmatrix} 0 & 1 & 2 \\ 3 & 2 & 1 \end{bmatrix}$  and  $C = \begin{bmatrix} 1 & 0 & 4 \\ -2 & 1 & 0 \\ 3 & 2 & 6 \end{bmatrix}$ , verify that  $(AB)C = A(BC)$ .

55. Find the matrix  $X$  so that  $X \begin{bmatrix} 1 & 2 & 3 \\ 4 & 5 & 6 \end{bmatrix} = \begin{bmatrix} -7 & -8 & -9 \\ 2 & 4 & 6 \end{bmatrix}$ .

56. If  $A = \begin{bmatrix} -1 \\ 2 \\ 3 \end{bmatrix}$  and  $B = \begin{bmatrix} -2 & -1 & -4 \end{bmatrix}$ , verify that  $(AB)' = B'A'$ .

57. Express the matrix  $A = \begin{bmatrix} 3 & -4 \\ 1 & -1 \end{bmatrix}$  as the sum of a symmetric and a skew symmetric matrix.

58. Express the matrix  $\begin{bmatrix} 3 & 3 & -1 \\ -2 & -2 & 1 \\ -4 & -5 & 2 \end{bmatrix} = P + Q$  where  $P$  is a symmetric and  $Q$  is a skew symmetric matrix.

59. Find the inverse of the following matrix by using elementary transformations  $\begin{bmatrix} 7 & 6 \\ 2 & 2 \end{bmatrix}$ .

60. Find the inverse of the matrix  $\begin{bmatrix} 1 & -1 \\ 2 & 3 \end{bmatrix}$  by using elementary transformations.

\*61. If  $A = \begin{bmatrix} 0 & -\tan \frac{\theta}{2} \\ \tan \frac{\theta}{2} & 0 \end{bmatrix}$  and  $I$  is the identity matrix of order 2, show that

$$I + A = (I - A) = \begin{bmatrix} \cos \theta & -\sin \theta \\ \sin \theta & \cos \theta \end{bmatrix}.$$

62. Find the value of  $x$  such that  $\begin{bmatrix} 1 & 3 & 2 \\ 1 & x & 1 \\ 2 & 5 & 1 \end{bmatrix} \begin{bmatrix} 1 \\ 2 \\ 15 \end{bmatrix} \begin{bmatrix} 1 \\ 2 \\ x \end{bmatrix} = 0$ .

63. If  $A = \begin{bmatrix} 4 & 3 \\ 2 & 5 \end{bmatrix}$ , find  $x$  and  $y$  such that  $A^2 - xA + yI = 0$ .

\*64. If  $A = \begin{bmatrix} \cos \theta & \sin \theta \\ -\sin \theta & \cos \theta \end{bmatrix}$ , then prove that  $A^n = \begin{bmatrix} \cos n\theta & \sin n\theta \\ -\sin n\theta & \cos n\theta \end{bmatrix}$   $n \in N$ .

65. If  $A = \begin{bmatrix} 3 & -4 \\ 1 & -1 \end{bmatrix}$ , then prove that  $A^n = \begin{bmatrix} 1+2n & -4n \\ n & 1-2n \end{bmatrix}$ , where  $n$  is any positive integer.

66. Find  $A(\text{adj } A)$  without finding  $(\text{adj } A)$  if  $A = \begin{bmatrix} 1 & 2 & 3 \\ 3 & 1 & 2 \\ 1 & 0 & 3 \end{bmatrix}$ .

67. Given that  $A = \begin{bmatrix} 2 & -3 \\ -4 & 7 \end{bmatrix}$ . Compute  $A^{-1}$  and show that  $9I - A = 2A^{-1}$ .

68. Given that matrix  $A = \begin{bmatrix} 2 & -1 \\ 3 & 2 \end{bmatrix}$ . Show that  $A^2 - 4A + 7I = 0$ . Hence find  $A^{-1}$ .

69. If  $A = \begin{bmatrix} 3 & 8 \\ 2 & 1 \end{bmatrix}$ , verify that  $\frac{1}{13}A - \frac{4}{13}I = A^{-1}$ .

70. Show that  $A = \begin{bmatrix} 2 & -3 \\ 3 & 4 \end{bmatrix}$  satisfies the equation  $x^2 - 6x + 17 = 0$ . Hence find  $A^{-1}$ .

71. Prove that the product of two matrices.

$$\begin{bmatrix} \cos^2 \theta & \cos \theta \sin \theta \\ \cos \theta \sin \theta & \sin^2 \theta \end{bmatrix} \text{ and } \begin{bmatrix} \cos^2 \phi & \cos \phi \sin \phi \\ \cos \phi \sin \phi & \sin^2 \phi \end{bmatrix} \text{ is zero when } \theta \text{ and } \phi \text{ differ by an odd multiple of } \frac{\pi}{2}.$$

72. If  $A$  is any square matrix. Then show that  $(A - A')$  is a skew symmetric matrix.

\*73. If  $x, y, z$  are the 10th, 13th and 15th terms of a G.P. find the value of  $D$  if  $\Delta = \begin{vmatrix} \log x & 10 & 1 \\ \log y & 13 & 1 \\ \log z & 15 & 1 \end{vmatrix}$ .

74. Show that :

$$\begin{vmatrix} \sin \alpha & \cos \alpha & \sin(\alpha + \delta) \\ \sin \beta & \cos \beta & \sin(\beta + \delta) \\ \sin \gamma & \cos \gamma & \sin(\gamma + \delta) \end{vmatrix} = 0.$$

75. Using the properties of determinant, prove the following questions (75 to 79).

$$\begin{vmatrix} b^2 + c^2 & a^2 & a^2 \\ b^2 & c^2 + a^2 & b^2 \\ c^2 & c^2 & a^2 + c^2 \end{vmatrix} = 4a^2b^2c^2.$$

76.  $\begin{vmatrix} b+c & c+a & a+b \\ q+r & r+p & p+q \\ y+z & z+x & x+y \end{vmatrix} = 2 \begin{vmatrix} a & b & c \\ p & q & r \\ x & y & z \end{vmatrix}$ .

$$77. \begin{vmatrix} a^2 & bc & ac + c^2 \\ a^2 + ab & b^2 & ac \\ ab & b^2 + bc & c^2 \end{vmatrix} = 4a^2b^2c^2.$$

$$78. \begin{vmatrix} x+a & b & c \\ a & x+b & c \\ a & b & x+c \end{vmatrix} = x^2(x+a+b+c).$$

79. Show that :

$$\begin{vmatrix} x & y & z \\ x^2 & y^2 & z^2 \\ yz & zx & xy \end{vmatrix} = (y-z)(z-x)(x-y)(yz+zx+xy).$$

80. (i) If the points  $(a, b)$ ,  $(a', b')$  and  $(a - a', b - b')$  are collinear. Show that  $ab' = a'b$ .

(ii) If  $A = \begin{bmatrix} 2 & 5 \\ 2 & 1 \end{bmatrix}$  and  $B = \begin{bmatrix} 4 & -3 \\ 2 & 5 \end{bmatrix}$  verify that  $|AB| = |A||B|$ .

81. Given  $A = \begin{bmatrix} 0 & -1 & 2 \\ 2 & -2 & 0 \end{bmatrix}$  and  $B = \begin{bmatrix} 0 & 1 \\ 1 & 0 \\ 1 & 1 \end{bmatrix}$ . Find the product  $AB$  and also find  $(AB)^{-1}$ .

82. (i) Using determinants find the area of the triangle whose vertices are  $(-3, 1)$ ,  $(2, 4)$  and  $(5, 1)$ .

(ii) If  $\begin{vmatrix} x-2 & -3 \\ 3x & 2x \end{vmatrix} = 3$ , find the value of  $x$ .

83. Solve the following equations for  $x$ .

$$\begin{vmatrix} a+x & a-x & a-x \\ a-x & a+x & a-x \\ a-x & a-x & a+x \end{vmatrix} = 0.$$

84. Verify that  $(AB)^{-1} = B^{-1}A^{-1}$  for the matrices  $A = \begin{bmatrix} 2 & 1 \\ 5 & 3 \end{bmatrix}$  and  $B = \begin{bmatrix} 4 & 5 \\ 3 & 4 \end{bmatrix}$ .

85. Show that  $\begin{bmatrix} 1 & \tan \theta \\ -\tan \theta & 1 \end{bmatrix}^{-1} \begin{bmatrix} 1 & -\tan \theta \\ \tan \theta & 1 \end{bmatrix} = \begin{bmatrix} \cos 2\theta & -\sin 2\theta \\ \sin 2\theta & \cos 2\theta \end{bmatrix}$ .

86. Using matrix method to solve the following system of equations :  $5x - 7y = 2$ ,  $7x - 5y = 3$ .

### LONG ANSWER TYPE QUESTIONS (6 Marks Each)

\*87. Let  $A = \begin{bmatrix} 2 & 3 \\ -1 & 2 \end{bmatrix}$  and  $f(x) = x^2 - 4x + 7$ . Show that  $f(A) = 0$ . Use this result to find  $A^5$ .

88. If  $A = \begin{bmatrix} \cos \alpha & -\sin \alpha & 0 \\ \sin \alpha & \cos \alpha & 0 \\ 0 & 0 & 1 \end{bmatrix}$ , find  $\text{adj } A$  and verify that  $A \cdot (\text{adj } A) = (\text{adj } A) A = |A| I_3$ .

\*89. Find the matrix  $X$  for which

$$\begin{bmatrix} 3 & 2 \\ 7 & 5 \end{bmatrix} X \begin{bmatrix} -1 & 1 \\ -2 & 1 \end{bmatrix} = \begin{bmatrix} 2 & -1 \\ 0 & 4 \end{bmatrix}.$$

90. If  $A = \begin{bmatrix} 0 & 1 & 1 \\ 1 & 0 & 1 \\ 1 & 1 & 0 \end{bmatrix}$ . Show that  $A^3 - 3A - 2I = 0$ . Hence find  $A^{-1}$ .

91. Using elementary transformations, find the inverse of each of the matrices in Question 91 to 93.

$$\begin{bmatrix} 2 & -3 & 3 \\ 2 & 2 & 3 \\ 3 & -2 & 2 \end{bmatrix}.$$

92.  $\begin{bmatrix} 1 & 2 & -2 \\ -1 & 3 & 0 \\ 0 & -2 & 1 \end{bmatrix}$ .

93.  $\begin{bmatrix} 0 & 0 & -1 \\ 3 & 4 & 5 \\ -2 & -4 & -7 \end{bmatrix}$ .

94. Show that  $\Delta = \begin{vmatrix} (y+z)^2 & xy & zx \\ xy & (x+z)^2 & yz \\ xz & yz & (x+y)^2 \end{vmatrix} = 2xyz(x+y+z)^3$ .

95. By using properties of determinants prove that

$$\begin{vmatrix} 1+a^2+b^2 & 2ab & -2b \\ 2ab & 1-a^2+b^2 & 2a \\ 2b & -2a & 1-a^2-b^2 \end{vmatrix} = (1+a^2+b^2)^3.$$

96. Solve the system of linear equations by using matrix in equation 96 to 98.

$$2x - y + 4z = 1$$

$$3x - z = 2$$

$$x - y - 2z = 3$$

97.  $2x - y - z = 7$

$$3x + y - z = 7$$

$$x + y - z = 3$$

98.  $x + y - 5z = 26$

$$x + 2y + z = -4$$

$$x + 3y + 6z = -29$$

$$\begin{bmatrix} 3 & 2 & 1 \end{bmatrix}$$

\*99. If  $A = \begin{bmatrix} 4 & -1 & 2 \\ 7 & 3 & -3 \end{bmatrix}$  find  $A^{-1}$  and hence solve the system of linear equations

$$3x + 4y + 7z = 14, \quad 2x - y + 3z = 4, \quad x + 2y - 3z = 0.$$

$$\begin{bmatrix} 1 & 2 & -3 \end{bmatrix}$$

100. Find  $A^{-1}$ , where  $A = \begin{bmatrix} 2 & 3 & 2 \\ 3 & -3 & -4 \end{bmatrix}$ , hence solve the system of linear equations :

$$x + 2y - 3z = -4$$

$$2x + 3y + 2z = 2$$

$$3x - 3y - 4z = 11$$

101. Solve by matrix method the following system of linear equations :

$$x - 2y = 10$$

$$2x + y + 3z = 8$$

$$-2y + z = 7$$

\*102. The sum of three numbers is 2. If we subtract the second number from twice the first number, we get 3. By adding double the second number and the third number we get 0. Represent it algebraically and find the numbers using matrix method.

103. Compute the inverse of the matrix.

$$\begin{bmatrix} 3 & -1 & 1 \end{bmatrix}$$

$$A = \begin{bmatrix} -15 & 6 & -5 \\ 5 & -2 & 5 \end{bmatrix} \text{ and verify that } A^{-1} A = I_3.$$

$$\begin{bmatrix} 1 & 1 & 2 \end{bmatrix}$$

$$\begin{bmatrix} 1 & 2 & 0 \end{bmatrix}$$

\*104. If the matrix  $A = \begin{bmatrix} 0 & 2 & -3 \\ 3 & -2 & 4 \end{bmatrix}$  and  $B^{-1} = \begin{bmatrix} 0 & 3 & -1 \\ 1 & 0 & 2 \end{bmatrix}$ , then compute  $(AB)^{-1}$ .



105. Determine the product  $\begin{bmatrix} -4 & 4 & 4 \\ -7 & 1 & 3 \\ 5 & -3 & -1 \end{bmatrix} \begin{bmatrix} 1 & -1 & 1 \\ 1 & -2 & -2 \\ 2 & 1 & 3 \end{bmatrix}$  and use it to solve the system of equations.

$$x - y + z = 4, \quad x - 2y - 2z = 9, \quad 2x + y + 3z = 1.$$

- \*106. Solve the following system of equations using matrix method.

$$\frac{2}{x} + \frac{3}{y} + \frac{10}{z} = 4$$

$$\frac{4}{x} - \frac{6}{y} + \frac{5}{z} = 1$$

$$\frac{6}{x} + \frac{9}{y} - \frac{20}{z} = 2.$$

107. For the matrix  $A = \begin{bmatrix} 1 & 1 & 1 \\ 1 & 2 & -3 \\ 2 & -1 & 3 \end{bmatrix}$ . Show that  $A^3 - 6A^2 + 5A + 11I = 0$  and hence find  $A^{-1}$ .

## CHAPTER 5

# DIFFERENTIATION

### POINTS TO REMEMBER

- **Continuity of a Function** : A function  $f(x)$  is said to be continuous at  $x = c$  if  $\lim_{x \rightarrow c} f(x) = f(c)$   
i.e., L.H.L. at  $x = c =$  R.H.L. at  $x = c = f(c)$ .

$f(x)$  is continuous in  $[a, b]$  iff :

$f(x)$  is continuous at  $x = c \forall c \in [a, b]$ .

- If  $f$  and  $g$  are two continuous function then  $f + g, f - g, f \cdot g, cf, |f|$  are all continuous function.

- $\frac{f}{g}$  is continuous at  $x = a$  provided  $g(a) \neq 0$ .

- Every polynomial function is a continuous function.

- $f(x)$  is said to be derivable at  $x = c$  iff  $\lim_{x \rightarrow c} \frac{f(x) - f(c)}{x - c}$  exists and value of this limit is denoted by  $f'(c)$ .

$$\frac{d}{dx}(u \cdot v) = u \cdot \frac{dv}{dx} + v \cdot \frac{du}{dx}, \frac{d}{dx}\left(\frac{u}{v}\right) = \frac{v \frac{du}{dx} - u \cdot \frac{dv}{dx}}{v^2}$$

- If  $y$  is a function of  $u$  and ' $u$ ' is function of  $x$  then,  $\frac{dy}{dx} = \frac{dy}{du} \times \frac{du}{dx}$  [chain rule].

- If  $x = \phi_1(t), y = \phi_2(t)$  then  $\frac{dy}{dx} = \frac{\phi_2'(t)}{\phi_1'(t)} = g(t)$  say then  $\frac{d^2y}{dx^2} = g'(t) \cdot \left(\frac{dt}{dx}\right)$ .

- **Rolle's theorem** : If  $f(x)$  is continuous in  $[a, b]$  and derivable in  $(a, b)$  and  $f(a) = f(b)$  then there exists atleast one real no  $c \in (a, b)$  s.t.  $f'(c) = 0$ .

- **L.M.V.T.** : If  $f(x)$  is continuous in  $[a, b]$  and derivable in  $(a, b)$  then  $\exists$  atleast one point  $c \in (a, b)$  s.t.  $f'(c) = \frac{f(b) - f(a)}{b - a}$ .

### VERY SHORT ANSWER TYPE QUESTIONS (1 Mark Each)

1. At what point  $f(x) = |3x - 5|$  is not differentiable.

\*2. What is derivative of  $f(x)$  if  $f(x) = |x|$ ,  $x \neq 0$ .

3. At what point  $f(x) = |x - 1| - 2|$  is not differentiable.

4. Write the points of discontinuity of  $f(x) = \frac{x^2 + x + 1}{x^2 - 5x + 6}$ .

5. Write all the points of discontinuity of  $f(x) = [x]$ , where  $[x]$  is the greatest integer function.

\*6. At what point,  $f(x)$  is discontinuous where,  $f(x)$  is signum function defined as

$$f(x) = \begin{cases} \frac{x}{|x|} & x \neq 0 \\ 0 & x = 0 \end{cases}$$

7. Write the interval in which  $f(x)$  is continuous where  $f(x) = e^x \log x$ .

8. For what value of  $\lambda$ ,  $f(x) = \begin{cases} \lambda x^2 + 1 & x \geq 2 \\ -1 & x < 2 \end{cases}$  is continuous on  $R$ .

\*9. Write the interval in which  $f(x)$  is continuous where  $f(x) = \frac{\log x}{\sqrt{1 - 9x^2}}$ .

\*10. Write the value of  $K$  given that  $f(x) = \begin{cases} \frac{\sin x}{x} & x \neq 0 \\ K & x = 0 \end{cases}$ .

\*11. What is the derivative of  $x^6$  with respect to  $x^3$ .

\*12. What is the Derivative of  $f(\log x)$  is  $f(x) = \log x$ .

13. If Mean value theorem holds for  $f(x) = e^x$ ,  $x \in [0, 1]$ , then for what value of  $x$ ,  $M V T$  is verified.

\*14. What is  $\frac{d}{dx}(\sin^{-1} x + \cos^{-1} x)$  if  $-1 \leq x \leq 1$ .

15. Given  $g(0) = 2$  and  $f(x) = x g(x)$   $f'(x)$  and  $g'(x)$  exist then what is  $f'(0)$ .

16. Write the derivative of the following function w.r.t.  $x$ .

(a)  $\tan^{-1}\left(\frac{\sqrt{a} - \sqrt{x}}{1 + \sqrt{a}\sqrt{x}}\right)$ ,  $x > 0$ ,  $a > 0$ .

(b)  $\sec^{-1}\left(\frac{1}{2x^2 - 1}\right)$ .

(c)  $\log_5(3x - 5)$ .

\* (d)  $\tan^{-1}\left(\frac{x}{1 + 12x^2}\right)$ .

(e)  $\tan^{-1}\left(\frac{3x - x^3}{1 - 3x^2}\right)$ .

(f)  $e^{\tan^{-1} x^2}$ .

(g)  $\cos x^3 \cdot \sin^2 x^5$ .

(h)  $\sqrt{e^{\sqrt{x}}}$ .

$$(i) \sin^{-1}(x\sqrt{x}) \quad 0 \leq x \leq 1.$$

$$(j) \sin^{-1}(\sqrt{\cos x}).$$

### SHORT ANSWER TYPE QUESTION (4 Marks)

Discuss the continuity of the following functions at indicated points.

$$17. f(x) = \begin{cases} \frac{x}{|x|} & x \neq 0 \\ 0 & x = 0 \end{cases} \text{ at } x = 0.$$

$$18. f(x) = \begin{cases} \frac{x - |x|}{x} & x \neq 0 \\ 2 & x = 0 \end{cases} \text{ at } x = 0.$$

$$19. f(x) = \begin{cases} \frac{e^x - 1}{\log(1 + 3x)} & x \neq 0 \\ 5 & x = 0 \end{cases} \text{ at } x = 0.$$

$$20. f(x) = \begin{cases} x \sin \frac{1}{x} & x \neq 0 \\ 0 & x = 0 \end{cases} \text{ at } x = 0.$$

$$21. f(x) = |x - 1| + |x + 1| \quad \text{at } x = -1, x = 1.$$

$$22. f(x) = \begin{cases} \frac{\sin x}{x} & x < 0 \\ x + 1 & x \geq 0 \end{cases} \text{ at } x = 0.$$

$$23. f(x) = \begin{cases} \frac{\sqrt{1+x} - \sqrt{1-x}}{\delta m x} & x \neq 0 \\ 1 & x = 0 \end{cases} \text{ at } x = 0.$$

$$24. f(x) = \begin{cases} \frac{|\sin x|}{x} & x \neq 0 \\ 1 & x = 0 \end{cases} \text{ at } x = 0.$$

$$25. \text{ For what value of } K, f(x) = \begin{cases} 3 - 2x & 0 < x < 2 \\ 4x^2 - 3kx & 2 \leq x < 5 \end{cases} \text{ is continuous in its domain.}$$

26. For what values of  $a$  and  $b$

$$f(x) = \begin{cases} \frac{x+2}{|x+2|} + a & \text{if } x < -2 \\ a + b & \text{if } x = -2 \\ \frac{x+2}{|x+2|} + b & \text{if } x > -2 \end{cases} \text{ is continuous at } x = 2.$$

\*27. If  $f(x) = \frac{1}{1-x}$  then find the point of discontinuity if any of  $f[f(x)]$ .

28. Prove that  $f(x) = |x - 2|$  is continuous at  $x = 2$  but not differentiable at  $x = 2$ .

$$\begin{cases} \frac{3x - \tan x}{5x - \sin x} & x < 0 \\ K & x = 0 \end{cases}$$

29. For what value of  $K$ ,  $f(x) =$  is continuous at  $x = 0$ .

$$\begin{cases} 3x^2 - 4x + \frac{1}{2} & x < 0 \\ K & x = 0 \end{cases}$$

30. Show that  $f(x) = x - [x]$  is discontinuous at  $x = 2$ . Also discuss the continuity at  $x = \frac{5}{2}$ , where  $[ ]$  represents greatest integer function.

31. Check the differentiability of  $f(x) = |x - 1| + |x - 2|$  at  $x = 2$ .

\*32. If  $f(x) = \begin{cases} x^p \sin \frac{1}{x} & x \neq 0 \\ 0 & x = 0 \end{cases}$  is differentiable at  $x = 0$ , then find value of  $p$ .

33. For what value of  $a$  and  $b$   $f(x) = \begin{cases} 5 & \text{if } n \leq 2 \\ ax + b & \text{if } 2 < x < 10 \\ 21 & \text{if } x \geq 0 \end{cases}$  is continuous.

34. If  $y = (\log x)^x + x^{\log x}$  then find  $\frac{dy}{dx}$ .

35. If  $y = \frac{1}{2} \left[ \tan^{-1} \frac{2x}{1-x^2} + 2 \tan^{-1} \frac{1}{x} \right]$  find  $\frac{dy}{dx}$ .

36. If  $y = \sin \left[ 2 \tan^{-1} \sqrt{\frac{1-x}{1+x}} \right]$  then find  $\frac{dy}{dx}$ .

37. If  $x^{2/3} + y^{2/3} = a^{2/3}$  then show that  $\frac{dy}{dx} = -\left(\frac{y}{x}\right)^{1/3}$ .

38. If  $y = \tan^{-1} x$ , show that  $(1+x^2) \frac{d^2y}{dx^2} + 2x \frac{dy}{dx} = 0$ .

39. If  $f(x) = \log(x^x + \sec^3 x)$ , find  $f'(x)$ .

40. If  $x\sqrt{1+y} + y\sqrt{1+x} = 0$  then prove that  $\frac{dy}{dx} = \frac{-1}{(1+x)^2}$ ,  $x \neq y$ .

41. If  $x\sqrt{1-y^2} + y\sqrt{1-x^2} = a$  then prove that  $\frac{dy}{dx} = \sqrt{\frac{1-y^2}{1-x^2}}$ .
42. If  $(x+y)^{m+n} = x^m \cdot y^n$  then prove that  $\frac{dy}{dx} = \frac{y}{x}$ .
43. If  $\alpha^x + \alpha^y = \alpha^{x+y}$  where  $\alpha > 0$  then prove that  $\frac{dy}{dx} + \alpha^{y-x} = 0$ .
- \*44. If  $y = \cot^{-1} \left[ \frac{\sqrt{1+\sin x} + \sqrt{1-\sin x}}{\sqrt{1+\sin x} - \sqrt{1-\sin x}} \right]$  where  $\pi/2 < x < \pi$ , find  $\frac{dy}{dx}$ .
- \*45. If  $y = \sin^{-1} \left[ 2ax\sqrt{1-a^2x^2} \right]$  find  $\frac{dy}{dx}$  when  $\frac{-1}{\sqrt{2}} \leq ax \leq \frac{1}{\sqrt{2}}$ .
46. Find the derivative of  $\tan^{-1} \left( \frac{2x}{1-x^2} \right)$  w.r.t.  $\sin^{-1} \left( \frac{2x}{1+x^2} \right)$ .
47. If  $x = \sin \left( \frac{1}{a} \log y \right)$  then show that  $(1-x^2)y_2 - xy_1 - a^2y = 0$ .
48. If  $y = \tan^{-1} \left( \frac{1-x}{1+x} \right) + \tan^{-1} \left( \frac{x+2}{1-2x} \right)$  then show that  $\frac{dy}{dx} = 0$ .
49. If  $y = f \left( \frac{2x-1}{x^2+1} \right)$  and  $f'(x) = \sin x^2$ , then find  $\frac{dy}{dx}$ .
50. If  $x^y + y^x + x^x = a^b$ , then find  $\frac{dy}{dx}$ .
51. If  $x = a \left( \theta + \frac{1}{\theta} \right)$   
 $y = a \left( \theta - \frac{1}{\theta} \right)$  then find  $\frac{dy}{dx}$ .
52. if  $x = a \cos^3 \theta$   
 $y = a \sin^3 \theta$  then find  $\frac{d^2y}{dx^2}$ .
53. If  $x = ae^\theta (\sin \theta - \cos \theta)$   
 $y = ae^\theta (\sin \theta + \cos \theta)$ , then show that  $\frac{dy}{dx}$  at  $x = \frac{\pi}{4}$  is 1.
54. Find  $\frac{dy}{dx}$  if  $x = \frac{2t}{1+t^2}$ ,  $y = \frac{1-t^2}{1+t^2}$ .

- \*55. If  $y = \sin^{-1} [x\sqrt{1-x} - \sqrt{x}\sqrt{1-x^2}]$  then find  $\frac{dy}{dx}$ .
56. If  $y = \frac{\sqrt{x-1}(\tan^{-1} x)^2}{e^{2x-3} \sin^2 2x}$ , find  $\frac{dy}{dx}$ .
57. If  $y = a \sin t$ ,  $x = a \left[ \cos t + \log \tan \frac{t}{2} \right]$ , find  $\frac{dy}{dx}$ .
58. If  $y = \cos^{-1} \left[ \frac{3 \sin x - 4 \cos x}{5} \right]$ , find  $\frac{dy}{dx}$ .
59. If  $y = \sin^{-1} \left[ \frac{12x + 5\sqrt{1-x^2}}{13} \right]$ , find  $\frac{dy}{dx}$ .
60. If  $y^x = x^y$ , find  $\frac{dy}{dx}$ .
61. If  $\sin y = x \sin (a + y)$  then show that  $\frac{dy}{dx} = \frac{\sin^2 (a + y)}{\sin a}$ .
62. If  $y = \cos^{-1} x$ , find  $\frac{d^2y}{dx^2}$  in terms of  $y$ .
63. If  $x = \sin \left( \frac{\sin^{-1} y}{m} \right)$ , then prove that  $(1 - x^2) \frac{d^2y}{dx^2} - x \frac{dy}{dx} + m^2 y = 0$ .
64. If  $\frac{x^2}{a^2} + \frac{y^2}{b^2} = 1$  then show that  $\frac{d^2y}{dx^2} = \frac{-b^4}{a^2 y^3}$ .
65. If  $y^3 - 3ax^2 + x^3 = 0$  then prove that  $\frac{d^2y}{dx^2} + \frac{2a^2 x^2}{y^5} = 0$ .
66. Find  $\frac{d^2y}{dx^2}$  when  $y = \log \left( \frac{x^2}{e^x} \right)$ .

## CHAPTER 6

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# APPLICATIONS OF DERIVATIVES

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### POINTS TO REMEMBER

- **Rate of Change** : If  $x$  and  $y$  are connected by  $y = f(x)$  then  $\frac{dy}{dx}$  represents the rate of change of  $y$  w.r.t.  $x$ .

- Equation of tangent to the curve  $y = f(x)$  at the point  $P(x_1, y_1)$  is given by  $Y - y_1 = \left. \frac{dy}{dx} \right|_P (x - x_1)$ .

Similarly equation of normal is  $y - y_1 = - \left. \frac{1}{\frac{dy}{dx}} \right|_P (x - x_1)$ .

The angle of intersection between two curves is the angle between the tangents to the curves at the point of intersection.  $\tan \theta = \left| \frac{m_1 - m_2}{1 + m_1 m_2} \right|$ , where  $m_1, m_2$  are slopes of tangent at the point of intersection  $P$ .

- A function  $f(x)$  is said to be strictly monotonic in  $(a, b)$  if it is either increasing or decreasing in  $(a, b)$ .
- A function  $f(x)$  is said to be strictly increasing in  $(a, b)$  if  $\forall x, x_2$  in  $(a, b)$  s.t.  $x_1 < x_2 \Rightarrow f(x_1) < f(x_2)$ . Alternatively,  $f(x)$  is increasing in  $(a, b)$  if  $f'(x) > 0 \forall x \in (a, b)$ .
- A function  $f(x)$  is said to be strictly decreasing in  $(a, b)$  if  $\forall x_1, x_2$  in  $(a, b)$  s.t.  $x_1 < x_2 \Rightarrow f(x_1) > f(x_2)$ . Alternatively,  $f(x)$  is strictly decreasing in  $(a, b)$  if  $f'(x) < 0 \forall x \in (a, b)$ .
- A function  $f(x)$  is said to have local maximum value at  $x = c$ , if there exists a neighbourhood  $(c - \delta), (c + \delta)$  of  $c$ , s.t.  $f(x) < f(c) \forall x \in (c - \delta, c + \delta) x \neq c$ . Similarly, local minimum value can be defined.
- Local maximum and local minimum values of  $f(x)$  may not be maximum and minimum value of  $f(x)$ .
- **Critical Point** : A point  $c$  is called critical point of  $y = f(x)$  if either  $f'(c) = 0$  or  $f'(c)$  does not exist.



Some useful results :

Figure Surface area	Curved S.A.	Total S.A.	Volume
Sphere	$4\pi r^2$	$4\pi r^2$	$\frac{4}{3}\pi r^3$
Cone	$\pi r l$	$\pi r l + \pi r^2$	$\frac{1}{3}\pi r^2 h$
Cylinder	$2\pi r h$	$2\pi r h + 2\pi r^2$	$\pi r^2 h$

### VERY SHORT ANSWER TYPE QUESTIONS (1 Mark Each)

- Write minimum value of  $f(x) = x^2 + x + 1$  in  $[0, 1]$ .
- If Rolle's theorem is applicable for the function  $f(x) = x^2 - 3x + 1$  in  $[-1, 4]$  then find the real no 'c' verifying Rolle's theorem.
- Find the interval where  $f(x) = \cos x$  defined in  $[0, 2\pi]$  is decreasing.
- Find the interval where  $f(x) = x^2$ ,  $x \in (-\infty, \infty)$  is decreasing.
- For what value (s) of  $\lambda$ , the function,  $f(x) = \sin x - 3\lambda x$  is always strictly increasing.
- Write the interval in which  $f(x) = x^x$  is increasing (where  $x > 0$ ).
- Examine if  $f(x) = x^9 + 2x^5 + 3x^3 + 1$  is increasing or decreasing  $(0, \infty)$ .
- Write the least value of  $f(x) = x + \frac{1}{x}$ , ( $x > 0$ ).
- Write the maximum value of  $f(x) = \frac{1}{x^2 - 2x + 3}$  in  $[0, 2]$ .
- Find the maximum and minimum value of  $f(x) = |2 \sin 2x + 3|$ .
- On the curve  $f(x) = \frac{3}{2}x^2$ , find the points at which tangent is parallel to the chord joining the points  $A(-1, \frac{3}{2})$  and  $B(2, 6)$ .
- If the tangent to the curve at a point  $P$  is perpendicular to  $x$ -axis, then what is the value of  $\frac{dy}{dx}$  (if it exists) at the point  $P$ .
- If normal to the curve at a point  $P$  on  $y = f(x)$  is parallel to  $y$ -axis, then write the value of  $\frac{dy}{dx}$  at  $P$ .
- What is the slope of the tangent to the curve  $y = x^2$  at  $(-1, 1)$ .

- \*15. If the tangent to the curve  $y = 2x^2 - x$  at any point  $P$  is parallel to the line  $x - y = 0$ , then find the coordinates of  $P$ .
16. If the tangent to the curve  $x = at^2$ ,  $y = 2at$  is perpendicular to  $x$ -axis then write the coordinates of the point of contact of tangent.
- \*17. If curves  $y = 3e^{2x}$  and  $y = be^{-2x}$  cut each other orthogonally, then find  $b$ .
- \*18. At which point on  $y^2 = 4x$ , the tangent makes an angle of  $45^\circ$  with the positive direction of  $x$ .
- \*19. If  $kx + y = P$  is normal to the curve  $y^2 = 12x$  at  $(3, 6)$  then what is value of  $k$ .
20. How many extreme values [maximum or minimum] are there of  $f(x) = x$ .
21. What is equation of normal to the curve  $y = \sin x$  at origin.

### SHORT ANSWER TYPE QUESTIONS (4 Marks Each)

22. Sand is pouring out from a pipe at the rate of  $12 \text{ Cu cm/s}$ . The falling sand forms a cone on the ground in such a way that the height of the cone is always one sixth of the radius of the base. How fast is the height of sand cone increasing when the height is  $4 \text{ cm}$ .
23. A particle moves along the curve  $y = x^5 + 2$ . Find the points on the curve at which  $y$  co-ordinate is changing 5 times as fast as the  $x$  co-ordinate.
24. Find points of local maxima/minima for  $f(x)$ . If  $f(x) = \sin x - \cos x$  where  $0 < x < 2\pi$ . Also find the local maximum or minimum values.
25. Find the intervals in which the function  $f(x) = x^4 - \frac{x}{3}$  is increasing or decreasing.
- \*26. If  $f(x) = x^2 - 2x + 3$  then using differentials, find the approximate value of  $f(1.9)$ .
27. Find the value (s) of  $a$  for which :
- (i)  $f(x) = x^3 - ax$  is increasing on  $R$ .
- (ii)  $g(x) = \sin x + ax$  is increasing on  $R$ .
28. If radius of right circular cone is increasing at the rate of  $10\pi \text{ cm}^3/\text{sec}$ , find the rate at which the height of the cone is hanging at the instant when radius  $5 \text{ cm}$  and height  $4 \text{ cm}$ .
- \*29. Find the least value of the function.  $f(x) = ax + \frac{b}{x}$ , ( $a, b, x > 0$ ).
30. For the curve  $y = 2x^3 - 3x^2$ , find all the points on the curve at which the tangent passes through the origin.
31. Prove that the function :
- $f(x) = x^{50} + \sin x - 1$  is strictly increasing on  $\left(\frac{\pi}{2}, \pi\right)$ .

32. Show that the normal at any point  $\theta$  to the curve  $x = a \cos \theta + a\theta \sin \theta$ ,  $y = a \sin \theta - a\theta \cos \theta$  is at a constant distance from the origin.
33. Using errors and approximations find the approximate value of the following.
- (i)  $\frac{1}{(2.002)^2}$ ;                      (ii)  $\sqrt{0.082}$ ;                      (iii)  $\sqrt{0.005}$ .
34. Find the interval in which  $f(x) = \sin x - \cos x$ ,  $0 < x < 2\pi$ , is increasing or decreasing.
- \*35. If  $\log 2 = 0.3010$   
and  $\log_{10} e = 0.4343$   
find approximate value of  $\log_{10} (2.2)$ .
36. Find the interval (s) in which  $y = x^2 (x - 3)^2$  increases.
37. Find the interval (s) in which function  $f(x) = 2x^3 - 15x^2 + 36x + 1$  is strictly increasing or decreasing.
38. Find the point of the curve  $y = 3x^2 - 2x$  where the tangent is parallel to  $x$ -axis?
39. Find the equation of the tangent to the curve  $y = 2e^{-x/3}$  at the point where curve cuts  $y$ -axis.
40. If  $8k^2 = 1$  then show that the curves  $y^2 = x$  and  $xy = k$  cut at right angles.
41. Determine the interval in which function,  $f(x) = \sin x + \cos x$  in  $[0, 2\pi]$  is strictly increasing or decreasing.
42. Find the maximum value of  $f(x) = 3 \sin x + 4 \cos x$  in  $[0, \pi/2]$ .
43. Find the two positive numbers  $x$  and  $y$  such that their sum is 35 and product  $x^2y^3$  is maximum.
44. Find the least value of 'a' such that the function  $f(x) = x^2 + 2ax + 3$  is strictly increasing on  $(3, 4)$ .
45. Show that the acute angle of intersection between the curves  $xy = 6$  and  $x^2y = 12$  is  $\tan^{-1}\left(\frac{3}{\pi}\right)$ .
46. Find approximate value of  $\sqrt{0.037}$  using differentials.
47. Find all the points of the curve  $\frac{x^2}{9} - \frac{y^2}{16} = 1$  at which the tangent is
- (i) Parallel to the  $x$ -axis; (ii) Parallel to  $y$ -axis.
- \*48. Find all values of  $a \in R$  such that the function  $f(x) = (a + 2)x^3 - 3ax^2 + 9ax - 1$  decreases for all  $x \in R$ .
- \*49. Find the condition that the line  $x \cos \alpha + y \sin \alpha = p$  be a tangent to the curve  $\frac{x^2}{a^2} + \frac{y^2}{b^2} = 1$ .
50. Find equation of tangent at  $x = \frac{\pi}{4}$  to the curve  $y = \cot^2 x - 2 \cot x + 2$ .

### LONG ANSWER TYPE QUESTION (6 Marks Each)

51. Show that the point  $(1, 3)$  on  $y = x^2 + 2$  is nearest to the point  $(3, 2)$ .
52. A point on the hypotenuse of a right triangle is at a distance 'a' and 'b' from the sides of the triangle. Show that the minimum length of the hypotenuse is  $(a^{2/3} + b^{2/3})^{3/2}$ .
53. If the length of three sides of a trapezium other than base are equal to 10cm, then find the area of trapezium when it is maximum.
54. A given quantity of metal is to be cast into half cylinder with a rectangular base and semi-circular ends. Show that when total surface areas is minimum, the ratio of length of cylinder to the diameter of its semi-circular ends is  $\pi : (\pi + 2)$ .
55. Show that  $f(x) = \sin^4 x + \cos^4 x$ ,  $x \in [0, \pi/2]$  is increasing on  $[\frac{\pi}{4}, \frac{\pi}{2}]$  and decreasing on  $[0, \frac{\pi}{4}]$ .
56. Find the interval in which  $f(x) = 2 \log(x - 2) - x^2 + 4x + 1$  is increasing or decreasing,
57. Find the equation of tangent to the curve  $y = x^3 - 1)(x - 2)$  at the points where the curve cuts the  $x$ -axis.
58. Show that the semi-verticle angle of a cone of maximum volume and given height is  $\tan^{-1} \sqrt{2}$ .
59. Prove that the radius of the right circular cylinder of greatest curved surface which can be inscribed in a given cone is half of that of the cone.
60. A rectangular sheet of tin 45 cm  $\times$  24 cm is to be made into a box without top by cutting off square from each corner and folding up the flaps. What should be the side of the square to be cut off so that the volume of the box is maximum?
61. A wire of length 28 m is to be cut into two pieces. One of the pieces is to be made into a square and the other into a circle. What should be the lengths of the two pieces so that the combined area of the square and the circle is minimum?
62. For a given curved surface of a right circular cone when volume is maximum, prove that semi-vertical angle is  $\sin^{-1}(\frac{1}{3})$ .
63. Show that the volume of the greatest cylinder which can be inscribed in a cone of height  $h$  and semi-vertical angle  $\alpha$  is  $\frac{4}{27} \pi h^3 \tan^2 \alpha$ .
64. Prove that the volume of the largest cone that can be inscribed in a sphere of radius  $R$  is  $\frac{8}{27}$  of the volume of the sphere.
65. A jet of an enemy is flying along the curve  $y = x^2 + 2$ . A soldier is placed at the point  $(3, 2)$ . What is the nearest distance between the soldier and the jet?

66. A rectangular window is surmounted by an equilateral triangle. Given that the perimeter is 16m, find the width of the window so that the maximum amount of light may enter.
67. Cost of fuel for running a car is proportional to the square of speed generated in km/hr. It costs Rs. 48 per hour when the car is running the speed of 16 km/hr. What is the most economical speed if the fixed charges are Rs. 300 per hour over and above the running cost.
68. Two sides of a triangle are of lengths  $a$  and  $b$  and angle between them is  $\theta$ . What value of  $\theta$  will maximize the area of triangle? Also find the maximum area.

## CHAPTER 7

# INTEGRATION

### POINTS TO REMEMBER

Integration is inverse process of Differentiation.

### STANDARD FORMULAE

$$1. \int x^n dx = \begin{cases} \frac{x^{n+1}}{n+1} + c & n \neq -1 \\ \log|x| + c & n = -1 \end{cases}$$

$$2. \int (ax + b)^n dx = \begin{cases} \frac{(ax + b)^{n+1}}{n+1} + c & n \neq -1 \\ \frac{1}{a} \log|ax + b| + c & n = -1 \end{cases}$$

$$3. \int \sin x \, dx = -\cos x + c.$$

$$4. \int \cos x \, dx = \sin x + c.$$

$$5. \int \tan x \cdot dx = -\log|\cos x| + c = \log|\sec x| + c.$$

$$6. \int \cot x \, dx = \log|\sin x| + c.$$

$$7. \int \sec^2 x \cdot dx = \tan x + c.$$

$$8. \int \operatorname{cosec}^2 x \cdot dx = -\cot x + c.$$

$$9. \int \sec x \cdot \tan x \cdot dx = \sec x + c.$$

$$10. \int \operatorname{cosec} x \cot x \, dx = -\operatorname{cosec} x + c.$$

$$11. \int \sec x \, dx = \log|\sec x + \tan x| + c.$$

$$12. \int \operatorname{cosec} x \, dx = \log|\operatorname{cosec} x - \cot x| + c.$$

$$13. \int \frac{1}{\sqrt{1-x^2}} \, dx = \sin^{-1} x + c, |x| < 1.$$

$$14. \int \frac{1}{1+x^2} \, dx = \tan^{-1} x + c.$$

$$15. \int \frac{1}{x\sqrt{x^2-1}} \, dx = \sec^{-1} x + c, |x| > 1.$$

$$16. \int \frac{1}{a^2-x^2} \, dx = \frac{1}{2a} \log \left| \frac{a+x}{a-x} \right| + c.$$

$$17. \int \frac{1}{x^2-a^2} \, dx = \frac{1}{2a} \log \left| \frac{x-a}{x+a} \right| + c.$$

$$18. \int \frac{1}{a^2+x^2} \, dx = \frac{1}{a} \tan^{-1} \frac{x}{a} + c.$$

$$19. \int \frac{1}{\sqrt{a^2-x^2}} \, dx = \sin^{-1} \frac{x}{a} + c.$$

$$20. \int \frac{1}{\sqrt{a^2 + x^2}} dx = \log|x + \sqrt{a^2 + x^2}| + c. \quad 21. \int \frac{1}{\sqrt{x^2 - a^2}} dx = \log|x + \sqrt{x^2 - a^2}| + c.$$

$$22. \int \sqrt{a^2 - x^2} dx = \frac{x}{2} \sqrt{a^2 - x^2} + \frac{a^2}{2} \sin^{-1} \frac{x}{a} + c.$$

$$23. \int \sqrt{a^2 + x^2} dx = \frac{x}{2} \sqrt{a^2 + x^2} + \frac{a^2}{2} \log|x + \sqrt{a^2 + x^2}| + c.$$

$$24. \int \sqrt{x^2 - a^2} dx = \frac{x}{2} \sqrt{x^2 - a^2} - \frac{a^2}{2} \log|x + \sqrt{x^2 - a^2}| + c.$$

$$25. \int e^x dx = e^x + c.$$

$$26. \int a^x dx = \frac{1}{\log a} \cdot a^x + c.$$

### INTEGRATION BY SUBSTITUTION

$$1. \int \frac{f'(x)}{f(x)} dx = \log|f(x)| + c.$$

$$2. \int [f(x)]^n f'(x) dx = \frac{[f(x)]^{n+1}}{n+1} + c.$$

$$3. \int \frac{f'(x)}{[f(x)]^n} dx = \frac{(f(x))^{-n+1}}{-n+1} + c.$$

### INTEGRATION BY PARTS

$$\int f(x) \cdot g(x) dx = f(x) \cdot \left[ \int g(x) dx \right] - \int f'(x) \cdot \left[ \int g(x) dx \right] dx.$$

### PROPERTIES OF DEFINITE INTEGRALS

$$\int_a^b f(x) dx = F(b) - F(a), \text{ where } F(x) = \int f(x) dx.$$

$$1. \int_a^b f(x) dx = - \int_b^a f(x) dx.$$

$$2. \int_a^b f(x) dx = \int_a^b f(t) dt.$$

$$3. \int_a^b f(x) dx = \int_a^c f(x) dx + \int_c^b f(x) dx.$$

$$4. \int_a^b f(x) dx = \int_a^b f(a + b - x) dx.$$

$$5. \int_{-a}^a f(x) = 0; \text{ if } f(x) \text{ is odd function.}$$

$$6. \int_0^{2a} f(x) dx = 2 \int_0^a f(x) dx, \quad \text{if } f(2a - x) = f(x).$$

$$= 0 \quad \text{if } f(2a - x) = -f(x).$$

Integral as limit of sum :

$$\int_a^b f(x) dx = \lim_{h \rightarrow 0} h [f(a) + f(a+h) + f(a+2h) + \dots + f(a + \overline{n-1}h)]$$

where  $h = \frac{b-a}{n}$ .

### VERY SHORT ANSWER TYPE QUESTIONS (1 Mark Each)

1. Evaluate the following integrals

$$(i) \int (\sqrt{x} + \frac{1}{\sqrt{x}}) dx.$$

$$(ii) \int \frac{1}{1 - \sin^2 x} dx.$$

$$(iii) \int \frac{\cos x}{1 - \cos^2 x} dx.$$

$$(iv) \int_1^2 \frac{1}{x\sqrt{x^2 - 1}} dx.$$

$$(v) \int_0^{\pi/2} \log \frac{4 + 3 \sin x}{4 + 3 \cos x} dx.$$

$$(vi) \int \frac{1}{x \log x \log(\log x)} dx.$$

$$(vii) \int \operatorname{cosec} x (\operatorname{cosec} x + \cot x) dx.$$

$$(viii) \int (8^x + x^8 + \frac{8}{x} + \frac{x}{8}) dx.$$

$$(ix) \int \frac{dx}{\sin(\cos^{-1} x)}.$$

$$(x) \int_1^{\sqrt{e}} x^{99} \cos^4 x dx.$$

2. Evaluate the following integrals.

$$(i) \int \frac{x^2 + x - 1}{\sqrt{x}} dx.$$

$$(ii) \int (\sqrt{ax} - \frac{1}{\sqrt{ax}})^2 dx.$$



- (iii)  $\int \left( \sin 3x - 3e^{4x} + \sec^2 \frac{x}{2} \right) dx.$
- (iv)  $\int \frac{1 + \cos 2x}{1 - \cos 2x} dx.$
- (v)  $\int \frac{x}{\sqrt{2x+1}} dx.$
- (vi)  $\int \frac{\sec x \operatorname{cosec} x}{\log \tan x} dx.$
- (vii)  $\int \frac{\cos 2x + 2 \sin^2 x}{\cos^2 x} dx.$
- (viii)  $\int (e^{a \log x} + e^{x \log a}) dx.$
- (ix)  $\int \sqrt{1 - \sin x} dx, \left( \frac{\pi}{2} < x < \pi \right).$
- (x)  $\int \frac{1}{x(2 + 3 \log x)} dx.$
- (xi)  $\int \frac{\sin \sqrt{x}}{\sqrt{x}} dx.$
- (xii)  $\int \frac{x^2 \tan^{-1} x^3}{1 + x^6} dx.$
- (xiii)  $\int 2 \log x dx.$
- (xiv)  $\int \frac{ax + b}{ax^2 + 2bx + c} dx.$
- (xv)  $\int \frac{\sin x}{a + b \cos x} dx.$
- (xvi)  $\int (c^x + x^c) dx.$
- (xvii)  $\int \frac{1}{3x + x \log x} dx.$
- (xviii)  $\int \frac{1}{16 + 25x^2} dx.$
- (xix)  $\int \frac{dx}{e^{2x} + e^{-2x}}.$
- (xx)  $\int \frac{1}{9x^2 - 4} dx.$
- (xxi)  $\int \frac{1}{16 - 25x^2} dx.$
- (xxii)  $\int \frac{1}{\sqrt{4x^2 - 9}} dx.$
- (xxiii)  $\int \frac{1}{a^2 - b^2 x^2} dx.$

3. Evaluate the following definite integrals :

(i)  $\int_0^{\frac{\pi}{2}} \frac{\sin^{3/2} x}{\sin^{3/2} x + \cos^{3/2} x} dx.$

(ii)  $\int_{-1}^1 e^{|x|} dx.$

(iii)  $\int_{-\frac{\pi}{2}}^{\frac{\pi}{2}} \sin^7 x dx.$

(iv)  $\int_{-\frac{\pi}{2}}^{\frac{\pi}{2}} \frac{\sin^3 x}{\sin^4 x + \cos^4 x} dx.$

$$(v) \int_0^1 \frac{1}{1+x^2} dx.$$

$$(vi) \int_0^{\frac{\pi}{2}} \frac{\sin x}{1+\cos^2 x} dx.$$

$$(vii) \int_0^1 \frac{\sqrt{\tan^{-1} x}}{1+x^2} dx.$$

$$(viii) \int_0^1 \frac{e^x}{1+e^{2x}} dx.$$

$$*(ix) \int \frac{e^{5 \log x} - e^{4 \log x}}{e^{3 \log x} - e^{2 \log x}} dx.$$

$$(x) \int_0^1 x e^x dx.$$

### SHORT ANSWER TYPE QUESTIONS (4 Marks Each)

4. Evaluate the following integrals :

$$(i) \int \frac{x \operatorname{cosec}(\tan^{-1} x^2)}{1+x^4} dx.$$

$$(ii) \int \frac{\sqrt{x+1} - \sqrt{x-1}}{\sqrt{x+1} + \sqrt{x-1}} dx.$$

$$(iii) \int \frac{1}{\sin(x-a) \sin(x-b)} dx.$$

$$(iv) \int \frac{\cos(x+a)}{\cos(x-a)} dx.$$

$$(v) \int \cos x \cos 2x \cos 3x dx.$$

$$(vi) \int \cos^5 x dx.$$

$$(vii) \int \sin^2 x \cos^4 x dx.$$

$$(viii) \int \sin^5 x \cos^4 x dx.$$

$$(ix) \int \cot^3 x \operatorname{cosec}^4 x dx.$$

$$(x) \int \frac{\sin x \cos x}{\sqrt{a^2 \sin^2 x + b^2 \cos^2 x}} dx.$$

$$(xi) \int \frac{1}{\sqrt{\cos^3 x \cos(x+a)}} dx.$$

$$(xii) \int \frac{\sin^6 x + \cos^6 x}{\sin^2 x \cos^2 x} dx.$$

$$*(xiii) \int x^6 \sqrt{x} (1+x^2 \sqrt{x})^{\frac{1}{2}} dx$$

$$(xiv) \int \frac{\sin x + \cos x}{\sqrt{\sin 2x}} dx.$$

$$(xv) \int \frac{1}{x(x^4+1)} dx.$$

$$*(xvi) \int \frac{dx}{1+3 \sin^2 x}.$$

$$(xvii) \int \frac{\sin x}{\sin 3x} dx.$$

$$*(xviii) \int 5^{5^x} 5^{5^x} 5^x dx.$$

5. Evaluate :

$$(i) \int \frac{x}{x^4 + x^2 + 1} dx.$$

$$*(ii) \int \frac{1}{x \sqrt{6(\log x)^2 + 7 \log x + 2}} dx.$$

$$(iii) \int \frac{dx}{1 + 3x - x^2}.$$

$$(v) \int \frac{1}{\sqrt{2x^2 + 3x - 2}} dx.$$

$$(vii) \int \sqrt{\frac{\sin(x - \alpha)}{\sin(x + a)}} dx.$$

$$(ix) \int \frac{x^2}{x^2 + 6x + 12} dx.$$

$$(xi) \int x\sqrt{1 + x - x^2} dx.$$

$$*(xiii) \int \sqrt{\sec x + 1} dx.$$

$$(iv) \int \frac{1}{\sqrt{9 + 8x - 2x^2}} dx.$$

$$(vi) \int \frac{1}{\sqrt{(x - a)(x - b)}} dx.$$

$$(viii) \int \frac{5x - 2}{3x^2 + 2x + 1} dx.$$

$$(x) \int \frac{x + 2}{\sqrt{4x - x^2}} dx.$$

$$(xii) \int (3x - 2)\sqrt{x^2 + x + 1} dx.$$

$$(xiv) \int \frac{2 \sin 2\theta - \cos \theta}{6 - \cos^2 \theta - 4 \sin \theta} dx.$$

6. Evaluate :

$$(i) \int \frac{dx}{x(x^7 + 1)}.$$

$$(iii) \int \frac{\sin x}{(1 + \cos x)(2 + 3 \cos x)} dx.$$

$$(v) \int \frac{x^2 + 1}{(1 + \cos x)(2 + 3 \cos x)} dx.$$

$$(vii) \int \frac{x^2 + x + 2}{(x - 2)(x - 1)} dx.$$

$$*(ix) \int \frac{x^4}{x^4 - 16} dx.$$

$$(xi) \int \frac{dx}{\sin x(1 - 2 \cos x)}.$$

$$(xiii) \int \frac{\sin x}{\sin 4x} dx.$$

$$(xv) \int \sqrt{\tan x} dx.$$

$$*(xvii) \int \frac{x \log x}{\sqrt{(x^2 - 1)^3}} dx.$$

$$*(ii) \int \frac{x}{(x^2 - a^2)(x^2 - b^2)} dx.$$

$$(iv) \int \frac{x - 1}{x^3 + x^2 - 6x} dx.$$

$$(vi) \int \frac{x - 1}{(x + 1)(x - 2)(x + 3)} dx.$$

$$(viii) \int \frac{(x^2 + 1)(x^2 + 2)}{(x^3 + 3)(x^2 + 4)} dx.$$

$$(x) \int \frac{dx}{(2x + 1)(x^2 + 4)}.$$

$$*(xii) \int \frac{dx}{\cos x(2 - \sin x)}.$$

$$(xiv) \int \frac{x^2 - 1}{x^4 + x^2 + 1} dx.$$

$$(xvi) \int \frac{x^2 + 9}{x^4 + 81} dx.$$

\*(xviii)  $\int_1^2 \lceil x^2 \rceil dx$ , where  $\lceil x \rceil$  is greatest integer function

7. Evaluate :

(i)  $\int x^5 \sin x^3 dx.$

(ii)  $\int \sec^3 x dx.$

(iii)  $\int e^{ax} \cos (bx + c) dx.$

\*(iv)  $\int \sin^{-1} \frac{6x}{1+9x^2} dx.$

(v)  $\int \cos \sqrt{x} dx.$

(vi)  $\int x^n (\log x^2) dx.$

\*(vii)  $\int \frac{x^2}{(x \sin x + \cos x)^2} dx.$

(viii)  $\int (\sin^{-1} \sqrt{x} - \cos^{-1} \sqrt{x}) dx.$

\*(ix)  $\int \sin^{-1} \sqrt{\frac{x}{a+x}} dx.$

(x)  $\int x^3 \tan^{-1} x dx.$

(xi)  $\int \frac{\sqrt{x^2+1} \lceil \log(x^2+1) - 2 \log x \rceil}{x^4} dx.$

(xii)  $\int e^{2x} \left( \frac{1 + \sin 2x}{1 + \cos 2x} \right) dx.$

(xiii)  $\int e^x \left( \frac{x-1}{2x^2} \right) dx.$

(xiv)  $\int e^x \left( \frac{1-x}{1+x^2} \right)^2 dx.$

(xv)  $\int e^x \left( \frac{x^2+1}{(x+1)^2} \right) dx.$

(xvi)  $\int e^x \left( \frac{2 + \sin 2x}{1 + \cos 2x} \right) dx.$

(xvii)  $\int \left[ \frac{1}{\log x} - \frac{1}{(\log x)^2} \right] dx.$

\*(xviii)  $\int \left[ \log(\log x) + \frac{1}{(\log x)^2} \right] dx.$

(xix)  $\int \sin(\log x) + \cos(\log x) dx.$

8. Evaluate the following definite integrals :

(i)  $\int_0^{\frac{\pi}{4}} \frac{\sin x + \cos x}{9 + 16 \sin 2x} dx.$

(ii)  $\int_0^{\frac{\pi}{2}} \cos 2x \log \sin x dx.$

\*(iii)  $\int_0^1 x \sqrt{\frac{1-x^2}{1+x^2}} dx.$

(iv)  $\int_0^{1/\sqrt{2}} \frac{\sin^{-1} x}{(1-x^2)^{3/2}} dx.$

(v)  $\int_0^{\frac{\pi}{2}} \frac{\cos x}{(1 + \sin x)(2 + \sin x)(3 + \sin x)} dx.$

(vi)  $\int_0^{\frac{\pi}{2}} \frac{\sin 2x}{\sin^4 x + \cos^4 x} dx.$

$$(vii) \int_0^{\frac{\pi}{2}} 2 \sin^4 x \, dx.$$

$$(viii) \int_{\frac{1}{4}}^{\frac{1}{2}} \frac{dx}{\sqrt{x-x^2}} \, dx.$$

$$(ix) \int_1^2 \frac{5x^2}{x^2+4x+3} \, dx.$$

$$*(x) \int_0^{\frac{\pi}{2}} \frac{x + \sin x}{1 + \cos x} \, dx.$$

9. Evaluate :

$$(i) \int_1^3 \{|x-1| + |x-2| + |x-3|\} \, dx.$$

$$*(ii) \int_{-\frac{\pi}{2}}^{\frac{\pi}{2}} (\sin |x| - \cos |x|) \, dx.$$

$$(iii) \int_0^{\pi} \frac{x}{1 + \sin x} \, dx.$$

$$(iv) \int_0^{\frac{\pi}{4}} \log(1 + \tan x) \, dx.$$

$$(v) \int_0^{\frac{\pi}{2}} \log \sin x \, dx.$$

$$(vi) \int_0^{\pi} \frac{x \sin x}{(1 + \cos^2 x)} \, dx.$$

$$(vii) \int_{-2}^2 f(x) \, dx \text{ where } f(x) = \begin{cases} 2x - x^3 & \text{when } -2 \leq x < -1 \\ x^3 - 3x + 2 & \text{when } -1 \leq x < 1 \\ 3x - 2 & \text{when } 1 \leq x < 2. \end{cases}$$

$$(viii) \int_0^{\frac{\pi}{2}} \frac{x \sin x \cos x}{\sin^4 x + \cos^4 x} \, dx.$$

$$(ix) \int_0^{\pi} \frac{x}{a^2 \cos^2 x + b^2 \sin^2 x} \, dx.$$

10. Evaluate the following integrals as limit of a sum

$$(i) \int_1^3 x^2 \, dx.$$

$$(ii) \int_{-1}^1 e^x \, dx.$$

$$(iii) \int_0^1 x \, dx.$$

$$(iv) \int_0^2 e^{-x} \, dx.$$

$$(v) \int_0^2 (2x + 3) \, dx.$$

$$(vi) \int_{-1}^2 (7x - 5) \, dx.$$

11. Evaluate the following integrals.

$$(i) \int \frac{\tan x + \tan^3 x}{1 + \tan^3 x} dx.$$

$$(ii) \int \frac{\tan^4 \sqrt{x} \sec^4 \sqrt{x}}{\sqrt{x}} dx.$$

$$(iii) \int_1^3 |x^2 - 2x| dx.$$

$$(iv) \int_0^1 \sin^{-1} \left( \frac{2x}{1+x^2} \right) dx.$$

$$*(v) \int_{-1}^1 \log \left( \frac{1 + \sin x}{1 - \sin x} \right) dx.$$

$$*(vi) \int_{-1}^1 \log |x + \sqrt{x^2 + 1}| dx.$$

$$(vii) \int_2^8 \frac{\sqrt{10-x}}{\sqrt{x} + \sqrt{10-x}} dx.$$

$$(viii) \int_0^\pi \frac{e^{\cos x}}{e^{\cos x} + e^{-\cos x}} dx.$$

$$*(ix) \int_{-3}^3 \frac{1}{1+a^x} dx.$$

$$(x) \int \frac{1-x^2}{x(1-2x)} dx.$$

### LONG ANSWER TYPE QUESTIONS (6 MARKS EACH)

12. Evaluate the following integrals :

$$(i) \int \frac{x^5 + 4}{x^5 - x} dx.$$

$$(ii) \int \frac{dx}{(x-1)^2(x^2+4)}$$

$$(iii) \int \frac{2x^3}{(x+1)(x-3)^2} dx$$

$$(iv) \int \frac{x^4}{x^4 - 16} dx$$

$$(v) \int_0^{\frac{\pi}{2}} (\sqrt{\tan x} + \sqrt{\cot x}) dx.$$

$$(vi) \int \frac{1}{x^4 + 1} dx.$$

$$(vii) \int_0^\infty \frac{x \tan^{-1} x}{(1+x^2)^2} dx.$$

$$(viii) \int_0^1 \cot^{-1}(1-x+x^2) dx.$$

$$*(ix) \int_0^1 \frac{\log(1+x)}{(1+x^2)} dx.$$

$$*(x) \int \frac{\sqrt{1+\cos x}}{(1-\cos x)^{5/2}} dx.$$

$$*(xi) \int \frac{dx}{(\sin x - 2 \cos x)(2 \sin x + \cos x)}.$$

$$(xii) \int \frac{\sin^{-1} \sqrt{x} - \cos^{-1} \sqrt{x}}{\sin^{-1} x + \cos^{-1} \sqrt{x}} dx.$$

$$(xiii) \int \sqrt{\frac{1 + \sqrt{x}}{1 + \sqrt{x}}} dx.$$

$$(xiv) \int_{-1}^{3/2} |x \sin \pi x| dx.$$

13. Evaluate the following integrals as limit of sums :

$$(i) \int_2^4 (2x + 1) dx.$$

$$(ii) \int_0^2 (x^2 + 3) dx.$$

$$(iii) \int_1^3 (3x^2 - 2x + 4) dx.$$

$$(iv) \int_0^4 (3x^2 + e^{2x}) dx.$$

$$(v) \int_2^5 (x^2 + 3x) dx.$$

$$(vi) \int_0^3 (2x^2 + 3x + 5) dx.$$

## CHAPTER 8

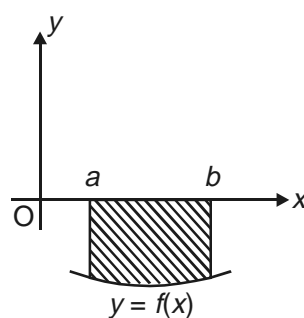
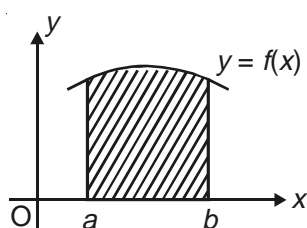
# APPLICATIONS OF THE INTEGRALS

### POINTS TO REMEMBER

#### AREA OF BOUNDED REGION

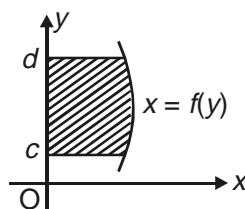
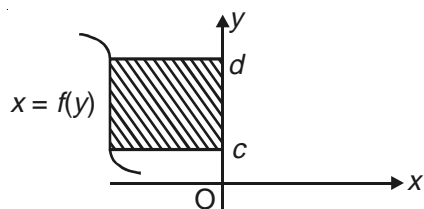
1. Area bounded by the curve  $y = f(x)$ , the  $x$  axis and between the ordinate.  $a^+$   $x = a$  and  $x = b$  is given by

$$\text{Area} = \left| \int_a^b f(x) dx \right|$$



2. Area bounded by the curve  $x = f(y)$  the  $y$ -axis and between abscissa  $a^+$   $y = c$  and  $y = d$  is given by

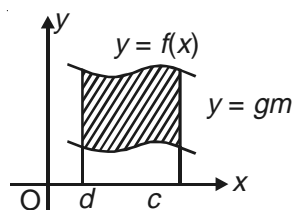
$$\text{Area} = \left| \int_c^d x dy \right| = \left| \int_c^d f(y) dy \right|$$



3. Area bounded by two curves  $y = f(x)$  and  $y = g(x)$  such that  $0 \leq g(x) \leq f(x)$  for all  $x \in [ab]$  and between the ordinate at  $x = a$  and  $x = b$  is given by

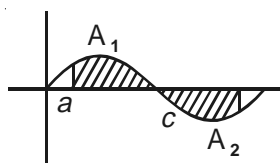
$$\text{Area} = \int_a^b [f(x) - g(x)] dx$$





4. If the curve  $y = f(x)$  intersects the axis ( $x$ -axis) then the area of shaded region is given by

$$\text{Area} = |A_1| + |A_2|.$$



$$\text{Area} = \int_a^c f(x) dx + \int_c^b f(x) dx.$$

### SHORT ANSWER TYPE QUESTIONS (4 Marks Each)

- Find the area enclosed by circle  $x^2 + y^2 = a^2$ .
- Find the area of region bounded by  $y^2 = 4x$ ,  $x = 1$ ,  $x = 4$  and  $x$ -axis in first quadrant.
- Find the area enclosed by the ellipse

$$\frac{x^2}{a^2} + \frac{y^2}{b^2} = 1 \quad a > b.$$

- Find the area of region in the first quadrant enclosed by  $x$ -axis the line  $y = x$  and the circle  $x^2 + y^2 = 32$ .
- Find the area of region  $\{(x, y) : y^2 \leq 4x, 4x^2 + 4y^2 \leq 9\}$
- Prove that the curve  $y = x^2$  and  $x = y^2$  divide the square bounded by  $x = 0$ ,  $y = 0$ ,  $x = 1$ ,  $y = 1$  into three equal parts.
- Find smaller of the two areas enclosed between the ellipse  $\frac{x^2}{a^2} + \frac{y^2}{b^2} = 1$  and the line

$$bx + ay = ab.$$

### LONG ANSWER TYPE QUESTIONS (6 Marks Each)

- Find the common area bounded by the circles  $x^2 + y^2 = 4$  and  $(x - 2)^2 + y^2 = 4$ .
- Using integration find area of region bounded by the triangle whose vertices are  
(a)  $(-1, 0)$ ,  $(1, 3)$  and  $(3, 2)$

(b)  $(-2, 2)$ ,  $(0, 5)$  and  $(3, 2)$

10 Using integration find the area bounded by the lines.

(i)  $x + 2y = 2$ ,  $y - x = 1$  and  $2x + y - 7 = 0$

(ii)  $y = 4x + 5$ ,  $y = 5 - x$  and  $4y - x = 5$ .

11. Find the area of the region  $\{(x, y) : x^2 + y^2 \leq 1 \leq x + y\}$ .

12. Find the area of the region bounded by

$$y = |x - 1| \text{ and } y = 1.$$

\*13. Using integration find the area enclosed by the curve  $y = \cos x$ ,  $y = \sin x$  and  $x$ -axis in the interval  $(0, \pi/2)$ .

\*14. Sketch the graph  $y = |x - 5|$ . Evaluate  $\int_0^6 |x - 5| dx$ .

\*15. Find the area enclosed by the curve

$$y = |x - 1| \quad \text{and} \quad y = 3 - |x|$$

16. Find the area enclosed by the curve  $y = \sin x$  between  $x = 0$  and  $x = \frac{3\pi}{2}$  and  $x$ -axis.

17. Find the area bounded by semi circle  $y = \sqrt{25 - x^2}$  and  $x$ -axis.

18. Find area of region given by  $\{(x, y) : x^2 \leq y \leq |x|\}$ .

19. Find area of smaller region bounded by ellipse  $\frac{x^2}{9} + \frac{y^2}{4} = 1$  and straight line  $2x + 3y = 6$ .

20. Find the area of region bounded by the curve  $x^2 = 4y$  and line  $x = 4y - 2$ .

\*21. Find the area bounded by the ellipse  $\frac{x^2}{a^2} + \frac{y^2}{b^2} = 1$  and ordinate  $x = ae$  and  $x = 0$ , where  $b^2 = a^2(1 - e^2)$  and  $e < 1$ .

22. Find the area enclosed by parabola  $y^2 = 4ax$  and the line  $y = mx$ .

23. Find the area of region bounded by  $y = x^2$  and the line  $y = x$ .

24. Using integration find the area of region in first quadrant enclosed by  $x$ -axis the line  $x = \sqrt{3}y$  and the circle  $x^2 + y^2 = 4$ .

25. Draw a sketch of the region  $\{(x, y) : x^2 + y^2 \leq 4 \leq x + y\}$  and find its area.

26. Find the area enclosed between the  $y$ -axis the line  $y = 1$  and the curve  $x^2 + y^2 - 2x = 0$ .

27. Find smaller of two areas bounded by the curve  $y = |x|$  and  $x^2 + y^2 = 8$ .

## CHAPTER 9

# DIFFERENTIAL EQUATION

### POINTS TO REMEMBER

- **Differential Equation** : Equation containing derivatives of a dependant variable with respect to an independent variable is called differential equation.
- **Order of a Differential Equation** : The order of a differential equation is defined to be the order of the highest order derivative occurring in the differential equation.
- **Degree of a Differential Equation** : The degree of differential equation is defined to be the degree of highest order derivative occurring in it after the equation has been made free from radicals and fractions. Solving a differential equation.

- (i) Type  $\frac{dy}{dx} = f(x) \cdot g(y)$  : Variable separable method separate the variables and get  $f(x)$

$dx = h(y) dy$ . The  $\int f(x) dx = \int h(y) dy + c$  is the required solution.

- (ii) **Homogenous differential equation** : A differential equation of the form  $\frac{dy}{dx} = \frac{f(x, y)}{g(x, y)}$

where  $f(x, y)$  and  $g(x, y)$  are both homogeneous functions of the same degree in  $x$  and

$y$  i.e., of the form  $\frac{dy}{dx} = F\left(\frac{y}{x}\right)$  is called a homogeneous differential equation. Substituting

$y = vx$  and then  $\frac{dy}{dx} = v + x \frac{dv}{dx}$ , we get variable separable form.

- (ii) **Linear differential equation** : Type I :  $\frac{dy}{dx} + py = q$  where  $p$  and  $q$  are functions of  $x$ . Its solution is  $y \cdot (I. F.) = \int q(I. F.) dx$  where  $I. F. = e^{\int p dx}$ .

### VERY SHORT ANSWER TYPE QUESTIONS

1. Write the order and degree of the following differential equations.

(i)  $\frac{dy}{dx} + \cos y = 0$ .

(ii)  $\left(\frac{dy}{dx}\right)^2 + 3\frac{d^2y}{dx^2} = 4$ .

(iii)  $\frac{d^4y}{dx^4} + \sin x = \left(\frac{d^2y}{dx^2}\right)^5$ .

(iv)  $\frac{d^5y}{dx^5} + \log\left(\frac{dy}{dx}\right) = 0$ .

$$*(v) \quad \sqrt{1 + \frac{dy}{dx}} = \left(\frac{d^2y}{dx^2}\right)^{1/3}$$

$$(vi) \quad \left[1 + \frac{dy}{dx}\right]^{3/2} = K \frac{d^2y}{dx^2}$$

$$(vii) \quad \left(\frac{d^3y}{dx^3}\right)^2 + \left(\frac{d^2y}{dx^2}\right)^3 = \sin x.$$

2. Write the general solution of following differential equations.

$$(i) \quad \frac{dy}{dx} = x^5 + x^2 - \frac{2}{x}$$

$$(ii) \quad (e^x + e^{-x}) dy = (e^x - e^{-x}) dx$$

$$(iii) \quad \frac{dy}{dx} = x^3 + e^x + x^e$$

$$(iv) \quad \frac{dy}{dx} = 5^{x+y}$$

$$(v) \quad \frac{dy}{dx} = \frac{1 - \cos 2x}{1 + \cos 2y}$$

$$(vi) \quad \frac{dy}{dx} = \frac{1 - 2y}{3x + 1}$$

$$(vii) \quad \frac{dy}{dx} = x \sec^2 x.$$

$$(viii) \quad \frac{dy}{dx} = \frac{y}{x \log x}$$

3. What is the integrating factor in each of the following linear differential equations.

$$(i) \quad \frac{dy}{dx} + y \cos x = \sin x.$$

$$(ii) \quad \frac{dy}{dx} + \frac{y}{\cos^2 x} = \sin x \cos x.$$

$$(iii) \quad x^2 \frac{dy}{dx} + y = x^2 \cos x.$$

$$(iv) \quad x \frac{dy}{dx} + \log x \cdot y = \tan x \cdot e^x.$$

$$(v) \quad \frac{dy}{dx} - \frac{3}{x} \cdot y = \log x.$$

$$(vi) \quad \frac{dx}{dy} + (\tan y) x = \sec^2 y.$$

$$(vii) \quad \frac{dx}{dy} + \frac{1}{1 + y^2} \cdot x = \sin y.$$

$$(viii) \quad \frac{dx}{dy} - x = 3y + 2.$$

### SHORT ANSWER TYPE QUESTIONS (4 Marks Each)

4. (i) Verify that  $y = e^{m \sin^{-1} x}$  is a solution of  $(1 - x^2) \frac{d^2y}{dx^2} - x \frac{dy}{dx} - m^2 y = 0$ .

(ii) Show that  $y = \sin(\sin x)$  is a solution of diff. equation

$$\frac{d^2y}{dx^2} + \tan x \frac{dy}{dx} = -y \cos^2 x.$$

(iii) Show that  $y = Ax + \frac{B}{x}$  is a solution of

$$x^2 \cdot \frac{d^2 y}{dx^2} + x \frac{dy}{dx} - y = 0.$$

- (iv) Show that function  $y = a \cos (\log x) + b \sin (\log x)$  is the solution of

$$x^2 \cdot \frac{d^2 y}{dx^2} + x \frac{dy}{dx} + y = 0.$$

- (v) Verify that  $y^2 = 4a(x + a)$  is a solution of  $y = \left[ 1 - \frac{dy}{dx} \right]^2 = 2x \frac{dy}{dx}$ .

- (vi) Show that  $y = ae^{2x} + be^{-x} + ae^{-x} + be^{2x}$  is a solution of  $\frac{d^2 y}{dx^2} - \frac{dy}{dx} - 2y = 0$ .

- \*(vii) Verify that  $y = \log(x + \sqrt{x^2 + a^2})$  satisfies the diff. equation.

$$(a^2 + x^2) \frac{d^2 y}{dx^2} + x \frac{dy}{dx} = 0.$$

- \*(viii) Find the differential equation of family of all circles having centres on x-axis and radius 2 units.
- (ix) Find the differential equation of the family of curves  $y = e^x (A \cos x + B \sin x)$ , where  $A$  and  $B$  are arbitrary constants.
- (x) Find the differential equation of an ellipse with major and minor axes  $2a$  and  $2b$  respectively.
- (xi) Find the differential equation corresponding to the family of curve  $ay^2 = (x - c)^3$ , where  $c$  is an arbitrary constant.
- (xii) By eliminating the constants 'a' and 'b' obtain the differential equation for which  $xy = ae^x + be^{-x} + x^2$  is a solution.
- \*(xiii) Form the differential equation corresponding to the family of curves  $y = c(x - c)^2$ .
- (xiv) Form the differential equation representing the family of curves  $(y - b)^2 = 4(x - a)$ .

5. Solve the following diff. equations.

\*(i)  $(x - y + 2) \frac{dy}{dx} = 1.$

(ii)  $\frac{dy}{dx} + y \cot x = \sin 2x.$

(iii)  $x \frac{dy}{dx} + 2y = x^2 \log x.$

\*(iv)  $(\tan^{-1} y - x) dy = (1 + y^2) dx$

(v)  $(1 + y^2) + (x - e^{\tan^{-1} y}) \frac{dy}{dx} = 0.$

(vi)  $\frac{dx}{dy} + \frac{1}{x} \cdot y = \cos x + \frac{\sin x}{x}, \quad x > 0.$

$$(vii) \quad \frac{dx}{dy} + x = 1 + e^{-y}.$$

$$(viii) \quad \cos^3 x \frac{dy}{dx} + \cos x = \sin x.$$

$$(ix) \quad y e^y dx = (x^3 + 2xe^y) dy.$$

6. Solve each of the following differential equations :

$$(i) \quad y - x \frac{dy}{dx} = 2 \left( y^2 + \frac{dy}{dx} \right).$$

$$(ii) \quad \cos y dx + (1 + 2e^{-x}) \sin y dy = 0.$$

$$(iii) \quad x\sqrt{1-y^2} dy + y\sqrt{1-x^2} dx = 0.$$

$$(iv) \quad \sqrt{(1-x^2)(1-y^2)} dy + xy dx = 0.$$

$$(v) \quad (xy^2 + x) dx + (yx^2 + y) dy = 0; y(0) = 1.$$

$$(vi) \quad \frac{dy}{dx} = y \sin^3 x \cos^3 x + xy e^x.$$

$$(vii) \quad \tan x \tan y dx + \sec^2 x \sec^2 y dy = 0$$

$$(viii) \quad \tan 2y \frac{dy}{dx} = \sin(3x + 2y) + \sin(3x - 2y).$$

$$(ix) \quad \frac{dy}{dx} = e^{2+x-2y} + x^2 e^{2-2y}.$$

$$(x) \quad (1 + e^{2x}) dy + (1 + y^2) e^x dx = 0, \quad y(0) = 1.$$

7. Solve the following differential equations :

$$(i) \quad x^2 y dx - (x^3 + y^3) dy = 0.$$

$$(ii) \quad x^2 \frac{dy}{dx} = x^2 + xy + y^2.$$

$$(iii) \quad (x^2 - y^2) dx + 2xy dy = 0, \quad y(1) = 1.$$

$$*(iv) \quad \left( \frac{x}{1 + e^y} \right) dx = e^y \left( 1 - \frac{x}{y} \right) dy = 0.$$

$$(v) \quad \left( y \sin \frac{x}{y} \right) dx = \left( x \sin \frac{x}{y} - y \right) dy.$$

$$(vi) \quad \frac{dy}{dx} = \frac{y}{x} + \tan \left( \frac{y}{x} \right).$$

$$(vii) \quad \frac{dy}{dx} = \frac{2xy}{x^2 + y^2}$$

$$(viii) \quad \frac{dy}{dx} = e^{x+y} + x^2 e^y.$$

$$*(ix) \quad x \frac{dy}{dx} = -y (\log x - \log y - 1).$$

$$(x) \quad x \frac{dy}{dx} = 1 - x + y - xy.$$

$$(xi) \quad \frac{d^2 y}{dx^2} = x e^x + x \sin x.$$

$$(xii) \quad \frac{dy}{dx} = \sqrt{\frac{1-y^2}{1-x^2}}.$$

8. (i) Form the differential equation of the family of circles touching  $y$ -axis at  $(0, 0)$ .
- \*(ii) Form the differential equation of family of parabolas having vertex at  $(0, 0)$  and axis along the (i) positive  $y$ -axis (ii) +ve  $x$ -axis.
- (iii) Form the differential equation of the family of hyperbols centred at  $(0, 0)$  and axes along the coordinate axis.
- \*(iv) Form differential equation of all circles passing through origin and whose centre lie on  $x$ -axis.
- (v) Form the differential equation of family of curves,  $y = a \sin (bx + c)$ ,  $a, b, c$  are arbitrary constants.

9. Show that the differential equation :  $y (x dy + y dx) \cos \frac{x}{y} = x (y dx - x dy) \sin \frac{x}{y}$ .

is homogeneous and solve it.

10. Show that the differential equation  $\frac{dy}{dx} = \frac{x + 2y}{x - 2y}$  is homogeneous and solve it.

11. Show that the differential equation :

$$(x^2 + 2xy - y^2) dx + (y^2 + 2xy - x^2) dy = 0 \text{ is homogeneous and solve it.}$$

12. Solve the following differential equations :

(i)  $\frac{dy}{dx} - 2y = \cos 3x$ .

(ii)  $\sin x \frac{dy}{dx} + y \cos x = 2 \sin^2 x \cos x$  given that  $y = 1$  when  $x = \frac{\pi}{2}$ .

### LONG ANSWER TYPE QUESTIONS (6 Marks Each)

13. Solve the following differential equations :

(i)  $(x^3 + y^3) dx = (x^2y + xy^2)dy$ . (ii)  $x dy - y dx = \sqrt{x^2 + y^2} dx$ .

(iii)  $y \left[ x \cos \frac{y}{x} + y \sin \frac{y}{x} \right] dx - x \left[ y \sin \frac{y}{x} - x \cos \frac{y}{x} \right] dy = 0$ .

(iv)  $x^2 dy + y(x + y) dx = 0$  given that  $y = 1$  when  $x = 1$ .

(v)  $x e^{\frac{y}{x}} - y + x \frac{dy}{dx} = 0$  given that  $y = 0$  when  $x = e$ .

(vi)  $(x^3 - 3xy^2) dx = (y^3 - 3x^2y)dy$ .

## VECTORS AND THREE DIMENSIONAL GEOMETRY

### POINTS TO REMEMBER

- **Vector** : A directed line segment represents a vector.
- **Addition of vectors** : If two vectors are taken as two sides of a triangle taken in order then their sum is the vector represented by the third side of triangle taken in opposite order (triangle law).
- **Multiple of a vector by a scalar** :  $\vec{a}$  is any vector and  $\lambda \in R$  then  $\lambda \vec{a}$  is vector of magnitude  $|\lambda| |\vec{a}|$  in a direction parallel to  $\vec{a}$ .
- If  $|\vec{a}| \neq 0$  then  $\frac{\vec{a}}{|\vec{a}|}$  is unit vector in direction  $\vec{a}$ .
- **Scalar Product** :  $\vec{a} \cdot \vec{b} = |\vec{a}| |\vec{b}| \cos \theta$  where  $\theta$  is the angle between  $\vec{a}$  and  $\vec{b}$ .
- Projection of  $\vec{a}$  along  $\vec{b}$  is  $\frac{\vec{a} \cdot \vec{b}}{|\vec{b}|}$ .
- $\vec{a} \cdot \vec{a} = |\vec{a}|^2$
- Vectors  $\vec{a}$  and  $\vec{b}$  are perpendicular iff  $\vec{a} \cdot \vec{b} = 0$ .
- **Cross Product** :  $\vec{a} \times \vec{b} = |\vec{a}| |\vec{b}| \sin \theta \hat{n}$  where  $\hat{n}$  is a unit vector perpendicular to  $\vec{a}$  and  $\vec{b}$ , and  $\theta$  is the angle between  $\vec{a}$  and  $\vec{b}$ .
- Unit vector perpendicular to plane of  $\vec{a}$  and  $\vec{b}$  is  $\pm \frac{\vec{a} \times \vec{b}}{|\vec{a} \times \vec{b}|}$ .
- Vector  $\vec{a}$  and  $\vec{b}$  are collinear if  $\vec{a} \times \vec{b} = \vec{0}$ .
- $$\vec{a} \times \vec{b} = \begin{vmatrix} \hat{i} & \hat{j} & \hat{k} \\ a_1 & a_2 & a_3 \\ b_1 & b_2 & b_3 \end{vmatrix}$$

where  $\vec{a} = a_1\hat{i} + a_2\hat{j} + a_3\hat{k}$  and  
 $\vec{b} = b_1\hat{i} + b_2\hat{j} + b_3\hat{k}$



- Area of a triangle whose two sides are  $\vec{a}$  and  $\vec{b} = \frac{1}{2}|\vec{a} \times \vec{b}|$ .
- Area of a parallelogram whose adjacent sides are  $\vec{a}$  and  $\vec{b} = |\vec{a} \times \vec{b}|$ .
- If  $\vec{a}, \vec{b}$  represents the two diagonals of a parallelogram, then area of parallelogram  $= \frac{1}{2}|\vec{a} \times \vec{b}|$ .

### THREE DIMENSIONAL GEOMETRY

- Distance between  $P(x_1, y_1, z_1)$  and  $Q(x_2, y_2, z_2)$  is

$$|\overline{PQ}| = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2 + (z_2 - z_1)^2}.$$

- The coordinates of point  $R$  which divides line segment  $PQ$  where  $P(x_1, y_1, z_1)$  and  $Q(x_2, y_2, z_2)$  in ratio  $m : n$  are  $\left(\frac{mx_2 + nx_1}{m+n}, \frac{my_2 + ny_1}{m+n}, \frac{mz_2 + nz_1}{m+n}\right)$ .
- If  $\alpha, \beta, \gamma$  are the angles made by any line with coordinate axes respectively then  $l, m, n$ . Where  $l = \cos \alpha, m = \cos \beta, n = \cos \gamma$  are called the, direction cosines of the line and  $l^2 + m^2 + n^2 = 1$ . If  $a, b, c$  are the direction ratios then direction cosines are

$$l = \pm \frac{a}{\sqrt{a^2 + b^2 + c^2}}, m = \pm \frac{b}{\sqrt{a^2 + b^2 + c^2}}, n = \pm \frac{c}{\sqrt{a^2 + b^2 + c^2}}.$$

- Direction ratios of a line joining  $(x_1, y_1, z_1)$  and  $(x_2, y_2, z_2)$  are  $x_2 - x_1 : y_2 - y_1 : z_2 - z_1$ .
- Vector equation of straight line :

(i) Through a point  $A(\vec{a})$  and parallel to vector  $\vec{b}$  is  $\vec{r} = \vec{a} + \lambda \vec{b}$ .

(ii) Passing through two points  $A(\vec{a})$  and  $B(\vec{b})$  is  $\vec{r} = \vec{a} + \lambda(\vec{b} - \vec{a})$ .

- (iii) Line passing through two given points  $(x_1, y_1, z_1)$  and  $(x_2, y_2, z_2)$  is

$$\frac{x - x_1}{x_2 - x_1} = \frac{y - y_1}{y_2 - y_1} = \frac{z - z_1}{z_2 - z_1}, \text{ in cartesian form.}$$

- Angle  $\theta$  between two lines with DC's  $l_1, m_1, n_1$  and  $l_2, m_2, n_2$  is given by

$$\cos \theta = l_1 l_2 + m_1 m_2 + n_1 n_2$$

OR

with D.R's  $a_1, b_1, c_1$  or  $a_2, b_2, c_2$

$$\cos \theta = \frac{a_1 a_2 + b_1 b_2 + c_1 c_2}{\sqrt{a_1^2 + b_1^2 + c_1^2} \sqrt{a_2^2 + b_2^2 + c_2^2}}.$$

If lines are  $\vec{r} = \vec{a}_1 + \lambda \vec{b}_1$  and  $\vec{r} = \vec{a}_2 + \mu \vec{b}_2$ .

then,  $\cos \theta = \frac{\vec{b}_1 \cdot \vec{b}_2}{|\vec{b}_1| |\vec{b}_2|}$ .

□ Equation of plane :

(i) Passing through  $A(\vec{a})$  and perpendicular to  $(\vec{n})$  is  $(\vec{r} - \vec{a}) \cdot \vec{n} = 0$  Or  $\vec{r} \cdot \vec{n} = d$  where  $\vec{a} \cdot \vec{n} = d$ .

(ii) Passing through three given points is  $\begin{vmatrix} x - x_1 & y - y_1 & z - z_1 \\ x_2 - x_1 & y_2 - y_1 & z_2 - z_1 \\ x_3 - x_1 & y_3 - y_1 & z_3 - z_1 \end{vmatrix} = 0$ .

(iii) Having intercepts  $a, b, c$  on coordinate axes is  $\frac{x}{a} + \frac{y}{b} + \frac{z}{c} = 1$ .

□ Angle between two planes  $\vec{r} \cdot \vec{n}_1 = d_1$  and  $\vec{r} \cdot \vec{n}_2 = d_2$  is  $\cos \theta = \frac{\vec{n}_1 \cdot \vec{n}_2}{|\vec{n}_1| |\vec{n}_2|}$ .

□ Distance of a point  $(x_1, y_1, z_1)$  from a plane  $ax + by + cz + d = 0$  is  $\frac{|ax_1 + by_1 + cz_1 + d|}{\sqrt{a^2 + b^2 + c^2}}$ .

□ Equation of plane passing through intersection of two planes  $a_1x + b_1y + c_1z + d_1 = 0$  and  $a_2x + b_2y + c_2z + d_2 = 0$  is  $(a_1x + b_1y + c_1z + d_1) + \lambda(a_2x + b_2y + c_2z + d_2) = 0$ .

□ Equation of plane passing through intersection of two planes  $\vec{r} \cdot \vec{n}_1 = d_1$  and  $\vec{r} \cdot \vec{n}_2 = d_2$  is  $\vec{r} \cdot (\vec{n}_1 + \lambda \vec{n}_2) = d_1 + \lambda d_2$ .

□ Angle between a plane  $\vec{r} \cdot \vec{n} = d$  and a line  $\vec{r} = \vec{a} + \lambda \vec{m}$  is  $\sin \theta = \frac{|\vec{m} \cdot \vec{n}|}{|\vec{m}| |\vec{n}|}$ .

### VERY SHORT ANSWER TYPE QUESTIONS (1 Mark Each)

- \*1. What is the horizontal and vertical components of a vector  $\vec{a}$  of magnitude 5 making an angle of  $150^\circ$  with the direction of  $x$ -axis.
2. What is  $a \in R$  such that  $|a \vec{x}| = 1$ , where  $\vec{x} = \hat{i} - 2\hat{j} + 2\hat{k}$ ?
3. Write when  $|\vec{x} + \vec{y}| = |\vec{x}| + |\vec{y}|$ .
4. What is the area of a parallelogram whose sides are given by  $2\hat{i} - \hat{j}$  and  $\hat{i} + 5\hat{k}$ ?
- \*5. What is the angle between  $\vec{a}$  and  $\vec{b}$ , if  $\vec{a} \cdot \vec{b} = 3$  and  $|\vec{a} \times \vec{b}| = 3\sqrt{3}$ .

6. If  $A$  is the point  $(4, 5)$  and vector  $\overline{AB}$  has components 2 and 6 along  $x$ -axis and  $y$ -axis respectively then write point  $B$ .
7. What is the point of trisection of  $PQ$  nearer to  $P$  if position of  $P$  and  $Q$  are  $3\hat{i} + 3\hat{j} - 4\hat{k}$  and  $9\hat{i} + 8\hat{j} - 10\hat{k}$ .
8. What is the vector in the direction of  $2\hat{i} + 3\hat{j} + 2\sqrt{3}\hat{k}$ , whose magnitude is 10 units?
- \*9. What are the direction cosines of a vector equiangular with co-ordinate axes?
10. What are the angles which  $3\hat{i} - 6\hat{j} + 2\hat{k}$  makes with coordinate axes.
11. Write a unit vector perpendicular to both the vectors  $3\hat{i} - 2\hat{j} + \hat{k}$  and  $-2\hat{i} + \hat{j} - 2\hat{k}$ .
12. What is the projection of the vector  $\hat{i} - \hat{j}$  on the vector  $\hat{i} + \hat{j}$ ?
13. If  $|\overline{a}| = 2$ ,  $|\overline{b}| = 2\sqrt{3}$  and  $\overline{a} \perp \overline{b}$ , what is the value of  $|\overline{a} + \overline{b}|$ ?
14. For what value of  $\lambda$ ,  $\overline{a} = \lambda\hat{i} + \hat{j} + 4\hat{k}$  is perpendicular to  $\overline{b} = 2\hat{i} + 6\hat{j} + 3\hat{k}$ ?
15. What is  $|\overline{a}|$ , if  $(\overline{a} + \overline{b}) \cdot (\overline{a} - \overline{b}) = 3$  and  $2|\overline{b}| = |\overline{a}|$ ?
16. What is the angle between  $\overline{a}$  and  $\overline{b}$ , if  $|\overline{a} - \overline{b}| = |\overline{a} + \overline{b}|$ ?
- \*17. In a parallelogram  $ABCD$ ,  $\overline{AB} = 2\hat{i} - \hat{j} + 4\hat{k}$  and  $\overline{AC} = \hat{i} + \hat{j} + 4\hat{k}$ . What is the length of side  $BC$ ?
18. What is the area of a parallelogram whose diagonals are given by vectors  $2\hat{i} + \hat{j} - 2\hat{k}$  and  $-\hat{i} + 2\hat{k}$ ?
19. Find  $|\overline{x}|$  if for a unit vector  $\hat{a}$ ,  $(\overline{x} - \hat{a}) \cdot (\overline{x} + \hat{a}) = 12$ .
20. If  $|\overline{a} + \overline{b}|^2 = |\overline{a}|^2 + |\overline{b}|^2$ , then what is the angle between  $\overline{a}$  and  $\overline{b}$ .
21. If  $\overline{a}$  and  $\overline{b}$  are two unit vectors and  $\overline{a} + \overline{b}$  is also a unit vector then what is the angle between  $\overline{a}$  and  $\overline{b}$ ?
22. If  $\hat{i}, \hat{j}, \hat{k}$  are the usual three mutually perpendicular unit vectors then what is the value of  $\hat{i} \cdot (j \times \hat{k}) + \hat{j} \cdot (i \times \hat{k}) + \hat{k} \cdot (j \times i)$ ?
23. What is the angle between  $\overline{x}$  and  $\overline{y}$  if  $\overline{x} \cdot \overline{y} = |\overline{x} \times \overline{y}|$ ?
24. Write a unit vector in  $xy$ -plane, making an angle of  $30^\circ$  with the +ve direction of  $x$ -axis.
- \*25. Two adjacent sides of a parallelogram are  $2\hat{i} - 4\hat{j} + 5\hat{k}$  and  $\hat{i} - 2\hat{j} - 3\hat{k}$ . Find a unit vector parallel to the diagonal, which is coinitial with  $\overline{a}$  and  $\overline{b}$ .

26. If  $\vec{a}$ ,  $\vec{b}$  and  $\vec{c}$  are unit vectors with  $\vec{a} + \vec{b} + \vec{c} = \vec{0}$ , then what is the value of  $\vec{a} \cdot \vec{b} + \vec{b} \cdot \vec{c} + \vec{c} \cdot \vec{a}$ ?
- \*27. If  $|\vec{a}| = |\vec{b}| = |\vec{a} - \vec{b}| = 1$ , then what is the value of  $|\vec{a} + \vec{b}|$ ?
- \*28. For any vector  $\vec{a}$ , what is the value of  $i \cdot (\vec{a} \times j) + j \cdot (\vec{a} \times i) + \hat{k} \cdot (\vec{a} \times \hat{k})$ .
29. If  $\vec{a}$  and  $\vec{b}$  are unit vectors such that  $(\vec{a} + 2\vec{b})$  is perpendicular to  $(5\vec{a} - 4\vec{b})$ , then what is the angle between  $\vec{a}$  and  $\vec{b}$ ?
30. Write a unit vector which makes an angle of  $\frac{\pi}{4}$  with  $x$ -axis and  $\frac{\pi}{3}$  with  $z$ -axis and an acute angle with  $y$ -axis.
31. What is the ratio in which  $xy$  plane divides the line segment joining the points  $(-1, 3, 4)$  and  $(2, -5, 6)$ ?
32. If  $x$  coordinate of the point  $P$  on the join of  $Q(2, 2, 1)$  and  $R(-5, 1, -2)$  is 4, then in what ratio  $P$  divides  $QR$ .
33. What is the distance of a point  $P(a, b, c)$  from  $x$ -axis?
34. Write the equation of a line passing through  $(1, -1, 2)$  and perpendicular to plane  $2x - 3y + 4z = 7$ .
35. What is the angle between the lines  $2x = 3y = -z$  and  $6x = -y = -4z$ ?
- \*36. If a line makes angle  $\alpha$ ,  $\beta$ , and  $\gamma$  with co-ordinate axes, then what is the value of  $\sin^2 \alpha + \sin^2 \beta + \sin^2 \gamma$ ?
37. What is the perpendicular distance of plane  $2x - y + 3z = 10$  from origin?
38. What is the  $y$ -intercept of the plane  $x - 5y + 7z = 10$ ?
39. Write the value of  $\lambda$ , so that the lines given below are perpendicular to each other
- $$\frac{1-x}{3} = \frac{2y-1}{4} = \frac{z-1}{\lambda} \text{ and } \frac{x-2}{4} = \frac{y-5}{2} = \frac{3-z}{5}.$$
40.  $A(3, 2, 0)$ ,  $B(5, 3, 2)$  and  $C(5, 8, -10)$  are the vertices of  $\triangle ABC$ .  $D$  and  $E$  are mid points of  $AB$  and  $AC$  respectively. What are the direction cosines of  $DE$ ?
41. What is the equation of the line, which passes through the point  $(-2, 4, -5)$  and parallel to  $\frac{x+3}{5} = \frac{y-4}{5} = \frac{z+8}{-6}$ ?
- \*42. What is the equation of a line passing through point  $(-1, 2, 3)$  and equally inclined to the axes?
- \*43. The foot of perpendicular from point  $(1, 6, 3)$  on line  $\frac{x}{1} = \frac{y-1}{2} = \frac{z-2}{3}$  is  $(1, 3, q)$ ; what is the value of  $q$ ?

44. What is the angle between the straight lines :

$$\frac{x+1}{2} = \frac{y-2}{2} = \frac{z+3}{4}, \frac{x-1}{1} = \frac{y+2}{2} = \frac{z-3}{-3} ?$$

45. If the direction ratios of a line are proportional to 1, -3, 2 then what are the direction cosines of the line?

46. If a line makes angles  $\frac{\pi}{2}$  and  $\frac{\pi}{4}$  with  $x$ -axis and  $y$ -axis respectively then what is the acute angle made by the line with  $z$  axis?

47. What is the acute angle between the planes  $2x + 2y - z + 2 = 0$  and  $4x + 4y - 2z + 5 = 0$ ?

48. What is the distance between the planes  $2x + 2y - z + 2 = 0$  and  $4x + 4y - 2z + 5 = 0$ .

49. What is the equation of the plane which cuts off equal intercepts of unit length on the coordinate axes.

50. Are the planes  $x + y - 2z + 4 = 0$  and  $3x + 3y - 6z + 5 = 0$  intersecting?

51. What is the equation of the plane through the point (1, 4, -2) and parallel to the plane  $-2x + y - 3z = 7$ ?

52. Write the vector equation of the plane which is at a distance of 8 units from the origin and is normal to the vector  $(2\hat{i} + \hat{j} + 2\hat{k})$ .

53. What is equation of the plane if the foot of perpendicular from origin to this plane is (2, 3, 4)?

54. What is the angle between the line  $\frac{x+1}{3} = \frac{2y-1}{4} = \frac{2-z}{-4}$  and the plane  $2x + y - 2z + 4 = 0$ ?

55. If  $O$  is origin  $OP = 3$  with direction ratios proportional to -1, 2, -2 then what are the coordinates of  $P$ ?

56. What is the distance between the line  $\vec{r} = 2\hat{i} - 2\hat{j} + 3\hat{k} + \lambda(\hat{i} + \hat{j} + 4\hat{k})$  from the plane  $\vec{r} \cdot (-\hat{i} + 5\hat{j} - \hat{k}) + 5 = 0$ .

\*57. What is the distance between the line  $\vec{r} = \hat{i} - \hat{j} + \lambda(2\hat{i} - \hat{j} + \hat{k})$  from the plane  $\vec{r} \cdot (\hat{i} + \hat{j} + \hat{k}) = 3$ .

### SHORT ANSWER TYPE QUESTIONS (4 Marks Each)

58. If ABCDEF is a regular hexagon then using triangle law of addition prove that :

$$\vec{AB} + \vec{AC} + \vec{AD} + \vec{AE} + \vec{AF} = 3\vec{AD} = 6\vec{AO}$$

$O$  being the centre of hexagon.

59. Points  $L, M, N$  divides the sides  $BC, CA, AB$  of a  $\triangle ABC$  in the ratios  $1 : 4, 3 : 2, 3 : 7$  respectively. Prove that  $\overline{AL} + \overline{BM} + \overline{CN}$  is a vector parallel to  $\overline{CK}$  where  $K$  divides  $AB$  in ratio  $1 : 3$ .
60. If  $PQR$  and  $P'Q'R'$  are two triangles and  $G, G'$  are their centroids, then prove that  $\overline{PP'} + \overline{QQ'} + \overline{RR'} = 3\overline{GG'}$ .
61. PQRS is parallelogram.  $L$  and  $M$  are mid points of  $QR$  and  $RS$ . Express  $\overline{PL}$  and  $\overline{PM}$  in terms of  $\overline{PQ}$  and  $\overline{PS}$ . Also prove that  $\overline{PL} + \overline{PM} = \frac{3}{2}\overline{PR}$ .
62. For any two vectors, show that  $|\overline{a} + \overline{b}| \leq |\overline{a}| + |\overline{b}|$ .
- \*63. Evaluate  $(\overline{a} + \hat{i})^2 + (\overline{a} \times \hat{j})^2 + (\overline{a} \times \hat{k})^2$ .
64. If  $\hat{a}$  and  $\hat{b}$  are unit vector inclined at an angle  $\theta$  than prove that :
- (i)  $\sin \frac{\theta}{2} = \frac{1}{2} |\hat{a} - \hat{b}|$ . (ii)  $\tan \frac{\theta}{2} = \frac{|\hat{a} - \hat{b}|}{|\hat{a} + \hat{b}|}$ .
65. The scalar product of vector  $\hat{i} + \hat{j} + \hat{k}$  with a unit vector along the sum of the vector  $2\hat{i} + 4\hat{j} - 5\hat{k}$  and  $\lambda\hat{i} + 2\hat{j} + 3\hat{k}$  is equal to 1. Find the value of  $\lambda$ .
66.  $\overline{a}, \overline{b}$  and  $\overline{c}$  are three mutually perpendicular vectors of equal magnitude. Show that  $\overline{a} + \overline{b} + \overline{c}$  makes equal angles with  $\overline{a}, \overline{b}$  and  $\overline{c}$  with each angle as  $\cos^{-1}\left(\frac{1}{\sqrt{3}}\right)$ .
67. For any two vectors, show that  $|\overline{a} \times \overline{b}| = \sqrt{\overline{a}^2 \overline{b}^2 - (\overline{a} \cdot \overline{b})^2}$ .
68. If  $\overline{\alpha} = 3\hat{i} - \hat{j}$  and  $\overline{b} = 2\hat{i} + \hat{j} - 3\hat{k}$  then express  $\overline{\beta}$  in the form of  $\overline{\beta} = \overline{\beta}_1 + \overline{\beta}_2$ , where  $\overline{\beta}_1$  is parallel to  $\overline{\alpha}$  and  $\overline{\beta}_2$  is perpendicular to  $\overline{\alpha}$ .
69. If  $\overline{a}, \overline{b}, \overline{c}$  are three vectors such that  $\overline{a} + \overline{b} + \overline{c} = \overline{0}$  then prove that  $\overline{a} \times \overline{b} = \overline{b} \times \overline{c} = \overline{c} \times \overline{a}$ .
70. If  $|\overline{a}| = 3, |\overline{b}| = 5, |\overline{c}| = 7$  and  $\overline{a} + \overline{b} + \overline{c} = \overline{0}$ , find the angle between  $\overline{a}$  and  $\overline{b}$ .
- \*71.  $\overline{a} = \hat{i} + \hat{j} + \hat{k}, \overline{b} = \hat{i} - \hat{j} + 2\hat{j}$  and  $\overline{c} = x\hat{i} + (x - 2)\hat{j} - \hat{k}$ . If  $\overline{c}$  lies in the plane of  $\overline{a}$  and  $\overline{b}$ , then find the value of  $x$ .
72. Let  $\overline{a} = \hat{i} - \hat{j}, \overline{b} = 3\hat{j} - \hat{k}$  and  $\overline{c} = 7\hat{i} - \hat{k}$ , find a vector  $\overline{d}$  which is perpendicular to  $\overline{a}$  and  $\overline{b}$  and  $\overline{c} \cdot \overline{d} = 1$ .

73. Prove that the normal vector to the plane containing three points with position vectors  $\vec{a}$ ,  $\vec{b}$  and  $\vec{c}$  lies in the direction of vector  $\vec{b} \times \vec{c} + \vec{c} \times \vec{a} + \vec{a} \times \vec{b}$ .
74. If  $\vec{a}$ ,  $\vec{b}$ ,  $\vec{c}$  are position vectors of the vertices  $A$ ,  $B$ ,  $C$  of a triangle  $ABC$  then show that the area of  $\Delta ABC$  is  $\frac{1}{2} |\vec{a} \times \vec{b} + \vec{b} \times \vec{c} + \vec{c} \times \vec{a}|$ .
75. If  $\vec{a}$ ,  $\vec{b}$ ,  $\vec{c}$  are three vectors forming a  $DABC$  then prove that area of  $\Delta ABC = \frac{1}{2} |\vec{a} \times \vec{b}| = \frac{1}{2} |\vec{b} \times \vec{c}| = \frac{1}{2} |\vec{c} \times \vec{a}|$ .
76. If  $\vec{a} = i + j + \hat{k}$ ,  $\vec{c} = j - \hat{k}$  are the given vectors then find a vector  $\vec{b}$  satisfying the equation.  

$$\vec{a} \times \vec{b} = \vec{c}, \quad \vec{a} \cdot \vec{b} = 3.$$
77. Let  $\vec{OA} = \vec{a}$ ,  $\vec{OB} = 10\vec{a} + 2\vec{b}$  and  $\vec{OC} = \vec{b}$  and  $O$  is the origin. Let  $S$  denotes the area of the quadrilateral  $OABC$  and  $T$  denotes the area of parallelogram with  $OA$  and  $OC$  as adjacent sides. Prove that  $S = 6T$ .
78. Find a unit vector perpendicular to plane  $ABC$  where. Position vector  $A$ ,  $B$ ,  $C$  are  $3\hat{i} - \hat{j} + 2\hat{k}$ ,  $\hat{i} - \hat{j} - 3\hat{k}$  and  $4\hat{i} - 3\hat{j} + \hat{k}$  respectively.
- \*79. Find the values of  $a$  for which the vector  $\vec{r} = (a^2 - 4)\hat{i} + 2\hat{j} + (a^2 - 9)\hat{k}$  makes acute angle with coordinate axes.
- \*80. Let  $\hat{a}$ ,  $\hat{b}$ ,  $\hat{c}$  be unit vectors such that  $\hat{a} \cdot \hat{b} = \hat{a} \cdot \hat{c} = 0$  and the angle between  $\hat{b}$  and  $\hat{c}$  is  $\frac{\pi}{6}$ , then prove that  $\hat{a} = \pm 2(\hat{b} \times \hat{c})$ .
81. Prove that angle between any two diagonals of cube is  $\cos^{-1}(1/3)$ .
82. Find the image of the point  $(3, -2, 1)$  in the plane  $3x - y + 4z = 2$ .
83. The line  $\frac{x-4}{1} = \frac{2y-4}{2} = \frac{k-z}{-2}$  lies exactly in the plane  $2x - 4y + z = 7$ . Find the value of  $K$ .
84. A  $l_1, m_1, n_1$ , and  $l_2, m_2, n_2$  are direction casines of two mutually perpendicular lines, show that the direction cosines of line perpendicular to both of them are  

$$m_1n_2 - n_1m_2, n_1l_2 - l_1n_2, l_1m_2 - m_1l_2.$$
85. Find vector and cartesian equation of a line passing through a point with position vectors  $2\hat{i} - \hat{j} + \hat{k}$  and which is parallel to the line joining the points with position vectors  $-\hat{i} + 4\hat{j} + \hat{k}$  and  $\hat{i} + 2\hat{j} + 2\hat{k}$ .

- \*86. The cartesian equations of a line is  $6x - 2 = 3y + 1 = 2z - 2$ , find direction ratios of the line. Also find cartesian and vector equations of a line parallel to this line and passing through  $(2, -1, -1)$ .
87. Find image (Reflection) of the point  $(7, 4, -3)$  in the line  $\frac{x}{1} = \frac{y-1}{2} = \frac{z-2}{3}$ .
88. Find equations of a plane passing through the points  $(2, -1, 0)$  and  $(3, -4, 5)$  and parallel to the line  $2x = 3y = 4z$ .
89. Find distance of the point  $(-1, -5, -10)$  from the point of intersection of line  $\frac{x-2}{3} = \frac{y+1}{4} = \frac{z-2}{12}$  and the plane  $x - y + z = 5$ .
90. Find equation of the plane passing through the point  $(2, 3, -4)$  and  $(1, -1, 3)$  and parallel to the  $x$ -axis.
91. Find equation of the plane which bisects the line joining the points  $(-1, 2, 3)$  and  $(3, -5, 6)$  at right angle.
92. What is the equations of plane :  $\vec{r} = (i - j) + \lambda(i + j + \hat{k}) + u(i - 2j + 3\hat{k})$  in scalar product.
93. Find the distance of the point  $(1, -2, 3)$  from the plane  $x - y + z = 5$ , measured parallel to the line  $\frac{x}{2} = \frac{y}{3} = \frac{z}{-6}$ .
94. Find the equation of the plane passing through the intersection of two plane  $3x - 4y + 5z = 10$ ,  $2x + 2y - 3z = 4$  and parallel to the line  $x = 2y = 3z$ .
95. Show that the lines  $x = ay + b$ ,  $z = cy + d$  and  $x = a'y + b'$ ,  $z = c'y + d'$  are perpendicular if  $aa' + cc' + 1 = 0$ .
96. Find the equations of the planes parallel to the  $x - 2y + 2z - 3 = 0$  whose perpendicular distance from the point  $(1, 2, 3)$  is 1 unit.
97. A variable plane moves in such a way that the sum of the reciprocals of it's intercepts on the three coordinate axis is constant. Show that the plane passes through a fixed point.
98. Find equation of the plane passing through the point  $(3, 4, 2)$  and  $(7, 0, 6)$  and is perpendicular to the plans  $2x - 5y = 15$ .
99. Find cartesian as well as vector equation of the plane through the intersection of the plane  $\vec{r} = (2i + 6j) + 12 = 0$  and  $\vec{r} \cdot (3i - j + 4\hat{k}) = 0$  which is at a unit distance from origin.
100. Find equation of the plane which is perpendicular to the plane  $5x + 3y + 6z + 8 = 0$  and which contain the line of intersection of the plane  $x + 2y + 3z - 4 = 0$  and  $2x + y - z + 5 = 0$ .
101. Find equation of the plane containing the points  $(0, -1, -1)$   $(-4, 4, 4)$ ,  $(4, 5, 1)$ . Also show that  $(3, 9, 4)$  lies on the required plane.



### LONG ANSWER TYPE QUESTIONS (6 Marks Each)

102. The vector equations of two lines are :

$\vec{r} = i + 2j + \hat{k} + \lambda(i - j + 2\hat{k})$  and  $\vec{r} = 2i - j - \hat{k}(2i + j + 2\hat{k})$ . Find the shortest distance between them.

103. Check the coplanarity of lines

$$\vec{r} = (-3i + j + 5\hat{k}) + \lambda(-3i + j + 5\hat{k})$$

$$\vec{r} = (-i + 2j + 5\hat{k}) + \mu(-i + 2j + 5\hat{k})$$

If they are coplanar, find equation of the plane containing the lines.

104. Find shortest distance between the lines :

$$\frac{x - 8}{3} = \frac{y + 19}{-16} = \frac{z - 10}{7} \quad \text{and} \quad \frac{x - 15}{3} = \frac{y - 29}{8} = \frac{z - 5}{-5}$$

105. Show that the lines  $\frac{x - 1}{2} = \frac{y - 2}{3} = \frac{z - 3}{4}$  and  $\frac{x - 4}{5} = \frac{y - 1}{2} = z$  intersect. Also find the point of intersection.

106. Find shortest distance between the lines whose vector equations are :

$$\vec{r} = (1 - t)i + (t - 2)j + (3 - 2t)\hat{k} \quad \text{and} \quad \vec{r} = (s + 1)i + (2s - 1)j + (2s + 1)\hat{k}$$

107. Find the equations of the two lines through the origin such that each line is intersecting the line

$$\frac{x - 3}{2} = \frac{y - 3}{1} = \frac{z}{1} \quad \text{at an angle of } \frac{\pi}{3}.$$

108. A plane passes through  $(1, -2, 1)$  and is perpendicular to the planes  $2x - 2y + 2z = 0$  and  $x - y + 2z = 4$ . Find the distance of that plane from origin.

109. Find the equation of the plane passing through the intersection of planes  $2x + 3y - z = -1$  and  $x + y - 2z + 3 = 0$  and perpendicular to the plane  $3x - y - 2z = 4$ . Also find the inclination of this plane with  $xy$ -plane.

110. Find the shortest distance and the vector equation of line of shortest distance between the lines given by

$$\vec{r} = (3i + 8j + 3\hat{k}) + \lambda(3i - j + \hat{k})$$

$$\vec{r} = (-3i - 7j + 6\hat{k}) + \mu(-3i - 2j + 4\hat{k})$$

111. Show that the lines joining the points  $(7, 0, 6)$  and  $(2, 5, 1)$  intersects the line joining the points  $(2, 2, -1)$   $(3, 4, 2)$ . Also find the point of intersection.

112. Find the equations of two planes through the points  $(4, 2, 1)$  and  $(2, 1, -1)$  and making an angle of  $\frac{\pi}{4}$  with the plane  $x - 4y + z - 9 = 0$ ,

113. A variable plane is at a constant distance  $3p$  from the origin and meet the coordinate axes in  $A, B, C$ . Show that the locus of centroid of  $\Delta ABC$  is  $x^2 + y^2 + z^2 = p^{-2}$ .
114. A vector  $\vec{n}$  of magnitude 8 units inclined to  $x$ -axis at  $45^\circ$ ,  $y$  axis at  $60^\circ$  and an acute angle with  $z$ -axis. If a plane passes through a point  $(\sqrt{2}, -1, 1)$  and is normal to  $\vec{n}$ , find its equation in vector form.
115. Find the foot of perpendicular from the point  $2\hat{i} - \hat{j} + 5\hat{k}$  on the line  $\vec{r} = (11\hat{i} - 2\hat{j} - 8\hat{k}) + \lambda(10\hat{i} - 4\hat{j} - 11\hat{k})$ . Also find the length of the perpendicular.
116. Three vectors of magnitude  $a, 2a, 3a$  meet in a point and their directions are along the diagonals of the adjacent faces of a cube, determine their resultant.
117. A line makes angles  $\alpha, \beta, \gamma, \delta$  with the four diagonals of a cube. Prove that

$$\cos^2 \alpha + \cos^2 \beta + \cos^2 \gamma + \cos^2 \delta = \frac{4}{3}.$$

## CHAPTER 12

# LINEAR PROGRAMMING

### LONG ANSWER TYPE QUESTIONS (6 Marks Each)

1. A man has Rs. 1500 to purchase two types of shares of two different companies  $S_1$  and  $S_2$ . Market price of one share  $S_1$  is Rs 180 and  $S_2$  is Rs. 120. He wishes to purchase a maximum to ten shares only. If one share of type  $S_1$  gives a yield of Rs. 11 and of type  $S_2$  Rs. 8 then how much shares of each type must be purchased to get maximum profit? And what will be the maximum profit?
2. Daily wages of two tailors  $A$  and  $B$  is respectively Rs. 150 and Rs. 200. 'A' can stitch 6 shirts and 4 pairs of trousers per day, while  $B$  can stitch 10 shirts and 4 pairs of trousers per day. How many days should each of them work if it desired to produce at least 60 shirts and 32 pairs of trousers at a minimum labour cost?
3. A dealer wishes to purchase two types of dinner sets, type I and II. He has only Rs. 5760 to invest and has space for at most 20 dinner sets. Cost of type  $A$  and  $B$  dinner sets is Rs. 360 and Rs. 240 respectively. He earns a profit of Rs. 44 and Rs. 36 respectively on type I and II type of dinner sets respectively. Assuming that he can sell all the dinner sets he buys, how should he invest the money in order to maximize the profit? Find maximum profit also.
4. A company manufacture two types of lamps say  $A$  and  $B$ . Both lamps go through a cutter and then a finisher. Lamp  $A$  requires 2 hours of the cutter's time and 1 hours of the finisher's time. Lamp  $B$  requires 1 hour of cutter's and 2 hours of finisher's time. The cutter has 100 hours and finishers has 80 hours of time available each month. Profit on one lamp  $A$  is Rs. 7.00 and on one lamp  $B$  is Rs. 13.00. Assuming that he can sell all that he produces, how many of each type of lamps should be manufactured to obtain maximum profit?
5. A catering agency has two kitchens to prepare food for two places  $A$  and  $B$ . From these places midday meal is to be supplied to three different schools situated at  $P$ ,  $Q$  and  $R$ . The monthly requirement of the schools are respectively 40, 40 and 50 food packets. A packet contains lunch for 1000 students. Preparing capacity of kitchen  $A$  and  $B$  are 60 and 70 packets per month respectively. The transportation cost per packet for kitchens to schools is given below :

Transportation Cost per Packet (in rupees)

To	From	
	A	B
P	5	4
Q	4	2
R	3	5

How many packets from each kitchen should be transported to schools so that the cost of transportation is minimum. Also find the minimum cost. Convert the above problem to an L.P.P. and solve graphically.

6. A farmer has a supply of chemical fertilizer of type I which contains 10% nitrogen and 6% phosphoric acid and type II contains 5% nitrogen and 10% phosphoric acid. After testing the soil conditions of a field, it is found that at least 14 kg of nitrogen and 14kg of phosphoric acid is required for a good crop. The fertilizer I costs Rs. 2 per kg and type II costs Rs. 3 per kg. How many kilograms of each fertilizer should be used to meet the requirement at the minimum cost. Solve graphically as L.P.P.
7. An airline agree to charter planes for a group. The group needs at least 160 first class seats and at least 300 tourist class seats. The airline must use at least two of its model 314 planes which have 20 first class and 30 tourist class seats. The airline will also use some of its model 535 planes which have 30 first class seats and 60 tourist class seats. Each flight of a model 314 plane costs the company Rs. 1 lakh, and each flight of a model 535 plane costs Rs. 1.5 lakh. How many of each type of planes should be used to minimise the flight cost? Solve this as a LPP.
8. A firm manufactures two type of products A and B, each of which must be processed on two machines  $M_1$  and  $M_2$ . The hourly requirements per unit for each product in each machine, the weekly capacity of each machine, selling price per unit, labour cost per unit, and raw material cost per unit are as follows :

	Product A	Product B	Weekly capacity
Machine $M_1$	3 hrs.	2 hrs.	130 hrs.
Machine $M_2$	4 hrs.	6 hrs.	260 hrs.
Selling price per unit	Rs. 25	Rs. 30	
Labour cost per unit	Rs. 16	Rs. 20	
Raw material cost	Rs. 4	Rs. 4	per unit.

How many units of each type should be produced to maximise profit?

9. Kellogg is a new cereal formed by a mixture of bran and rice that contains at least 88 grams of protein at least 56 milligrams at iron. Knowing that bran contains 80 grams of protein and 40 milligrams of iron per kilogram, and that rice contains 100 grams of protein and 30 milligrams of iron per kilogram, find the minimum cost of producing this new cereal if bran costs Rs. 5 per kg and rice costs Rs. 4 per kg. Solve graphically as L.P.P.
10. A dietician mixes together two kinds of foods in such a way that the mixture contains at least 6 units of vitamin A, 7 units of vitamin B, 11 units of vitamin C, and 9 units of vitamin D. The vitamin contents of 1 kg of food X and 1kg of food Y are given below :

	Vitamin A	Vitamin B	Vitamin C	Vitamin D
Food X	1	1	1	2
Food Y	2	1	3	1

One kg of food X cost Rs. 5, whereas one kg of food Y costs Rs. 8. Find the least cost of mixture which will produce the desired diet, graphically.

11. If a young man drives his motorcycle at 25 km per hour, he has to spend Rs. 2 per kilometre on petrol. If he drives it at a faster speed of 40 km per hour, the petrol cost increases to Rs. 5 per kilometre. He has Rs. 100 to spend on petrol and wishes to find the maximum distance he can travel within one hour. Express this as linear programming problem and then solve it.

12. Mr. Jain wants to invest Rs. 1,00,000 in Public Provident Fund (PPF) and in National Bonds. He has to invest at least Rs. 40,000 in P.P.F. and at least Rs. 20,000 in bonds. If rate of interest on PPF is 9% per annum and that on bonds is 6% per annum, how should he invest the money to earn maximum annual income? Also find the maximum annual income.
13. A company has factories located at each of two places P and Q. From these locations a certain commodity is delivered to each of three depots situated at A, B and C. The weekly requirements of the depots are respectively 8, 8 and 9 units of the commodity while the weekly production capacities of the factories at P and Q are respectively 10 and 15 units. The cost of transportation from P to A, B, C is Rs. 10, Rs. 12, Rs. 15 respectively per unit and from Q to A, B, C is Rs. 15, Rs. 13, Rs. 10 respectively per unit. How many units should be transported from each factory to each depot in order that the transportation cost is minimum. Formulate the above LPP mathematically and then solve it.
14. Two godowns X and Y have a grain storage capacity of 100 quintals and 50 quintals respectively. Their supply goes to three ration shops A, B and C whose requirements are 60, 50 and 40 quintals respectively. The costs of transportation per quintal from the godowns to the shops are given in the following table :

Cost of transportation (in Rs. per quintal)

To Form	X	Y
A	6.00	4.00
B	3.00	2.00
C	2.50	3.00

How should the supplies be transported in order that the transportation cost in minimum?

15. Find maximum and minimum values of  $z = 2x + y$  subject to the constraints :

$$x \geq 0, y \geq 0$$

$$x + 3y \geq 6$$

$$x - 3y \leq 3$$

$$3x + 4y \leq 24$$

$$-3x + 2y \leq 6$$

$$5x + y \geq 5$$

16. Solve the following LPP problem graphically :

Maximize and minimize  $z = 3x + 5y$

Subject :  $3x - 4y + 12 \geq 0$

$$2x - 4y + 2 \geq 0$$

$$2x - 3y - 12 \geq 0$$

$$0 \leq x \leq 4$$

$$y \geq 2$$

17. (i) Maximize  $z = 3x_1 + 3x_2$ . If possible graphically subject to constraints :

$$x_1 - x_2 \leq -1$$

$$-x_1 + x_2 \leq 0$$

$$x_1 \geq 0, x_2 \geq 0$$

- (ii) Maximize  $z = 3x + 3y$ , if possible graphically subject to constraints :

$$x - y \leq 1$$

$$x + y \leq 3$$

$$x, y \geq 0$$

18. A farmer owns a field of area  $1000m^2$ . He wants to plant fruit trees in it. He has sum of Rs. 2400 to purchase young trees. He has the choice of two types of trees. Type *A* requires  $10m^2$  of ground per tree and cost Rs. 30 per tree and type *B* requires  $20m^2$  of ground per tree and costs Rs. 40 per tree. When full grown a type – *A* tree produces an average of 20 kg of fruit which can be sold at a profit of Rs. 12 per kg and a type – *B* tree produces an average of 35 kg of fruit which can be sold at a profit of Rs. 10 per kg. How many of each type should be planted to achieve maximum profit when trees are fully grown? What is the maximum profit?

19. Find the maximum and minimum values of  $5x + 2y$  subject to constraints :

$$x \geq 0, y \geq 0$$

$$-2x - 3y \leq -6$$

$$x - 2y \leq 2$$

$$6x + 4y \leq 24$$

$$-3x + 2y \leq 3$$

20. A company produces two types of belts, *A* and *B*. Profits on these belts are Rs. 2 and Rs. 1.5 each belt, respectively. A belt of type *A* requires twice as much time as belt of type *B*. The company can produce at the most 1000 belts of type *B* per day. Material for 800 belts per day is available. At the most 400 buckles for belts of type *A* and 700 for those of type *B* are available per day. How many belts of each type should the company produce so as to maximize the profit?

## CHAPTER 13

# PROBABILITY

### POINTS TO REMEMBER

- **Conditional Probability** : If event  $B$  has already occurred then probability of event

$$P\left(\frac{A}{B}\right) = \frac{P(A \cap B)}{P(B)}$$

- **Multiplication Rule of Probability** :

$$(i) \quad P(A \cap B) = P(B) \cdot P\left(\frac{A}{B}\right) = P(A) \cdot P\left(\frac{B}{A}\right)$$

$$(ii) \quad P(A \cap B \cap C) = P(A) \cdot P\left(\frac{B}{A}\right) \cdot P\left(\frac{C}{AB}\right)$$

- If (i)  $A$  and  $B$  are independent events then  $P(A \cap B) = P(A) \cdot P(B)$

(ii)  $A$ ,  $B$  and  $C$  are independent events then.

$$P(A \cap B) = P(A) \cdot P(B), \quad P(B \cap C) = P(B) \cdot P(C \cap A) = P(C) \cdot P(A)$$

$$P(A \cap B \cap C) = P(A) \cdot P(B) \cdot P(C)$$

- If  $A$  and  $B$  are Independent the

(i)  $A$  and  $B^c$  are independent

(ii)  $A^c$  and  $B$  are independent

(iii)  $A^c$  and  $B^c$  are independent.

- **Baye's Theorem**. If  $E_1, E_2, \dots, E_n$  are mutually exclusive and exhaustive events and  $A$  be any event on sample space  $S$ , s.t  $P(A) \neq 0$ , If  $A$  has already occurred then

$$P\left(\frac{E_i}{A}\right) = \frac{P(E_i) \cdot P\left(\frac{A}{E_i}\right)}{\sum_{i=1}^n P(E_i) \cdot P\left(\frac{A}{E_i}\right)}$$

$$i = 1, 2, \dots, n$$

- Probability distribution of a random variable. Let a random variable  $x$  assume  $x_1, x_2, \dots, x_n$  with corresponding probabilities  $p_1, p_2, \dots, p_n$ . Then different values of a random variable together with their corresponding probabilities form a probability distribution.

$$\text{Mean of probability distribution, } \mu = \frac{\sum_{i=1}^n p_i x_i}{\sum_{i=1}^n p_i}$$

$$\text{Variance } \sigma^2 = \sum (x_i - \mu)^2 p_i$$

OR

$$\sigma^2 = \sum p_i x_i^2 - \mu^2.$$

### VERY SHORT ANSWER TYPE Q QUESTIONS (1 Mark Each)

- If  $P\left(\frac{A}{B}\right) = \frac{4}{9}$ ,  $P(B) = \frac{9}{13}$ , write value of  $P(A \cap B)$ .
- A fair dice is tossed and if events  $E = \{2, 4, 6\}$ ,  $F = \{2, 3\}$ , then write the value of
  - $P\left(\frac{E}{F}\right)$
  - $P\left(\frac{F}{E}\right)$ .
- If  $A$  and  $B$  are independent events such that  $P(A) = \frac{1}{4}$ ,  $P(B) = \frac{1}{13}$ , write the value of
  - $P(A \cap B)$
  - $P(A' \cap B)$ .
- \*4. If  $A$  and  $B$  are independent events and if  $P(A \cap B) = \frac{4}{5}$ , write the value of  $P(A' \cup B')$ .
- If  $P(A) = \frac{1}{2}$ ,  $P(B) = 0$ , then write the value of  $P(A/B)$ . (If exist).
- A problem in mathematics is given to two students whose chances of solving it are  $\frac{1}{2}$  and  $\frac{1}{3}$  respectively. What is the probability that both students fail to solve it?
- The probability of student  $A$  passing an examination is  $\frac{3}{5}$  and student  $B$  passing is  $\frac{4}{5}$ . Find the probability that only  $A$  passes the examination.
- \*8. The probability distribution of a random variable  $X$  is given as :

$X$	0	1	2
$P(X)$	$\frac{144}{169}$	$\frac{24}{169}$	$\frac{1}{169}$



Write the value of mean of this probability distribution.

9. The probability distribution of  $X$  is :

$X$	0	1	2	3
$P(X)$	0.2	$k$	$k$	$2k$

Write the value of  $k$  and  $P(X = 3)$ .

\*10. If  $X$  has a Binomial distribution  $B\left(4, \frac{1}{3}\right)$  write :

(i)  $P(X = 3)$  (ii)  $P(X = 1)$

11. Find the mean of the binomial distribution  $B\left(2, \frac{1}{2}\right)$ .

12. Find  $P(X = 0)$  of the Binomial distribution  $B\left(10, \frac{1}{3}\right)$ .

13. Find  $P(X = 1)$  of the Binomial distribution  $B\left(3, \frac{1}{6}\right)$ .

14. A dice is thrown 3 times. If getting a 'six' is considered a success, find the probability of 3 successes.

15. What is the probability of the die coming up with a number less than 5?

16. In a probability distribution of  $X$ , what is the sum of all the probabilities.

17. What is the probability that a leap year will have 53 Sundays?

18. In a single throw of three dice, determine the probability of getting a total of 5.

19. A police-man fires four bullets on a dacoit. The probability that the dacoit will be killed by one bullet is 0.6. What is the probability that the dacoit is still alive?

\*20. Find the expectation of the number of heads in 15 tosses of a coin.

### SHORT ANSWER TYPE QUESTIONS (4 Mark Each)

21. Assuming a family has two children :

- Write sample space.
- What is the probability that both the children are boys given that at least one of them is boy.
- What is the probability that both the children are girls given that at least one of them is girl.
- What is the probability that second is not a boy given that first is a boy.

22. Fifteen horses numbered 1 to 15 participated in Race. If it is known that the winner horse is odd numbered.
- What is probability that the number of winner horse is more than 10.
  - What is the probability that the number is prime.
23. A die is thrown twice and both numbers observed to be odd. Find the probability that :
- Both are same.
  - Their sum is 4.
  - Their sum is more than 10.
24. Three coins are tossed once. If :
- $E$  : Head appears on first coin.
- $A$  : Exactly two tails appear.
- $B$  : Exactly one tail appears.
- $C$  : No tail appears.
- Find :  $P\left(\frac{A}{E}\right), P\left(\frac{B}{E}\right), P\left(\frac{C}{E}\right)$ .
25. An anti aircraft gun can take a maximum of four shots at an enemy plane moving away from it. The probabilities of hitting the plane at the first, second, third and fourth shot are 0.4, 0.3, 0.2 and 0.1 respectively. What is the probability that gun strikes the plane?
26. A bag contains 4 red and 3 black balls. A second bag contains 2 red and 4 black balls. One bag is selected at random and from the selected bag one ball is drawn. Find the probability that the ball drawn is red.
27. A card from a pack of 52 cards is lost. From the remaining cards of the pack, two cards are drawn and are found to be both diamonds. Find the probability of the lost card being a diamond.
28. Suppose that reliability of a HIV test is specified as follows :
- Of people having HIV, 90% of the test detected but 10% go undetected. Of people free of HIV, 99% of the test are judged HIV negative but 1% are diagnosed as showing HIV positive. From a large population of which only 0.1% have HIV, one person is selected at random, given the HIV test, and the pathologist reports him/her as HIV negative. What is the probability that the person is actually has HIV.
29. A candidate has to reach the examination centre in time. Probability of his going by bus or scooter or by other means of transport is  $\frac{3}{10}, \frac{1}{10}, \frac{3}{5}$  respectively. The probability that he will be late will be  $\frac{1}{4}$  and  $\frac{1}{3}$  respectively, if he travels by bus or scooter. But he reaches in time if he uses any other mode of transport. He reached late at the centre. Find the probability that he travelled by bus.

30. Find the probability distribution of the number of green balls drawn when 3 balls are drawn one by one without replacement from a bag containing 3 green and 5 white balls.
31. Three cards are drawn successively with replacement from a well shuffled deck of 52 cards. A random variable  $X$  denote the number of cards of heart in three cards drawn. Determine the probability distribution of  $X$ .
- \*32. Five dice are thrown simultaneously. If the occurrence of 3, 4 or 5 in single die is considered a success, find the probability of at most three successes.
- \*33. The probability of a shooter hitting a target is  $\frac{3}{4}$ . How many minimum number of times must he/she should fire so that the probability of hitting the target at least once is more than 0.99?
34. In a game, a man wins a rupee for a six and loses a rupee for any other number when a fair die is thrown. The man decided to throw a die thrice but to quit as and when he gets a six. Find the expected value of the amount he wins/loses.
35. If a fair coin is tossed 10 times, find the probability of
- at least six heads.
  - at most six heads.
36. On a multiple choice examination with three possible answers for each of the five questions. What is the probability that a candidate would get four or more correct answers just by guessing?
- \*37. Find the probability distribution of number of doublets in three throws of a pair of dice.
38. The sum and the product of the mean and variance of a binomial distribution are 24 and 128 respectively. Find the distribution.

### LONG ANSWER TYPE QUESTIONS (6 Mark Each)

39. In an office 50% females likes to wear suits, 20% saree and 30% jeans. If 10% likes to wear both suit and saree, 15% wear suit and jeans, 6% wear saree and jeans and only 3% who likes to wear all the three. Then find whether the following events are independent.

- |                 |                          |
|-----------------|--------------------------|
| (i) $A$ and $B$ | (ii) $B$ and $C$         |
| (iii) and $A$   | (iv) $A$ , $B$ and $C$ . |

Where  $A$  : female wear suit

$B$  : female wear saree

$C$  : Female wear jeans

40. In a colony there are 60 persons who have cars or motorbike or scooter. 28 persons have cars, 28 has motorbike, 25 has scooter. If 8 person have cars and bike, 9 have bike and scooter, 7 have cars and scooter. 3 of them have all the three vehicles, and

If  $C$  : Persons having car.

$M$  : Persons having motorbike.

$S$  : Persons having scooter.

Find if the following events are independent.

- (i)  $C$  and  $M$                       (ii)  $M$  and  $S$ ;                      (iii)  $C$  and  $S$ ;                      (iv)  $C$ ,  $M$  and  $S$ .

41. In a competition students of a school of class VIII painted pictures using Red, Blue colour according as the data shown below :

<i>Painting</i>	<i>Only in Red</i>	<i>Only in Blue</i>	<i>Red and Blue both</i>
VIII A	12	3	15
VIII B	15	5	20
VIII C	10	2	13

If the painting that was awarded was having blue colour in it, find the probability that :

- (i) It was from VIII B                      (ii) It was from VIII A                      (iii) It was from VIII C
42. In attempting to solve a question, probability that the student knows the answer is  $\frac{3}{10}$ , copies is  $\frac{1}{5}$ , guesses is  $\frac{1}{10}$ , and do not attempt is  $\frac{2}{5}$ . The probability that his answer is correct given that he copied is  $\frac{1}{4}$  and the probability of giving correct answer by guess is  $\frac{1}{5}$ . If it is given that his answer is correct find the probability that was done by guessing.
43. Probability of attempting solving a problem by  $A$ ,  $B$ ,  $C$  is  $\frac{1}{2}$ ,  $\frac{1}{3}$ ,  $\frac{1}{6}$  respectively. And probability that  $A$ ,  $B$ ,  $C$  will solve it correctly is 50%, 60% and 80% respectively. If the problem is solved correctly, what is the probability that it was solved by (i)  $A$  (ii)  $B$  (iii)  $C$ .
44. From a well shuffled pack of playing cards, three cards are drawn without replacement.
- (i) Find the probability distribution of the number of kings.
- (ii) Find its mean and variance.
45. From a well shuffled pack of playing cards, five cards are drawn one by one with replacement.
- (i) Find the probability distribution of the number of Aces.
- (ii) Find its mean and variance.
46. Find the probability distribution of number of sixes while throwing a dice 5 times. Also find its mean and variance.
47. Three tailors  $A$ ,  $B$  and  $C$  stitched 500, 300 and 200 shirts respectively. The probability of stitching a defective shirt by them is 0.01%, 0.15% and 0.2% respectively. If a shirt stitched is given to be defective, find the probability that it was stitched by (i)  $A$  (ii)  $B$  (iii)  $A$  or  $C$  (iv)  $B$  or  $C$ .

48. Suppose 15% of men and 36% of women have grey hair. If probability of dying hair by men is 21% and by women is 63%. A dyed hair person is selected at random, what is the probability that this person is a (i) Male (ii) Female ?

49. A random variable  $X$  has the following probability distribution.

$X$	1	2	3	4	5	6
$P(X)$	0	$k$	$2k$	$k^2$	$2k^2$	$6k^2$

Determine (i)  $k$  (ii)  $P(X < 5)$  (iii)  $P(X > 3)$ .

Find also mean and variance of the distribution.

50. An unbiased coin is tossed six times. What is the probability of getting.

(i) at most '3' heads

(ii) at least 2 heads

(iii) Also find mean and variance of number of heads.

51. A pair of dice is thrown 7 times. If getting a total of 7 is considered a success, what is the probability of

(i) no success;

(ii) 6 successes;

(iii) at least 6 successes

(iv) at most 6 successes.

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# CBSE QUESTIONS PAPER – 2008

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## MATHEMATICS

### ख. क्र

Time allowed : 3 hours

Maximum marks : 100

समय : 3 घण्टा

सर्वाधिक अंक : 100

#### General Instructions

1. All questions are compulsory.
2. The question paper consists of 29 questions divided into three sections A, B and C. Section A comprises of 10 questions of one mark each, Section B comprises of 12 questions of four marks each and Section C comprises of 7 questions of six marks each.
3. All questions in Section A are to be answered in one word, one sentence or as per the exact requirement of the question.
4. There is no overall choice. However, internal choice has been provided in 4 questions of four marks each and 2 questions of six marks each. You have to attempt only one of the alternatives in all such questions.
5. Use of calculators is not permitted.

#### संक्षेप उत्तर

1. निम्नलिखित प्रश्नों का उत्तर दीजिए।
2. निम्नलिखित प्रश्नों का उत्तर दीजिए।  
(क)  $\sin^{-1}(\sin \frac{\pi}{6})$  का मान ज्ञात कीजिए।  
(ख)  $\cos^{-1}(\cos \frac{5\pi}{4})$  का मान ज्ञात कीजिए।  
(ग)  $\tan^{-1}(\tan \frac{3\pi}{4})$  का मान ज्ञात कीजिए।  
(घ)  $\cot^{-1}(\cot \frac{2\pi}{3})$  का मान ज्ञात कीजिए।
3.  $\sin^{-1}(\frac{1}{\sqrt{2}})$ ,  $\cos^{-1}(\frac{1}{\sqrt{2}})$ ,  $\tan^{-1}(1)$ ,  $\cot^{-1}(1)$ ,  $\sec^{-1}(2)$  का मान ज्ञात कीजिए।
4. निम्नलिखित प्रश्नों का उत्तर दीजिए।  
(क)  $\sin^{-1}(\frac{1}{\sqrt{2}})$  का मान ज्ञात कीजिए।  
(ख)  $\cos^{-1}(\frac{1}{\sqrt{2}})$  का मान ज्ञात कीजिए।  
(ग)  $\tan^{-1}(1)$  का मान ज्ञात कीजिए।  
(घ)  $\cot^{-1}(1)$  का मान ज्ञात कीजिए।
5.  $\sin^{-1}(\frac{1}{\sqrt{2}})$  का मान ज्ञात कीजिए।

#### SECTION A

[कम अंक]

1. If  $f(x) = x + 7$  and  $g(x) = x - 7$ ,  $x \in R$ , find  $(f \circ g)(7)$ .  
; यदि  $f(x) = x + 7$  और  $g(x) = x - 7$ ,  $x \in R$ , तो  $(f \circ g)(7)$  का मान ज्ञात कीजिए।

2. Evaluate :  $\sin \left[ \frac{\pi}{3} - \sin^{-1} \left( -\frac{1}{2} \right) \right]$ .

eku Klu dlft,  $\sin \left[ \frac{\pi}{3} - \sin^{-1} \left( -\frac{1}{2} \right) \right]$ .

3. Find the value of x and y if :  $2 \begin{bmatrix} 1 & 3 \\ 0 & x \end{bmatrix} + \begin{bmatrix} y & 0 \\ 1 & 2 \end{bmatrix} = \begin{bmatrix} 5 & 6 \\ 1 & 8 \end{bmatrix}$ .

x r f k y dseku Klu dlft, ;  $2 \begin{bmatrix} 1 & 3 \\ 0 & x \end{bmatrix} + \begin{bmatrix} y & 0 \\ 1 & 2 \end{bmatrix} = \begin{bmatrix} 5 & 6 \\ 1 & 8 \end{bmatrix}$ .

4. Evaluate :  $\begin{bmatrix} a + ib & c + id \\ -c + id & a - ib \end{bmatrix}$ .

eku Klu dlft,  $\begin{bmatrix} a + ib & c + id \\ -c + id & a - ib \end{bmatrix}$ .

5. Find the co-factor of  $a_{12}$  in the following :

$$\begin{vmatrix} 2 & -3 & 5 \\ 6 & 0 & 4 \\ 1 & 5 & -7 \end{vmatrix}$$

f u i e a<sub>12</sub> d k l g [ M Klu dlft, %

$$\begin{vmatrix} 2 & -3 & 5 \\ 6 & 0 & 4 \\ 1 & 5 & -7 \end{vmatrix}$$

6. Evaluate :  $\int \frac{x^2}{1+x^3} dx$ .

eku Klu dlft,  $\int \frac{x^2}{1+x^3} dx$ .

7. Evaluate :  $\int_0^1 \frac{dx}{1+x^2}$ .

eku Klu dlft,  $\int_0^1 \frac{dx}{1+x^2}$ .

8. Find a unit vector in the direction of  $\vec{a} = 3i - 2j + 6k$ .

l f n' k  $\vec{a} = 3i - 2j + 6k$ . d s v u f n' k, d e k d l f n' k Klu dlft, A

9. Find the angle between the vectors  $\vec{a} = i - j + \hat{k}$  and  $\vec{b} = i + j - \hat{k}$ .

Find the angle between the vectors  $\vec{a} = i - j + \hat{k}$  and  $\vec{b} = i + j - \hat{k}$ .

10. For what value of  $\lambda$  are the vectors  $\vec{a} = 2i + \lambda j + \hat{k}$  and  $\vec{b} = i - 2j + 3\hat{k}$  perpendicular to each other?

Find the value of  $\lambda$  for which the vectors  $\vec{a} = 2i + \lambda j + \hat{k}$  and  $\vec{b} = i - 2j + 3\hat{k}$  are perpendicular.

## SECTION B

### [30 Marks]

11. (i) Is the binary operation  $*$ , defined on set  $Q$ , given by  $a * b = \frac{a+b}{2}$  for all  $a, b \in Q$ , commutative?

(ii) Is the above binary operation  $*$  associative?

(i) Is the binary operation  $*$ , defined on set  $Q$ , given by  $a * b = \frac{a+b}{2}$  for all  $a, b \in Q$ , commutative?

(ii) Is the above binary operation  $*$  associative?

12. Prove the following

$$\tan^{-1} \frac{1}{3} + \tan^{-1} \frac{1}{5} + \tan^{-1} \frac{1}{7} + \tan^{-1} \frac{1}{8} = \frac{\pi}{4}$$

Prove the following

$$\tan^{-1} \frac{1}{3} + \tan^{-1} \frac{1}{5} + \tan^{-1} \frac{1}{7} + \tan^{-1} \frac{1}{8} = \frac{\pi}{4}$$

13. Let  $A = \begin{bmatrix} 3 & 2 & 5 \\ 4 & 1 & 3 \\ 0 & 6 & 7 \end{bmatrix}$ . Express  $A$  as sum of two matrices such that one is symmetric and the other is skew symmetric.

OR

If  $A = \begin{bmatrix} 1 & 2 & 2 \\ 2 & 1 & 2 \\ 2 & 2 & 1 \end{bmatrix}$ , verify that  $A^2 - 4A - 5I = 0$ .



$$\text{ekek } A = \begin{bmatrix} 3 & 2 & 5 \\ 4 & 1 & 3 \\ 0 & 6 & 7 \end{bmatrix} . A \text{ dks, i snks vlQ gads; k ds: i esyf[k ft ueal s, d l efer vlQ g rFlk}$$

nvjk fo"le l efer vlQ g gA

vFlOk

$$\text{; fn } A = \begin{bmatrix} 1 & 2 & 2 \\ 2 & 1 & 2 \\ 2 & 2 & 1 \end{bmatrix} , \text{ gS rkl R kir dlft, fd } A^2 - 4A - 5I = 0.$$

14. For what value of  $k$  is the following function continuous at  $x = 2$ ?

$$f(x) = \begin{cases} 2x + 1 & ; x < 2 \\ k & ; x = 2 \\ 3x - 1 & ; x > 2 \end{cases}$$

k dsfdl eku dsfy, fuFu Qyu  $x=2$  ij l rr gS

$$f(x) = \begin{cases} 2x + 1 & ; x < 2 \\ k & ; x = 2 \\ 3x - 1 & ; x > 2 \end{cases}$$

15. Differentiate the following with respect to  $x$  :

$$\tan^{-1} \left( \frac{\sqrt{1+x} - \sqrt{1-x}}{\sqrt{1+x} + \sqrt{1-x}} \right)$$

fuFu dk  $x$  dsl k k vodyu dlft, %

$$\tan^{-1} \left( \frac{\sqrt{1+x} - \sqrt{1-x}}{\sqrt{1+x} + \sqrt{1-x}} \right)$$

16. Find the equation of tangent to the curve  $x = \sin 3t$ ,  $y = \cos 2t$ , at  $t = \pi/4$ .

oØ  $x = \sin 3t$ ,  $y = \cos 2t$ , dsfcUqt  $= \pi/4$  ij Li 'kZj[k dk l eldj.k k klr dlft, A

17. Evaluate :  $\int_0^{\pi} \frac{x \sin x}{1 + \cos^2 x} dx$ .

eke klr dlft, %  $\int_0^{\pi} \frac{x \sin x}{1 + \cos^2 x} dx$ .

18. Solve the following differential equation :

$$(x^2 - y^2) dx + 2xy dy = 0$$

given that  $y = 1$ , when  $x = 1$ .

OR

Solve the following differential equation :

$$\frac{dy}{dx} = \frac{x(2y-x)}{x(2y+x)} \text{ if } y=1, \text{ when } x=1.$$

fuñ vody l eldj.k dks gy dlft, %

$$(x^2 - y^2) dx + 2xy dy = 0$$

fn; kgSfd tc  $x=1$  gark  $y=1$ .

vFlk

fuñ vody l eldj.k dks gy dlft, %

$$\frac{dy}{dx} = \frac{x(2y-x)}{x(2y+x)} \text{ ; fn } y=1 \text{ tc } x=1.$$

19. Solve the following differential equation :

$$\cos^2 x \frac{dy}{dx} + y = \tan x.$$

fuñ vody l eldj.k dks gy dlft, %

$$\cos^2 x \frac{dy}{dx} + y = \tan x.$$

20. If  $\vec{a} = i + j + \hat{k}$  and  $\vec{b} = j - \hat{k}$ , find a vector  $\vec{c}$  such that  $\vec{a} \times \vec{c} = \vec{b}$  and  $\vec{a} \cdot \vec{c} = 3$ .

OR

If  $\vec{a} + \vec{b} + \vec{c} = \vec{0}$  and  $|\vec{a}| = 3$ ,  $|\vec{b}| = 5$  and  $|\vec{c}| = 7$ , show that the angle between  $\vec{a}$  and  $\vec{b}$  is  $60^\circ$ .

; fn  $\vec{a} = i + j + \hat{k}$  rFlk  $\vec{b} = j - \hat{k}$ , t k l fn'k  $\vec{c}$  Kkr dlft, ; fn  $\vec{a} \times \vec{c} = \vec{b}$  rFlk  $\vec{a} \cdot \vec{c} = 3$ .

vFlk

; fn  $\vec{a} + \vec{b} + \vec{c} = \vec{0}$  rFlk  $|\vec{a}| = 3$ ,  $|\vec{b}| = 5$  rFlk  $|\vec{c}| = 7$ , r k n' k, fd  $\vec{a}$  rFlk  $\vec{b}$  ds chp dk dsk  $60^\circ$  dk gA

21. Find the shortest distance between the following lines :

$$\frac{x-3}{1} = \frac{y-5}{-2} = \frac{z-7}{1} \text{ and } \frac{x+1}{7} = \frac{y+1}{-6} = \frac{z+1}{1}.$$

OR

Find the point on the line  $\frac{x+2}{3} = \frac{y+1}{2} = \frac{z-3}{2}$  at a distance from  $3\sqrt{2}$  from the point (1, 2, 3).

fuFu j\$kkvadsclp U wre nyh Kkr dlft , %

$$\frac{x-3}{1} = \frac{y-5}{-2} = \frac{z-7}{1} \text{ rFlk } \frac{x+1}{7} = \frac{y+1}{-6} = \frac{z+1}{1}.$$

vFlk

j\$kk  $\frac{x+2}{3} = \frac{y+1}{2} = \frac{z-3}{2}$  ij og fclhqKkr dlft , t k fclhq(1, 2, 3) l s  $3\sqrt{2}$  dh nyh ij glA

22. A pair of dice is thrown 4 times. If getting a doublet is considered a success, find the probability distribution of number of successes.

ik l adk , d ; ye pj clj Qalk x; k ; fn nshl ik laij , d gh l q ; k vluk l Qyrk ekuk tk t k l Qyrk l adh l q ; k dk i k ; drk cu Kkr dlft , A

### SECTION C

[k M ^] \*

23. Using properties of determinants, prove the following :

$$\begin{vmatrix} \alpha & \beta & \gamma \\ \alpha^2 & \beta^2 & \gamma^2 \\ \beta + \gamma & \gamma + \alpha & \alpha + \beta \end{vmatrix} = (\alpha - \beta)(\beta - \gamma)(\gamma - \alpha)(\alpha + \beta + \gamma).$$

l kj. k l adsxqlk l adk iz k dj fuFu fl ) dlft , %

$$\begin{vmatrix} \alpha & \beta & \gamma \\ \alpha^2 & \beta^2 & \gamma^2 \\ \beta + \gamma & \gamma + \alpha & \alpha + \beta \end{vmatrix} = (\alpha - \beta)(\beta - \gamma)(\gamma - \alpha)(\alpha + \beta + \gamma).$$

24. Show that the rectangle of maximum area that can be inscribed in a circle is a square.

OR

Show that the height of the cylinder of maximum volume that can be inscribed in a cone of height  $h$  is  $\frac{1}{3}h$ .

fl ) dlft , fd fdl ho r dsvtrxz fufez vf/dre {lQy dk vk k r , d oxZglkA

vFlok

fl) dlft, fd fdl h' lqlft l dh Åplbzh g\$ dsvUrxZ vf/kdre vk ru okysfufez cyu dh ÅplbZ  $\frac{1}{3}h$  glkA

25. Using integration find the area of the region bounded by the parabola  $y^2 = 4x$  and the circle  $4x^2 + 4y^2 = 9$ .

l ekdyu dk izk djrsgq ijoy;  $y^2 = 4x$  rFk o Ûk  $4x^2 + 4y^2 = 9$  dse/; orZ {sk dk {skQy Kkr dlft, A

26. Evaluate :  $\int_{-a}^a \sqrt{\frac{a-x}{a+x}} dx$

eku Kkr dlft, %  $\int_{-a}^a \sqrt{\frac{a-x}{a+x}} dx$

27. Find the equation of the plane passing through the point  $(-1, -1, 2)$  and perpendicular to each of the following planes :

$$2x + 3y - 3z = 2 \text{ and } 5x - 4y + z = 6.$$

OR

Find the equation of the plane passing through the points  $(3, 4, 1)$  and  $(0, 1, 0)$  and parallel to the line  $\frac{x+3}{2} = \frac{y-3}{7} = \frac{z-2}{5}$ .

ml l ery dkl eldj.k Kkr dlft, t lsf d fclhq  $(-1, -1, 2)$  l sglj t lrk gSrFk fu fufyf [ld nlsk rylk ij yEcor gS  $2x + 3y - 3z = 2$  rFk  $5x - 4y + z = 6$ .

vFlok

ml ry dkl eldj.k Kkr dlft, t lsf d fclhq  $(3, 4, 1)$  vS  $(0, 1, 0)$  l sglj t lrk gSrFk l jy jsk  $\frac{x+3}{2} = \frac{y-3}{7} = \frac{z-2}{5}$  dsl ekj gA

28. A factory owner purchases two types of machines, A and B for his factory. The requirements and the limitations for the machines are as follows :

Machine	Area occupied	Labour force	Daily output (in units)
A	1000 m <sup>2</sup>	12 men	60
B	1200 m <sup>2</sup>	8 men	40

He has maximum area of 9000 m<sup>2</sup> available, and 72 skilled labourers who can operate both the machines. How many machines of each type should he buy to maximise the daily output?

, d QDVh elyd A vS B nlszk dhe' huaviuh QDVh dsfy, Ø; djrk gA bu e' hlu dhvlo'; drk j rFk l lek j fuEcor gS

मशीन	क्षेत्रफल जितना स्थान घेरती है।	श्रमिकों की आवश्यकता	प्रतिदिन उत्पादन (इकाई संख्या)
A	1,000 sq. ft.	12 workers	60
B	1,200 sq. ft.	8 workers	40

फैक्ट्री मालिक के पास अधिकतम 6000 वर्ग मी क्षेत्र तथा 92 कुशल श्रमिक उपलब्ध हैं जो दोनों प्रकार की मशीनें चला सकते हैं। उसे प्रत्येक प्रकार की कितनी-कितनी मशीनें खरीदनी चाहिए जिससे कि अधिकतम उत्पादन संभव हो सके?

29. An insurance company insured 2,000 scooter drivers, 4,000 car drivers and 6,000 truck drivers. The probability of an accident involving a scooter, a car and a truck are 0.01, 0.03 and 0.15 respectively. One of the insured persons meets with an accident. What is the probability that he is a scooter driver.

एक बीमा कम्पनी 2000 स्कूटर चालकों, 4000 कार चालकों तथा 6000 ट्रक चालकों का बीमा करती है। एक स्कूटर, कार तथा ट्रक के दुर्घटनाग्रस्त होने की प्रायिकताएं क्रमशः 0.01, 0.03 तथा 0.15 हैं। बीमाकृत व्यक्तियों (चालकों) में से एक दुर्घटनाग्रस्त हो जाता है। उस व्यक्ति के स्कूटर चालक होने की प्रायिकता क्या है?

# MARKING SCHEME

## SECTION A

1. 7;      2. 1;      3.  $x = 3, y = 3$ ;      4.  $a^2 + b^2 + c^2 + d^2$ ;      5. 46;
6.  $\frac{1}{3} \cdot \log|(1+x^3)| + c$ ;      7.  $\frac{\pi}{4}$ ;      (8)  $\frac{3}{7}\hat{i} - \frac{2}{7}\hat{j} + \frac{6}{7}\hat{k}$ ;
9.  $\theta = \cos^{-1}\left(-\frac{1}{3}\right)$ ;      10.  $\lambda = \frac{5}{2}$ .
11. (i) If the candidate verifies that the operation is commutative but not associative, full credit may be given. 2 + 2
12.  $LHS = \left(\tan^{-1}\frac{1}{3} + \tan^{-1}\frac{1}{5}\right) + \left(\tan^{-1}\frac{1}{7} + \tan^{-1}\frac{1}{8}\right) = \tan^{-1}\frac{8/15}{14/15} + \tan^{-1}\frac{15/56}{55/56}$ . (1½ + 1½)  
 $= \tan^{-1}\frac{4}{7} + \tan^{-1}\frac{3}{11} = \tan^{-1}1 = \pi/4 = RHS.$  1
13. For  $A' = \begin{pmatrix} 3 & 4 & 0 \\ 2 & 1 & 6 \\ 5 & 3 & 7 \end{pmatrix}$ . 1
- $\therefore \frac{A + A'}{2} = \begin{pmatrix} 3 & 3 & 5/2 \\ 3 & 1 & 9/2 \\ 5/2 & 9/2 & 7 \end{pmatrix}$  which is symmetric. 1
- $\frac{A - A'}{2} = \begin{pmatrix} 0 & -1 & 5/2 \\ 1 & 0 & -3/2 \\ -5/2 & 3/2 & 0 \end{pmatrix}$  which is skew symmetric. 1
- $\therefore \begin{pmatrix} 3 & 2 & 5 \\ 4 & 1 & 3 \\ 0 & 6 & 7 \end{pmatrix} = \begin{pmatrix} 3 & 3 & 5/2 \\ 3 & 1 & 9/2 \\ 5/2 & 9/2 & 7 \end{pmatrix} + \begin{pmatrix} 0 & -1 & 5/2 \\ 1 & 0 & -3/2 \\ -5/2 & 3/2 & 0 \end{pmatrix}$  1
- OR**
- For  $A^2 = \begin{pmatrix} 9 & 8 & 8 \\ 8 & 9 & 8 \\ 8 & 8 & 9 \end{pmatrix}$  2
- $4A = \begin{pmatrix} 4 & 8 & 8 \\ 8 & 4 & 8 \\ 8 & 8 & 4 \end{pmatrix}$ ,  $5I = \begin{pmatrix} 5 & 0 & 0 \\ 0 & 5 & 0 \\ 0 & 0 & 5 \end{pmatrix}$  1

- For verifying  $A^2 - 4A - 5I = 0$ . 1
14. Getting  $LHS = 5$ ,  $RHL = 5$   $1\frac{1}{2} \times 2 = 3$
- $\Rightarrow K = 5$ . 1
15. Let  $x = \cos 2\theta$ ,  $\sqrt{1+x} = \sqrt{2} \cos \theta$ ,  $\sqrt{1-x} = \sqrt{2} \sin \theta$ . 1
- $\therefore y = \tan^{-1} \left[ \frac{1 - \tan \theta}{1 + \tan \theta} \right] = \tan^{-1} \cdot \tan \left( \frac{\pi}{4} - \theta \right)$   $1 + \frac{1}{2} = 1\frac{1}{2}$
- $= \frac{\pi}{4} - \theta = \frac{\pi}{4} - \frac{1}{2} \cos^{-1} x$   $\frac{1}{2}$
- $\therefore \frac{dy}{dx} = \frac{1}{2\sqrt{1-x^2}}$ . 1
16. At  $t = \pi/4$ ,  $x = \frac{1}{\sqrt{2}}$ ,  $y = 0$ . 1
- $\frac{dx}{dt} = 3 \cos 3t$ ,  $\frac{dy}{dt} = -2 \sin 2t$   $\therefore \frac{dy}{dx} = \frac{-2 \sin 2t}{3 \cos 3t}$   $1\frac{1}{2}$
- $\therefore \left( \frac{dy}{dx} \right)_{t=\pi/4} = \frac{2\sqrt{2}}{3}$   $\frac{1}{2}$
- Equation of tangent  $3y = 2\sqrt{2}x - 2$  or  $3y - 2\sqrt{2}x + 2 = 0$  1
17.  $I = \int_0^{\pi} \frac{x \sin x}{1 + \cos^2 x} dx = \int_0^{\pi} \frac{(\pi - x) \sin x}{(1 + \cos^2 x)} dx$  1
- $\therefore 2I = \pi \int_0^{\pi} \frac{\sin x}{1 + \cos^2 x} dx$  1
- $\therefore I = -\pi \left[ \tan^{-1}(\cos x) \right]_0^{\pi/2} = -\pi(-\pi/4) = \frac{\pi^2}{4}$ .  $1 + \frac{1}{2} + \frac{1}{2} = 2$
18. Writing  $\frac{dy}{dx} = \frac{y^2 - x^2}{2xy}$ , which is homogeneous.  $\frac{1}{2}$
- Putting  $y = vx \Rightarrow \frac{dy}{dx} = v + x \frac{dv}{dx}$ .  $\frac{1}{2}$
- $\therefore$  getting  $\frac{2v}{1+v^2} dv = -\frac{dx}{x}$  1

$$\therefore \log|1 + v^2| = -\log|x| + \log|c| = \log\left|\frac{c}{x}\right| \quad 1$$

$$\Rightarrow x^2 + y^2 = cx \quad \Rightarrow \quad c = 2 \text{ when } x = 1, y = 1. \quad 1$$

$$\therefore x^2 + y^2 = 2x.$$

OR

$$\text{Writing } \frac{dy}{dx} = \frac{2y - x}{2y + x} \quad \frac{1}{2}$$

$$y = vx \quad \Rightarrow \quad \frac{dy}{dx} = v + x \frac{dv}{dx} \quad \frac{1}{2}$$

$$\text{Getting } \frac{2v + 1}{2v^2 - v + 1} dv = -\frac{dx}{x} \quad 1$$

$$\therefore \frac{1}{2} \frac{4v - 1}{2v^2 - v + 1} dv + \frac{3}{4} \frac{dv}{v^2 - \frac{1}{2}v + \frac{1}{2}} = -\frac{dx}{x} \quad 1$$

$$\text{Getting } \frac{1}{2} \log\left|\frac{2y^2 - xy + x^2}{x^2}\right| + \frac{3}{\sqrt{7}} \tan^{-1} \frac{4y - x}{\sqrt{7}x} = -\log x + c \quad 1$$

$$\text{where } c = \frac{1}{2} \log 2 + \frac{3}{\sqrt{7}} \tan^{-1} \frac{3}{\sqrt{7}}$$

$$19. \text{ Writing } \frac{dy}{dx} + \sec^2 x \cdot y = \tan x \cdot \sec^2 x \quad \frac{1}{2}$$

$$\text{I.F.} = e^{\tan x} \quad 1$$

$$\therefore \text{Solution is, } y \cdot e^{\tan x} = \int e^{\tan x} \cdot \tan x \cdot \sec^2 x \cdot dx + c \quad \frac{1}{2}$$

$$\begin{aligned} y \cdot e^{\tan x} &= e^{\tan x} (\tan x - 1) + c \\ \therefore \text{ or } y &= (\tan x - 1) + c \cdot e^{-\tan x} \end{aligned} \quad 2$$

$$20. \text{ Let } \vec{c} = xi + yj + zk$$

$$\therefore \vec{a} \times \vec{c} = i(z - x) - j(z - x) + k(y - x) = 0i + j - k \quad 1$$

$$\Rightarrow y = z = x - 1 \quad 1$$

$$\vec{a} \cdot \vec{c} = 3 \quad \Rightarrow \quad x + y + z = 3 \quad \frac{1}{2}$$

$$\therefore x = 5/3, \quad y = z = \frac{2}{3} \quad \Rightarrow \quad \vec{c} = \frac{5}{3}i + \frac{2}{3}j + \frac{2}{3}k \quad 1 + \frac{1}{2}$$



OR

$$\vec{a} + \vec{b} + \vec{c} = \vec{0} \Rightarrow \vec{a} + \vec{b} = -\vec{c} \quad 1$$

$$\therefore |\vec{a}|^2 + |\vec{b}|^2 + 2\vec{a} \cdot \vec{b} = |\vec{c}|^2 \quad 1$$

$$9 + 25 + 2ab \cos \theta = 49 \quad 1$$

$$\therefore \cos \theta = +\frac{1}{2} \quad \therefore \theta = \pi/3 = 60^\circ. \quad 1$$

21.  $\vec{a}_1 = 3i + 5j + 7\hat{k}, \quad \vec{b}_1 = i - 2j + \hat{k}$  1

$$\vec{a}_2 = -i - j - \hat{k}, \quad \vec{b}_2 = 7i - 6j + \hat{k}$$

$$5. D = \frac{|(\vec{a}_2 - \vec{a}_1) \cdot (\vec{b}_1 \times \vec{b}_2)|}{|\vec{b}_1 \times \vec{b}_2|} \quad 1$$

$$\vec{a}_2 - \vec{a}_1 = -4i - 6j - 8\hat{k}, \quad \vec{b}_1 \times \vec{b}_2 = 4i + 6j + 8\hat{k} \quad \frac{1}{2} + 1 = 1\frac{1}{2}$$

$$\therefore S.D. = \sqrt{116}. \quad \frac{1}{2}$$

OR

Getting  $x = 3\lambda - 2, y = 2\lambda - 1, z = 2\lambda + 3$  1

Distance  $D$  from  $(1, 2, 3) = 3\sqrt{2}$ .

$$\therefore (3\sqrt{2})^2 = (3\lambda - 2)^2 + (2\lambda - 3)^2 + (2\lambda)^2 \quad 1$$

$$\Rightarrow \lambda = 0 \text{ or } \lambda = \frac{30}{17}. \quad 1$$

$$\therefore \text{Points are } \left(\frac{56}{17}, \frac{43}{17}, \frac{111}{17}\right) \text{ or } (-2, -1, 3) \quad 1$$

22  $p = \frac{1}{6}, q = \frac{5}{6} \therefore \text{Prob. dist is } \left(\frac{1}{6} + \frac{5}{6}\right)^4$  1

x	0	1	2	3	4	$\frac{1}{2}$
P(X)	$\frac{625}{1296}$	$\frac{500}{1296}$	$\frac{150}{1296}$	$\frac{20}{1296}$	$\frac{1}{1296}$	$2\frac{1}{2}$

### SECTION C

23.  $R_3 \rightarrow R_3 + R_1 \Rightarrow \Delta = \begin{vmatrix} \alpha & \beta & \gamma \\ \alpha^2 & \beta^2 & \gamma^2 \\ \alpha + \beta + \gamma & \alpha + \beta + \gamma & \alpha + \beta + \gamma \end{vmatrix} = (\alpha + \beta + \gamma) \begin{vmatrix} \alpha & \beta & \gamma \\ \alpha^2 & \beta^2 & \gamma^2 \\ 1 & 1 & 1 \end{vmatrix}$   
 $1\frac{1}{2} + \frac{1}{2} = 2$

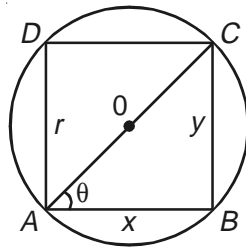
$c_1 \rightarrow c_1 - c_2$  and  $c_2 \rightarrow c_2 - c_3$

$\Rightarrow \Delta = (\alpha + \beta + \gamma) \begin{vmatrix} \alpha - \beta & \beta - \gamma & \gamma \\ \alpha^2 - \beta^2 & \beta^2 - \gamma^2 & \gamma^2 \\ 0 & 0 & 1 \end{vmatrix}$   $1 + 1 = 2$

$= (\alpha + \beta + \gamma)(\alpha - \beta)(\beta - \gamma) \begin{vmatrix} 1 & 1 & \gamma \\ \alpha + \beta & \beta + \gamma & \gamma^2 \\ 0 & 0 & 1 \end{vmatrix}$  1

$= (\alpha + \beta + \gamma)(\alpha - \beta)(\beta - \gamma)(\gamma - \alpha)$  1

24.  $x = 2r \cos \theta, \quad y = 2r \sin \theta$  1

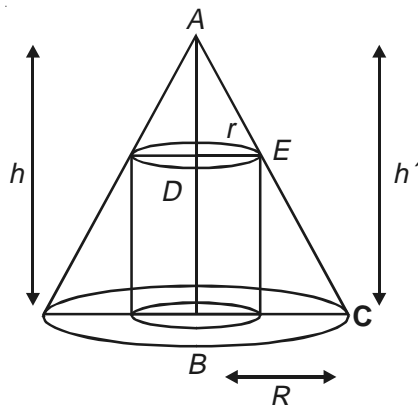


Area  $A = x \cdot y = 4r^2 \cdot \sin \theta \cos \theta = 2r^2 \sin 2\theta$  1

$\therefore \frac{dA}{d\theta} = 4r^2 \cdot \cos 2\theta; \frac{dA}{d\theta} = 0 \Rightarrow \theta = \pi/4$  1

Showing  $\left( \frac{d^2A}{d\theta^2} \right)_{\theta=\pi/4} < 0$  1

$\therefore$  Area is maximum at  $\theta = \pi/4 \Rightarrow x = y \Rightarrow$  square. 1



$$V = \pi r^2 h' \quad 1$$

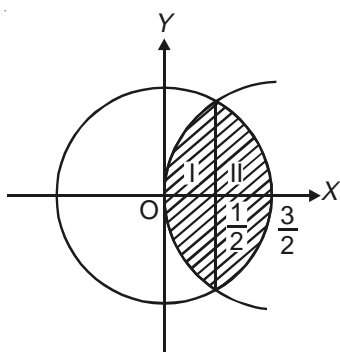
$$= \pi \frac{R^2}{h^2} [h^2 + h'^2 + 2hh'] h' \quad 1$$

$$\frac{dV}{dh'} = 0 \Rightarrow h' = \frac{h}{3} \quad 1$$

Showing  $\frac{d^2V}{dh'^2} < 0$  1

$\therefore V$  is maximum, when height of cylinder =  $\frac{1}{3} h$ . 1

25.



Points of intersection,  $x = \frac{1}{2}$  1

$$\text{Required area} = 2 \int_0^{1/2} 2\sqrt{x} \, dx + 2 \int_{1/2}^{3/2} \sqrt{\frac{9}{4} - x^2} \, dx \quad 2$$

$$= \frac{2\sqrt{2}}{3} - \frac{\sqrt{2}}{2} + \frac{9\pi}{8} - \frac{9}{4} \sin^{-1} \frac{1}{3} \quad 2$$

[ Note : Full credit for  $A = \frac{9\pi}{8} - \frac{\sqrt{2}}{6} + \frac{9}{4} - \sin^{-1} \frac{1}{3}$  ]

26.  $I = \int_{-a}^a \sqrt{\frac{a-x}{a+x}} \, dx = \int_{-a}^a \frac{a \, dx}{\sqrt{a^2 - x^2}} - \int_{-a}^a \frac{x \, dx}{\sqrt{a^2 - x^2}} = I_1 + I_2$  1 + 1 = 2

In,  $I_1$  function is even and in  $I_2$ , function is odd 1m

$\therefore I_2 = 0$  1m

$\therefore I = 2a \int_0^a \frac{dx}{\sqrt{a^2 - x^2}} = 2a \cdot \pi/2 = \pi \cdot a$  2

27. Equation of plane through  $(-1, -1, 2)$  is

$$a(x + 1) + b(y + 1) + c(z - 2) = 0 \quad (i) \quad 1$$

$$\therefore 2a + 3b - 3c = 0 \text{ and } 5a - 4b + c = 0 \quad 2$$

Solving to get  $a : b : c = 9 : 17 : 23$  2

$$\therefore \text{Equation of plane is } 9x + 17y + 23z = 20 \quad 1$$

**OR**

Equation of plane through  $(3, 4, 1)$  is

$$a(x - 3) + b(y - 4) + c(z - 1) = 0 \quad 1$$

$$\therefore \text{we get } 3a + 3b + c = 0 \text{ and } 2a + 7b + 5c = 0 \quad 2$$

Solving to get  $a : b : c = 8 : -13 : 15$  2

$$\therefore \text{Equation of plane is } 8x - 13y + 15z + 13 = 0 \quad 1$$

28. Getting the constraints as

$$5x + 6y \leq 45, \quad 3x + 2y \leq 18, \quad x \geq 0, \quad y \geq 0 \quad 2$$

Total out put  $P = 60x + 40y$  1

Correct graph 2

Vertices of feasible region are

$$(0, 0), (6, 0), \left(\frac{9}{4}, \frac{45}{8}\right), (0, 15/2)$$

$$\therefore P \text{ at } (0, 0) = 0 \quad P \text{ at } (6, 0) = 360 \quad 1$$

$$P \text{ at } (0, 15/2) = 300m \quad P \text{ at } \left(\frac{9}{4}, \frac{45}{8}\right) = 360.$$

$$\therefore \text{Max. } P = 360. \quad 1$$

29.  $P(E_1) = \frac{1}{6}, P(E_2) = \frac{1}{3}, P(E_3) = \frac{1}{2}$  1½

$$P(A/E_1) = \frac{1}{100}, P(A/E_2) = \frac{3}{100}, P(A/E_3) = \frac{15}{100} \quad 1½$$

$$P(E_1/A) = \frac{P(E_1) \cdot P(A/E_1)}{\sum_{i=1}^3 P(E_i) P(A/E_i)} \quad 1$$

$$= \frac{1}{52} \quad 1$$

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# PRACTICE QUESTION PAPER-1

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Time : 3 hours

Total Marks = 100

## General Instructions

1. Question paper has three sections, Section A, contains 10 questions of 1 mark each, Section B contains 12 questions of 4 marks each and Section C contains 7 questions of 6 marks each.
2. All questions are compulsory.
3. Internal choices are given in some questions, where one part is to be attempted out of two.
4. Calculators are not allowed.

## SECTION A

1. If  $A = \begin{pmatrix} 5 & -1 \\ 4 & 1 \end{pmatrix}$  what is  $\text{adj } A$ ?
2. What is the principal value of  $\cos^{-1}\left(-\frac{\sqrt{3}}{2}\right)$ ?
3. If  $A$  is a matrix of order  $2 \times 2$  and  $|A| = -3$ , what is the value of  $|3A|$ ?
4. Let  $f: R \rightarrow R$  be defined as  $f(x) = \frac{2x-3}{5}$ , what is  $f^{-1}$ ?
5. What is the differential equation representing the family of straight lines  $y = mx + c$ ,  $m, c$  being arbitrary constants?
6. Write the general solution of the differential equation in  $\frac{dy}{dx} = xy$ .
7. If a line makes angle  $90^\circ$ ,  $150^\circ$  and  $60^\circ$  with the positive direction of  $x, y$  and  $z$ -axis respectively, what are its direction cosines?
8. Write the vector equation of the line  $\frac{x+2}{3} = \frac{y+4}{5} = \frac{6-z}{2}$ .
9. Give example of two non zero  $2 \times 2$  matrices  $A$  and  $B$  such that  $A.B. = 0$ .
10. If  $\vec{a} = i + j$ ;  $\vec{b} = j + \hat{k}$ ;  $\vec{c} = \hat{k}$  what will be the unit vector in the direction of  $\vec{a} + \vec{b} + \vec{c}$ ?
11. Let  $X$  be a nonempty set and  $P(X)$  be its powerset. Let  $*$  be the binary operation defined in  $P(X)$  by  $A * B = A \cap B, \forall A, B \in P(X)$ .
  - (i) show that  $*$  is commutative.

- (ii) \* is associative  
 (iii) Find the identity element in  $P(X)$  w.r.t. \*  
 (iv) Find the invertible elements of  $P(X)$

OR

Show that the relation  $R$  in Set  $A = \{x : x \in Z, 0 \leq x \leq 15\}$  given by  $R = \{(a, b) : (a - b) \text{ is a multiple of } 3\}$ , is an equivalence relation. Also find the set of all elements related to 4.

12. Find  $x$ , if  $\tan^{-1} 4x = \cot^{-1} \left[ 2 \tan \cos^{-1} \frac{5}{13} \right] + \tan^{-1} \left[ 2 \tan \sin^{-1} \frac{5}{13} \right]$ .

13. If  $a, b, c$  are all positive and distinct, then prove that :

$$\Delta = \begin{vmatrix} a & b & c \\ b & c & a \\ c & a & b \end{vmatrix} \text{ is negative.}$$

14. Determine the values of  $m, n, p$  for which the function :

$$f(x) = \begin{cases} \frac{\sin x + \sin(m+1)x}{x} & \text{for } x < 0 \\ n, & \text{for } x = 0 \\ \frac{\sqrt{x + px^2} - \sqrt{x}}{px^{3/2}} & \text{for } x > 0 \end{cases} \text{ is continuous at } x = 0.$$

15. Find the intervals in which the function  $f(x) = (x + 3)^3 \cdot (x - 2)^3$  is strictly increasing or decreasing.

16. For  $a > 0$  find  $\frac{dy}{dx}$ , if  $y = a^{\frac{t-1}{t}}$  and  $x = \left(t - \frac{1}{t}\right)^a$

If  $x = \sqrt{a^{\sin^{-1} t}}$ ,  $y = \sqrt{a^{\cos^{-1} t}}$ , for  $a > 0$ .

Show that  $\frac{dy}{dx} = -\frac{y}{x}$ .

17. Evaluate :  $\int \frac{1}{\sin(x - \alpha) \cos(x - \beta)} dx$

OR

Evaluate :  $\int \frac{1}{\sqrt{(x - a)(x - b)}} dx$

18. Evaluate  $\int_2^5 (3x^2 - 2x) dx$  by the method of limit a sum.

OR

Using properties of definite integrals evaluate :

$$\int_0^\pi \log |1 + \cos x| dx$$

19. Evaluate  $\int \frac{2x + 3}{(1 - x^2)(1 + x^2)} dx$ .

20. Using vectors show that the angle between any two diagonals of a cube is  $\cos^{-1}\left(\frac{1}{3}\right)$ .

OR

Find the angle between the lines whose direction cosines  $(l, m, n)$  are given by the equations.  $3l + m + 5n = 0$ ,  $6mn - 2nl + 5lm = 0$ .

21. Let  $\vec{a} = i + 4j + 2\hat{k}$ ,  $\vec{b} = 3i - 2j + 7\hat{k}$  and  $\vec{c} = 2i - j + 4\hat{k}$ . Find a vector  $\vec{d}$  which perpendicular to both  $\vec{a}$  and  $\vec{b}$ , and  $\vec{c} \cdot \vec{d} = 15$ .
22. The probability that a person will buy a shirt is 0.2, the probability that he will buy a trouser is 0.3 and the probability that he will buy a shirt given that he buys a trouser, is 0.4. Find the probability that he will buy a shirt and a trouser. Find also the probability that he will buy a trouser given that he buys a shirt.

23. Obtain the inverse of the matrix  $A = \begin{pmatrix} 3 & 1 & 1 \\ 1 & 2 & 3 \\ 0 & 1 & 2 \end{pmatrix}$  using elementary transformations and verify your result.

OR

The sum of three numbers is 2. If twice the second number is added to the sum of first and third, the sum is 1. By adding second and third number to five times the first number, we get 6. Find the three numbers using matrices.

24. The cost of fuel for running a bus is proportional to the square of the speed generated in km/hr. It costs Rs. 48 per hour when the bus is moving at a speed of 20 km/hr. What is the most economical speed if the fixed charges are Rs. 108 for an hour, over and above the running charges?
25. Find the area of region common to the circle  $x^2 + y^2 = 16$  and the parabola  $x^2 = 6y$ , using integration.
26. Solve the differential equation :  $(x^3 - 3xy^2)dx = (y^3 - 3x^2y) dy$

OR

~~Form the differential equation of the family of circle in the second quadrant which touch the coordinate axes.~~

27. Find the shortest distance between the pair of lines whose cartesian equations are :

$$\frac{x-1}{2} = \frac{y+1}{3} = z \text{ and } \frac{x+1}{3} = \frac{y-2}{1}; z = 2.$$

28. A fair coin is tossed 6 times. Find the probability of getting :

- (i) exactly 5 heads
- (ii) at least 5 heads
- (iii) at most 5 heads

Find also the mean and variance of the number of heads.

29. A diet is to contain at least 60 units of vitamin A and 45 units of minerals. Two foods  $F_1$  and  $F_2$  are available. Food  $F_1$  costs Rs. 4 per unit and food  $F_2$  costs Rs. 6 per unit. One unit of food  $F_1$  contains 3 unit of vitamin A and 4 units of minerals. One unit of food  $F_2$  contains 6 units of Vitamin A and 3 units of minerals. Formulate this as a linear programming problem to find the minimum cost for diet that consists of mixture of these two foods and also meets the minimal nutritional requirements and solve it graphically.



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# PRACTICE QUESTION PAPER-2

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Time : 3 hours

Total Marks = 100

## General Instructions

1. Question paper has three sections, Section A, contains 10 questions of 1 mark each, Section B contains 12 questions of 4 marks each and Section C contains 7 questions of 6 marks each.
2. All questions are compulsory.
3. Internal choices are given in some questions, where one part is to be attempted out of two.
4. Calculators are not allowed.

## SECTION A

1. If  $f(x) = \sin^{-1} x$ ,  $g(x) = x^3$ .  
Then what is  $\text{gof}(x)$ , if it is defined.
2. If the points  $(2, -3)$ ,  $(\lambda, -1)$  and  $(0, 4)$  are collinear, find the value (s) of ' $\lambda$ '.
3. Write the principal value of  $\tan^{-1}\left(\frac{-1}{\sqrt{3}}\right)$ .
4. Write the no. of all possible matrices of order  $2 \times 2$  with each entry 4 to 5.
5. If  $A$  be a square matrix of order  $3 \times 3$  and  $|A| = 10$ , then write the value of  $|4A|$ .
6. Write the order and degree of the differential equation  $\left(\frac{d^2y}{dx^2}\right)^2 + 5\left(\frac{dy}{dx}\right)^3 = \sin x$ .
7. Write the differential equation representing the family of parabolas  $y^2 = 4bx$ .
8. If the position vector  $\vec{a}$  of point  $P(3, n)$  is such that  $|\vec{a}| = 5$ , then write the value of  $n$ .
9. Find the angle between the lines,  $\frac{x-1}{2} = \frac{y-1}{3} = \frac{z}{-4}$  and  $\frac{x}{-1} = \frac{2y}{3} = \frac{z}{0}$ .
10. Find the distance between the planes.  
 $3x + 4y - 7 = 0$  and  $3x + 4y + 3 = 0$ .

## SECTION B

11. If  $\cos^{-1} x + \cos^{-1} y + \cos^{-1} z = \pi$  then show that  $x^2 + y^2 + z^2 + 2xyz = 1$ .

Or

Prove that  $\tan \left[ 2 \tan^{-1} \frac{1}{5} - \frac{\pi}{4} \right] = \frac{-7}{17}$ .

12. Express  $A = \begin{bmatrix} -3 & 4 \\ 2 & 7 \end{bmatrix}$  as the sum of a symmetric and a skew-symmetric matrix.

13. Show that  $f : R \rightarrow R$  defined by  $f(x) = x^3 - 8$ , is bijective. Also find  $f^{-1}(19)$ .

14. For what values of 'a' and 'b'

$$f(x) = \begin{cases} 5x^2 - ax & \text{if } x < 1 \\ 8 & \text{if } x = 1 \\ bx^3 - 3x & \text{if } x > 1 \end{cases}$$

is continuous at  $x = 1$ .

15. If  $x = a \cos^3 \theta$ ,  $y = \sin^3 \theta$ , find  $\frac{d^2y}{dx^2}$ .

OR

If  $y = (\sin x)^x + (\log x)^{\cos x}$ , find  $\frac{dy}{dx}$ .

16. If  $f(x) = x^2 - 3x + 1$  then using differential find the approximate value of  $f(1.09)$ .

OR

Find the equation of normal to the ellipse,  $3x^2 + 6y^2 = 6$  at  $P(x_1, y_1)$  where  $y_1 = 1$ .

17. Evaluate :  $\int \frac{\sin x}{\sin 4x} dx$ .

18. Evaluate :  $\int \frac{dx}{\sqrt{e^{2x} + 3e^x + 1}}$ .

19. Evaluate :  $\int_{\pi/6}^{\pi/3} \frac{\sin x + \cos x}{\sqrt{\sin 2x}} dx$ .

OR

Evaluate :  $\int e^{2x} \left( \frac{1 + \sin 2x}{1 + \cos 2x} \right) dx$ .

20. Prove that, for any two vectors  $\vec{a}$  and  $\vec{b}$ .

$$|\vec{a} \times \vec{b}|^2 = |\vec{a}|^2 |\vec{b}|^2 - (\vec{a} \cdot \vec{b})^2$$

21. Find the equation of the plane passing through the intersection of planes  $x + 2y + 3z = 4$  and  $2x + y - z = -5$  and perpendicular to the plane  $5x + 3y + 6z + 8 = 0$ .
22. Assume that the probability that a bomb dropped from an aeroplane will strike a certain target is 0.3. If 5 bombs are dropped. Find the probability that.
- (i) Exactly 4 will strike the target.                      (ii) Atleast one will hit the target.

### SECTION C

23. For the matrix  $A = \begin{pmatrix} 3 & -2 & 1 \\ 5 & 0 & 4 \\ 1 & 6 & 3 \end{pmatrix}$ , find  $A^{-1}$  and use it to solve, system of equations.

$$3x + 5y + z = 5$$

$$-2x + 6z = 10$$

$$x + 4y + 3z = 15$$

24. Show that the semi-vertical angle of a right circular cone of given surface area and maximum volume is  $\sin^{-1}\left(\frac{1}{3}\right)$ .
25. Find the area of the region bounded by  $y^2 \geq 4x$  and  $4x^2 + 4y^2 \leq 9$ .

OR

Evaluate :  $\int_0^2 (3x^2 - 2x) dx$  as a limit of a sum.

26. Solve initial value problem :  $x \cdot e^{y/x} - y \sin\left(\frac{y}{x}\right) + x \frac{dy}{dx} \sin\left(\frac{y}{x}\right) = 0$ , given that  $y(1) = 0$ .
27. Find the shortest distance between the two skew lines :

$$\frac{x-1}{1} = \frac{y+2}{2} = \frac{z}{3} \text{ and } \frac{x}{-1} = \frac{2-y}{2} = \frac{z-1}{3}$$

28. An aeroplane can carry a maximum of 200 passengers. A profit of Rs. 1000 is made on each executive class ticket and a profit of Rs. 600 is made on each economy class ticket. The Airline reserve at least 20 seats for executive class. However at least 4 times as many passengers prefer to travel by economy class, than by the executive class. Determine how many tickets of each type must be sold in order to maximise the profit for the Airline. What is the maximum profit?
29. In a test, an examine either guesses or copies or knows the answer to a multiple choice question with four choices. The probability that he makes a guess is  $\frac{2}{3}$  and the probability that he copies the answer is  $\frac{1}{8}$ . The probability that his answer is correct, given that he copied it, is  $\frac{1}{8}$ . Find the probability that he knew the answer to the question, given that he correctly answered it.

## HINTS AND ANSWERS

### CHAPTER 1

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# RELATION AND FUNCTIONS

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- $R_1$  – Universal Relation  
 $R_2$  – Empty Relation.  
 $R_3$  – Neither Empty Nor Universal.  
 $R_4$  – Neither Empty nor Universal.  
 $R_5$  – Neither Empty nor Universal
- Yes. Because every element in set  $A$  has different image in  $A$ .
  - Yes, (Constant function)
  - No, Because 2 have two images.
  - No, Because 5 has no image.
  - No, Because 2 does not have a unique image.
- (Fog) (7) = 7  
(gof) (7) = 7  
[Hint. : Use (fog) (x) = f[g(x)]
- fog = {(0, 6), (1, 3), (2, 2)}
- $(fof)(x) = \frac{x}{2x+1}$ .
- $f^{-1}(x) = \frac{5x+1}{2}$ .
- Not one-one **Hint. :  $f(2) = f(-2)$**
  - One-one
  - Not one-one
  - One-one
  - Not one-one **Hint. :  $f(1) = f(2) = f(3) = 0$**
  - Not one-one **Hint. :  $f(1.3) = f(1.4) = 1$**
  - Not one-one because  $f(0) = f(\pi) = 0$ .

- (viii) One-one because  $x_1 \neq x_2$  in  $[0, \pi] \Rightarrow f(x_1) \neq f(x_2)$
- (ix) One-one.
8. (i) Onto (function) [Hint. : Range = Codmain.]
- (ii) onto (Surjective function).
- (iii) onto
- (iv) Not onto Because  $R_f \neq R$
- (v) Not onto, Because  $R_f = \{1, 8, 27, \dots\} \neq \mathbb{N}$
- (vi) Not onto, Because  $R_f = (0, \infty) \neq \mathbb{R}$
- (vii) Not onto, because 1 has no preimage.
- (viii) Not onto, as  $f(x)$  is constant function  $R_f = \{0\}$ .
9. (i) 0 (ii) 12
- (iii)  $26/9$  (iv)  $5/27$
10. (a) Equivalence Relation
- (b) Transitive Relation/
- (c) Reflexive and Transitive.
- (d) Reflexive and Transitive.
- (e) Symmetric and Transitive.
- (f) Reflexive and Transitive.
- (g) Neither symmetric nor reflexive nor transitive.
- (h) Equivalence Relation.
- (i) Neither reflexive nor symmetric nor transitive.
- (j) Equivalence Relation.
11. (i) Bijective (one-one and onto)
- (ii) Bijective
- (iii) Neither injective nor surjective.
- (iv) Neither injective nor surjective.
- (v) Bijective
- (vi) Neither one-one nor onto.
- (vii) Bijective

- (viii) Bijective
  - (ix) Injective but not surjective.
  - (x) Bijective
  - (xi) Injective but not surjective
  - (xii) Neither injective nor surjective.
12. Commutative and associative. (1, 1) is identity element.
13. (i) Yes, '\*' is commutative
- (ii)  $2 * (3 * 4) = 2 * |3^2 - 4^2| = 2 * 7 = |4 - 49| = 45$   
 $(2 * 3) * 4 = |2^2 - 3^2| * 4 = 5 * 4 = |25 - 16| = 9.$   
 $\therefore$  '\*' is not associative.
14. (i) No, '\*' is not commutative
- (ii) Not associative.
15. 0 is the identity element in  $\mathbb{Q} - \{1\}$ .
16.  $f(x)$  is bijective and  $f^{-1}(x) = \frac{4x + 1}{3}$ .
17. No, it is not invertible. Because,  $f$  is not one-one function :  $f(0) = f(\pi) = 0$
18.  $(f \circ g)(x) = x$ .
- $(g \circ f)(x) = x$ . Hence they are equal.
19. No, They are not equal.

## CHAPTER 2

# INVERSE TRIGONOMETRIC FUNCTIONS

1. (i)  $\frac{-\pi}{3}$  (ii)  $\frac{\pi}{3}$  (iii)  $\frac{5\pi}{6}$   
(iv)  $\frac{\pi}{6}$  (v)  $\frac{-\pi}{6}$  (vi)  $\frac{\pi}{6}$   
(vii)  $\frac{-\pi}{6}$  (viii)  $\frac{\pi}{6}$  (ix)  $\frac{2\pi}{3}$   
(x)  $\frac{\pi}{3}$  (xi)  $\frac{2\pi}{3}$  (xii)  $\frac{\pi}{3}$   
(xiii)  $\frac{\pi}{6}$

2. (i) 0 (ii)  $\frac{-\pi}{3}$  (iii)  $\frac{-\pi}{2}$   
(iv)  $\frac{\pi}{2}$  (v)  $\frac{2\pi}{3}$  (vi)  $\frac{\pi}{2}$   
(vii)  $\pi$  (viii)  $\frac{\pi}{3}$  (ix)  $\frac{\pi}{5}$   
(x)  $\frac{3\pi}{5}$  (xi)  $\frac{-\pi}{6}$  (xii)  $\frac{\pi}{4}$

7. **Hint.** : Divide Num. and Den. By  $b \cos x$ .

12.  $x = 1$

[**Hint.** : Other value of  $x$  does not satisfy.]

13.  $x = 1/6$ .

15. (ii)  $\frac{3\pi}{4}$ .

## CHAPTER 3

# MATRICES AND DETERMINANTS

1.  $\begin{bmatrix} 0 & 3 \\ 1 & 0 \end{bmatrix}$
2.  $2xm$ .
3.  $\begin{bmatrix} 1 & 2 \\ 0 & 1 \end{bmatrix}$
4. [18]
5.  $10\lambda$ .
6.  $3 \times 3$ .
7. 5.
8. 2.
9.  $x = \begin{bmatrix} 5 & 1 \\ 2 & 0 \end{bmatrix}$
10. 64. [Hint. :  $2^6 = 64$ ]
11.  $A = \begin{bmatrix} 1 & 0 \\ 0 & 0 \end{bmatrix}, B = \begin{bmatrix} 0 & 0 \\ 0 & 1 \end{bmatrix}$
12.  $\begin{bmatrix} 6 & -3 \\ -9 & 12 \\ 0 & 15 \end{bmatrix}$
13.  $\begin{bmatrix} 2 & 2 \\ 2 & 0 \end{bmatrix}$
14. 0.
15.  $a^2 + b^2 + c^2 + d^2$ .
16.  $(-3)^{1/3}$ .
17. 28.
18.  $id - fg$ .
19.  $\pm\sqrt{\frac{2}{3}}$ . [Hint. :  $-3x^2 - 5 = -7$ ].
20.  $\frac{\pi}{6}, \frac{\pi}{2}$ . [Hint. :  $2 \sin^2 x + 1 = 3 \sin x$ ].
21. 0.
22. 54. [Hint. : order 3  $\Rightarrow |-3A| = (-3)^3 |A|$ ].
23. 1 Sq. unit.
24.  $x = \text{any real number}$ .
25.  $a_{13}M_{13} - a_{23}M_{23} + a_{33}M_{33}$
26.  $\frac{\pi}{3}$ .
27.  $\lambda = -\frac{3}{8}$ .
28.  $\pm 5\sqrt{5}$ . [Hint. :  $|\text{Adj } A| = |A|^{n-1}$ ]
29.  $|A| = 0$  and  $(\text{adj } A)B = 0$
30.  $\begin{bmatrix} 5 & -3 \\ 6 & 8 \end{bmatrix}$
31. 40.
32.  $I_2$ .



33.  $\begin{bmatrix} -13 & 2 \\ 9 & -6 \end{bmatrix}$

34. 25.

[Hint. :  $|\text{Adj } A| = |A|^{n-1}$ ]

35.  $\begin{bmatrix} 6 & 5 \\ -5 & -6 \end{bmatrix}$

36.  $x = 2, y = 1.$

37. 3.

38. 0;

[Hint. :  $[R_1 \rightarrow R_1 + R_2 + R_3]$ ]

39.  $x = -4.$

40.  $\begin{bmatrix} -4 & 0 \\ 0 & -4 \end{bmatrix}$

41.  $\begin{bmatrix} 4 & -3 \\ -1 & 2 \end{bmatrix}$

42.  $pqr.$

43. 12.

44. 0.

[Hint. :  $A^2 = 0$ ]

45. 0. [Hint. :  $A + B + C = \pi$ ]

46. 0.

47. 5.

48. 200.

49. 20.

50.  $\frac{\pi}{6}.$

51.  $A = \begin{bmatrix} 0 & -\frac{1}{3} & -\frac{1}{2} & -\frac{3}{5} \\ \frac{1}{3} & 0 & -\frac{1}{5} & -\frac{1}{3} \\ \frac{1}{2} & \frac{1}{5} & 0 & -\frac{1}{7} \end{bmatrix}$

52.  $x = 1, y = 2, z = 3, w = 4.$

53.  $A = \begin{bmatrix} \frac{11}{7} & -\frac{9}{7} & \frac{9}{7} \\ \frac{1}{7} & \frac{18}{7} & \frac{4}{7} \end{bmatrix}, B = \begin{bmatrix} -\frac{5}{7} & -\frac{2}{7} & \frac{1}{7} \\ \frac{4}{7} & -\frac{12}{7} & -\frac{5}{7} \end{bmatrix}$

54.  $X = \begin{bmatrix} 1 & -2 \\ 2 & 0 \end{bmatrix}$

59.  $\begin{bmatrix} 1 & -3 \\ -1 & \frac{7}{2} \end{bmatrix}$

60.  $\begin{bmatrix} \frac{3}{5} & \frac{1}{5} \\ -\frac{2}{5} & \frac{1}{5} \end{bmatrix}$

61. [Hint. : Use  $\cos \theta = \frac{1 - \tan^2 \theta/2}{1 + \tan^2 \theta/2}$  and  $\sin \theta = \frac{2 \tan \theta/2}{1 + \tan^2 \theta/2}$ ]

62.  $x = -2$  or  $x = -14$ .

63.  $x = 9, y = 14$ .

64. [Hint. : Use principle of mathematical induction]

66.  $-14I_3$

67.  $A^{-1} = \frac{1}{2} \begin{bmatrix} 7 & 3 \\ 4 & 2 \end{bmatrix}$

68.  $A^{-1} = \frac{1}{7} \begin{bmatrix} 2 & 1 \\ -3 & 2 \end{bmatrix}$

70.  $A^{-1} = \frac{1}{17} \begin{bmatrix} 4 & 3 \\ -3 & 2 \end{bmatrix}$

73. [Hint. :  $x = AR^{10-1}$  where  $A$  = first term,  $R$  = common ratio]

81.  $AB = \begin{bmatrix} 1 & 2 \\ -2 & 2 \end{bmatrix}, (AB)^{-1} = \frac{1}{6} \begin{bmatrix} 2 & -2 \\ 2 & -1 \end{bmatrix}$

82. (i) 20 sq. unit. (ii)  $x = -3, x = \frac{1}{2}$ .

86.  $x = \frac{11}{24}, y = \frac{1}{24}$ .

87.  $A^5 = \begin{bmatrix} -118 & -93 \\ 31 & -118 \end{bmatrix}$  [Hint. :  $A^2 - 4A + 7I = 0, A^2 = 4A - 7I, A^3 = 4(4A - 7I) - 7A$ ]

89.  $X = \begin{bmatrix} -16 & 3 \\ 24 & -5 \end{bmatrix}$  [Hint. : if  $A \times B = P, X = A^{-1} P B^{-1}$ ]

90.  $A^{-1} = \frac{1}{2} \begin{bmatrix} -1 & 1 & 1 \\ 1 & -1 & 1 \\ 2 & 1 & -1 \end{bmatrix}$

91.  $\frac{1}{5} \begin{bmatrix} -2 & 0 & 3 \\ -1 & 1 & 0 \\ 2 & 1 & -2 \end{bmatrix}$

92.  $\begin{bmatrix} 3 & 2 & 6 \\ 1 & 1 & 2 \\ 2 & 2 & 5 \end{bmatrix}$

93.  $\begin{bmatrix} -2 & 1 & 1 \\ \frac{11}{4} & \frac{-1}{2} & \frac{-3}{4} \\ -1 & 0 & 0 \end{bmatrix}$

96.  $x = \frac{10}{19}, y = \frac{-31}{19}, z = \frac{-8}{19}$ .

97.  $x = 2, y = -1, z = -2$ .

98.  $x = 1, y = 0, z = -5.$

99.  $x = 1, y = 1, z = 1.$

[Hint. : equations are  $A'x = B$ , so  $X = (A')^{-1} B = (A)^{-1} B$ ]

100.  $A^{-1} = \frac{-1}{67} \begin{bmatrix} -6 & 17 & 13 \\ 14 & 5 & -8 \\ -15 & 9 & -1 \end{bmatrix} .$

$x = 3, y = -2, z = 1.$

101.  $x = 4, y = -3, z = 1.$

102.  $x = 1, y = -2, z = 2.$

[Hint. : Suppose three numbers as  $x, y, z$ ]

103.  $A^{-1} = \begin{bmatrix} 2 & 0 & -1 \\ 5 & 1 & 0 \\ 0 & 1 & 3 \end{bmatrix} .$

104.  $(AB)^{-1} = \frac{1}{19} \begin{bmatrix} 16 & 12 & 1 \\ 21 & 11 & -7 \\ 10 & -2 & 3 \end{bmatrix} .$

[Hint. :  $(AB)^{-1} = B^{-1}A^{-1}$ ]

105.  $x = 3, y = -2, z = -1.$

106.  $x = 2, y = 3, z = 5.$

[Hint. : Let  $\frac{1}{x} = u, \frac{1}{y} = v, \frac{1}{z} = w.$ ]

107.  $A^{-1} = \frac{1}{11} \begin{bmatrix} -3 & 4 & 5 \\ 9 & -1 & -4 \\ 5 & -3 & -1 \end{bmatrix} .$

## CHAPTER 5

# DIFFERENTIATION

1.  $x = \frac{5}{3}$ .

2.  $\frac{x}{|x|}$ .

[Hint.  $f(x) = \sqrt{x^2}$ ,  $f'(x) = \frac{1}{2\sqrt{x^2}} \times 2x = \frac{x}{|x|}$ .]

3.  $x = 3$ .

4.  $x = 2, x = 3$ .

5. All integer

6. Discontinuous at  $x = 0$ .

[Hint. : Limit dis intenist as LHL = - 1, RHL = 1]

7.  $(0, \infty)$ .

8.  $\lambda = \frac{-1}{2}$ .

9.  $(0, \frac{1}{3})$

[Hint. :  $\log x$  is continuous in  $(0, \infty)$ ,  $\sqrt{1 - 9x^2}$  is continuous in  $(-\frac{1}{3}, \frac{1}{3})$ , common is  $(0, \frac{1}{3})$ .

10. 1.

[Hint. : As  $\lim_{x \rightarrow 0} \frac{\sin x}{x} = 1$ , so  $k = 1$ ]

11.  $2x^3$ .

[Hint. :  $\frac{d}{dx^3} (x^3)^2 = 2x^3$ ]

12.  $\frac{1}{x \log x}$ .

[Hint. :  $f(\log x) = \log(\log x)$ ]

13.  $\log_e(e - 1)$ .

[Hint. :  $e^x = \frac{e^1 - e^0}{1 - 0}$ ,  $\Rightarrow e^x = e - 1$ ,  $\Rightarrow x = \log_e(e - 1)$ .

14. 0.

[Hint. :  $\sin^{-1} x + \cos^{-1} x = \frac{\pi}{2}$ , so  $\frac{d}{dx} \frac{\pi}{2} = 0$ ]

15. 2.

16. (a)  $\frac{-1}{2\sqrt{x}(1+x)}$

(b)  $\frac{-2}{\sqrt{1-x^2}}$

(c)  $\frac{3}{3x-5} \log_5 e$

$$(d) \frac{4}{1+16x^2} - \frac{3}{1+9x^2}$$

$$\left[ \text{Hint. : } \tan^{-1} \frac{4x-3x}{1+4x \cdot 3x} \right]$$

$$(e) \frac{3}{1+x^2}$$

[Hint. : put  $x = \tan \theta$ ]

$$(f) e^{\tan^{-1} x^2} \cdot \frac{2x}{1+x^4}$$

$$(g) 10x^4 \sin x^5 \cos x^5 \cos x^3 - 3x^2 \sin x^3 \sin x^5$$

$$(h) \frac{e}{4\sqrt{x}e^x}$$

$$(i) \frac{3}{2} \sqrt{\frac{x}{1-x^2}}$$

$$(j) \frac{-\sin x}{2\sqrt{1-\cos x}\sqrt{\cos x}}$$

17. Discontinuous.

18. Discontinuous.

19. Discontinuous.

20. Continuous.

21. Continuous.

$$\left[ \text{Hint. : } f(x) = \begin{cases} -2x & \text{if } x \leq -1 \\ 2 & \text{if } -1 < x < 1 \\ 2x & \text{if } x \geq 1 \end{cases} \right]$$

22. Continuous.

23. Continuous

$$\left[ \text{Hint. : } \lim_{x \rightarrow 0} \frac{[(1+x) - (1-x)]}{x \frac{\sin x}{x} (\sqrt{1+x} + \sqrt{1-x})} = \lim_{x \rightarrow 0} \frac{2x}{x \frac{\sin x}{x} (\sqrt{1+x} + \sqrt{1-x})} = \frac{2}{1 \times 2} = 1 \right]$$

24. Continuous.

$$25. \frac{17}{6}$$

26.  $a = 1, b = -1$ .

27. 0, 1.

$$\left[ \text{Hint. : As } f(x) = \frac{1}{x} \text{ so discontinuity at } x = 1 \right]$$

$$\text{As } f[f(x)] = \frac{x-1}{x}, \text{ so discontinuity at } x = 0.]$$

$$28. k = \frac{1}{2}$$

30. Discontinuous  $x = \frac{5}{2}$ .

31. Not differentiable.

32.  $p \in (1, \infty)$ . **Hint.** :  $f(0) = \lim_{x \rightarrow 0} \frac{x^p \sin \frac{1}{x} - 0}{x} = \lim_{x \rightarrow 0} x^{p-1} \cdot \sin, \frac{1}{x}$ , for which  $p - 1 > 0$

33.  $a = 2, b = 1$ .

34.  $(\log x)^x \left[ \frac{1}{\log x} + \log(\log x) \right] + 2x^{\log x - 1} \log x$ . **[Hint.** : take log on both sides]

35. 0.

36.  $\frac{-x}{\sqrt{1-x^2}}$ .

39.  $\frac{x^x (1 + \log x) + \sec^3 x \tan x}{x^x + \sec^2 x}$ .

44.  $-\frac{1}{2}$ .

**Hint.** :  $\sqrt{1 + \sin x} = \left| \cos \frac{x}{2} + \sin \frac{x}{2} \right|$

45.  $\frac{2a}{\sqrt{1-a^2x^2}}$ .

**[Hint.** : put  $ax = \sin \theta$ ]

46. 1.

49.  $2 \frac{[1 + x - x^2]}{(x^2 + 1)^2}$ .

50.  $\frac{-[y^x \log y + y x^{y-1} + x^x (1 + \log x)]}{x(y^{x-1} + x^{y-1} \log x)}$ .

51.  $\frac{\theta^2 + 1}{\theta^2 - 1}$ .

52.  $\frac{1}{3a \cos^4 \theta \sin \theta}$ .

54.  $\frac{2t}{t^2 - 1}$ .

$$55. \frac{1}{\sqrt{1-x^2}} - \frac{1}{2\sqrt{x-x^2}}.$$

[Hint. : put  $x = \sin \theta$ ,  $\sqrt{x} = \sin \phi$ ]

$$56. y \left[ \frac{1}{2(x-1)} + \frac{2}{(1+x^2)\tan^{-1}x} - 2 - 4 \cot 2x \right]$$

$$57. \tan t.$$

$$58. -1.$$

[Hint. : put  $\frac{3}{5} = \sin \alpha$ ,  $\frac{4}{5} = \cos \alpha$ ]

$$59. \frac{-1}{\sqrt{1-x^2}}.$$

$$60. \frac{y^2}{x(x-y \log x)} \text{ or } \frac{y^2}{x^2(1-\log y)}.$$

$$62. -\cot y \operatorname{cosec}^2 y.$$

$$66. \frac{-2}{x^2}.$$

## CHAPTER 6

# APPLICATIONS OF DERIVATIVES

1. 1

2.  $C = \frac{3}{2}$ . [Hint. :  $f'(x) = 2x - 3 = 0$ ,  $x = 3/2$ ]

3.  $(0, \pi)$ .

4.  $(-\infty, 0)$ .

5.  $(-\infty, -\frac{1}{3})$ . [Hint. :  $f'(x) = \cos x - 3\lambda$ ,  $\cos x - 3\lambda > 0$ ,  $\lambda < -\frac{1}{3}$ ]

6.  $(\frac{1}{e}, \infty)$  [Hint. :  $f'(x) = x^x (\log x + 1) \Rightarrow \log x + 1 > 0$ ,  $x > e^{-1}$ ]

7. Increasing

8. 2 [Hint. :  $f(x)$  is minimum at  $x = 1$ ]

9.  $\frac{1}{2}$ .

10. Maximum value of  $f(x) = 5$ , Minimum value of  $f(x) = 1$ .

[Hint. :  $-1 \leq \sin 2x \leq 1$ ,  $-2 \leq 2 \sin 2x \leq 2$ ,  $1 \leq 2 \sin 2x + 3 \leq 5$ ]

11.  $(\frac{1}{2}, \frac{3}{8})$ . [Hint. : Slope of chord =  $\frac{dy}{dx}$  = slope of tangent to the curve]

12. Not defined [Hint. :  $\frac{dy}{dx} = \tan 90 = \infty$ ]

13. 0. [ $\frac{-1}{\frac{dy}{dx}} = \frac{1}{0}$ ,  $\frac{dy}{dx} = 0$ ]

14. - 2.

15.  $(\frac{1}{2}, 0)$ . [Hint. :  $\frac{dy}{dx}$  = slope of line = 1]

16.  $(0, 0)$ .

17.  $\frac{1}{12}$ . [Hint. : Product of slopes of tangents at intersecting point = - 1]



18. (1, 2). [Hint.:  $\frac{dy}{dx} = \tan 45$ ]
19. 1. [Hint. : Slope of Normal =  $-K$ , Slope of Normal =  $\frac{1}{dy/dx}$  (3, 6) Find and equate]
20. No extremum value. [Hint. :  $f'(x) = 0$ ]
21.  $x - y = 0$ .
22.  $\frac{\pi}{48}$  cm/s.
23. (1, 3) (-1, 1)
24. Maximum  $\sqrt{2}$  at  $x = \frac{3\pi}{4}$ , Minimum is  $-1$  at  $x = \frac{7\pi}{4}$ .
25. Increasing in  $(\frac{1}{4}, \infty)$  and decreasing in  $(-\infty, \frac{1}{4})$ .
26. 2; 8. [Hint. : Let  $x = 2$ ,  $x = \Delta x = 1.9$ ,  $\Delta n = -0.1$ ,  $f(x) + \Delta x f'(x) = f(x + \Delta x)$ ].
27. (i)  $(-\infty, 0]$  (ii)  $[1, \infty)$ .
28. Decreasing at the rate of 3.6 cm/sec.
29.  $-2\sqrt{ab}$ .  
[Hint.:  $f'(x) = a - \frac{b}{x^2} = 0$   $x = \pm\sqrt{b/a}$ ,  $f(\sqrt{b/a}) = 2\sqrt{ab}$   $f(-\sqrt{b/a}) = -2\sqrt{ab}$ ]
30.  $(0, 0)$ ,  $(\frac{3}{4}, \frac{-27}{32})$ .
31. (i) 0.2495; (ii) 0.2867 (iii) 0.0707
34. Increasing in  $(0, 3\pi/4) \cup (7\pi/4, 2\pi)$  and decreasing  $(3\pi/4, 7\pi/4)$
35. 0.3444. [Hint. : Use  $f(x + h) = f(x) + h f'(h)$ ]
36.  $(0, \frac{3}{2}) \cup (3, \infty)$ .
37. Increasing in  $(-\infty, 2) \cup (3, \infty)$  and decreasing in  $(2, 3)$ .
38.  $(\frac{1}{3}, -\frac{1}{3})$ .
39.  $2x + 3y = 6$ .

41. Increasing in  $(0, \frac{\pi}{4}) \cup (\frac{5\pi}{4}, 2\pi)$  and decreasing in  $(\frac{\pi}{4}, \frac{5\pi}{4})$ .

42. Maximum value = 5.

43.  $x = 14, y = 21$ .

44.  $a = -3$ .

46. 0.19235.

47. (i) No point at which tangent is parallel to  $x$  axis.

(ii)  $(3, 0), (-3, 0)$ .

48.  $a \leq -3$ . [Hint. :  $f'(x) = 3(a + 2)x^2 - 6ax + 9a < 0$ ,

$$x = \frac{6a \pm \sqrt{36a^2 - 4 \times 3(a + 2) \times 9a}}{6(a + 2)} < 0$$

49.  $a^2 \cos^2 \alpha + b^2 \sin^2 \alpha = p^2$ .

[Hint. : Find  $\left(\frac{dy}{dx}\right)_{(x_1, y_1)}$ , Then equation of tangent at  $(x_1, y_1)$ .  
The eliminate the value of  $x_1$  and  $y_1$ ]

50.  $y - 1 = 0$ .

53.  $75\sqrt{3}$  sq. unit.

56. Increasing in  $(2, 3)$ , decreasing in  $(3, \infty)$ .

57.  $3x + y - 3 = 0$

$$7x - y - 14 = 0$$

60. 5 cm.

61.  $\frac{28}{\pi + 4} m, \frac{112}{\pi + 4} m$ .

62.  $\sqrt{5}$  unit.

66.  $\frac{16}{6 - \sqrt{3}}$ .

68.  $\theta = \frac{\pi}{2}$  maximum Area =  $\frac{1}{2} ab$ .

## CHAPTER 7

# INTEGRATION

1. (i)  $\frac{2}{3}x^{3/2} + 2\sqrt{x} + c.$  (ii)  $\tan x + c.$
- (iii)  $-\operatorname{cosec} x + c$  (iv)  $\frac{\pi}{3}.$
- (v)  $0;$  (vi)  $\log|\log(\log x)| + c.$
- (vii)  $-\cot x - \operatorname{cosec} x + C$  (viii)  $\frac{8^x}{\log 8} + 8x^7 + 8 \log x + \frac{1}{8} + c.$
- (ix)  $\sin^{-1} x + c$  (x)  $0.$

[Hint. :  $\sin(\cos^{-1} x) = \sin(\sin^{-1} \sqrt{1-x^2})$ ]

2. (i)  $\frac{2}{5}x^{5/2} + \frac{2}{3}x^{3/2} - 2x^{1/2} + c.$  (ii)  $\frac{a}{2}x^2 + \frac{1}{a}\log|x| - 2x + c.$
- (iii)  $\frac{-\cos x}{3} - \frac{3}{4}e^{4x} + 2 \tan \frac{x}{2} + c.$  (iv)  $-\operatorname{cosec} x + c.$
- (v)  $\frac{1}{2} \left[ \frac{(2x+1)^{3/2}}{3} - (2x+1)^{1/2} \right] + c$  (vi)  $\log[\log(\tan x)] + c.$
- (vii)  $\tan x + c.$  (viii)  $\frac{x^{a+1}}{a+1} + \frac{a^x}{\log a} + c.$
- (ix)  $2 \left[ -\cos \frac{x}{2} - \sin \frac{x}{2} \right] + c.$  (x)  $\frac{1}{3} \log(2 + 3 \log x) + c.$
- (xi)  $-2 \cos \sqrt{x} + c$  (xii)  $\frac{1}{6} (\tan^{-1} x^3)^2 + c.$
- (xiii)  $2x(\log x - 1) + c.$  (xiv)  $\frac{1}{2} \log|ax^2 + 2bx + c| + c$
- (xv)  $-\frac{1}{b} \log|a + b \cos x| + c.$  (xvi)  $\frac{c^x}{\log c} + \frac{x^{c+1}}{c+1} + c_1.$

(xvii)  $\log |3 + \log x| + c.$  (xviii)  $\frac{1}{20} \tan^{-1} \frac{5}{4} x + c.$   
 (xix)  $\frac{1}{2} \tan^{-1} (e^{2x}) + c.$  (xx)  $\frac{1}{12} \log \left| \frac{3x - 2}{3x + 2} \right| + c.$   
 (xxi)  $\frac{1}{40} \log \left| \frac{4 + 5x}{4 - 5x} \right| + c.$  (xxii)  $\frac{1}{2} \log |2x + \sqrt{4x^2 - 9}| + c.$   
 (xxiii)  $\frac{1}{2ab} \log \left| \frac{a + bx}{a - bx} \right| + c.$

3. (i)  $\frac{\pi}{4}.$  (ii)  $2e - 2.$  [Hint. :  $e^{|x|}$  is even function]  
 (iii)  $0;$  (iv)  $0$   
 (v)  $\frac{\pi}{4}.$  (vi)  $\frac{\pi}{4}.$   
 (vii)  $\frac{\pi^{3/2}}{12}.$  (viii)  $\tan^{-1} e - \frac{\pi}{4}.$   
 (ix)  $\frac{x^3}{3} + c.$  (x)  $1$  [Hint. :  $e^{a \log x} = x^a.$ ]

4. (i)  $\frac{1}{2} \log \left[ \operatorname{cosec} (\tan^{-1} x^2) - \frac{1}{x^2} \right] + c.$   
 (ii)  $\frac{1}{2} (x^2 - x\sqrt{x^2 - 1}) + \frac{1}{2} \log |x + \sqrt{x^2 - 1}| + c.$   
 [Hint. : Rationalize numerator and denominator.]

(iii)  $\frac{1}{\sin(a - b)} \log \left| \frac{\sin(x - a)}{\sin(x - b)} \right| + c$  [Hint. :  $\sin(a - b) = \sin \{(x - b) - (x - a)\}.$

(iv)  $x \cos 2a - \sin 2a \log |\sec(x - a)| + c.$  [Hint. : put  $xa = t$ ]

(v)  $\frac{1}{48} [12x + 6 \sin 2x + 3 \sin 4x + 2 \sin 6x] + c.$

(vi)  $\sin x - \frac{2}{3} \sin^3 x + \frac{1}{5} \sin^5 x + c.$

(vii)  $\frac{1}{32} \left[ 2x + \frac{1}{2} \sin 2x - \frac{1}{2} \sin 4x - \frac{1}{6} \sin 6x \right] + c.$

$$(viii) \quad -\frac{\cos^9 x}{9} + \frac{2}{7} \cos^7 x - \frac{1}{5} \cos^5 x + c.$$

$$(ix) \quad -\frac{(\cot^6 x + \cot^4 x)}{6} + \frac{\cot^2 x}{4} + c.$$

$$(x) \quad \frac{1}{(a^2 - b^2) \sqrt{a^2 \sin^2 x + b^2 \cos^2 x}} + c. \quad [\text{Hint. : put } a^2 \sin^2 x + b^2 \cos^2 x = t]$$

$$(xi) \quad -2 \operatorname{cosec} a \sqrt{\cos a - \tan x} \cdot \sin a + c. \quad [\text{Hint. : Take } \sec^2 x \text{ as numerator}]$$

$$(xii) \quad \tan x - \cot x - 3x + c.$$

$$(xiii) \quad \frac{2}{5} (1 + x^{5/2})^{3/2} \left[ \frac{2}{7} (1 + x^{5/2})^2 - \frac{4}{5} (1 + x^{5/2}) + \frac{2}{3} \right] + c. \quad [\text{Hint. : put } 1 + x^{5/2} = t]$$

$$(xiv) \quad \sin^{-1} (\sin x - \cos x) + c.$$

$$(xv) \quad \log |x| - \frac{1}{4} \log |x^4 + 1| + c.$$

$$(xvi) \quad \frac{1}{2} \tan^{-1} (2 \tan x) + c.$$

$$(xvii) \quad \frac{1}{2\sqrt{3}} \log \left| \frac{\sqrt{3} + \tan x}{\sqrt{3} - \tan x} \right| + c.$$

$$(xviii) \quad \frac{5^{5x}}{(\log 5)^3} + c. \quad [\text{Hint. : put } 5^x = t]$$

$$5. \quad (i) \quad \frac{1}{\sqrt{3}} \tan^{-1} \left( \frac{2x^2 + 1}{\sqrt{3}} \right) + c. \quad [\text{Hint : put } x^2 = t]$$

$$(ii) \quad \log \left| \frac{2 \log x + 1}{3 \log x + 2} \right| + C \quad [\text{Hint : put } \log x = t]$$

$$(iii) \quad \sin^{-1} \left( \frac{2x - 3}{\sqrt{13}} \right) + c.$$

$$(iv) \quad 2 \log |\sqrt{x - a} + \sqrt{x - b}| + c$$

$$(vii) \quad -\cos \alpha \sin^{-1} \left( \frac{\cos x}{\cos \alpha} \right) - \sin \alpha \cdot \log \left| \sin x + \sqrt{\sin^2 x - \sin^2 \alpha} \right| + c$$

$$\left[ \text{Hint : } \sqrt{\frac{\sin(x - \alpha)}{\sin(x + \alpha)}} = \frac{\sin(x - \alpha)}{\sin^2 x - \sin^2 \alpha} \right]$$

$$(viii) \quad \frac{5}{6} \log |3x^2 + 2x + 1| + \frac{-11}{3\sqrt{2}} \tan^{-1} \left( \frac{3x + 1}{\sqrt{2}} \right) + c$$

$$(ix) \quad x - 3 \log |x^2 + 6x + 12| + 2\sqrt{3} \tan^{-1} \left( \frac{x+3}{\sqrt{3}} \right) + c$$

$$(x) \quad -\sqrt{4x - x^2} + 4 \sin^{-1} \left( \frac{x-2}{2} \right) + c$$

$$(xi) \quad \frac{-1}{3} (1+x-x^2)^{\frac{3}{2}} + \frac{1}{8} (2x-1) \sqrt{1+x-x^2} + \frac{5}{16} \sin^{-1} \left( \frac{2x-1}{\sqrt{5}} \right) + c$$

$$(xii) \quad (x^2 + x + 1)^{\frac{3}{2}} - \frac{7}{2} \left[ x + \frac{1}{2} \sqrt{x^2 + x + 1} + \frac{3}{8} \log \left| x + \frac{1}{2} + \sqrt{x^2 + x + 1} \right| \right] + c$$

$$(xiii) \quad -\log \left| \cos x + \frac{1}{2} + \sqrt{\cos^2 x + \cos x} \right| + c \quad [\text{Hint. : multiply and divide by } \sqrt{\sec x + 1}]$$

$$(xiv) \quad 2 \log |\sin^2 \theta - 4 \sin \theta + 5| + 7 \tan^{-1} (\sin \theta - 2) + c$$

6. (i)  $\frac{1}{7} \log \left| \frac{x^7}{x^7 + 1} \right| + c$

(ii)  $\frac{1}{2(a^2 - b^2)} \log \left| \frac{x^2 - b^2}{x^2 - a^2} \right| + c$

[Hint. : put  $x^2 = t$ ]

(iii)  $\log \left| \frac{1 + \cos x}{2 + 3 \cos x} \right| + c$

(iv)  $\frac{-1}{6} \log x + \frac{3}{10} \log |x - 2| - \frac{2}{15} \log |x + 3| + c$

(v)  $\frac{3}{8} \log |x - 1| - \frac{1}{2(x-1)} + \frac{5}{8} \log |x + 3| + c$

(vi)  $\frac{9}{10} \log |x + 3| + \frac{4}{15} \log |x - 2| - \frac{1}{6} |x + 1| + c$

(vii)  $x + 4 \log \left| \frac{(x-2)^2}{x-1} \right| + c$

(viii)  $x + \frac{2}{\sqrt{3}} \tan^{-1} \left( \frac{x}{\sqrt{3}} \right) - 3 \tan^{-1} \left( \frac{x}{2} \right) + c$

[Hint. : put  $x^2 = t$ ]

(ix)  $x + \frac{1}{2} \log \left| \frac{x-2}{x+2} \right| - \tan^{-1} \left( \frac{x}{2} \right) + c$

[divide numerator by denominator]

(x)  $\frac{2}{17} \log |2x + 1| - \frac{1}{17} \log |x^2 + 4| + \frac{1}{34} \tan^{-1} \frac{x}{2} + c$

$$(xi) \quad -\frac{1}{2} \log |1 - \cos x| - \frac{1}{6} \log |1 + \cos x| + \frac{2}{3} \log |1 - 2 \cos x| + c$$

[Hint. : multiply  $N^r$  and  $D^r$  by  $\sin x$  and put  $\cos x = t$ ]

$$(xii) \quad -\frac{1}{6} \log |1 - \sin x| - \frac{1}{2} \log |1 + \sin x| + \frac{1}{3} \log |2 - \sin x| + c$$

$$[\text{Hint. : } \int \frac{1}{\cos x (2 - \sin x)} dx = \int \frac{\cos x}{\cos^2 x (2 - \sin x)} dx]$$

[Hint. : Multiply numerator and denominator by  $\cos x$  and put  $\sin x = t$ ]

$$(xiii) \quad \frac{-1}{8} \log \left| \frac{1 + \sin x}{1 - \sin x} \right| + \frac{1}{4\sqrt{2}} \log \left| \frac{1 + \sqrt{2} \sin x}{1 - \sqrt{2} \sin x} \right| + c$$

$$(xiv) \quad \frac{1}{2} \log \left| \frac{x^2 - x + 1}{x^2 + x + 1} \right| + c$$

$$(xv) \quad \frac{1}{\sqrt{2}} \tan^{-1} \left( \frac{\tan x - 1}{\sqrt{2} \tan x} \right) + \frac{1}{2\sqrt{2}} \log \left| \frac{\tan x - \sqrt{2} \tan x + 1}{\tan x + \sqrt{2} \tan x + 1} \right| + c$$

$$(xvi) \quad \frac{1}{3\sqrt{2}} \tan^{-1} \left( \frac{x^2 - 9}{3\sqrt{2}} \right) + c$$

$$(xvii) \quad \frac{-\log x}{\sqrt{x^2 - 1}} + \sec^{-1} x + c$$

[Hint. : Take  $\log x$  as I function.]

$$(xviii) \quad (-\sqrt{2} - \sqrt{3} + 5)$$

$$[\text{Hint. : } \int_1^2 \lceil x^2 \rceil dx = \int_1^{\sqrt{2}} \lceil x^2 \rceil + \int_{\sqrt{2}}^{\sqrt{3}} \lceil x^2 \rceil dx]$$

$$75. \quad (i) \quad \frac{1}{3} \lceil -x^3 \cos x^3 + \sin x^3 \rceil + c$$

$$(ii) \quad \frac{1}{2} \lceil \sec x \tan x + \log |\sec x + \tan x| \rceil + c$$

[Hint. : Write  $\sec^3 x = \sec x \cdot \sec^2 x$  and take  $\sec x$  as first function]

$$(iii) \quad \frac{e^{ax}}{a^2 + b^2} [a \cos (bx + c) + b \sin (bx + c)] + c_1$$

$$(iv) \quad 2x \tan^{-1} 3x - \frac{1}{3} \log |1 + 9x^2| + c$$

[Hint. : put  $3x = \tan \theta$ ]

$$(v) \quad 2 \lceil \sqrt{x} \sin \sqrt{x} + \cos \sqrt{x} \rceil + c$$

$$(vi) \quad x^{n+1} \lceil \frac{(\log x)^2}{n+1} - \frac{2 \log x}{(n+1)^2} + \frac{2}{(n+1)^3} \rceil + c$$

$$(vii) \frac{\sin x - x \cos x}{x \sin x + \cos x} + c \quad [\text{Hint. : } \frac{x^2}{(x \sin x + \cos x)} = (x \sec x) \frac{x \cos x}{(x \sin x + \cos x)^2}]$$

$$(viii) \sqrt{x - x^2} - (1 - 2x) \sin^{-1} \sqrt{x} - \frac{\pi}{2} x + c \quad [\text{Hint. : } \cos^{-1} \sqrt{x} = \frac{\pi}{2} - \sin^{-1} \sqrt{x}]$$

$$(xi) x \tan^{-1} \sqrt{\frac{x}{a}} - \sqrt{ax} + a \tan^{-1} \sqrt{\frac{x}{a}} + c. \quad [\text{Hint. : put } x = a \tan^2 \theta]$$

$$(x) \left( \frac{x^4 - 1}{4} \right) \tan^{-1} x - \frac{x^3}{12} + \frac{x}{4} + c.$$

$$(xi) -\frac{1}{3} 1 + \frac{1}{x^2} \left[ \log \left( 1 + \frac{1}{x^2} \right) - \frac{2}{3} \right] + c.$$

$$(xii) \frac{1}{2} e^{2x} \tan x + c.$$

$$(xiii) \frac{e^x}{2x} + c.$$

$$(xiv) \frac{e^x}{1 + x^2} + c.$$

$$(xv) e^x \left( \frac{x - 1}{x + 1} \right) + c.$$

$$(xvi) e^x \tan x + c.$$

$$(xvii) \frac{x}{\log x} + C.$$

$$(xviii) x \log |\log x| - \frac{x}{\log x} + c.$$

[Hint. : put  $\log x = t \Rightarrow x = e^t$ ]

$$(xix) x \sin (\log x) + c.$$

$$8. \quad (i) \frac{1}{20} \log 3.$$

$$(ii) -\pi/2$$

$$(iii) \frac{\pi}{4} - \frac{1}{2}. \quad [\text{Hint. : put } x^2 = t]$$

$$(iv) \frac{\pi}{4} - \frac{1}{2} \log 2.$$

$$(v) \frac{5}{2} \log 2 - \frac{3}{2} \log 3.$$

$$(vi) \frac{\pi}{2}.$$



(vii)  $\frac{3\pi}{8}$ .

(viii)  $\frac{\pi}{2}$ .

(ix)  $5 - 10 \log \frac{15}{8} + \frac{25}{2} \log \left( \frac{6}{5} \right)$ .

(x)  $\pi/2$ .

[Hint :  $\frac{x}{1 + \cos x} + \frac{\sin x}{1 + \cos x} dx$ .]

9. (i) 8.

(ii) 0.

(iii)  $\pi$ .

(iv)  $\frac{\pi}{8} \log 2$ .

(v)  $\frac{-\pi}{2} \log 2$ .

(vi)  $\frac{1}{4} \pi^2$ .

(vii) 95/12.

[Hint :  $\int_{-2}^2 f(x) dx = \int_{-2}^{-1} f(x) dx + \int_{-1}^1 f(x) dx + \int_1^2 f(x) dx$ ]

(viii)  $\frac{\pi^2}{16}$ .

(ix)  $\frac{\pi^2}{2ab}$ .

[Hint : Use  $\int_0^a f(x) = \int_0^a f(a-x)$ ]

10. (i)  $\frac{26}{3}$ .

(ii)  $e - \frac{1}{e}$ .

(iii)  $\frac{1}{2}$ .

(iv)  $1 - \frac{1}{e^2}$ .

(v) 10.

(vi)  $-9/2$ .

11. (i)  $\frac{1}{6} \log |\tan^2 x - \tan x + 1| + \frac{1}{\sqrt{3}} \tan^{-1} \left( \frac{2 \tan x - 1}{\sqrt{3}} \right) - \frac{1}{3} \log |1 + \tan x| + c$

(ii)  $\frac{2}{5} \tan^5 \sqrt{x} + c$ .

(iii) 2.

(iv)  $\frac{\pi}{2} - \log 2$ .

(v) 0.

(vi) 0.

(vii) 3.

(viii)  $\pi/2$ .

(ix) 3.

$$(x) \quad \frac{x}{2} + \log|x| - \frac{3}{4} \log|1 - 2x| + c \quad \left[ \text{Hint. : } \int_0^a f(x) ax = \int_0^a f(a-x). \text{ put } 1 + a^x = t \right]$$

$$12. \quad (i) \quad x - 4 \log|x| + \frac{5}{4} \log|x - 1| + \frac{3}{4} \log|x + 1| + \log|x^2 + 1| - \frac{1}{2} \tan^{-1} x + c.$$

$$\left[ \text{Hint. : } \frac{x^5 + 4}{x^5 - x} = 1 + \frac{x + 4}{x(x - 1)(x + 1)(x^2 + 1)} \right]$$

$$(ii) \quad \frac{-2}{25} \log|x - 1| - \frac{1}{5(x - 1)} + \frac{1}{25} \log(x^2 + 4) - \frac{3}{50} \tan^{-1} \frac{x}{2} + c.$$

$$\left[ \text{Hint. : } \frac{1}{(x - 1)^2 (x^2 + 4)} = \frac{A}{x - 1} + \frac{B}{(x - 1)^2} + \frac{Cx + D}{x^2 + 4} \right]$$

$$(iii) \quad 2x - \frac{1}{8} \log|x + 1| + \frac{81}{8} \log|x - 3| - \frac{27}{2(x - 3)} + c.$$

$$(iv) \quad x + \frac{1}{2} \log \left| \frac{x - 2}{x + 2} \right| - \tan^{-1} \left( \frac{x}{2} \right) + c.$$

$$(v) \quad \pi/\sqrt{2}.$$

$$(vi) \quad \frac{1}{2\sqrt{2}} \tan^{-1} \left( \frac{x^2 - 1}{\sqrt{2x}} \right) - \frac{1}{4\sqrt{2}} \log \left| \frac{x^2 - \sqrt{2x} + 1}{x^2 + \sqrt{2x} + 1} \right| + c$$

$$(vii) \quad \pi/8.$$

$$(viii) \quad \frac{\pi}{2} - \log 2.$$

$$(ix) \quad \pi/8 \log 2.$$

$$(x) \quad -\frac{1}{2(1 - \cos x)^2} + c.$$

$$(xi) \quad \frac{1}{5} \log \left| \frac{\tan x - x}{2 \tan x + 1} \right| + c. \text{ Divide Num. and Den. by } \cos^2 x.$$

$$(xii) \quad \frac{2(2x - 1)}{\pi} \sin^{-1} \sqrt{x} + \frac{2\sqrt{x - x^2}}{\pi} - x + c.$$

$$(xiii) \quad -2\sqrt{1 - x} + \cos^{-1} \sqrt{x} + \sqrt{x - x^2} + c.$$

$$(xiv) \quad \frac{3}{\pi} + \frac{1}{\pi^2}.$$

13. (i) 14.

(iii) 26.

(v)  $\frac{141}{2}$ .

(ii)  $\frac{26}{3}$ .

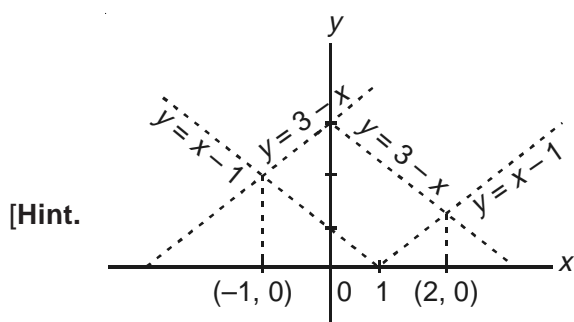
(iv)  $\frac{1}{2}(127 + e^8)$ .

(vi) 93/2.

## CHAPTER 8

# APPLICATIONS OF INTEGRALS

- |   |   |
|---|---|
| <p>1. <math>\pi a^2</math> sq. units.</p> <p>3. <math>\pi ab</math> sq. units</p> <p>5. <math>\frac{\sqrt{2}}{6} + \frac{9\pi}{8} - \frac{9}{8} \sin^{-1}\left(\frac{1}{3}\right)</math> sq. units</p> <p>8. <math>\left(\frac{8\pi}{3} - 2\sqrt{3}\right)</math> sq. units</p> <p>10. (a) 6 sq. unit</p> <p style="padding-left: 20px;">(b) <math>\frac{15}{2}</math> sq.</p> <p>11. <math>\left(\frac{\pi}{4} - \frac{1}{2}\right)</math> sq. units</p> <p>13. <math>(2 - \sqrt{2})</math> sq. units</p> <p>14. 5 sq. units</p> <p>15. 4 sq. unit</p> | <p>2. <math>\frac{28}{3}</math> sq. units</p> <p>4. <math>4\pi - 8</math> sq. units</p> <p>7. <math>\frac{(\pi - 2)ab}{4}</math> sq. units</p> <p>9. (a) 4 sq. units (b) 2 sq. units</p> <p>[Hint. Coordinate of verties are (0, 1) (2, 3) (4, - 1)]</p> <p>[Hint. Coordinate of verties are (- 1, 1) (0, 5) (3, 2)]</p> <p>12. 1 sq. units</p> <p>[Hint. Required Area <math>\left[ \int_0^{\pi/4} \sin dx + \int_{\pi/4}^{\pi/2} \cos ndn \right]</math>]</p> |
|---|---|



- |  |   |
|--|---|
| <p>16. 3 sq. units</p> <p>17. <math>\frac{25}{2} \pi</math> sq. units</p> <p>19. <math>\frac{3}{2}(\pi - 2)</math> sq. units</p> | <p>18. <math>\frac{1}{3}</math> sq. units</p> <p>20. <math>\frac{9}{8}</math> sq. units</p> |
|--|---|

21.  $ab(e\sqrt{1-e^2} + \sin^{-1} e)$  sq. unit

22.  $\frac{8a^2}{m^3}$  sq. units

23.  $\frac{1}{6}$  sq. unit

24.  $\frac{\pi}{3}$  sq. unit

25.  $(\pi - 2)$  sq. unit

26.  $(1 - \pi/4)$  sq. units

27.  $2\pi$  sq. unit.

## CHAPTER 9

# DIFFERENTIAL EQUATIONS

1.

- (i) order = 1, degree = 1  
(ii) order = 2, degree = 1  
(iii) order = 4, degree = 1  
(iv) order = 5, degree not defined.  
(v) order = 2, degree = 2  
(vi) order = 2, degree = 2  
(vii) order = 3, degree = 2

2.

- (i)  $y = \frac{x^6}{6} + \frac{x^3}{6} - 2 \log|x| + c$   
(ii)  $y = \log_e |e^x + e^{-x}| + c$   
(iii)  $y = \frac{x^4}{4} + e^x + \frac{x^{e+1}}{e+1} + c.$   
(iv)  $5^x + 5^{-y} = c$   
(v)  $2(y - x) + \sin 2y + \sin 2x = c.$   
(vi)  $2 \log |3x + 1| + \log_e |1 - 2y| = c.$   
(vii)  $y = x \tan x - \log |\sec x| + c.$   
(viii)  $y = c \log_e x.$

3.

- (i)  $e^{\sin x}$   
(ii)  $e^{\tan x}$   
(iii)  $e^{-1/x}$   
(iv)  $e^{\frac{(\log x)^2}{2}}$   
(v)  $\frac{1}{x^3}$   
(vi)  $\sec y$   
(vii)  $e^{\tan^{-1} y}$   
(viii)  $e^{-y}.$

4.

- (viii) [Hint : Family of circles having centre on x-axis and radius = 2 units is of the type  $(x - h)^2 + y^2 = 4$ ]

$$\text{Ans. } y^2 \left[ 1 + \frac{dy}{dx} \right]^2 = 4.$$

(ix)  $\frac{d^2 y}{dx^2} - 2 \frac{dy}{dx} + 2y = 0$

[Hint : find  $\frac{dy}{dx}$ ,  $\frac{d^2 y}{dx^2}$  and eliminate A and B.]

$$(x) \quad x \left( \frac{dy}{dx} \right)^2 + xy \frac{d^2y}{dx^2} = y \frac{dy}{dx}$$

$$(xi) \quad 8a \left( \frac{dy}{dx} \right)^3 = 27y$$

$$(xii) \quad x \frac{d^2y}{dx^2} + 2 \frac{dy}{dx} - xy + x^2 - 2 = 0.$$

$$(xiii) \quad \left( \frac{dy}{dx} \right)^3 = 4y \left( x \times \frac{dy}{dx} - 2y \right)$$

[Hint : divide  $y$  by  $\frac{dy}{dx}$  and find  $c$ .]

$$(xiv) \quad 2 \frac{d^2y}{dx^2} + \left( \frac{dy}{dx} \right)^3 = 0$$

5. (a)  $x = y - 1 + ce^y$

[Hint :  $\frac{dx}{dy} - x = 2 - y$  which is (L.D.equation)]

$$(b) \quad y \sin x = \frac{2 \sin^3 x}{3} + c$$

$$(c) \quad y = \frac{x^2 (4 \log_e x - 1)}{16} + \frac{c}{x^2}$$

$$(d) \quad x = (\tan^{-1} y - 1) + c.e^{-\tan^{-1} y}$$

$$(e) \quad xe^{\tan^{-1} y} = c + \tan^{-1} y$$

$$(f) \quad y = \sin x + \frac{c}{x}, \quad x > 0$$

$$(g) \quad xe^y = e^y + y + c$$

$$(h) \quad y = \tan x - 1 + ce^{-\tan x}$$

$$(i) \quad x = -y^2 e^{-y} + cy^2$$

6.

$$(i) \quad cy = (x + 2)(1 - 2y)$$

$$(ii) \quad (e^x + 2) \sec y = c$$

$$(iii) \quad \sqrt{1 - x^2} + \sqrt{1 - y^2} = c$$

$$(iv) \quad \frac{1}{2} \log \left| \frac{\sqrt{1 - y^2} - 1}{\sqrt{1 - y^2} + 1} \right| = \sqrt{1 - x^2} - \sqrt{1 - y^2} + c$$

$$(v) \quad (x^2 + 1)(y^2 + 1) = 2$$

$$(vi) \quad \log y = -\frac{1}{3} \cos^3 x + \frac{1}{5} \cos^5 x + xe^x - e^x + c$$

$$(vii) \quad \log |\tan y| - \frac{\cos 2x}{y} = c$$

$$(viii) \quad 3 \sec 2y + 4 \cos 3x = c$$

$$(ix) \quad 3e^{2(y-1)} = 6e^x + 2x^3 + c$$

$$(x) \quad y = e^{-x}$$

7.

(i)  $\frac{-x^3}{3y^3} + \log|y| = c$

(ii)  $\tan^{-1}\left(\frac{y}{x}\right) = \log|x| + c$

[Hint. : Homogeneous Equation]

(iii)  $x^2 + y^2 = 2x$

(iv)  $c = x + y e^{x/y}$

[Hint. : Put  $\frac{x}{y} = v$ .]

(v)  $y = ce^{\cos(x/y)}$

[Hint. : Put  $\frac{x}{y} = v$ ]

(vi)  $\sin\left(\frac{y}{x}\right) = cx$

(vii)  $c(x^2 - y^2) = y$

(viii)  $-e^{-y} = e^x + \frac{x^3}{3} + c$

[Hint. : Factorise R.H.S.]

(ix)  $\log\left(\frac{y}{x}\right) = cx$

[Hint. : Homogeneous diff. Equation]

(x)  $\log(1 + y) = x - \frac{x^2}{2} + c$

[Hint. : Factorise R.H.S.]

(xi)  $y = (x - 2)e^x - x \sin x - 2 \cos x + c_1x + c_2$

where  $c_1, c_2$  are arbitrary constant

[Hint. : Integrate Twice]

(xii)  $\sin^{-1} y = \sin^{-1} x + c$

8.

(i)  $x^2 - y^2 + 2xy \frac{dy}{dx} = 0$

[Hint. : The family of circles is,  $x^2 + y^2 + 2gx = 0$ ]

(ii)  $2y = x \frac{dy}{dx}, \quad y = 2x \frac{dy}{dx}$

(iii)  $xy \frac{d^2y}{dx^2} + x \left(\frac{dy}{dx}\right)^2 = y \frac{dy}{dx}$

(iv)  $x^2 - y^2 + 2xy \frac{dy}{dx} = 0$

(v)  $y \frac{d^3y}{dx^3} = \left(\frac{dy}{dx}\right) \left(\frac{d^2y}{dx^2}\right)$

[Hint. : Differentiate thrice and Eliminate  $a, b, c$ ]



9.  $cxy = \sec\left(\frac{x}{y}\right)$  Put  $\frac{x}{y} = v$

10.  $\log|x^2 + xy + y^2| = 2\sqrt{3} \tan^{-1}\left(\frac{x+2y}{\sqrt{3}x}\right) + c$

11.  $\frac{x^3}{x^2 + y^2} = \frac{c}{x}(x + y)$

12.

(i)  $y = \frac{3 \sin 3x}{13} - \frac{2 \cos 3x}{13} + ce^{2x}$

(ii)  $y = \frac{2}{3} \sin^2 x + \frac{1}{3} \operatorname{cosec} x$

13.

(i)  $-y = x \log\{c(x - y)\}$

(ii)  $cx^2 = y + \sqrt{x^2 + y^2}$

(iii)  $xy \cos\left(\frac{y}{x}\right) = c$

[Hint. : Put  $y = vx$ ]

(iv)  $3x^2y = y + 2x$

[Hint. : Put  $y = vx$ ]

(v)  $y = -x \log(\log|x|), x \neq 0$

(vi)  $c(x^2 + y^2) = \sqrt{x^2 - y^2}$ .

CHAPTER 10, 11

VECTOR AND 3-D

1.  $\frac{5\sqrt{3}}{2}, \frac{5}{2}$
2.  $\pm \frac{1}{3}$
3.  $\overline{x}$  and  $\overline{y}$  are collinear.
4. 126 sq. units.
5.  $60^\circ$
6. (6, 11)
7. (5, 4, -6)
8.  $4\hat{i} + 6\hat{j} + 4\sqrt{3}\hat{k}$
9.  $\frac{1}{\sqrt{3}}, \frac{1}{\sqrt{3}}, \frac{1}{\sqrt{3}}$
10.  $\text{Cos}^{-1} \frac{3}{7}, \text{Cos}^{-1} \frac{-6}{7}, \text{Cos}^{-1} \frac{2}{7}$
11.  $\frac{3}{\sqrt{26}}\hat{i} + \frac{4}{\sqrt{26}}\hat{j} - \frac{1}{\sqrt{26}}\hat{k}$
12. 0
13. 4
14.  $\lambda = -9$
15.  $|\overline{a}| = 2$
16.  $90^\circ$
17. 3 units.
18.  $\frac{3}{2}$  sq. units.
19.  $\sqrt{13}$
20.  $90^\circ$
21.  $120^\circ$
22. -1
23.  $\frac{\Pi}{4}$
24.  $\frac{\sqrt{3}}{2}\hat{i} + \frac{1}{2}\hat{j}$
25.  $\frac{3}{7}\hat{i} - \frac{6}{7}\hat{j} + \frac{2}{7}\hat{k}$
26.  $\frac{-3}{2}$
27.  $\sqrt{3}$
28. 0
29.  $60^\circ$
30.  $\frac{1}{\sqrt{2}}\hat{i} + \frac{1}{2}\hat{j} + \frac{1}{2}\hat{k}$
31. 2 : 3 externally
32. 2 : 5
33.  $\sqrt{b^2 + c^2}$
34.  $\frac{x-1}{2} = \frac{y+1}{-3} = \frac{z-2}{4}$
35.  $90^\circ$
36. 2

37.  $\frac{10}{\sqrt{14}}$
38.  $-2$
39.  $\frac{-8}{5}$
40.  $O, \frac{5}{13}, \frac{-12}{13}$ .
41.  $\frac{x+2}{5} = \frac{y-4}{5} = \frac{z+5}{-6}$ .
42.  $\frac{x+1}{1} = \frac{y-2}{1} = \frac{z+3}{1}$ .
43.  $q = 5$
44.  $90^\circ$
45.  $\pm \frac{1}{\sqrt{14}}, \mp \frac{3}{\sqrt{14}}, \pm \frac{2}{\sqrt{14}}$ .
46.  $60^\circ$
47.  $60^\circ$
48.  $\frac{1}{6}$  units.
49.  $x + y + z = 1$ .
50. No
51.  $2x - y + 3z = -8$ .
52.  $\vec{r} \cdot (2i + j + 2\hat{k}) = 24$ .
53.  $2x + 3y + 5z = 29$ .
54.  $0^\circ$
55.  $(-1, 2, -2)$
56.  $\frac{10}{3\sqrt{3}}$
57. 0
61.  $\left[ \begin{aligned} \overline{PL} &= \overline{PQ} + \frac{1}{2}\overline{PS} \\ \overline{PM} &= \frac{1}{2}\overline{PQ} + \overline{PS} \end{aligned} \right]$
63.  $2|\vec{a}|^2$
65.  $-6$ .
68.  $\left[ \begin{aligned} \vec{B}_1 &= \frac{1}{2}(3i - j) \\ \vec{B}_2 &= \frac{1}{2}(i + 3j - 6\hat{k}) \end{aligned} \right]$
70.  $\text{Cos}^{-1}\left(\frac{11}{14}\right)$ .
71.  $x = -2$ .
72.  $\frac{1}{4}\hat{i} + \frac{1}{4}\hat{j} + \frac{3}{4}\hat{k}$ .
76.  $\frac{1}{3}\hat{i} + \frac{4}{3}\hat{j} + \frac{4}{3}\hat{k}$ .
78.  $\frac{1}{\sqrt{165}}(10\hat{i} + 7\hat{j} - 4\hat{k})$ .
79.  $a \in (-3, -2) \cup (2, 3)$ .
82.  $(0, -1, -3)$
83. 7.
85.  $\vec{r} = (2i - j + 2\hat{k}) + \lambda(2i - 2j + \hat{k})$ .

86.  $\frac{x-2}{1} = \frac{y+1}{2} = \frac{z+1}{3}$ ,  $\vec{r} = (2i - j + 2\hat{k}) + \lambda(2i - 2j + \hat{k})$ .
87.  $(-9, 2, 1)$ .
88.  $29x - 27y - 22z = 85$ .
89. 13 units.
90.  $7y + 4z - 5 = 0$ .
91.  $4x - 7y + 3z - 28 = 0$ .
92.  $\vec{r} \cdot (5i - 2j - 3\hat{k}) = 7$ .
93. 1 units.
94.  $x - 20y + 27z = 14$ .
96.  $x - 2y + 2z = 0$ .
98.  $5x + 2y - 3z = 17$ .
99.  $\vec{r} \cdot (2i + j + 2\hat{k}) + 3 = 0$ ,  $2x + y + 2z + 3 = 0$ .
- Or**
- $\vec{r} \cdot (-i + 2j - 2\hat{k}) + 3 = 0$ ,  $-x + 2y - 2z + 3 = 0$ .
100.  $51x + 15y - 50z + 173 = 0$ .
101.  $5x - 7y + 11z + 4 = 0$ .
102.  $\frac{3\sqrt{2}}{2}$
103.  $\vec{r} \cdot (i - 2j + \hat{k}) = 1$
104. 14 units.
105.  $(-1, -1, -1)$ .
106.  $\frac{8}{\sqrt{29}}$
107.  $\frac{x}{1} = \frac{y}{2} = \frac{z}{-1}$ ;  $\frac{x}{-1} = \frac{y}{1} = \frac{z}{-2}$ .
108.  $2\sqrt{2}$
109.  $7x + 13y + 4z - 9 = 0$ ,  $\sin^{-1}\left(\frac{4}{\sqrt{234}}\right)$
110.  $S.D = 3\sqrt{30}$ ,  $\hat{r} = (3\hat{i} + 8\hat{j} + 3\hat{k}) + \mu(-6\hat{i} - 15\hat{j} + 3\hat{k})$ .
111.  $(3, 4, 2)$ .
112.  $x + 2y - 2z = 6$ ,  $2x - 2y - z = 3$ .
114.  $\vec{r} \cdot (\sqrt{2}i + j + \hat{k}) = 2$ .

115.  $\hat{i} + 2\hat{j} + 3\hat{k}, \sqrt{14}$ .

116.  $\frac{a}{\sqrt{2}}(4\hat{i} + 3\hat{j} + 5\hat{k})$

### HINTS FOR SELECTED QUESTIONS

1. Hz component =  $2 \cos (150^\circ)$ , Vertical component =  $5 \sin 150^\circ$ .

5.  $Q = \tan^{-1} \left( \frac{|\vec{a} \times \vec{b}|}{\vec{a} \cdot \vec{b}} \right)$ .

9.  $l = m = n$  and  $l^2 + m^2 + n^2 = 1$ .

17.  $\vec{BC} = \vec{AC} - \vec{AB}$

25. Diagonal coincident with  $\vec{a} = \vec{b}$  is  $\vec{a} + \vec{b}$

27.  $|\vec{a} + \vec{b}|^2 + |\vec{a} - \vec{b}|^2 = 2(|\vec{a}|^2 + |\vec{b}|^2)$ .

28.  $\vec{a} \times i$  is a vector  $\perp$  to both  $\vec{a}$  and  $i$ .

36.  $\cos^2 \alpha + \cos^2 \beta + \cos^2 \gamma = 1$

42.  $d$  r's are 1, 1, 1.

43. (1, 3, q) lies on the line.

57. Zero, as line is not parallel to plane.

63.  $(\vec{a} \times i)^2 = |\hat{a}|^2 \sin^2 \alpha$ ,  $(\vec{a} \times j)^2 = |\hat{a}|^2 \sin^2 \beta$ ,  $(\vec{a} \times k)^2 = |\hat{a}|^2 \sin^2 \gamma$  and  $\cos^2 \alpha + \cos^2 \beta + \cos^2 \gamma = 1$ .

71.  $\vec{c} \perp (\vec{a} \times \vec{b})$

79.  $\vec{r} \cdot i > 0$ ,  $\vec{r} \cdot j > 0$ ,  $\vec{r} \cdot k > 0$ .

80.  $\vec{a}$  is parallel to  $\vec{b} \times \vec{c}$  so  $\vec{a} = \lambda (\vec{b} \times \vec{c})$ .

86. Change the line in symmetric form.

## CHAPTER 12

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# LINEAR PROGRAMMING

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1. Maximum profit = Rs. 95 with 5 shares of each type.
2. Minimum cost = Rs. 1350  
[No. of days for which A work = 5 days]  
No. of days for which B work = 3 days.
3. Maximum profit = Rs. 784  
[Dinner sets of type I = 8 ]  
Dinner sets of type II = 12
4. For minimum profits,  
[Lamps of type A = 40]  
Lamps of type B = 20
5. Minimum transportation cost = Rs. 300.  
No. of packets transported from A to P = 10, A to Q = Nil, A to R = 50  
No. of packets transported from B to P = 30, B to Q = 40, B → R = 10.
6. Minimum cost = Rs. 440  
[ Fertilizer of type I = 100 kg.]  
Fertilizer of type II = 80 kg.
7. No of flights of model 314 type = 6.  
No of flights of model 535 type = 2.
8. For maximum profit, No. of units of type A = 26  
No. of units of type B = 26
9. Minimum cost = Rs. 7  
Quantity of bran =  $\frac{14}{10}$   
Quantity of rice = Nil
10. Minimum cost = Rs. 41  
Food of type A = 5 kg.  
Food of type B = 2kg.
11. Maximum distance = 30 km, when  
Distance covered with a speed of 25 km/hr =  $\frac{50}{3}$  km  
Distance covered with a speed of 40 km/hr =  $\frac{40}{3}$  km.
12. Maximum income = Rs. 8400, when

Investment in P.P. F = Rs. 80,000

Investment in bonds = Rs. Rs. 20,000

13. From factory P to A, B, C are 8, 2, 0 respectively  
From factory Q to A, B, C are 0, 6, 9 respectively.

14. From X to A, B, C are 50q, 40q, Nil respectively.  
From Y to A, B, C are 50q, Nil, Nil respectively.

15. Maximum value  $14\frac{1}{3}$  at  $(\frac{84}{13}, \frac{15}{13})$ .

Minimum value is  $3\frac{1}{14}$  at  $(\frac{9}{14}, \frac{25}{14})$ .

16. Minimum value of  $z = 19$  at  $x = 3, y = 2$

Maximum value of  $z = 42$  at  $x = 4, y = 6$ .

17. (i) Maximum of this problem does not exist.

(ii) Maximum value is infinity or solution is unbounded.

18. Maximum profit = Rs. 20,100 when 40 trees of type A and 30 trees of type B are planted.

19. Maximum value is 19 at  $(\frac{7}{2}, \frac{3}{4})$ .

Minimum value is  $\frac{63}{13}$  at  $(\frac{3}{13}, \frac{24}{13})$ .

20. Maximum profit = Rs. 1300.

No. of belts of type A = 200

No. of belts of type B = 600.

## CHAPTER 13

# PROBABILITY

1.  $\frac{4}{13}$
2. (i)  $\frac{1}{2}$   
(ii)  $\frac{1}{3}$
3. (i)  $\frac{3}{13}$   
(ii)  $\frac{3}{52}$
4.  $\frac{1}{5}$  [Hint :  $P(A' \cup B') = P(A \cap B)$ ]
5. Not defined.
6.  $\frac{1}{3}$
7.  $\frac{3}{25}$
8.  $\frac{2}{3}$  (Hint :  $u = 0 \times \frac{144}{169} + 1 \times \frac{24}{169} + 2 \times \frac{1}{169}$ )
9.  $K = 0.2$ ,  $P(x = 3) = 0.4$ .
10. (i)  $\frac{8}{81}$  (Hint :  $n = 4$ ,  $p = \frac{1}{3} \therefore q = \frac{2}{3}$ )  
(ii)  $\frac{32}{81} P(x = 3) = 4 {}_3C_3 \left(\frac{1}{3}\right)^3 \cdot \frac{2}{3}$
11. 1 Hint.
12.  $\left(\frac{2}{3}\right)^{10}$
13.  $\frac{75}{216}$



14.  $\frac{1}{216}$

15.  $\frac{2}{3}$

16. 1

17.  $\frac{2}{7}$

18.  $\frac{1}{36}$

19. 0.0256

20. 7.5 [Hint : Expectation =  $E(x) = np$ ]

21. (i)  $S = \{bb, bg, gb, gg\}$ . (ii)  $\frac{1}{3}$

(iii)  $\frac{1}{3}$  (iv)  $\frac{1}{2}$

22. (i)  $\frac{3}{8}$  (ii)  $\frac{2}{8}$

23. (i)  $\frac{1}{3}$  (ii)  $\frac{2}{9}$

(iii) 0

24.  $P\left(\frac{A}{E}\right) = \frac{1}{4}$

$P\left(\frac{B}{E}\right) = \frac{1}{4}$

$P\left(\frac{C}{E}\right) = \frac{1}{4}$

25. 0.6976.

26.  $\frac{19}{42}$

27.  $\frac{11}{50}$

28. 0.083

29.  $\frac{9}{13}$

30.  $P(0) = \frac{5}{28}, P(1) = \frac{15}{28}, P(2) = \frac{15}{56}, P(3) = \frac{1}{56}.$

31.  $P(0) = \frac{27}{64}, P(1) = \frac{27}{64}, P(2) = \frac{9}{64}, P(3) = \frac{1}{64}.$

32.  $\frac{13}{16}$  [Hint : Required probability =  $1 - P(X > 3)$   
 $= 1 - \{P(X = 4) + P(X = 5)\}$ ]

33. 4 [Hint :  $P(X \geq 1) > 0.99$   
 $1 - P(X = 0) > 0.99$   
 $1 - nC_0 \cdot \frac{1}{4n} > 0.99]$

34. Expected to lose Rs.  $\frac{91}{54}.$

35. (i)  $\frac{193}{512}$  (ii)  $\frac{53}{64}$

36.  $\frac{11}{243}$

37.  $P(0) = \frac{125}{216}, P(1) = \frac{75}{216}, P(2) = \frac{15}{216}, P(3) = \frac{1}{216}.$

{Hint : Possible doublets are (1, 1), (2, 2), (3, 3), (4, 4), (5, 5), (6, 6)}

38.  $P(X = r) = 32C_r \left(\frac{1}{2}\right)^{32-r} \left(\frac{1}{2}\right)^r; r = 0, 1, 2, \dots, 32.$

{Hint :  $np + npq = 24$  and  $np \times npq = 128$ }

39. (i) A and B are independent.

(ii) B and C are independent.

(iii) A and C are independent.

(iv) A, B and C are independent.

[Hint : Draw veen diagram.]

40. (i) C and M are not independent.

(ii) M and S not independent.

(iii) S and M are not independent.

(iv) If (i), (ii), (iii) are not independent C, M and S are also not independent.

41. (i)  $\frac{25}{58}$

(ii)  $\frac{9}{29}$

(iii)  $\frac{15}{58}$

42.  $\frac{2}{37}$

[Hint : E : doing question correctly

K : he knows

C : he copies

G : he guesses

L : he leaves the question]

$$P(K) = \frac{3}{10}, P(C) = \frac{1}{5}, P(G) = \frac{1}{10}, P(L) = \frac{2}{5}$$

$$P(E/K) = 1, P(E/C) = \frac{1}{4}, P(E/G) = \frac{1}{5}, P(E/L) = 0$$

Now use Baye's theorem.

43.  $\frac{3}{7}$

44. X	0	1	2	3
P(X)	$\frac{4324}{5525}$	$\frac{1128}{5525}$	$\frac{72}{5525}$	$\frac{1}{5525}$

$$\text{Mean} = \frac{3}{13}, \text{Variance} = \frac{588}{2873}$$

Hint : Mean ( $\mu$ ) =  $\sum X_i P(X_i)$

$$\text{Variance} (\sigma^2) = \sum X_i^2 P_i - \mu^2$$

45. X	0	1	2	3
P(X)	$\frac{1728}{2197}$	$\frac{432}{2197}$	$\frac{36}{2197}$	$\frac{1}{2197}$

$$\text{Mean} = \frac{505}{2197}, \text{ Variance} = 0.2661$$

46.	$X$	$0$	$1$	$2$	$3$	$4$	$5$
	$P(X)$	$\frac{3125}{7776}$	$\frac{3125}{7776}$	$\frac{1250}{7776}$	$\frac{250}{7776}$	$\frac{250}{7776}$	$\frac{1}{7776}$

$$\text{Mean} (\mu) = \frac{5}{6}, \text{ Variance} (\sigma^2) = \frac{275}{36}$$

47. (i)  $\frac{1}{18}$

(ii)  $\frac{1}{2}$

(iii)  $\frac{1}{2}$

(iv)  $\frac{17}{18}$

48. (i)  $\frac{5}{41}$

(ii)  $\frac{36}{41}$

49. (i)  $K = \frac{1}{7}$

(ii)  $P(X > 3) = \frac{3}{7}$

(iii)  $P(X > 3) = \frac{1}{7}$

50. (i)  $\frac{21}{32}$

(ii)  $\frac{11}{32}$

(iii) Mean = 3, Variance = 1.5

51. (i)  $\left(\frac{5}{6}\right)^7$

(ii)  $35 \left(\frac{1}{6}\right)^7$

(iii)  $\left(\frac{1}{6}\right)^5$

(iv)  $1 - \left(\frac{1}{6}\right)^7$

[Hint :  $P(X = r) = n_c p^r q^{n-r}$  Here  $P = \frac{6}{36} = \frac{1}{6}$ ]

## QUESTION BANK

# BUSINESS STUDIES

### CLASS XII

Time : 3 hours

Maximum Marks : 100

The weightage to marks over different dimensions of question paper shall be as under :

#### A. Weightage to Content/Subject Units

S.No.	Content Unit	Marks
<b>Part A : Principles and Functions of Management</b>		
1.	Nature and Significance of Management	7
2.	Principles of Management	7
3.	Business Environment	–
4.	Planning	7
5.	Organizing	10
6.	Staffing	10
7.	Directing	12
8.	Controlling	7
<b>Total</b>		<b>60</b>
<b>Part B : Business finance and Marketing</b>		
9.	Financial management	12
10.	Financial Markets	8
11.	Marketing	14
12.	Consumer Protection	6
<b>Total</b>		<b>40</b>
<b>Grand Total (A + B)</b>		<b>100</b>

## WEIGHTAGE TO FORMS OF QUESTIONS

S.No.	Forms of Questions	Marks for each question	No. question	Total Mark
1.	Very short answer type (VSA)	1	10	10
2.	Short answer type (SAI)	3	5	15
3.	Short answer type (SAII)	4	5	20
4.	Long answer type 1 (LAI)	5	5	25
5.	Long answer type (LAO)	6	5	30
<b>Total</b>			<b>30</b>	<b>100</b>

### C. Scheme of Options

There will be no overall choice. However, there is an internal choice in every questions of 6 marks.

### D. Weightage to difficulty level of questions

S.No.	Estimated Difficulty Level of Questions	Percentage
1.	Easy	30%
2.	Average	50%
3.	Difficult	20%

### E. Typology of Questions

In order to assess different abilities related to the subject, the question paper is likely to include open ended questions.

## CHAPTER 1

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# NATURE AND SIGNIFICANCE OF MANAGEMENT

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### POINTS TO REMEMBER

1. Management is the art of getting things done through others in formally organised groups for the accomplishment of organisational objectives.
2. For management is important to be both effective and efficient. Effectiveness is qualitative whereas efficiency is quantitative.
3. Characteristics of management include: (a) It is a goal-oriented process (b) it is all pervasive (c) it is multidimensional being of work, people and operations (d) it is a continues process (e) group activity (f) dynamic function (g) intangible force.
4. Importance of management: (a) helps is achieving group goals (b) increases efficiency (c) creates a dynamic organisation (d) helps in achieving personal objectives (e) helps in the development of society.
5. Nature of management:- As an ART:- (a) existence of theoretical knowledge (b) Personalised application (c) based on practice and creativity; As SCIENCE:- (a) Systematised body of knowledge (b) Principles based on experimentation (c) Universal validity. However Mgt is not as exact as science as it deals with human behaviour, which is unpredictable. As a PROFESSION:- (a) Well defined body of knowledge (b) restricted entry (c) Professional association (d) ethical code of conduct (e) Service motive. Mgt is not a full-fledged profession as it does not have any restricted entry requirements and as such does not have defined ethical code of conduct by law.
6. There are three levels of management-TOP LEVEL which lays down the objectives and goals; MIDDLE LEVEL which is concerned with implementing and controlling the plans; OPERATIONAL LEVEL which actually implements the plans and policies.
7. There are five functions of management-PLANNING- which means thinking in advance what to do in the future; ORGANISING which means designing authority - responsibility relationships and obtaining money and material resources; STAFFING which means manpower planning, recruitment, selection, induction, training and development of human resources; DIRECTING which means supervising, leadership, motivation and communication with the human resources and CONTROLLING which means rectifying any deviation in the implementation of the Plans.
8. COORDINATION is that force which binds all the functions of management by synchronising the activities. It is the essence of management because of its nature;- (a) it integrates the group efforts (b) ensures unity of action (c) it is a continuous process (d) it is an all- pervasive function (e) it is the responsibility of all the managers (f) it is a deliberate function.
9. In the twenty first century management has to be seen as a process of managing a large global organisation, which has no boundaries with international perspective.

## egRoi wZ fclhq

- 1- izak vls plj d : i l s0 fDr; l adsl xBr l eglal § l l Fk dsmís; l adhi ffr grqdk Zdjokusdh dykgA
- 2- izak dsfy, dqkyrk, oai Hkoi wZ knslagh vlo'; d gA i Hkoi wZ kxql Red gSt cfd dqkyrk l q; Red gA
- 3- izak dh fo' kkrk afufufyf[kr gS% d l 1/2 izak mís; izku i f0; k gA 1/4 k 1/2 izUk lo 0 ki d gA 1/4 1/2 izUk cgyk leh gSt l eadk Z Q fDr vls f0; k l adk izUk ' Hfey gA 1/4 1/2; g , d l r r i f0; k gA 1/4 1/2 eg f0; k 1/4 1/2 xfr' hy dk Z 1/4 1/2 vn'; ' kDr gA
- 4- izak dkegB % d l 1/2 l efgd mís; l adhi ffr eal gk d gS 1/4 k 1/2 dqkyrk d l s c k r k gS 1/4 1/2 xfr' hy l xBu r \$ kj djrk gS 1/4 k 1/2 Q fDr xr mís; l adhi ffr eal gk d 1/4 1/2 ek dsfodk eal gk dA
- 5- izak dhi ffr % dyk ds: i e & 1/4 d 1/2 F; l jh Klu dk g l k 1/4 k 1/2 v H k l r Fk j p u k Red r k i j v k H j r A fo Klu ds: i e & 1/4 d 1/2 Q of L k r Klu l eg 1/4 k 1/2 z k l a i j v k H j r fl ) k r 1/4 1/2 l o 0 Red l R r k i j U r q i z a k i j h r j g fo Klu u g l a g S D; l ad ; g ekuoh Lo H k o l s l a f U k r gSt k L; o a v u f p r gA i s k ds: i e & 1/4 d 1/2 H y l k H f r i f j H f r Klu dk l eg 1/4 k 1/2 v o j k r i n s k 1/4 1/2 v l p j l f g r k 1/4 1/2 o k mís; A izak , d i w Z i s k u g l a g S D; l ad ml e a v o j k r i n s k r Fk v l p j l f g r k u g l a g S t k s d k u w h : i l s v f u o k Z g l A
- 6- izak dsrhu Lrj gS % m p Lrj & t k smís; r Fk y {; fu / H j r djrk g S e /; Lrj & t k s; k t u k v l a d s y k w r Fk fu; k r djrk g S f u f u 1/4 p k y u 1/2 Lrj h & t k s; k t u k v l a r Fk u l f r; l a d l s o H r o e a y k w d j r k g A
- 7- izak ds ilp dk Z g l r s g A % f u; k t u & f t l d k v F Z g S f d H f o"; e a f d , t k u s o k y s d k Z d l s i g y s l p u k l x B u & f t l d k v F Z g S v /; { k & v f / u L F k l a / l a d h i f j d y i u k d j u k r Fk e l a n z v l s H f r d l a k l u l a d h i f f r d j u k f u; f p r d j . k & f t l d k v F Z g S e k u o ' k D r f u; k t u l H r l z p; u l i z r q l d j . k ( I n d u c a t i o n ) , i f k k k r Fk f o d k l e k u o h , l a k l u l a d k e f u n z l u & f t l d k v F Z g S i; Z s k l u r B j v f H i j . k r Fk e k u o h , l k l u l a l s l a k k f u; a k & f t l d k v F Z g S; k t u k v l a d s d k l o ; u e a f o p y u l a d l s K l r d j u k r Fk m u d k n j v d j u k A
- 8- l e 0; o g r k d r gSt k i z a k d s l H h d k l z d h f 0; k v l a e a l k e t L; d j d s m l g a c k r h g A l e 0; v i u h i f f r d s d j . k i z a k d k l j g & 1/4 d 1/2; g l e f g d i z k l a d k s , d h f r d j r k g A 1/4 k 1/2 d k Z d h , d r k l f u f p r d j r k g A 1/4 1/2; g , d l r r i f 0; k g A 1/4 k 1/2; g , d l o 0 k i h d k Z g A 1/4 1/2; g l H h i z a k d a d h f t e a n j h g A 1/4 1/2; g , d t k u c w d j f d; k t k u s o k y k d k Z g A
- 9- b D d h l o h l n h e a i z a k d s , d c m o s o d l x B u d h i z a k i f 0; k d s: i e a n j k t k u k p l f g; s f t l d k d l z l l e k a u g l a g a r Fk f t l d k n k j k v l r j l z v h g A

### 1 MARK QUESTIONS

1. "Management is multidimensional". Name two dimensions.  
^ i z U k c g y k l e h g S \* n l s v k l e l a d s u k e f y f [ k A
2. "Nothing is permanent in management". Give one example.



1. **Uk eadn Hh LFkZuglagS , d mlgj.k nft , A**

- 3. If a manager is able to achieve the target of production of 5000 units but at higher cost. Is he efficient or effective?

;fn izkd 5000 ;fuV eky dsmRnu earl Qy gkst krkgSijrqv/kd ykr ij] rskog dky gS; k iHoiwZ

- 4. Give one example of job done by top management.

mPp izk }jk fd; st kusokysdk Zdk , d mlgj.k fyf[k A

- 5. Give one example of job done by middle level management.

e/; Lrjh izk }jk fd; st kusokysdk Zdk , d mlgj.k fyf[k A

- 6. Give one example of job done by supervisory level.

i; Zkd Lrj }jk fd; st kusokysdk Zdk , d mlgj.k fyf[k A

- 7. Name economic objectives which management helps the organization to achieve.

l LFk dsm dsdls lsvkfd mis; iHr djuseaizk l gk d gkrk gS

- 8. "In order to be successful, an organization must changes its goals according to the needs of the environment". Which characteristic of management is highlighted in the statement?

1 QyrkiHr dsfy , d l xBu dsokroj.k dhvto'; drkuq kj viusy{; laeaijorZ dj ysk plfg, A\* bl dFlu eaizk dh dls l hfo' lsrk dks izlf'kr fd; kx; k gS

- 9. Success of Dabbawaalas of Mumbai is an example of which aspect of management?

^eqbZdsMcsokyl dh l Qyrk izUk dsfdl i{k dk mlgj.k gS

- 10. Name one personal objective of management to satisfy financial/social needs.

izUk dk , d Q fDrxr mis; t lsfuHr @l lekt d vto'; drk dks l rV djrk gS

- 11. Name one social objective of management.

izUk ds, d l lekt d mis; dk uk crlb, A

- 12. "Assigning duties, grouping, task, establishing authority and allocating resources required to carry out specific plan" is one of the importance of management. Name the function.

, d fo'KV ; k uk dks djusgrh dk Zdks l sulk l eg cukuk vf/kdj varj.k, oal krs dk vlcYu djuk izUk dk , d egbiwZdk ZgSml dk Zdk uk fyf[k A

- 13. Is planning, organizing, staffing, directing and controlling applied in organizations such as school, club, restaurant, farming and steel plant? If yes, which characteristics of management does it signify?

D; k, d ldy] , d dYc] , d jLVjV o , d LVhy IyW eafu; k u] l xBu] fu; fDr dj. k funZku o fu; ak k dksydj dlBZvrj gS ; g ?Wuk izUk dhfdl fo' kRkl sl af/r gS

### 3 MARKS QUESTIONS

14. "Survival, profit and growth are important economic objectives, which management helps the organization to achieve." Explain.

Hdl hHh l xBu dsrhu ieqkvfhd mÍs; k t hfor jgu k yH fodH esizUkml dh l gk rk djrkgS bl dFku dh Q k; k dft , A

15. Explain management as an Art/Science.

izUk dks dylefoKku ds: i eal e>lb, A

16. Discuss the social objectives of business.

Q ol k dsl kft d mÍs; k dksfyf[k A

17. What are the three categories of objectives of management?

izUk dsmÍs; k dh rhu Jf. k k D; k gS

18. Management should follow the "team-together everyone achieve more" policy. Briefly explain this statement in the light of nature of management.

HizUk dksVhe&, d l Hkl c vf/d iHr djrsgS dhulfr viukuh plfg, \*A bl dFku dks l e>lb, A

19. How can you explain that coordination is the essence of management?

vki d\$sl e>k l drsgSfd l eB; izUk dkl kj gS

### 4 MARKS QUESTIONS

20. Explain management as a dynamic function, an intangible force, a pervasive activity and a continuous process.

izUk dks, d xfr'hy dk Z vn ' ; 'kDr] l oD kih fO; k rFkl rr i fO; k ds: i eal e>lb, A

21. "Management is regarded as a fully developed profession". Do you agree? Give reasons.

HizUk dks, d iwZfodfl r i\$kk ekuk t krkgS D; k vki l ger gS dlj. k fyf[k A

22. Identify the function of management

- (a) Motivating, communicating and supervising the employees.
- (b) Finding out deficiencies in implementation of plans with results achieved.
- (c) Recruitment and selection of personnel.

(d) Deciding objectives and policies to be followed in a company.

izUk dsdk Zdsigplu dj fyf[k A

(a) deplj; la dk vfi j. l iakk , oa i; Zsk A

(b) ; k uk la ds yk vj] ifj. ke ikr dj =iv; la dk irk yxk A

(c) deplj; la dk p; u , oa fu; fDr dj. A

(d) ; k uk a , oa mis; t ls dEuh ea yk w ghs g\$ fu/iz. k djula

### 5 MARKS QUESTIONS

23. "Success of an organization largely depends upon its management". Explain any five reasons to justify the above statement.

izUk dsdk Zdsigplu dj fyf[k A

24. Identify the level of management in performing the following tasks with reasons.

(a) Introducing a new product line.

(b) Devise a suitable advertising campaign to sell a new product/service a company is launching.

(c) Get performance appraisal done.

(d) Deciding the capital structure of company

(e) Recruitment of daily wages labourers.

izUk dsfdl Lrj ij fu fyf[k fu. iz ¼ k dk Zfd; st k rsg Sdlj. k l fgr fyf[k A

(a) , d u; k mRln ckt lj ea yk A

(b) , d u, mRln dsfy, t ls dEuh ckt lj ea ykuh g\$ ml dsfy, foKku iplj dh jpuk djula

(c) fu"iknu eV, ldu djula

(d) dEuh dh iwh l jpuk fuf' pr djula

(e) fngkMa et njla dh Hrl A

25. Explain in detail with the help of suitable examples the "role of management in 21<sup>st</sup> century".

izUk dh bDdl ohal nh ea Hcedk\* mnlgj. k nsj foLrj i wZl fVli. k dlft , A

## 6 MARKS QUESTIONS

26. Explain the significance of management in running modern enterprise.

, d v k f u d m i Ø e d s l p k y u e a i z U k d s e g ù d k o . Ì d l f t , A

27. "Lack of proper management results in wastage of time, money and efforts". Do you agree with this statement? Give reasons in support of your answer.

Ì m i ; Ø r i z U k d h d e h d k i f j . Ì e l e ; ] / k u ] , o a i z R u l a d k v i Q ; g l r k g S D ; k v k i b l d F l u l s l g e r g S v i u s m ù j d s i { k e a d j . k f y f [ k A

28. "Coordination is needed at all levels of management". Explain this statement taking into account each level separately.

È i z U k d s l H h L r j l a i j l e ù ; d h v l o ' ; d r k g l r h g S b l d F l u d h Q k ; k l H h L r j l a d s f y , i F l d & i F l d d l f t , A

## CHAPTER 2

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# PRINCIPLES OF MANAGEMENT

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### POINTS TO REMEMBER

1. Principles of a management are a broad and general guidelines for decision- making and behaviour.
2. The nature of Principles of Management can be summarised in the following points- (a) Universally applicable (b) General guidelines (c) Formed by practice and experimentation (d) Flexible (e) Mainly behavioural (f) Cause and effect relationship (g) Contingent (dependent upon the situations).
3. The significance of the Principles of management can be summarised in the following points- (a) Provide managers with useful insights into reality (b) utilisation of resources and effective administration (c) Scientific decisions (d) Meeting changing environment requirements (e) Fulfilling social responsibility (f) Management training, education and research.
4. SCIENTIFIC MANAGEMENT : Founded by Fredrick Winslow Taylor the American Mechanical Engineer. PRINCIPLES OF SCIENTIFIC MANAGEMENT ARE- (A) Science and not the rule of the thumb (b) Harmony not discord (c) Cooperation not individualism (d) Development of each and every person to his or her greatest efficiency and prosperity. The teachniques of scientific management are (a) Standardisation and Simplification of Work (b) Method Study (c) Motion Study (d) Time Study (e) Fatigue Study (f) Differential Piece Wage System (g) Functional Foremanship (h) Mental revolution.
5. FAYOL'S PRINCIPLES OF MANAGEMENT : Henri Fayol was French mining engineer (1841 to 1925) gave the following 14 general administrative principles of management- (a) Division of work (leading to specialisation) (b) Authority and Responsibility (Right to give orders and extract obedience) (c) Discipline (no slacking or bending of rules) (d) Unity of Command (each employee has one and only boss) (e) Unity of Direction (each group of activities having the same objectives must have one head and one plan) (f) Subordination of individual interest to general interest (g) Remuneration of employees (should be fair to both employee and employer) (h) Centralisation and decentralisation (balance between the two) (i) Scalar Chain (formal chain of command running form top to bottom) (j) Order (a place for everything and everything in its place) (k) Equity (equality of treatment but not necessarily identical (l) Stability of Personnel (limited turnover of personnel) (m) Initiative (thinking out a plan and do what it takes to make it happen) (n) Espirit De Corps (Harmony, Cohesion among the employees).
6. While Taylor and Fayol were both contemporary to one another both differed significantly yet their contributions were complementary to each other.

egRoi wZ fclhq

1. izak dk fl ) lr fu. kZ yns, oa0 ogj dk , d l leki , oa0 ki d fn' kfunZk gA

2. izak dsfl ) krladh iñfr dls fuufufy[kr fcthy/aeal kjc) fd; k tk l drk g&(1) l lo7f6ed mi; k (2) l leU ek7unZk(3) vH k , oai z kka }kj k fu/ky. k(4) ylp'kyrk(5) eq; r%0 oglyRed (6) dlj.k o ifj.ke l cak(7) vfuf'pr 1/2LFr; laij fuH7/2

3. izak dsfl ) krladsegub dls fuufufy[kr fcthy/aeal kjc) fd; k tk l drk g&(1) izak dls dls oLrfodkrk l e>us ea mi; kch gkr s gS(2) l a k kula dk vuqlyre mi; k rFk iHoh izkl u (3) oKkfud fu. lZ (4) ifjorZky okroj.k dh vlo'; drk aijh djuk(5) l lekt d mUjnkf; Rb ijk djuk(6) izak i f k k k f' k k k , oa' kka

4. oKkfud izak& vejrdhedfudy balfu; j QMFI ol ylaVsj }kj kifriknrA oKkfud izak dsfl ) kr g&(1) foKku] u fd : f<oknrk(2) esH] u fd erHn (3) l g; k] u fd Q fDrokn (4) iE sl Q fDr dk ml dh vf/kdre dQkyrk , oal Qyrk rd fodk A

oKkfud izak dh i) fr; k fuufufy[kr g&

(1) dk Zdk iHholdj.k , oal jyjhdj.k(2) dk Zof/kv/; ; u (3) xfr v/; ; u (4) l e; v/; ; u (5) Fdku v/; ; u (6) foHkRed etnyh izkyh(7) fO; Red QjeSf'ki (8) ekuf d OfrA

5. Qs ky ds izakdh fl ) kr&gsujh Qs ky (1841 ls 1925) , d Yla ds [ku balfu; j Fla ft Uglms fuufufy[kr 14 izak dsl leU izkl fud fl ) kr i friknr fd; &(1) dk Zofkt u 'of' k'Vdj.k dh vly vxz j 1/2(2) vf/kdj , oa mUjnkf; Rb 1/2knsk nsus dk vf/kdj rFk muds euokuk l fuf'pr djuk/2 (3) vuqkl u 1/2u; eadsvuiky eadehu gsk/2(4) vnsk dh , drk 1/2E sl deZljh dk , d vls doy , d gh v/; {k gkr k gS/2(5) funZk dh , drk 1/2O; kvladsi E sl l eg d fy , ft udk l eku mis; gh , d gh v/; {k , oa , d gh; k uk gskh plg , 1/2(6) Q fDrxr fgr l leU fgr dsv/ku (7) deZlj; kadk i k j Jfed 1/2deZljh , oaloh nks dsfy , U k kpr 1/2(8) dshh dj.k rFk fodshh dj.k 1/2halsear kyey 1/2(9) l kiku J klyk 1/2 iFk dsmPre Lrj l su vre Lrj rd vf/kdj vnsk dh vls plj d J klyA (10) Q oLFk vFlok Oec) rk 1/2j olrqdsfy; s , d mpr LFku rFk iE sl olrqvius LFku ij 1/2(11) l erk 1/2 ogly eal ekurk ijarq; g vlo'; d ughadh iE sl Q fDr ds l Fk fcydy , d l k Q ogly fd; k tk k 1/2(12) deZlj; laes LFk; Rb 1/2e ifjorZ nj de gsk/2(13) igy&{lerk 1/2k uk cukuk rFk ml s dk 1/2or djus dsfy , vlo'; d dk Zlgh dsl fuf'pr djuk/2(14) l g; k dh Houk 1/2deZlj; laeankrh rFk Vle HoukA

6. Vsj rFk Qs ky , d nwsdsledkyu Fk muds; knku Hh fHu Fls ij UrqfQj Hh; knku , d nwsds ijd Fla

**1 MARK QUESTIONS**

1. A and B are two employees working at same level. A is getting more salary than B for the same working hours. Name the principle of management being violated.  
A rFk B nls deZljh gSt k , d gh Lrj ij dk Zdj jgsgA , d t \$ s dk ZW/ks dsfy , A dls B l svf/kd oru fey jgk gSbl eai z Uk ds d h l sfl ) kr dk mYaku gsk jgk gS
2. If an organization does not provide the right place for physical and human resources in an organization. Which principle is being violated?

; fn fdl hl xBu ea' h'jjld , oaeuoh l l k'k'adcsfy, mpr LFku dh Q oLFk ugh gSrlsbl eadli l s fl ) k dk m'ya'ku gyk gA

3. An organization has specialist foremen workers. Name the technique of scientific management?

, d l LFk eafof KV Qjesu de'p'jh gS; gk o'K'fud izUk dh y'k'wdh xBzrduld dk ule fyf[k A

4. If a company is not giving adequate compensation for better performer. Which techniques Scientific management is being violated?

; fn , d dEiuh v'N'sfu' i'ku dsfy, mpr i'fr'Qy ugh n'rh gA ; gk ij o'K'fud izUk dh fdl rduld dh vogyuk dh xBz gA

5. The production manager of Godrej instructs a salesman to go slow in selling the product, whereas the marketing manager is insisting on fast selling to achieve the target. Which principle of management is being violated in this case?

^x'ljt \* dsm'k'nd iz'ad , d fo0; dr'Z'd'sm'k' n cpusdh xfr /h'eh j [k'us d'k's dgrsg\$ t'cfd foi .ku izUk d y{k d'si'kr djusdsfy, ml ij 'h'p'z'f'c'0'hd'sfy, n'c'lo Myrk gA bl n'k'ea'izUk dsfdl fl ) k dh vogyuk g'k's'j'gh gA

6. State one positive effect of "Esprit De-Corps".

^l g; k dh H'houk\* dsfl ) k dk , d l d'j'k'ed i'ho fyf[k A

7. Fayol points out the danger and cost of unnecessary labour turnover in one of his principles. Name the principle.

Qs'ky usvius, d fl ) k ea'vulo'; d : i l s'Je vlor'Z'afed i'f'j'or'Z'1/2'ds [k'j'sv'g\$ y'k'r'k'adh'v'j l a'sr fd; k gA fl ) k dk ule fyf[k A

8. Name that principle of Fayol which suggests that communication from top to bottom should follow the official lines of command.

Qs'ky dsml fl ) k dk ule cr'lb, t's'l q'lo n's'k'g'sfd l a's'k'd's'm'j l s'ulpsrd v'n's'k' dh v'f/k'd'f'j d j's'k' dk i'kyu d'juk p'h'g, A

9. Different techniques were developed by Taylor to facilitate principles of scientific management, one of them is 'fatigue study'. What is the objective of this study?

o'K'fud izUk dsfl ) k'k'd's'l q'e'c'us'g'r'q'v'y'j us'f'f'k'u i) fr; k'fodfl r dh gA ml eal s, d 'f'k'ku v/; ; u\* gA bl v/; ; u dk D; k m'is; gS

10. Point out the job of "Speed Boss" under functional foremanship.

f0; k'ed Q'jes'f'ki d'sv'r'x'Z ^x'fruk d\* dk D; k d'k' gS

### 3 MARKS QUESTIONS

11. Keeping in mind the nature of principles of management explain the following points:

- (a) Formed by practice and experimentation
- (b) Cause and effect relationship
- (c) Contingent

izak dsfl ) lark dh iñfr l sl afkr fuufyf[kr fcthy l adsl e>lb; s

- (a) vH kl , oa iz lka }jk fu/WZ.k
- (b) dlj.k rFk ifj. ke l ak
- (c) vfuf'pr

12. Mohan, a manager expects his subordinates to work only for the happiness and pleasure of being in organization, which principle is overlooked and why? Give one violating effect.

elgu] t ls, d izad g\$ viusvf/kuLFhal svkk djrkgsfd osdoy iz lark dsfy, dk ZdjarFkl xBu eacusjguseai lark, oal qk dk vuho dja izUk dsfdl fl ) lark dh vogyuk gksjgh gSrFk D; k

13. Give any three distinctions & between 'unity of command' and 'unity of direction'.

^vnsk dh, drk\* , oa'funZk dh, drk\* eadlbZrhu varj fyf[k A

14. In a company there are four departments for finance, marketing, production and human resources development. Identify the principle of management and give its two advantages.

, d dauheaplj foHk %foUk foi.ku] mRkn , oaekuoh l akku fodkl g\$ ; gk izUk dsfl ) lark dk uleadu dlft , rFk ml fl ) lark dsnsylHk fyf[k A

### 4 MARKS QUESTIONS

15. Which principle of management envisages that each group of activities having the same objectives must have one head one plan? Explain the principle with the help of an example.

izUk dkog fl ) lark dli l kgsft l dsvuq lj , d gh mis; dh iñfr djusokyhl Hh fØ; k l adsfy, , d vf/kdjh, d ; k uk gsh plfg, A , d mnlgj.k dh l gk rk l sfl ) lark dh Q k; k dlft , A

16. With the help of suitable example, explain the application of "Equity and order" principle of management.

, d mi; Dr mnlgj.k dh l gk rk l s izUk ds^l erk rFk Q oLFk\* fl ) lark ds mi; k dh Q k; k dlft , A

17. In each of the following cases which principle is being violated and how:

- (a) When each division of the company does not have a separate plan of action.



- (b) When a sales manager is not given the right to discount to the buyer necessary to conclude a large sales contract which will be profitable for the company.
- (c) When a manager awards contract for supply of raw material to particular party which happens to be his relatives ignoring, other parties who can supply the same at cheaper rates.
- (d) When a subordinate habitually contacts higher authorities in the companies by passing his immediate supervisor.

fu fu fyf [kr ea iz Uk dsfdl fl ) kr dh vogyuk gksjgh gsvls D; la

- (a) t c dāuh ds iR d foHx dh vyx dk Z; k uk uk glA
- (b) t c dāuh ds fy, , d yHdkjh foØ; vuqak ikr djus ds fy, , d foØ; izad dks xgd dks NW ns s dk vf/klj uk fn; k tk A
- (c) t c , d izad viusl can dks dāuh dks dPpseky dh vkr dk Bdk nwjh iWZ dks NMEj izku djrk gS t k l lrs ne ij dPpk eky ns l drh gA
- (d) t c , d v/huLFk dks vius v/; {k dks NMEj mPp vf/klj; la l s cr djus dh vkr glA

18. Which principle of management suggests that employees should be treated with "justice and kindness"? Why is this principle essential in management?

iz Uk dk dks l k fl ) kr deZkj; la dsifr ^U k , oamjrk\* dh 0 ogj dh cr dgrk gS iz Uk ea; g fl ) kr D; la vko'; d gS

### 5 MARKS QUESTIONS

19. Why does the principle of "unity of command" not hold good in the case of functional organisation. Explain with the help of an example.

^vnsk dh , drk\* dk fl ) kr dk kEd l xBu ij ykwd; laughkrk

20. Identify the technique and give reasons:
- (a) When many specialist supervise each worker.
  - (b) When uniformity is introduced in material, machines, tools, method of work and working conditions after due research.
  - (c) To determine standard time taken to perform a well defined job.
  - (d) Change in attitude of workers and management towards one another from competition to cooperation.
  - (e) To find out one best way to do the job.

fuufyf[kr eaizUk dh i) fr; l dlsigplfu, rFlk fyf[k A

- (a) t c cgr l s fo'kk iR, sl Jfed dk i; Zskk dja
- (b) t c ely] e'lu] vlk kj] dk Zd h fof/k k rFlk dk Zdjus dh n'kv/la ea, d : irk ylbZt k A
- (c) , d ifjHkr dk Zd s fd, t kus ea yxus okyk ekud l e; Kkr djula
- (d) t c deZkh rFlk izUkd , d nwjs ds ifr vius joSs dls Li/HZ ds cnys l g; k ea ifjo fr djrs gA
- (e) , d dk Zd s djus dh , d mUe fof/k Kkr djula

21. Explain how principles of management make an administration effective.

izUk ds fl) kr izkl u dls izhoh dS sl mo cukrsgS Q k; k dlft, A

22. Explain the techniques of 'simplification' and 'standardization of work' as given by F.W. Taylor bringing out their differences.

, Q- MyWyj } jki frlkr ^ jydj. k rFlk dk Zds izkl dj. k dhrdul dks dsl e>krsgq mueavUrj fyf[k A

### 6 MARKS QUESTIONS

23. Do you agree with the view that Taylor's principles of scientific management and Fayol's principles of management are mutually complementary? If yes, give reasons.

D; kvki bl er l sl ger gS fd Vyj dsoKrud izUk ds fl) kr vlS Qs ly ds izUk ds fl) kr ijLij , d nwjs ds ijd gS ; fn gl rks dj. k l fgr mUj fyf[k A

24. Explain the benefit of following principles of scientific management with examples;

- (a) Science not the thumb rule.
- (b) Cooperation not individualism.
- (c) Development of each and every person his or her greatest efficiency and prosperity.

oKrud izUk ds fuufyf[kr fl) kr s dk egUo mlgj. k l fgr fyf[k A

- (a) foKku] u fd #f<oknrk
- (b) l g; k] u fd Q fDrokn
- (c) iR, sl Q fDr dk ml dh vf/kdre dqkyrk , oa l Qyrk rd fodkl A

25. Differentiate views of Taylor and Fayol regarding principles of management on the following points:

- (a) Unity of command.

- (b) Focus
- (c) Expression
- (d) Applicability

^Vsyj\* ,oaQs ly dsizUk dsfl ) krlagrqfopljlaefufufyf[kr fclhyla ij varjHn dlft , A

- (a) vlnsk dh , drk
- (b) /; ku dk dshz
- (c) vuqdyu@ykwglsk

26. Explain whether Talyor's technique of scientific management are universally applicable giving examples of at least techniques in support of your answer.

Vsyj dsoklfud izUk dh rduldaD; kl loZlfed #i l smi; kchga viusmlj dsl eFlz esde l sde rhu rdulds dsmlgj.k nft , A

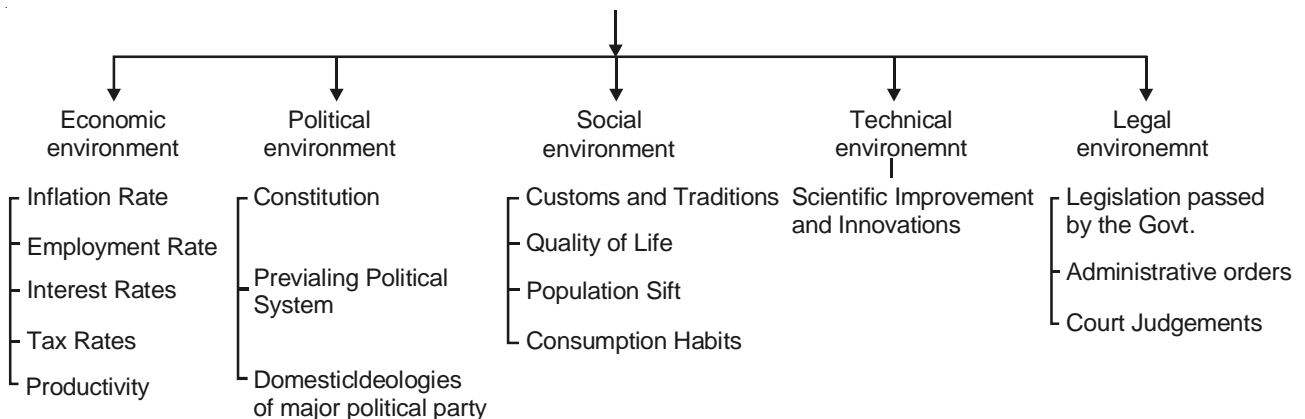
## CHAPTER 3

# BUSINESS ENVIRONMENT

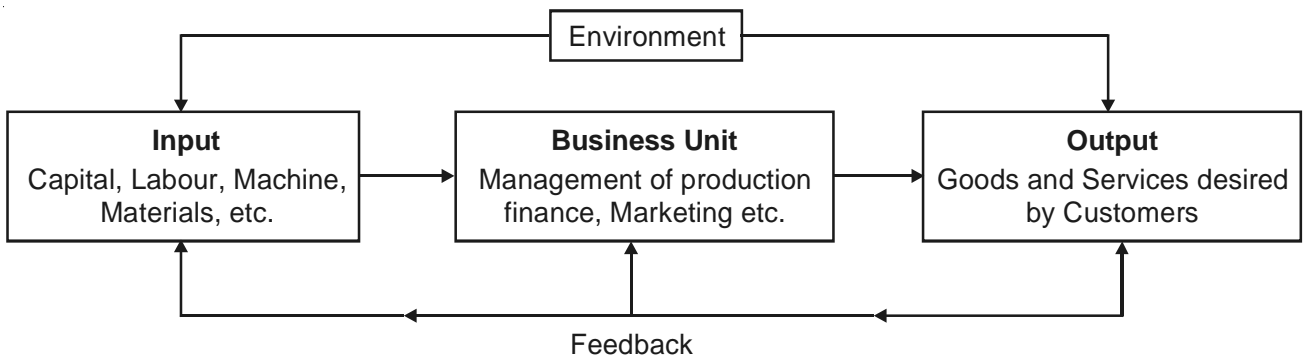
## व्यावसायिक वातावरण

### POINTS TO REMEMBER

1. Business Environment includes both the specific and general forces. Specific forces affect individual enterprise directly while general forces have impact on all business enterprise.
2. A good understanding of business environment by managers enables them not only to identify and evaluate but also read to forces external to their company.
3. Economic environment consists of various macro level factors related to means of production and distribution of wealth.
4. Macro-level factors of Economic environment cell :
  - (i) Stage of economic development
  - (ii) The economic structure
  - (iii) Economic policies
  - (iv) Infrastructural factors
5. Economic environment of business in India has been steadily changing mainly due to the government policies.
6. Economic reforms in India have started with the announcement of a new Industrial policy, 1991.
7. Five elements of Business environment are given below :



8. Interaction between Business and its environment.
9. Mainly there are three aspects of New Industrial Policy, 1991 :



- \*1. *Liberalization* : Librating Industry from the shades of the Liansing system.
  2. *Privatisation* : Drastically reducing the role of public sector.
  3. *Globalization* : Encouraging foreign private participation in India's Industrial development.
10. The policy of L.P.C. has made a significant impact on the working of enterprises in business and Industry the corporate sector has faced several challenges. These are :
- (i) Increasing competition
  - (ii) More demanding customers
  - (iii) Rapidly changing technologies environment.
  - (iv) Market orientation.
  - (v) Need for developing human resource.

## Q lo l f; d okroj.k

egbiwZ fcthq

1. Q lo l f; d okroj.keaf of'KV rFlk l leU nls la'kDr; la l ffe fyr gA fo f'KV 'kDr; k i R; {k #i l sl dFlk dls iRfor djrhgSt cfd l leU 'kDr; l adk iRko l Hh Q lo l f; d l dFlk w laij iMek gA
2. izUclla}jk Q lo l f; d okroj.k dhvPNhl e> mudksu doy clgh 'kDr; l adksigpkus rFlk ew; l alu djus; k; cukrk gScfyd i r fO; k djus dh Hh fgfer nrk gA
3. vFlk d okroj.keac r Lrj dscgr l sdjd l ffe fyr gA t k/ku dsmR knu vS foj.k dsl k lula l s l fcler gA
4. c r & Lrj ds djd fu h gS%
  - (i) vFlk d fodk dk pj.k
  - (ii) vFlk d ulfr; k
  - (iii) l j p u k e d d j d

5. Q ol k dk vlfkd okroj.k eq; #i l sljdlj dh ulfr; lal syxkrkj cnyrkjgrk gA
6. Hjr eavlfkd l dlj ubZvk lkd ulfr 1991 dh Hsk k dsl Fk 'kq gqA
7. eq; #i l subZvk lkd ulfr dsrhu igyqgS%
  - (i) nmjldj.k % ybZ a Q oLFk l s m| lala dls Nvdjk fnykukA
  - (ii) fuft dj.k % l loZ fud {sk dh Hfedk ea deh djuk
  - (iii) oSoldj.k % Hjr rh, vls lkd fodkl ea fons'h l lFk lala dls c<lok nsik
8. L.P.G. dh ulfr us vls m| lala dh dk Zkkyh ij egRiwZiHo Myk gA dlj l jV t xr us cgr lh pulfr; l adk l leuk fd; k gA osgS%
  - (i) c<rh ghZ i rLi/WZ
  - (ii) xgdls dh c<rh vlo'; drk a
  - (iii) rdukdh okroj.k ea ifjorZ
  - (iv) ckt kj dshz
  - (v) ekuoh, l a kuls ds fodkl dh vlo'; drkA

### 1 MARK QUESTIONS

1. What do you mean by business environment?  
Q lol k; d okroj.k l svki D; k l e>rs gS
2. List any two examples of changes in social environment which affect business organisation.  
l left d okroj.k ea cnylo ds d bZnks nmjldj.k nft, t k Q lol k; d l lFk dls i Hfor djrsgA
3. Which industrial policy has opened doors of Indian economy for multinational companies on a large scale?  
fdl vls lkd ulfr us cM i Skusij Hjr rh, v H l Fk ds } j c g i k V h, d E i fu; l adsfy, [ H y s
4. Define political environment.  
jkt ufr d okroj.k dh ifj H k nft, A
5. Write any two points of importance of business environment  
Q lol k; d okroj.k ds d bZnks egRb fyf[k A
6. List any two dimensions of business environment.  
Q lol k; d okroj.k ds d bZnks vk le fyf[k A

7. What is L.P.G. in context of business environment?

Q lol k; d okroj.k dsl nHzaL.P.G. D; k gS

8. List any two impact of government policy changes on business and industry.

Q lol k; d rFlk vls kxd ulfr; haij ljdli hulfr; laacnylo dsdlbZnsiHo fyf[k A

### 3 MARKS QUESTIONS

9. Give three examples of legal. Regulatory environment.

o\$ kud fu; led okroj.k dsrhu mngj.k nft , A

10. Briefly explain the importance of business environment.

11. How does change in social environment affects a business.

l lekt d okroj.k eafjorZ Q ol k dksfdl izlj iHfor djrk gS

### 4 MARKS QUESTIONS

12. Classify Business environment into two major categories and give one example of each.

Q lol k; d okroj.k dks nseq; oxkZaoxZr djsrFlk bueal siZ d dsnk nks mngj.k nA

13. What strategies are followed by the management to deal with uncertain environment?

vfuf pr okroj.k dk l leuk djus dsfy, izUkda }kj D; kj.kulfr; k viukZt krh gS

14. Explain the trends in economic environment in India?

Hjr eavkFlk okroj.k dh in fuk ladh Q k; k dlft , \

### 5 MARKS QUESTIONS

15. Explain the meaning of business environment. Briefly discuss any three dimensions of several environment of business.

Q lol k; d okroj.k ds vFlZ dh Q k; k dja Q lol k dsl leki okroj.k ds fdUgh rhu vk lehd k l qli  
eao. H dlft , A

16. "External environment of business is Dynamic". Explain this statement with the help of at least two examples.

Q ol k dk cká okroj.k xfr' hy glrk gS de l sde nks mngj. Hadh l gk rkl sbl dFlu dh Q k; k  
dja

## 6 MARKS QUESTIONS

17. Explain in brief any six economic changes that have been initiated by the government since 1991.

fdUghN%vklfd ifjorZhdh l fkr Q k; k dlft , t k 1991 l sHjr ljdkj }k k i j Ek fd; sx; sgA

18. Liberalization and globalization have created both challenges and opportunities for the Indian Business. Discuss.

mnjldj.kvls oSoldj.kusHjrh Q ol k dsfy, pulr; kvls volj nslai skfd; sgA bl dFlu dh Q k; k dlft , A

19. Explain the following terms:

(i) Privatisation

(ii) Fiscal policy

(iii) Exim policy

fuufyf[kr dh Q k; k dlft ,

(i) fut ldj.k

(ii) jkt dlsh ulfr

(iii) vk kr fu; k ulfrA



## CHAPTER 4

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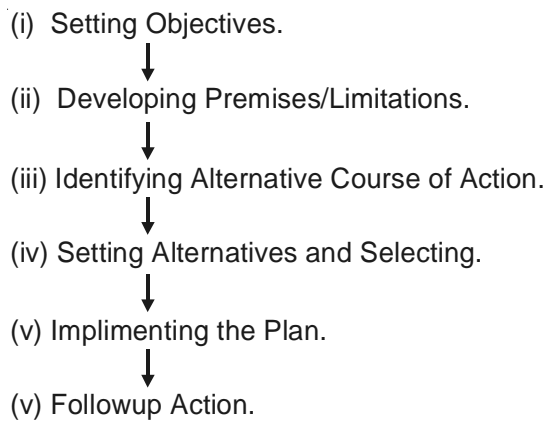
# PLANNING

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### POINTS TO REMEMBER

1. Planning refers to thinking before hand.

2. Planning process.



3. *Importance* : It provides

- (1) Direction
- (2) Reduces risks of uncertainty.
- (3) Reduces overlapping.
- (4) Promotes innovative ideas.
- (5) Facilitates decision making.
- (6) Establishes standards for controlling.

4. *Features* : Planning

1. Focus on achieving objectives.
2. Primary function of management.
3. Pervasive
4. Continuous
5. Futuristic
6. Decision making and mental exercise.

; kn j [kus; k; fcth@eglbwZfcthq

1. fu; k u lsvfkk dñ djusl sigysl p fopkj djusl sgA
2. fu; k u i fØ; k

(i) mís; fu/k r djukA



(ii) l hək afodfl r djukA



(iii) ošifyi d dk Zkfg; kadhigpku djukA



(iv) ošifyi d dk Zkfg; kadev; kəlu djuk r fkp; u djukA



(v) ; k uk dksykw djukA



(v) l ekk djukA

3. eglb %fu; k u

1. fn'k izku djrk gA
2. vfuf'prrk dk t k[e de djrk gA
3. vi0 ; h fØ; kvs ds gkus dks de djrk gA
4. uohure fopkj fodfl r djrk gA
5. fu.ku ea l gk d gA
6. fu; akk ds fy, i hlo fuf'pr djrk gA

4. fo'kk r k a%fu; k u

1. mís; i k r ij dšuz gk r gA
2. izUk dk l oD kih dk Z gA
3. l oD kid gA
4. l r r gA
5. Hfo"; okh gA
6. fu; Zku , oa ekuf d vH kl gA

## 1 MARK QUESTIONS

1. At which level of management more time is consumed on planning as compared to other levels?  
 izUk dsfdl Lrj ij vU Lrj dh vi sk fu; k u ij vf/ld l e; yxk k t k r k g S
2. One of the functions of management is considered as base for all other functions. Name that function.  
 izUk dk , d dk ZvU dk k d k v k j e k u t k r k g S m l dk Z d k u l e c r l b , A
3. Planning, function of management is conducted at which level of management.  
 izUk dk fu; k u dk Zfdl izUk dh Lrj ij fd; k t k r k g S
4. "Planning restricts/strangulates the initiative of the employees and compels them to work in an inflexible manner". What does it mean?  
 fu; k u d e p h j ; k d h i g y { l e r k d k x y k ? k n r k g s v l s m u d k s y l p g h u < x l s d l e d j u s d s f y , e t c j v d j r k g S b l d k D ; k v F Z g S
5. Does mere planning ensure success?  
 D ; k d o y fu; k u l Q y r k l f u f ' p r d j r k g S
6. Name two internal premises of planning.  
 fu; k u d h n s v l f j d l l e k v a d k u l e k d u d l f t , A
7. Give two examples of external premises of planning.  
 fu; k u d h n s c k ; l l e k v a d k u l e k d u d l f t , A
8. Name the types of plan in which the movement of competitors is considered.  
 fu; k u d s f d l i z l j e a i f r ; k x ; k d h p k y d l s / ; k u e a j [ k t k r k g S
9. 'No smoking at public places'. This statement is related to which type of plan.  
 E l o z f u d l F k u l a i j / w i k u f u " k S ; g d f u ; k u k v s d s f d l i z l j l s l a f k r g S
10. A company needs a detailed plan for its new projects. "Construction a township". What type of plan is it?  
 , d d a u h d s v i u s u , s i k D V ^ V m u f ' k i d k f u e l z k d j u s d s f y , , d f o l r r ; k u k d h t # j r g S A ; g f d l i z l j d h ; k u k g S
11. In which type of plan the sequences of activities to complete a job is considered.  
 fu; k u d s f d l i z l j d s v r x z , d t k w d s i j k d j u s d s f y , d h t k u s o k y h f 0 ; k v a d k 0 e f u f ' p r f d ; k t k r k g S

### 3 MARKS QUESTIONS

12. "Planning is a continuous process". Comment?

fu; k u yxrkj pyusokyh i f0; k gA 0 k; k dlft , A

13. Briefly explain "Planning as a basic function of management".

fu; k u izak dk , d vkkj Hw dk ZgA\*\* 0 k; k dlft , A

14. Explain 'rigidity' as limitations of planning.

^ykp dk vHo\* fu; e dks fu; k u dh l lek ds #i eao. k dlft , A

15. Differentiate between (any three).

1. Policies and objectives.
2. Policies and procedures.
3. Procedures and methods.
4. Policies and rules.
5. Rules and method.

fu fufyf[kr earhu & ru vUrj fyf[k A

1. ulfr; k vls mis; A
2. ulfr; k vls i) fr; kA
3. dk Z fof/k k vls i) fr; kA
4. ulfr; k , oa fu; e
5. fu; e vls i) fr; k

### 4 MARKS QUESTIONS

16. "Planning is of vital importance in the managerial process"? Do you agree? Explain four reasons in support of your answer.

fu; k u izUdh i f0; keavfregUoiwZgS D; kvki lger gS viusmUj dsi {keapj dkj. k adko. k dlft , A

17. State and explain four most important features considered by the management while planning?

fu; k u dh mu egUbiwZfo' k k v l dk u le k u , oa 0 k; k dlft , t k izUk fu; k u d j r s l e ; / ; k u e a j [ h t k r h g S

18. "While formulating a strategy, the business environment needs to be taken into consideration". Explain with an example

10 y j p u k d k f u e l z k d j r s l e ; ] Q k i f j d o k r o j . k d s H h / ; k u e a j [ k u k p l f g , A B m n l g j . k l f g r l e > l b , A

19. Give an example each of any two limitations of planning which are beyond the control of an organization?

f u ; k u d h f d U g h n s l l e k v l e a l s i e d d k , d & , d m n d j . k n l f t , t l s l x B u d s f u ; a k k d s c l g j g l r k g S

### 5 MARKS QUESTIONS

20. There are several limitations of planning. Suggest five measures to overcome limitations of planning.

f u ; k u d h d b Z l l e k ; g A b u l l e k v l a i j f u ; a k k d j u s d s d b Z i l p m i k f y f [ k A

21. "Planning facilitates decision making and coordination". Explain.

f u ; k u f u . l z u , o a l e l b ; u d k l r e c u l r k g A Q k ; k d l f t , A

### 6 MARKS QUESTIONS

23. "No enterprise can achieve its objectives without systematic planning" Do you agree? Give any six reasons in support of your answer.

d b Z H l l F k u Q o f l F r f u ; k u d s c u k v i u s m i s ; i H r u g h d j l d r k A D ; k v l i l g e r g S v i u s m i j d s r d Z e a d b Z N % d l j . k n l f t , A

24. In spite of best efforts of managers sometime planning fails to achieve desired results due to its limitations. Explain Six limitation of planning.

i z U k d s v P N s i z k d j u s i j H h d H & d H h f u ; k u b l d h l l e k v l a d s d j . k o l N r i f j . k e i H r d j u s e a v l Q y j g r k g A f u ; k u d h N % l l e k v l a d k o . l z d l f t , A

25. "Planning is Continuous Process" State and explain various steps of planning process.

f u ; k u , d f u j r j p y u s o k y h i f o ; k g A B f v l i . l h d l f t , r F k f u ; k u i f o ; k d s f o f H u p j . k a d k u l e l e l u , o a o . l z d l f t , A

26. State any six features of planning function of management?

i z U k d s f u ; k u d k Z d h f d U g h N % f o ' k r k v l a d k o . l z d l f t , A

## CHAPTER 5

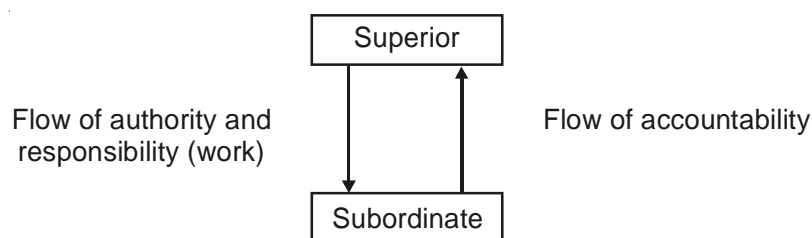
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# ORGANISING

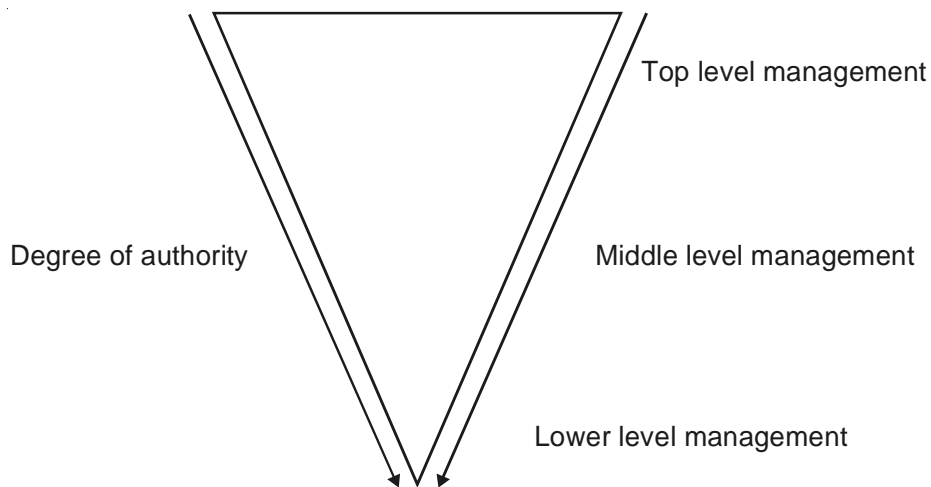
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### POINTS TO REMEMBER

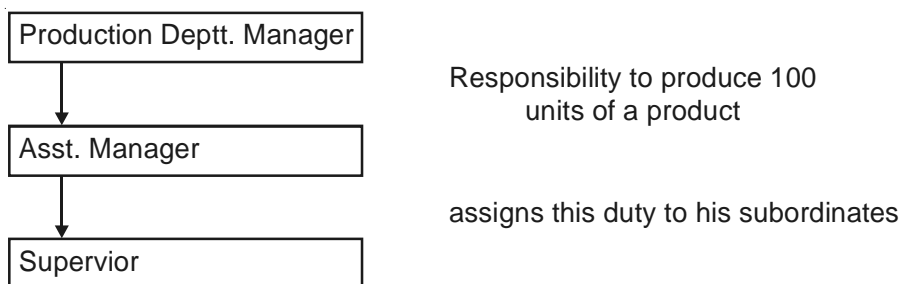
1. In functional organisation the activities are grouped on the basis of functions to be performed while in case of divisional organisation activities are grouped on the basis of products produced. Both are the part of formal organisation.
2. Delegation of authority is based on the principle of division of labour.
3. Principle of 'Unity of command' accompanies decentralisation of authority.
4. Decentralisation of authority increases the importance of subordinates working at all levels because they are given decision making authority & accountability.
5. Delegation of authority is the cause while decentralisation of authority is the effect.
6. Informal organisation can never be eliminated.
7. Change in the formal organisation require well thought out official policy for change.
8. Informal organisation does not require any official or formal approval for change.
9. Formal organisation follows the levels of management & scalar chain principle for communication whereas informal organisation crosses the levels of management for communication.
10. In formal organisation manager is always a leader whereas in informal organisation leader need not be a manager.
11. There is a difference between responsibility and accountability. Responsibility means duty or obligation to do some work whereas accountability refers to answerability for the work.
12. Direction of flow authority and responsibility is downward, *i.e.*, from Superior to Subordinate whereas direction of flow accountability is upward, *i.e.*, from Subordinate to Superior.



13. Degree of authority varies according to the level of management. The scope of authority narrows down towards lower level of management.



14. A Superior can delegate authority and responsibility to his subordinate but cannot delegate accountability for the work assigned to him.



Production Deptt. Manager assigns the responsibility of producing 100 units subordinates who in turn assigns the responsibility to his supervisor. (responsibility can be delegated). Now if supervisor fails to perform, then although he will be accountable to Asst. manager but towards production Deptt. manager, Asst. manager will remain accountable from whom he has been assigned the work.

15. Delegation of responsibility must be accompanied with adequate authority (Principle of parity of authority with responsibility) for efficient performance.

Authority = Responsibility

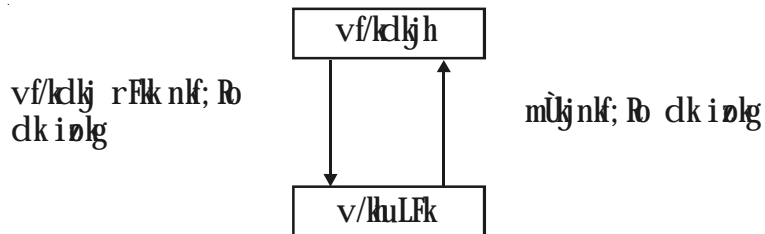
if Authority > Responsibility – misuse of Authority

if Authority < Responsibility – difficult to perform the responsibility.

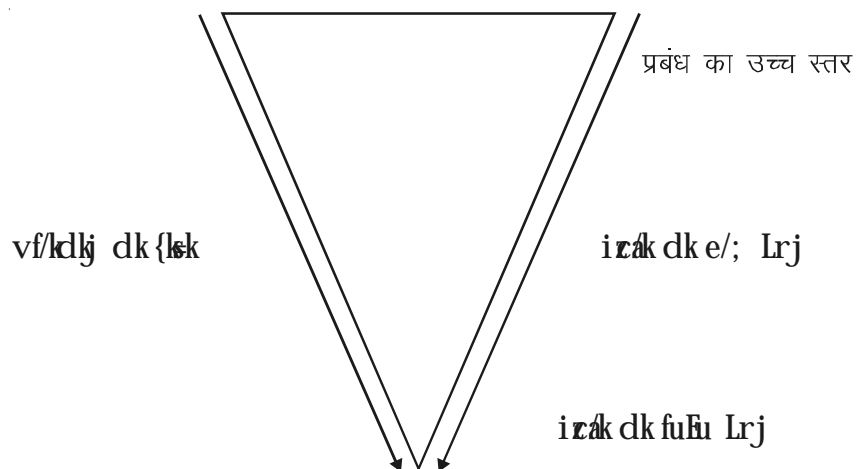
### eg

1. dk l xBu ea f0; k l dk , d=kdj.k dk l ds vkhj ij fd; k t k r k gSt cfd foHkh, l xBu ea f0; k l dk , d=kdj.koLr y l ds m l nu ds vkhj ij fd; k t k r k gA n l k gh l xBu v l s pljd l xBu ds ik i gA
2. vf/dkj l eiZk dk ZfoHk u ds fl ) l r ij vkhjr gA

3. vf/kdj dk fodhjh dj.k vnk dh , drk dsfl ) kr dkl g; kh gA
4. vf/kdj dk fodhjh dj.k l Hh Lrj h ij dk ZdjusokysvkhLFladsegb dsc<krk gA
5. vf/kdj l eiZk dj.k gS rsvf/kdj dk fodhjh dj.k ml dk ifj. ke gA
6. vuspj d l xBu dsl ekr ughafd; ktkl drkA
7. doy l fppfjr vf/kdj d ; k uk; kulfr dsvkhj ij ghvuspj d l xBu eafjorh fd; ktkl drk gA
8. vuspj d l xBu eafjorh dsfy, fdl h vuspj d ; k vf/kdj d l gefr ; k vuf dh vlo'; drk ughA
9. vuspj d l xBu izak ds Lrj rFlk l iakk dh l iku J {kyk ds fl ) kr dk ikyu djrk gSt cfd vuspj d l xBu eaizak ds Lrj rFlk l iakk dh l iku J {kyk fd fl ) kr egRo ughaj [krA
10. vuspj d l xBu eaizak ds urkHh gkrkgSt cfd vuspj d l xBu eauskdkizak d gk v'lo'; d ughA
11. nk; Ro rFlk m'jn; Ro eavj gA nk; Ro dk vFlzg&mp vf/kdj h } kjkl l sx, dk kZdsiyk djusdk drD rFlk tokngh; km'jn; Ro dk vFlzg&l l sx, dk kZdsiyk djusdsfy, mp vf/kdj h dkt ok nslA
12. vf/kdj rFlk nk; Ro dk iog mp vf/kdj h l sv/huLFk dh vj rFlk m'jn; Ro dk iog v/huLFk l svf/kdj h dh vj gkrk gA

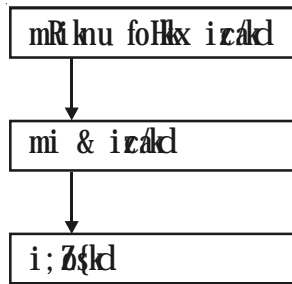


13. vf/kdj dk {sk izak ds Lrj ds vuqj gkrk gA fuFu Lrj dh vj c<rsq {sk l afpr gkrk tkrk gA





14.  $\frac{1}{2}$  of the total number of employees are men; the rest are women. If the number of men is 100, find the number of women.



100 bZlb; kck mRi knu djustknf; R

nf; R i; Zfld dsl k

mRi knu izald dsl 100 bZlb; k mRi knu djustknf; R feyA ml us; g nf; R mi izald dsl k fn; k mi izald usbl si; Zfld dsl k fn; k nf; R l k tkl drk gA; fn i; Zfld dk Zdsi jkdj ughai k rlsog mi & izald dsif r m i jnk hgSfd r qm R i knu izald dsif r mi & izald gh m i jnk hgA

15.  $\frac{1}{4}$  of the total number of employees are men; the rest are women. If the number of men is 100, find the number of women.

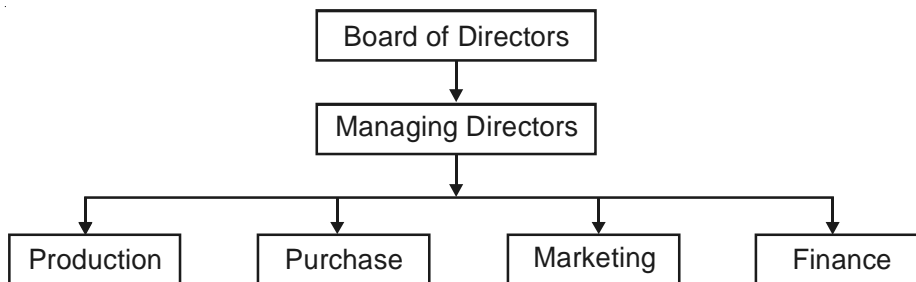
$\frac{1}{4}$  nf; R

$\frac{1}{4}$  nf; R >  $\frac{1}{4}$  dk nq i; k

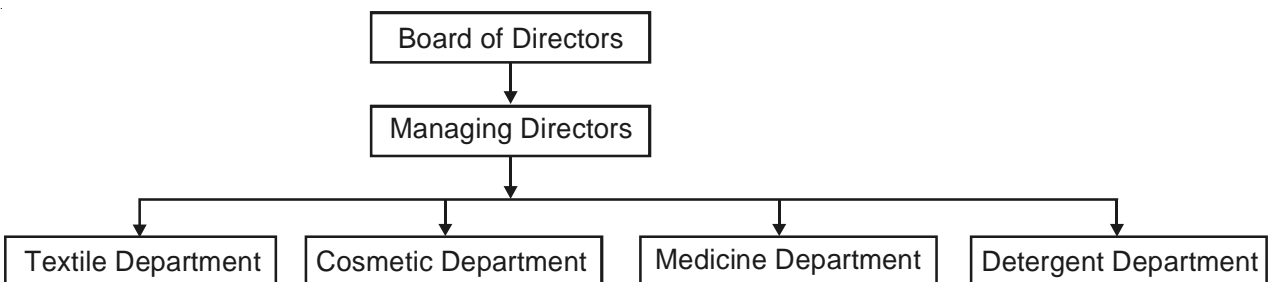
$\frac{1}{4}$  nf; R < nf; R ijk djusead fBulZ

### 1 MARK QUESTIONS

1. (a)



- (b)



Identify the type of organisation as shown in Fig. (a) and (b)

^\* rFk ^c\* vNfr eal xBu dsik i dlsigplfu, A

2. Name the type of organisation in which-
  - (a) Friendly relationship exists among the members.
  - (b) Official relationship exists among the members.

l xBu dsik i dkule fyf[k t gl&

- (1) l nL; la ea nLrkuk l cak gls
- (2) l nL; la ea vf/kdfjd l cak glA

3. Which of the following is the ideal situation-

Authority > Responsibility

Authority = Responsibility

Authority < Responsibility

fufufyf[kr eal sds l h fLFfr mUe glk&

vf/kdfj > nk; B

vf/kdfj = nk; B

vf/kdfj < nk; B

4. State any one objective of organisation.

l xBu dk ddbZ, d mis; fyf[k A

5. If responsibility is more than authority, what would be its impact on the working of the organisation?

vxj nk; B vf/kdfj l svf/kd gSrlsbl dk l fFk dh dk Zsh ij D; k iHo iMk

6. Whether decentralisation increases the importance of subordinates or reduces it.?

D; k fodsh dj. k v/huLFha dsegB dls c<rk gS; k ?W/rk gS

7. State whether the Principle of Scalar chain is followed in informal organisation or not.?

D; k vufspfd l xBu eal hku J (kyk dsfl ) kr dk ikyu fd; k t rk gS; k ugh

8. Is organisation structure essential to prescribe relationship between various position in the organisation.

l xBu eafofhu inhdscp l cak dlsfu/Wjr djusdsfy, D; k l xBu <hpk vto'; d gS

9. State whether functional organisation is based on products.

fyf[k D; k dk Hed l xBu mRn vkWjr gS

10. Name the process of entrusting responsibility and authority and creating accountability of the person whom work has been handed over.

ml iØ; k dkule fyf[k ft l dk vHk mUjnf; B , oavf/dkj l usrfk ft l Q fDr dsmUjnf; B l kx; k gSml dh mUjn r k mR u djusdh iØ; k l gA

11. Name the process which coordinates human efforts, assembles resources and integrates both into a unified whole to be utilized for achieving specified objects.

ml iØ; k dkule fyf[k ft l ds vrxZ euh iz k leal let L; LFfr djusrfk l k l uadst us rfk n uadk, df-kr fd; k t k r k gS rfd fu/Wjr y{; ladh ikr dh t k l dA

12. The number of subordinates that can be effectively managed by a superior refers to which aspect of management?

ml igywdkule fyf[k ft l dkrR; Z, d i; Zsd }jk viusfdrusv/ku LFfr k i hoiwZ < x l si; Zsk fd; k t k l drk gA

13. State any two points of importance of organising.

l xBu dsegUo ds d bZ n s f h q fyf[k A

14. Grouping of jobs of similar nature & organising these jobs as separate depts creates a particular type of organisation structure. Name that type of organisation.

ml l xBu ds < ps dkule fyf[k ft l ds vrxZ l euh i nfr ds dk k ds v k h ij fo h k h dj. k fd; k t k r k gA

15. Write down two disadvantages of divisional structure form of organisation.

fo h k h l xBu ds < ps dh d bZ n s g fu; k fyf[k A

16. Write down one situation where functional organisation is suitable?

, d , i h LFfr fyf[k t g k dk Hed l xBu mi; Dr gA

17. Differentiate between functional structure & divisional structure on the basis of for nation.

jpuk ds v k h ij dk Hed r f k fo h k h l xBu eav r j dfj, A

18. What would be the effect of no delegation of work.

v f / d k j v r j . k u djus dk D; k i f j . k e g k k

19. How does authority arise in formal organisation?

v s p k j d l xBu eav f / d k j f d l i z k j m R u g l r s g A

20. How does responsibility arise in the organisation?

l fdk eanf; B fdl izlj mR U glrk gS

21. An organisation has been formed on the basis of functional structure. But it was not able to achieve its targets. What do you think would have been the probable reasons of such type of organisation. Write down any three reason of such failure.

, d l fdk dk f d l xBu ds vk kj ij xBr dhxb ZfdU qviusm s; k dh i f r eal Qy ugh ag sik jgh A  
vki bl ds D; k dlj .k l p l drsg a , i h vl Qyrk ds d b Zrhu dlj .k fyf [k A

22. How does organising as a function of management help in effective administration?

fdl izlj l xBu dh f 0; k i z k d s i h o i w z i k k u e a e n n d j r h g S Q k ; k d l f t , A

23. How does delegation of authority help in employee development & facilitate better control? Comment.

fdl izlj v f / d l j v r j . k d e p l j ; l a d s f o d k r f k c g r j f u ; a k k e a l g k r k d j r k g S f v l i . h d l f t , A

24. "Delegation of authority is based on elementary principle of division of work". Explain.

^ v f / d l j v r j . k d k Z f o h k u d s i j i f f h d f l ) k i j v k w j r g S A Q k ; k d l f t , A

25. An organisation is manufacturing T.V., Watches, CDs & detergent. Explain which type of organisation structure is suitable for this organisation & why?

, d l fdk Vh oh ? f M - h l h M h r f k f M j t S V d k m R k n u d j j g h g S A Q k ; k d l f t , f d f d l izlj dk  
l xBu < p k l fdk } k j k v i u k k t k x l A v l j D ; l a

26. How delegation of authority is a source of development of managers? Comment.

fdl izlj l s v f / d l j v r j . k i z k d l a d s f o d k k d k o r g S f v l i . h d l f t , A

#### 4 MARKS QUESTIONS

27. Explain how Decentralisation is the extension of delegation.?

Q k ; k d l f t , f d f o d k h h d j . k v f / d l j v r j . k d k o g n ~ : i g S

28. Can both responsibility & accountability be delegated. ? Explain.

D ; k n f ; B m i j n f ; B n s i a d s i e k l f t r f d ; k t k l d r k g S Q k ; k d l f t , A

29. "Decentralisation leads to better coordination & Team work." Explain.

f o d k h h d j . k l s c g r j l e b ; r f k l g ; k e a l g k r k f e y r h g S B

30. "Organisation establishes clear lines of Authority & responsibility." Explain.

B x B u d h f 0 ; k v f / d l j r f k n f ; B d h l i " V l f k i u k d j r h g S A Q k ; k d l f t , A

31. Explain any four disadvantages of functional structure.

dk Red l xBu dh plj glfu; k fyf[k A

32. State the importance of organising as a function of management.

izk ds, d dk Zds: i eal xBu dsego dk mYy[k dlft , A

33. Enumerate the steps involved in the process of organising.

l xBu i f0; k esufgr pj. h dh Q k; k dlft , A

**5 MARKS QUESTIONS**

34. "Every organisation should be characterized by both centralisation & decantralisation." Do you agree with this statement.? Give reasons in support of your answer.

iR, sl l xBu eadth dj. k rFk fodth dj. knsuladk ghgluk vlo'; d gA D; kvki bl dFlu l sl ger gA viusmlj dsl eFlz eardZnlft , A

35. Rahul Ltd. is engaged on production of mechanical articles. The members of the organisation have friendly relationship among them. Which type of organisation has developed in the concern.? Explain only four benefits of developing such an organisation.

jleg fyfeVM e' luholry ladsml nu eadk jr gA bl l xBu dsl nL; haeai jLifjd nkrkukl azkgA fdl izlj dkl xBukRed l azk l nL; haeafodfl r glsjgkgs bl izlj dsl xBukRed l xBu dspkj ykk fyf[k A

36. What is meant by "formal organisation." Explain any two merits and two demerits of formal organisation.

vspljd l xBu dh ifj hkk fyf[k A vspljd l xBu dsdlbzns ykk rFk nls glfu; k fyf[k A

**6 MARKS QUESTIONS**

37. Distinguish between formal & informal organisation on the basis of :

- (a) Authority (b) Leadership (c) Nature (d) Behaviour (e) Flow of communication (f) Origin

vspljd rFk vuspljd l xBu esufu vkkj ij varj fyf[k %

- (1) vf/lkj (2) ur B (3) iNfr (4) Q ogkj (5) l Fkk kdk iolg (6) mnx

38. ABC Ltd is manufacturing cosmetics, garments & footwear. Which type of organisational structure should be adopted by the enterprises & Why.? States its any three features.

v c l fyfeVM l h; Zi l klu] diMrFk t wscukusoh l lFk gA ml sfdl izlj dkl xBukRed <pk viukuk plfg, vs D; h bl dh rhu fo' hkk ahh fyf[k A

39. You have to create an organisation to implement the plans already finalised by your company. What steps will you take as a manager to form an organisation.

Answer: The first step is to identify the objectives of the organisation. The second step is to determine the structure of the organisation. The third step is to recruit and select the personnel. The fourth step is to train and develop the personnel. The fifth step is to implement the organisation and monitor its performance.

40. "The significance of organisation function arises from the fact that it helps in the survival and growth of an enterprise and equips it to meet the challenges." In the light of the above statement, explain the importance of organising.

Answer: Organising is a function of management that involves the arrangement of resources to achieve the objectives of the organisation. It is important because it helps in the survival and growth of an enterprise and equips it to meet the challenges. Organising also helps in the efficient use of resources and the achievement of the organisation's goals.

## CHAPTER 6

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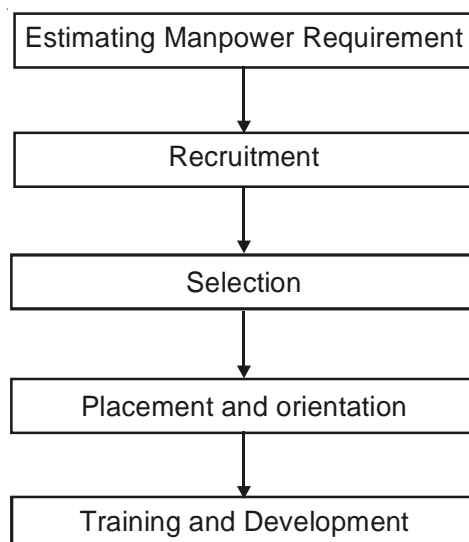
# STAFFING

## नियुक्तिकरण

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### POINTS TO REMEMBER

1. Staffing is a part of the management, which is concerned with obtaining, utilizing maintaining a satisfactory work force.
2. Staffing function is needed because of :
  - (a) Increasing size of organisations
  - (b) Rapid advancement of technology
  - (c) Complicated behaviour of human beings
3. Human resource management is a broader concept, which includes
  - (a) Human resource planning
  - (b) Employing people
  - (c) Training and development etc.
4. Steps in the process of staffing :



5. Recruitment refers to the process of searching for prospective employees and stimulating them to apply for a job
6. *Selection* : It is a process of selection of right types of candidates and offering them jobs.

7. Sources of requirement :

- (a) **Internal** : Transfer, Promotion
- (b) **External** : Casual callers, Advertisement, Employment exchange, placement agencies, management, consultants, campus recruitment, direct requirement, recommendations of employees, labour contractors, Telecasting and web publishing.

8. Differences between recruitment and Selection :

Basis	Recruitment	Selection
Process	It is a positive and simple process	It is a negative and complex process.
Purpose	Its aim is to attract more and more candidates for the vacant jobs.	Its aim is to reject unsuitable candidate and select the most suitable people for the vacant job.
Sequence	It takes place prior to selection.	It is done after the recruitment.
Numbers	No restriction on the numbers of candidates.	Only a limited number of candidates are selected.

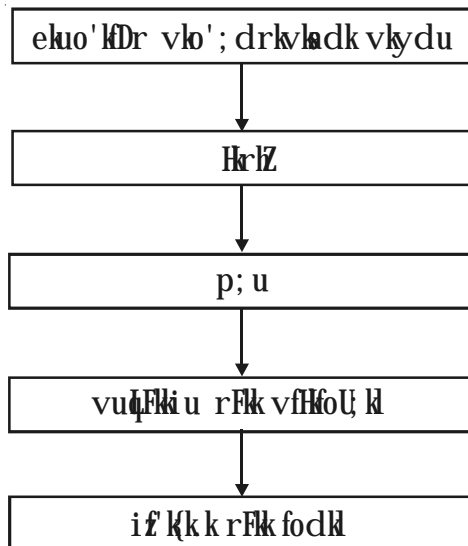
- 9. Training is a process by which the aptitude, skills & abilities of employees to perform specific jobs are increased.
- 10. Education is the process of increasing the knowledge and understanding of employees.
- 11. Development refers to the learning opportunities design to help the employees to grow.
- 12. Methods of training :
  - (a) *On the job training methods* : Coaching, Internship, Apprenticeship programmes, Job rotation.
  - (b) *Off the job training methods* : Classroom films, case study, computer modeling, programmed instructions, vestibule training.

**egb i wZ fclhq**

- 1. fu; Qrdj.k i z k i f 0 ; k dk og Hkx gSt l sl r q V , oal r q V d j u s o k y s d k Z y d s i f l r d j . l i m i ; k , o a j [ l j [ l k o l s l e f / r g A
- 2. fu; Qrdj.k dk Zdh vlo' ; drk gSD; k d l
  - 1. l i f k dk v d l j c < + j g k g A
  - 2. r d u l d e a r l o z i x f r g l s j g h g A
  - 3. e k u o h Q o g l j t f v y g A
- 3. e k u o h l i k l u i z k , d f o l r r v o / l j . k g S f t l d s v r x z &
  - 1. e k u o l i k l u f u ; k u



2. fu; fDr; k nsik
3. i f kkk o fodkl bR kn fufgr gA
4. fu; fDr dj.k i fO; k eapj.k



5. Hr lZ dk v fZ hoh de Zlfj; lads [k us, oam gal x Bu es fDr in lads fy, vlo su d jus gr qi kl kgr d jus dh i fO; k gA
6. p; u v fkl k fkl lads p us r fkl m ga dle i r k for d jus dh i fO; k gA
7. Hr lZ dk ò k %
  1. v r fjd & l fkl k r j. k in kl u fr
  2. ck'; & vld f led cy lo h fo kl i u j k x j dk l y; ] i z k i j l e' l k r h d s i l Hr lZ i e {k Hr lZ
8. Hr lZ v l s p; u eav r j

vklkj	Hr lZ	p; u
i fO; k	; g , d ? k u r e d , o a l j y i fO; k g A	; g , d _ . k u r e d r fkl t f v y i fO; k g A
mís;	bl dk mís; f j Dr l fkl u l a ds fy, v f / k l l s v f / k l v h k fkl l a d l s v k d Z l r d j u k g A	bl dk mís; v u q; l a h v h k fkl l a d l s v R ú r mi; f r y k l a d l s f j Dr l fkl u d s fy, p q u k g A
Øe	; g p q l o l s i g y s g l r k g A	; g Hr lZ d s c h g l r k g A
l á; k	v h k fkl l a d h l á; k i j d l b Z j k l u g h a g l r h g A	d o y l f e r l á; k e a g h v h k fkl p u s t l r s g A

9. i f kkk , d , d h i fO; k g s f t l d s } j k f o' l k d k Z d l s i j k d j u s g r q d e Z l f j; l a d h i o f ú k h f u i q r k v l a , o ; k r k l a e a o f) d h t k r h g A

10. f kkk de zlj; lads Klu o l e> eao f) djusdh i f0; k gA
11. fodkl vf/ke vol j lads crkrk gSt k de zlj; lads vksc < useal gk rk djrsgA
12. i f kkk dh fof/k k %
  1. dk Zij i f kkk fof/k k d l p x] l a Dr i f kkk dk Zcnyh i f kkkA
  2. dk Zl s ijs i f kkk fof/k k d { k d { k H k k l f Q Y e h d d v / ; ; u ] i z l k B ' k y k i f kkk d E ; W j e k M y x ] i k k e f u n z l A

### 1 MARK QUESTIONS

1. Why is recruitment called a positive process?  
H r l z d s l d j k R e d i f 0 ; k D ; l a d g k t k r k g S
2. Name the process by which the most suitable candidate is placed to fill the vacant job position.  
m l i f 0 ; k d k u l e c r l b , f t l d s } j k l c l s m i ; Dr i f l z d s f j Dr l f k u i j j [ k t k r k g A
3. Name the concept which involve growth of an individual in all respects.  
m l v o / k j . k d k u l e c r l b , f t l e a f d l h 0 f Dr d s l H h i g y v l a d k f o d k l g k r k g A
4. "Our assets walk out of the door each evening. We have to make sure that they come back the next morning." This statement relates to which function of management.  
g e j h l a f k k i R s l l k a l y n j o k s l s c g j p y h t k r h g A g e a f u f ' p r d j u k g k k f d v x y h l q g o s o k i l v k A ; g d f l u i z U k d s f d l d k Z l s l a f k r g A
5. Out of Human Resource management and staffing which one is wider?  
e k u o l a k k u i z U k r f k f u ; f Dr d j . k e a l s f d l d k { k k 0 k i d g A
6. Name any two internal sources of Recruitment.  
H r l z d s n k s v k r f j d o k r c r l b , A
7. Name the source of recruitment in which newspapers, employment news, television etc. are used.  
l e l p j i - l j k x j l e l p j ] V s y f o t u v l n d k i z k H r l z d s f d l e k ; e e a f d ; k t k r k g A
8. Name the method of training suitable for plumbers, electricians and iron workers.  
m l i f k k k f o f / k d k u l e c r l b , f t l d s f y , l y f c j ] f c t y h d k d l e v f l o k y g j d l s f k H h z i f k k k i H r d j u k g k r k g A
9. How education is broader in scope than training?

f kkk dk {sk if kkk ds {sk l sfdl izlj vf/d Q ki d gA

10. Write the meaning of placement.

vu fki u dk v fZ crlb, A

11. Mention any two employment tests.

fdU hank sijh (k v) ad sule crlb, ft udk iz k de p k j; h ad sp; u gr qfd; k t k r k g A

12. Why is selection considered to be a negative process.

p; u d l s u d j h e d i f 0; k D; h ad g k t k r k g A

13. Give one advantage of job rotation training.

dk Zcnyh i f k k k dk, d y h k f y f [ k A

14. Which source of recruitment has the disadvantage of 'increase in labour turnover.'

^Je if jor Z nj eas f) \* dh g fu h r l Z dsfdl ò k eag h g S

15. State one objective of preliminary screening.

i j h d t h p dk, d m í s; f y f [ k A

### 3 MARKS QUESTION

16. Why is staffing function is considered to be the key to other functions of management?

fu; q r d j . k d l s v U l h h i z U k d h dk k Z d h d q h D; h ad g k t k r k g A

17. Write three points of distinction between training and development.

i f k k k r f k f o d k l earhu v a j f y f [ k A

18. Why internal sources of recruitment are considered as economical?

h r l Z ds v l r f j d ò k h ad s D; h a f e R ; h ½ e [ h p z e k u k t k r k g A

19. State any three benefits of training to an organization.

i f k k k l sfdl h l x B u d l s g l s o k y s f d U h a p j y h h ad k m y s k d l f t , A

20. A company wants to recruit supervisor for production department. The assistant supervisor is not competent and appointment has to be made on emergency basis. Out of the following sources which one should be adopted any why:

- (a) Factory gate appointment
- (b) By advertisement in newspaper
- (c) By promoting the existing supervisor.

, d dEi uh mRl nu foHkx eai; Zsld dh HrlZdjuk plgrh gA l gk d i; Zsld l {le ughagSvls vki r  
 dkyhu vkkj ij fu; Dr dh t k rh gA fuFu eal sdlk l k Ór viukuk plfg, vls D; la

- (a) dlj [kkuk }lj HrlZ
- (b) l eplj i=k ea foKki u
- (c) fo|eku i; Zsld dh inkkufr

#### 4 MARKS QUESTIONS

- 21. Define selection. What is the purpose of selection?  
 p; u dh ifjkk nft, A p; u dk iz k u Li"V dlft, A
- 22. Differentiate between internal and external sources of recruitment on the basis of  
 1. Purpose 2. Economy 3. Quality 4. Time  
 vrfjd o cká òr esufu vkkj iij varj dlft,  
 (i) mís; (ii) vkfld (iii) xqloÙk (iv) l e;
- 23. What do you mean by employee development? Why it is needed?  
 deplj fodkl l sD; k vffkk, gS ; g D; lavo'; d gS
- 24. Write four differences between recruitment and selection.  
 HrlZvls p; u esplj varj fyf[k A

#### 5 MARKS QUESTIONS

- 25. Explain in brief the steps involved in the selection process of the employees.  
 deplj; ladh pulo ifO; k esufgr pj. ladh Q k; k dlft, A
- 26. Explain briefly any five types of employment tests.  
 fdghailp jk xkj ijkkladkl fkr o. l dlft, A
- 27. Explain the following one the job methods of training  
 1. Job Rotation  
 2. Internship  
 fuFufyf[kr dk ZFly ij i f kkk fof/k, ladh Li"V dlft, A  
 1. dk Zcnyh

2. Explain the importance of manpower planning.

28. What is meant by manpower planning? Why it is important?

Explain the importance of manpower planning.

### 6 MARKS QUESTIONS

29. "Filling vacancies from within the organization has some advantages as well as limitations" Explain any three such advantages and three limitations.

Explain the advantages and limitations of internal recruitment.

30. "An organization can achieve its objectives only when it has the right persons in the right position". In the light of this statement explain the point highlighting the importance of staffing function to the organization.

Explain the importance of staffing function to the organization.

31. Explain in brief three merits and three limitations of external sources of recruitment.

Explain the merits and limitations of external recruitment.

32. Explain briefly any three 'off the job methods' of training.

Explain the off-the-job methods of training.

33. Explain management consultants, campus recruitment and web publishing as external sources of recruitment.

Explain management consultants, campus recruitment and web publishing as external sources of recruitment.

34. The Quality of production is not per standards. On investigation it was observed that most of the workers were not fully aware of the proper operation of the machinery. What could be the way to improve the accuracy?

Explain the way to improve the accuracy of production.

35. Define human resource management. Explain the various stages of the evolution of Human Resource Management.

Explain the evolution of Human Resource Management.

## CHAPTER 7

# DIRECTING

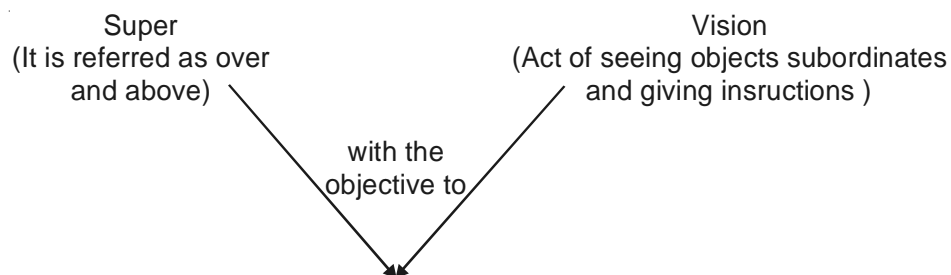
## निर्देशन

### POINTS TO REMEMBER

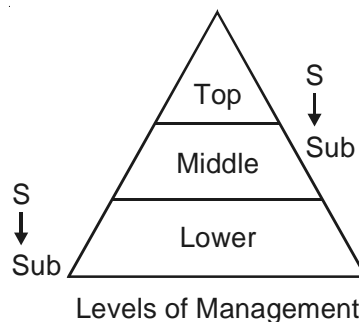
1. Directing includes four elements :

1. Supervision
2. Motivation
3. Leadership
4. Communication.

2. **Supervision** : Supervision is comprised of two words.



- (i) To ensure optimum utilization of resources.
  - (ii) To achieve work targets.
3. Since supervision is referred as the function of overseeing the subordinate and giving instruments, this functions is performed at all levels. Supervision as an element of directing is prevalent at all levels of management.

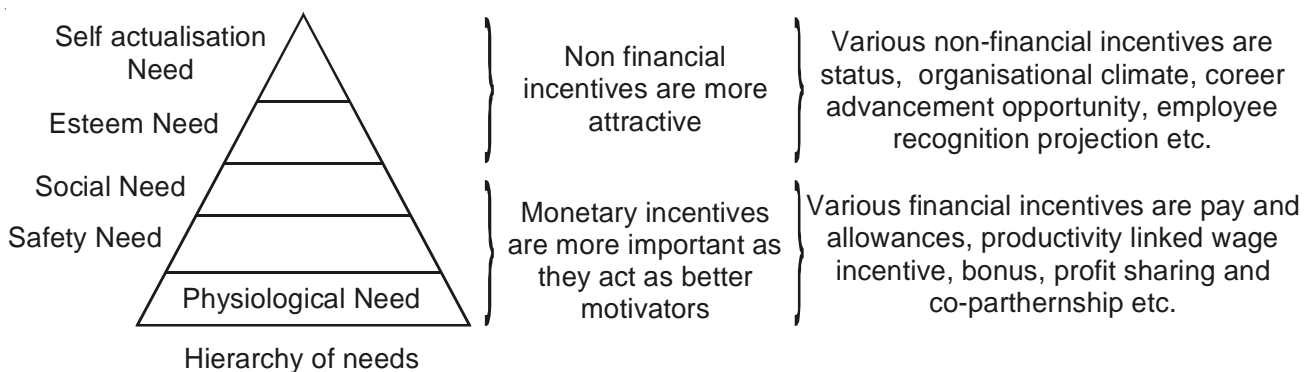


4. Post of supervisor is however designated at the operative level in the organisational hierarchy.

5. Since supervisors work at operative level and are directly related to work targets and worker, they are referred as first line managers.

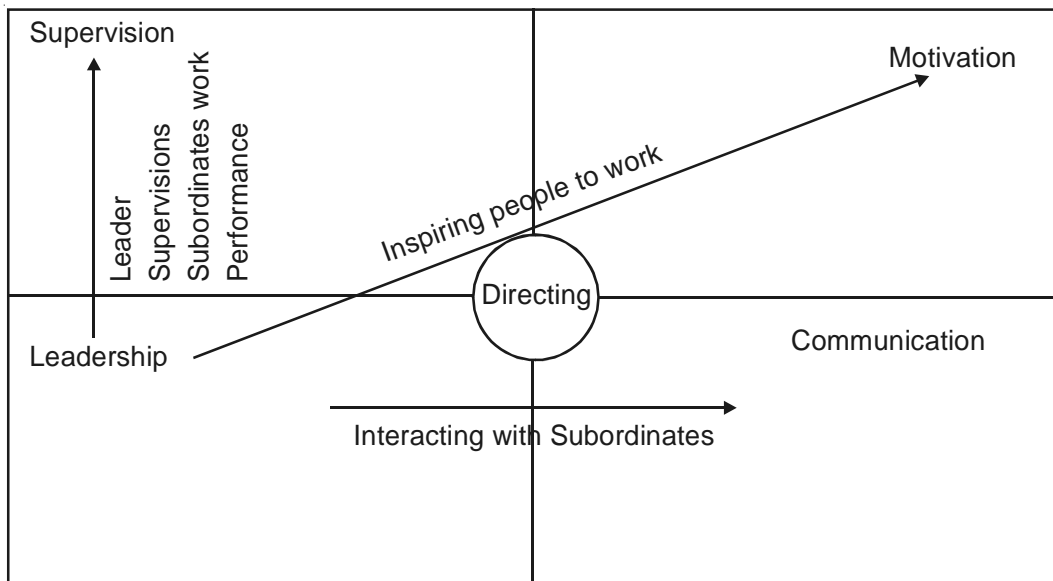
## Motivation

1. The ability to do a work is created through education and training while willingness to do the work is created through motivation.
2. Needs is the driving forced factor that peoples people to action.
3. Maslow's theory provides an insight to managers that they must be sensitive to the needs of subordinates and provide an environment for the satisfaction of their dominant needs.
4. Needs are in hierarchial order, starting from basic needs to other higher level needs.
5. Level of needs is the decisive factor in the development of various motivational schemes.
6. Relevance of Maslow's Theory in Motivation.



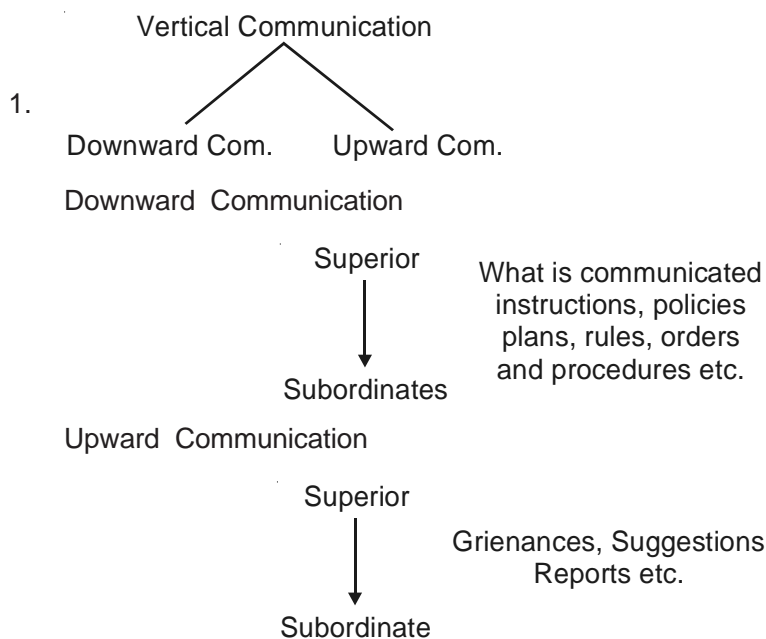
## Leadership

1. Leadership is the ability to use non-coercive influence on the activities, goals and motivation of others for achieving organisational objectives.
2. A leader may not be a manager but a manager has to be a leader.
3. Leadership is related to a situation. There is no best style of leadership suitable for all situations.
4. The leaders always play a key role for the success and excellence of any organisation.
5. Although leadership is one element of directing, it is closely inter related with other three elements.



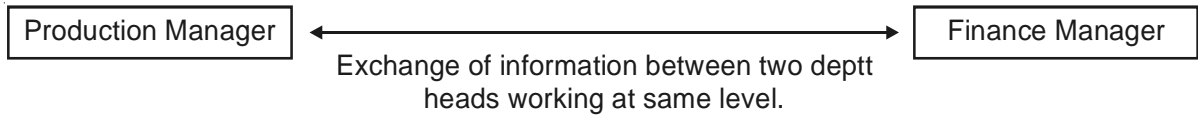
**Communication**

1. Communication is never complete without feedback.
2. Communication is of two types
  - Informal
  - Formal
3. Informal communication does not follow the principle of chain of command. Formal communication has prescribed path.
4. Formal communication can be divided in two parts.





2. Horizontal communication

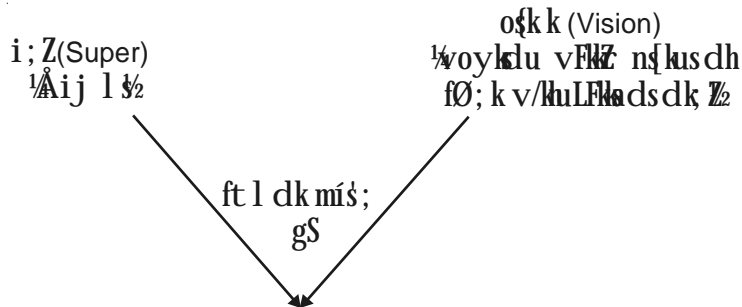


; kn j [kus ; k; fcaq

1. funZlu eaplj rR l ffefyr g&

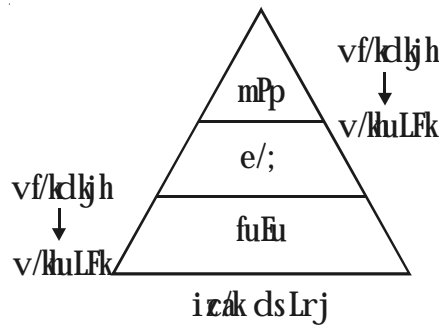
1. i; Z&k k
2. vfHk j. k
3. us R
- 4- l H&k k

2. i; Z&k k eank 'kn l ekgr g&



1. l Hh l k/ula dk mfpr mi; k&A
2. yfkr mis; k& dh i H&A

3. i; Z&k k dkl cak v/kuLFk dsdk k&dk voyk lu djuk v& m&gafunZk nsuk g& dk Zds: i ea; g l Hh Lrj la ij fd; kt krk g& bl fy, funZlu dsrR ds: i ea; g i&ak dsl Hh Lrj la ij Q Hr g&

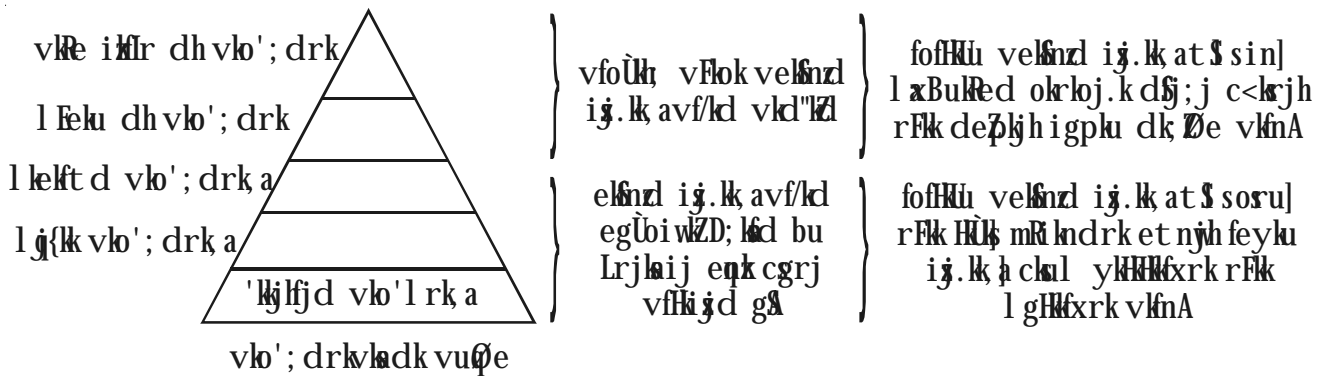


4. i; Z&k k dkin i&ak dh v& jplj d J [kyke adk H&ed vH&Z fuHu Lrj ij g&krk g&

5. i; Zškd D; kcd dk kcd vFlokufu Lrj ij dle djrsgat gk mudkl cak dežlj; larFk yf{kr dk Zl s glrk gš bl fy, mlgai le iDr dk izak dgk t krk gš

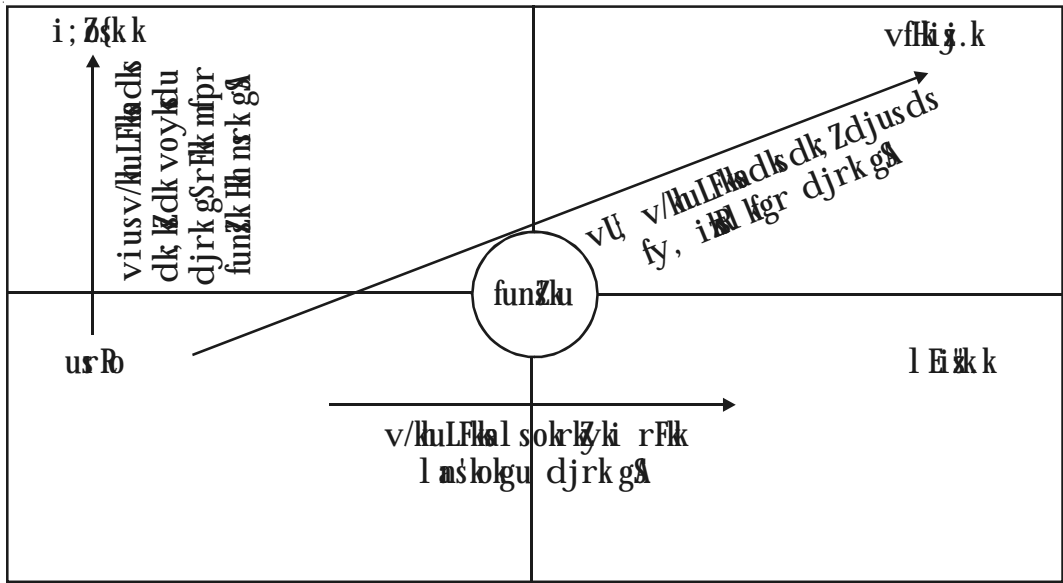
vffij.k

1. fdl h dk Zds djusdh; k; rk f k k ko i f k k k l smri lu glrh gsfdrqdk Zdjusdh bPNk vffij.k l s mri lu glrh gš
2. vlo'; drk agh euč; dls dk Zdjusdsfy, i fjr djrh gš
3. eLydsfl) kr iz/kd h dls; g l e>useal gk rk nrs gšfd osviusv/huLFk dh vlo'; drk vafid i fr l osu' h y glsrFk mlgai, d k dk Zokroj.k nafd osviah vlo' drk vafid sl r'v dj l dš
4. vlo'; drk vafid, d vuče glrk gš t l l k l vlo'; drk vafid smPp Lrjh vlo'; drk vafid vffij. vRe i fjr dh vlo'; drk rd glrk gš
5. vlo'; drk vafid Lrj gh izak } jk fofHū vffij.d; k uk afodfl r djuseafu/hzd r b glrk gš
6. vffij.k eaeLydsfl) kr dk vffij. &



ur b

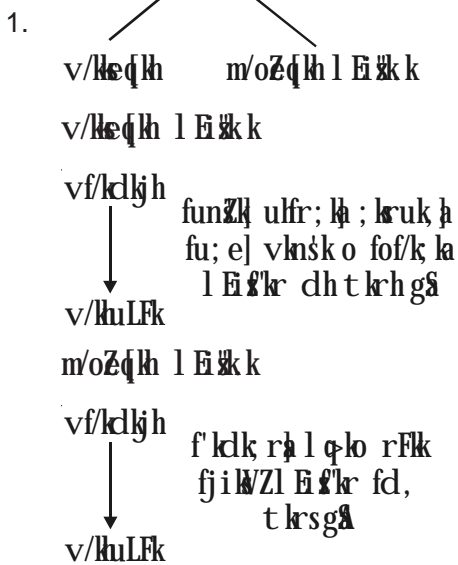
1. ur b vū Q fDr; kadh fØ; k h y; larFk vffij.k dlsfcuk cy iz k i fjr djusdh; k; rk gš rfd l fFk dsy; kadh i fjr gls l dš
2. ,d urk vlo'; d ughagšfd izak glsfdurqizak vlo'; d #i l surk glrk gš
3. ur b fLFkr l sl cak j [krk gš bl fy, ur b dk d b ZHh izlj l Hh ifj fLFkr; laemi; Dr ughagš
4. urk l fFk dh l Qyrk rFk mR"Vrk eægūoi vZ; k nku nrk gš
5. ;f| i ur b izadh funZku dk, d r b gšfdurq; g vū rhu r b dš l fFk l h k l cak j [krk gš



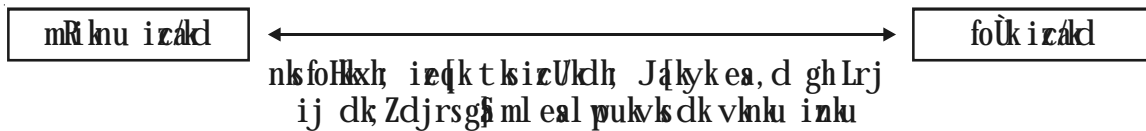
I Ešk k

1. I Ešk k i r i f B ds cuk v/lyk gA
2. I Ešk k ns i z l j dk g r k g S   
  - vulspfd
  - vspfd
3. vulspfd I Ešk k vnsk dh J fky@l i ku J fkyk dk ikyu ugha djrk vulspfd I Ešk k dk fu/Hgr ekZg r k gA
4. vulspfd I Ešk k dls ns Hk ea ch k t k l drk gS%

yEcor I Ešk k



2. lery lEkk



1 MARK QUESTIONS

1. Write down any two characteristics of supervision?

i; Zskk dh dlbZnsfo' kark afyf[k A

2. Name the communication network in which each person can communicate with his adjoining two persons.

ml lakk rak dkule fyf[k ft l eaiR, d QDr viusvk &kl dsdoy nsl gde; kcdsl kkl msk dk vknku&inku dj l drk gA

3. Write down one assumption of Maslow's theory of motivation.

eklyndh vfkj sk l aah fopj/kj dh, d ekj rk fyf[k A

4. Name the kind of monetary incentive in which employees are offered company's share at a lower price than the market price.

ml elnz ij.k dkule fyf[k ft l eadEiuhds'lsj deZlfj; kcdskt kj dler l sde dler ij fn, t krgA

5. Name the process of stimulating people to action to accomplish desired goals.

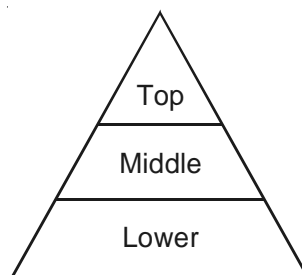
ml iZ; kdkule fyf[k t sbfNr mis; kcdsijk djusgrvylkcdsk Zdjusdsfy, ikl kgr djrgA

6. Name the incentive in which benefits like car allowance, housing, medical aid are offered to an employee.

ml elnz ij.k dkule fyf[k ft l eadeZlfj; kcdsdj HUK edku rFk fpdfR k l fp/k nh t krgA

7. At which level of management, function of directing is performed?

izak dsfdl Lrj ij funZu dk dk Zfd; k t krgA



Levels of Management

8. An element of directing which refers to the ability of influencing people to strive willingly for mutual objectives. Name that element.

funZlu dsml rRb dkule fyf[k ft l dkl cakQ fDr; kadhiLijLifjd mis; kadhiR grqLoPNd iz Ru djusdsfy, iHfor djusdh; K; rk gA

9. Distinguish between managership and leadership on the basis of 'scope.'

dkZsk dsvklj ij izadykrFk us Rb eavvj dfj, A

10. "A good leader does not wait for opportunities but creates them." This statement is related to which quality of a good leader.

Ed vPNkurk vol jladkbirt lj ughadjrkcfyd mlgaisk djrk gAB; g dFlu , d vPNsurk dsfdl xqkl sl afkr gA

11. Name the process of passing information and understanding from one person to another.

ml iF0; k dkule fyf[k ft l dsvUrxZ l nsk, oal e> dks, d Q fDr l snwjsQ fDr rd igpk kt krk gA

12. What type of informations are passed through formal communication?

vSpkj d l nsklogu eafdl izlj dh l puk ai kr dh t krh gS

13. "Suggestion and reactions" are included in which type of formal communication.

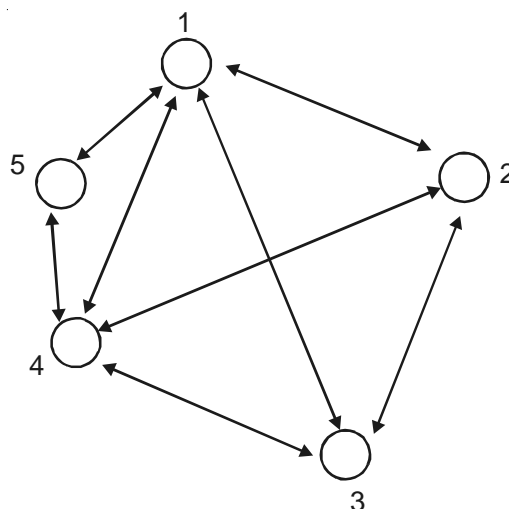
1 q lo o i fr 0; k a dksfdl vSpkj d l nsklogu eal ffefyr fd; kt krk gA

14. "Better human relations" is one of the advantages of which type of communication.

^PNsekuoh l nak l nsklogu dsfdl izlj dk, d yHk gS

15. Identify the communication network and name it.

l Ekk rak dks igplfu, o bl dkule fyf[k A



### 3 MARKS QUESTIONS

16. "The post of supervisor is just insignificant." Do you agree. Give three reasons in support of your answer.

Hi; Zsk d dkin egbiwZughgAB D; k vki l ger gsviusmUj dsl eFZ eadlbZrhu dlj. k fyf[k A

17. Explain how supervision is helpful in the "improvement of communication and motivation?"

Q k; k dlft, fd i; Zsk k l aslogu, oavfhi j. k l (lj ead\$ sl gk d g\$

18. Explain the process of motivation with the help of a diagram.

fp=k dh l gk rk l svfhi j. k dh i f0; k fyf[k A

19. Explain how motivation helps to reduce absenteeism in the organisation.

Q k; k dlft, dhfdl izlj vfi j. k l xBu eavuuqLFfr dh nj ?Wkuseal gk d g\$

20. State three assumptions of Maslow's thierarchy of needs.

ekLyhadsvlo'; drk i fFedr k Oe dh rhu ek, rk afyf[k A

21. Leadership is required only for less efficient subordinates." Do you agree? Write three reasons in support of your answer.

Rur B dh vlo'; drk do y de dly v/huLFhadsfy, ghrhgAB D; k vki l ger g\$ viusmUj dsi{k earhu dlj. k fyf[k A

22. Communication originally drafted in English has been very poorly translated in Hindi. Name the type of barrier to effective communication and explain any other two barriers of this type.

l ask t sigysvxt heafy [k x; k Fk fgtih Hk k esBrd l svuqin ughagsl dA bl sl E k k dh dli l h ckk dga bl rjg dh nsvU ckk dh Q k; k dlft, A

### 4 MARKS QUESTIONS

23. Explain any four characterstics of motivation.

vfi j. k dh dl bZplj fo' k k afyf[k A

24. Explain 'Job enrichment' and 'Job security' as non financial motivators.

x\$ elnz vfi j d ds#i ea^dk Zl E urk rFk l ok l j{k dsl e>lb, A

25. Expalin any four functions of a supervisor?

i; Zsk d dsdl bZplj dk Zfyf[k A

26. Explain the informal communication network with thehelp of diagram.

fp=k dh l gk rk l svuls plj d l E k k rak dh Q k; k dlft, A

## 5 MARKS QUESTIONS

27. What do you mean by NOISE in communication process? State four examples.

l a<sup>s</sup>l o l g u e a ^ k j \* d k D; k v f l z g a b l d s d b z p l j m l g j . k f y f [ k A

28. Explain how informal communication is complementary to formal communication.

Q k ; k d l f t , f d v u l s p l j d l E j . k v l s p l j d l E j s k d k i j d g A

29. Explain the formal communication network with the help of a diagram.

f p = k d h l g k r k l s v l s p l j d l E k k r a k d h Q k ; k d l f t , A

30. "Managers are important but leaders are vital for lasting organisational success." Explain any five points which highlight the importance of leadership.

E i z a d e g l b i v l z g s f d l r q u r k l x B u d h f u j a j l Q y r k d s f y , v f u o k Z g a b l r f ; d h i f v d j r s g g u r R d s e g l b d s i l p f c l h q f y f [ k A

31. Romesh, a production manager very efficiently achieved his production target well in advance. He was congratulated by the top management and his success story has been published in a daily newspaper.

1. Name the incentive given to Ramesh.
2. Identify the type of incentive.
3. List three other incentives of the type identified in part (2)

j e s h , d m r i n u i z a d l c g r d q y r k i o z l v i u s y { ; l a d h l e ; l s i g y s i l r d j y r k g A m l s m p p i z a d l a } j k c / l b z n h t k r h g s r f k m l d h l Q y r k d h d g k u h , d n s u d v [ k l j e a h i z l k ' k r d j o b z t k r h g A

1. j e s h d l s f n ; s x , i h l l g u d k u l e f y f [ k A
2. i h l l g u d k i z l j f y f [ k A
3. H k x 2 e a i g p l u s x , i z l j d s d b z r h u i h l l g u d h l p h c u l b , A

## 6 MARKS QUESTIONS

32. Explain any three principles of directing.

f u n z l u d s d b z r h u f l ) k r f y f [ k A

33. "Human beings can be motivated only through the satisfaction of their needs." Explain.

Q k ; k d l f t , f d e k u o d l s m u d h v l o ' ; d r k v l a d h l r f v } j k g h v f l i s j r f d ; k t k l d r k g A

34. Explain various Barriers to effective communication.

ihoh l i k k dh fo fhu ck/kladh Q k; k dlft , A

35. Differentiate between formal and informal communication (any six points).

vspfd rfk vuspfd l i k k ead bzn%varj fyf[k A

36. "Communication serves as the lubricant fostering for the smooth operations of the management process." Highlight the importance of communication.

l i k k , d , i kfpdulsoyk in fZgSt kizadh, i f; k d s f u ? u pykuseal gk rk d j r k g S b l r f; dh i f v d j r s g g l i k k d k e g l b fyf[k A

37. 'Leaders can be distinguished from non leaders by certain unique traits/qualities possessed by them. Explain any six traits of a good leader.

^ d urk x s urk l s d n fo f k v x q h a l s f h u g a \* , d v P N s u r k d s N % x q k fyf[k A

38. 'Motivation is the essence of management.' Explain the importance of motivation in the light of the statement.

l v f h i j . k i z a k d k l i j g a b b l d f u d s v k l i j i j v f h i j . k d s e g l b i j i z l k k M f y , A

39. "Human beings can be motivated only through the satisfaction of their needs." Explain.

ekuo d l s m u d h v l o ' ; d r k v a d h l r f v } j k g h v f h i j r f d ; k t k l d r k g a b Q k ; k dlft , A



## CHAPTER 8

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# CONTROLLING

## नियंत्रण

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### POINTS TO REMEMBER

1. Management control implies the measurement of accomplishment against the standards and correction of deviation to ensure attainment of objectives according to plans.
2. An Ideal control technique should focus in 'key results areas' (KRAs) which are critical to the success of an organisation.
3. Control by Exception is based on the belief that "An attempt to control everything may end up controlling nothing."
4. Controlling helps in achieving organisational goals judging accuracy of standards, making efficient use of resources, improving employees motivations and facilitates coordinates in action.
5. Controlling, faces difficulty in setting qualitative standards, resistance from employees. It is also a costly affair.
6. In budgetary control all operations are planned in advance in the form of budgets and actual results are compared with budgetary standards.
7. Techniques of control can be divided into two categories :
  - (a) **Traditional techniques** : It includes :
    - (i) Personnel observation
    - (ii) Statistical report
    - (iii) Break-even Analysis
    - (iv) Budgetary control.
  - (b) **Modern techniques of control** :
    - (i) Return on Investment (ROI)
    - (ii) Ratio Analysis
    - (iii) Responsibility Accounting
    - (iv) Management Audit
    - (v) PERT and CPM
    - (vi) Management Information System (MIS)

## egibi wZ fclhq

1. izUldh fu; akk dsvlrxZ olrfod izfr rFlk fu/WZr izk hhdh fopyuladk irkyxk kt krgSrFlk mlganjv djusdsfy, l qhRed dk Zlgh dh tkrh gS rfd fu; kt u dsvud kj y{; lads iHr fd; ktk l da
2. ,d vln' lZfu; akkrduld fu" iku dsvklhj Hw rÙlaj /; ku dshz djrhgSt ksf d l xBu dh l Qyrk eajklcd cursgA
3. ^viom }kjku; akk bl fopkj ij vkhjr gSfd HZ, sl plt dksfu; akk djusdh dlf kkd kvr dñ Hh fu; akku dj ikuseagrk gS
4. fu; akkl xBulRed y{; lads iHr djuš ekudsdh; FkZk 'lj rk dh tlp djuš l a kluladk dqyre izk djuš deZlj; lads vHij .keal dh djuš vnsks, oavuqkl u l fuf pr djuseal gk rk djrkgA
5. fu; akk ifjekRed ekudsdsvu/WZ.kep deZlj; lads iHr jkk dk l leuk djrkgA
6. ctrh fu; akkeal Hhdk Zlg; kt V ds#i esi vZeghf; kt r grhgSrFlk olrfod ifj. Hhdhryuk ct Vjh ekudlal sdstkrh gA
7. fu; =k dh rdulda

$\frac{1}{2}$  ijEjkr rdulda

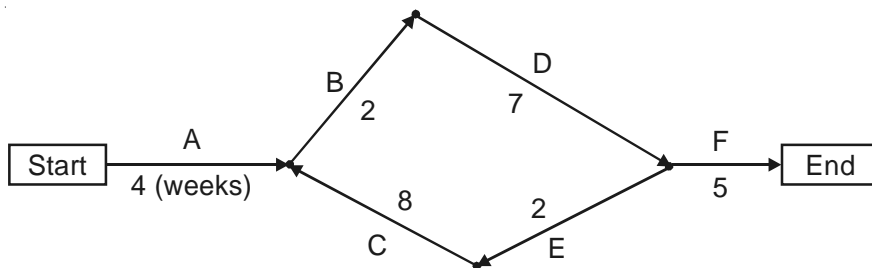
- (i) Q fDrxr voyklu
- (ii) l h[; dh fjilWZ
- (iii) l e&foPNn fo'yšk k
- (iv) ct Vjh fu; akk

$\frac{1}{4}$  vkhud rdulda

- (i) fuošk ij ifrQy
- (ii) vuqkr fo'yšk k
- (iii) mljnkf; Rb yš klu
- (iv) izak valškk
- (v) iVZrFlk l hie
- (vi) izUk l puk izkyh  $\frac{1}{4}$ e-vbZ l  $\frac{1}{2}$

## 1 MARK QUESTIONS

1. What are the two principles, a manager must consider while dealing with the deviations effectively.  
 , d l i f k dsfdl h de p j h v f l o k f m i w z w ds o l r f o d i f j . k e d l s e k i u s d s f y , f d l g h n l s e k e d e k u d k s d u l e f u / h r f d ; s x ; s c r b z a
2. Name the two quantitative standards set up for the measurement of actual results of individual employee or department of an enterprise.  
 , d l i f k dsfdl h de p j h v f l o k f m i w z w ds o l r f o d i f j . k e d l s e k i u s d s f y , f d l g h n l s e k e d e k u d k s d u l e f u / h r f d ; s x ; s c r b z a
3. What are the two qualitative standards set up for the measurement of actual results.  
 o l r f o d i f j . k e d l s e k i u s d s f y , f u / h r f d ; s x ; s d l g h n l s d o l f y v h e k u d D ; k g s
4. What are the two types of deviations.  
 n l s i z l j d s f o p y u D ; k g s
5. Which two aspects of performance are compared in controlling?  
 f u ; a k k e a f u " i l n u d s f d u n l s i g y v l a d h r y u k d h t k r h g a
6. What are PERT and CPM in controlling?  
 f u ; a k k e a P E R T r f l k C P M D ; k g s
7. Mention any two features of good controlling system.  
 v P N h f u ; a k k i z k y h d h f d l g h n l s f o ' k r k w l a d s f y f [ k \
8. A network of diagram, showing the paths to complete a project is given below?  
 , d i k d v d l s i y k d j u s d s f u , f u p s D i a g r a m e a j l r s f n [ k s x ; s g a



What is Critical Path? Trace it, and what is the total time taken to complete the project.

bl ea critical path D ; k g s c r b z s r f l k i k d v d l s i y k g l s e a f d r u k l e ; y x a

9. Write down the first and last step of controlling.

f u ; a k k d k i g y k v l s v f r e p j . k f y f [ k A

10. Walchand Nagar Industries Ltd. is engaged in manufacturing machine components. The target production is 60 tonnes per day. The company had been successfully attaining the target until two months ago. Over the last two months it has been observed that daily production varies between 51 to 56 tonnes. Identify the management function to rectify the above situation.

Walchand Nagar Industries Ltd. ke manufacturing machine components ke liye target production 60 tonnes per day thi. Company ne is target ko takne mein kamyabi se 2 mahine pehle tak kamyabi se karte the. Last 2 mahino mein observe kiya gaya hai ki daily production 51 se 56 tonnes ke beech mein fluctuate kar rahi hai. Upar di gayi situation ko theek karne ke liye management function ko identify karein.

11. Which functions of management ensures work accomplishment according to plans?

Management ke kaunse functions plans ke mutabiq kaam ko complete karne ke liye jawabdear hain?

12. You are the manager of Cat Technology Ltd. It is reported that postal expenses have increased by 10% over the standard rate and cost of raw materials have increased by 2%. Which of the two deviations will be more critical to you?

Apni Cat Technology Ltd. ke manager ke ro mein hai. Report ke mutabiq postal expenses standard rate se 10% zyada badh gayi aur raw materials ka cost 2% badh gaya. In dono deviations mein se kaunsi aapke liye zyada critical hogi?

13. Which principle of management control is based on the belief that an attempt to control everything results in controlling nothing.

Management control ke kaunse principle is belief ke upar based hai ki sab kuch ko control karne ki koshish karne se koi control nahi kar sakte hain?

14. What do you mean by 'Key Result Areas' (KRAs) in the context of controlling.

Controlling ke context mein 'Key Result Areas' (KRAs) ka matlab kya hai?

15. Harik Kranks Ltd produces Hydraulic Brakes used in tractors. The company's policy is that at most 1% of the daily production could be defective. Over the two months period, it has been observed that 5-6% of the production is defective. The cause of deviation found is defective machinery. What corrective action should be taken by the management?

Harik Kranks Ltd hydraulic brakes ke liye tractor ke liye use karta hai. Company ka policy hai ki maximum 1% daily production defective ho sakti hai. Last 2 mahino mein observe kiya gaya hai ki 5-6% production defective hai. Deviation ka karan defective machinery hai. Management ko kya corrective action leni chahiye?

### 3 MARKS QUESTIONS

16. Define 'Controlling'. State the various steps in controlling.

'Controlling' ka matlab kya hai aur iske various steps kya hain?

17. Explain control as a pervasive function of management.

Control ko management ka ek pervasive function kya samajhate hain?

18. "Corrective action is essence of control." Explain.

18. "Corrective action is essence of control." Explain.

19. What is meant by budgetary control. Explain any two points highlighting its importance?

19. What is meant by budgetary control. Explain any two points highlighting its importance?

20. Explain the feedback in controlling. Give an example.

20. Explain the feedback in controlling. Give an example.

#### 4 MARKS QUESTIONS

21. "If you try to control everything, you may end up controlling nothing." Explain.

21. "If you try to control everything, you may end up controlling nothing." Explain.

22. What is break-even-analysis? How it is an effective technique of control?

22. What is break-even-analysis? How it is an effective technique of control?

23. Explain how the management audit serve as an effective techniques of control?

23. Explain how the management audit serve as an effective techniques of control?

24. How does control simplify the task of the supervisor? Explain.

24. How does control simplify the task of the supervisor? Explain.

#### 5 MARKS QUESTIONS

25. What are the problems/limitations faced by an organisation in implementing an effective control system.?

25. What are the problems/limitations faced by an organisation in implementing an effective control system.?

26. Explain PERT and CPM as modern technique of management.

26. Explain PERT and CPM as modern technique of management.

#### 6 MARKS QUESTIONS

27. What are the different steps involved in the process of control? Explain.

27. What are the different steps involved in the process of control? Explain.

28. 'Planning and controlling are mutually inter-related and inter dependent activities.' How? Explain clearly.

28. 'Planning and controlling are mutually inter-related and inter dependent activities.' How? Explain clearly.

29. "Controlling is a must in a business organisation. Give six reasons.

fdl h Hh Q lol k; d l LFk eafu; ak k gsk vfuok ZgA dlbZN%dlj. k fyf[k A

30. Engineer India Ltd. is engaged in manufacturing machine components. the target production is 300 units per day. The company had been successfully attaining this target three months ago. Over the last three months, it has been observed that daily production varies between 220 and 250 units.

Identify the management function to rectify the above situation. Briefly state the procedure followed so that the actual production may come up to the target production.

bfU fu; j bfUM; kfyo e' kuh l leku cukrk gA i rfnu dkyfkr mR knu 300 ; fuV gA dE uhrhu eghus  
igysrd ; g y{; i Hr dj jgh FkA fi Nysrhu eghulal solRfod mR knu 220 l s250 ; fuV jgkA

ixUk dsfdl dk Z}jk bl fLFkr dsl qjk tk l drk gS bl i0; k dh l fHr Q k; k dlft, rfd  
oLrfod mR knu yfkr mR knu dscjkj gk t k A

## CHAPTER 8

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# FINANCIAL MANAGEMENT

## वित्तीय प्रबन्ध

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### POINTS TO REMEMBER

1. Financial management is concerned with the procurement of necessary finance and its optimal usage for business activities.
2. The primary objective of financial management is to maximise shareholder's wealth.
3. There are three main financial decisions taken by the company :
  - (a) **Investment Decisions** : relating to how a firms are invested in assets. A long term decision is called capital budgeting decision while a short term decision is called working capital decision.
  - (b) **Financing Decision** : The quantum of funds to be raised from long term sources i.e. debt and equity.
  - (c) **Dividend Decision** : The quantum of dividend to be paid to the equity shareholders depending on various factors.
4. The factors affecting capital busdgeting decision are :
  - (a) Cash flows of the project (b) The rate of return (c) The investment criteria involved. The various factors affecting financing decision are : (a) Cost of funds (b) Risk (c) Folation Costs (d) Cash flow position of the business (e) Level of Fixed operating costs (f) Control considerations (f) State of capital markets. The various factors affecting dividend decision are : (a) Earning (b) Stability of earnings (c) Stability of dividends (d) Growth opportunities (e) Cash flow position (f) Shareholder preference (g) Taxation policy (h) Stock market reaction (i) Access to Capital markets, (j) Legal constraints (k) Contractual constraints.
5. Financial planning is essentially preparation of a financial blueprint of an organisation's future operations. The twin objectives of financial planning are : (a) To ensure availability of fund whenever these are required. (d) To see that the firm does not raise the resources unnecessarily.
6. The proportion of owner's funds to borrowed funds and their quantum is known as Financial Structure of the company. Factors affecting then choise of capital structure are : (a) Cash flow position (b) interest coverage ratio (c) Debt service coverage ratio (d) Return on investment (e) Cost of debt (f) Tax rate (g) Cost of equity (h) Floation cost (i) Risk consideration (j) Flexibility (k) Control (l) Regulatory framework (m) Stock market conditions (n) Capital structure of other companies.
7. The amount of capital invested in fixed assets which are used to produce goods or services is known as Fixed Capital. It is also know as capital budgeting decision and is important for the following reasons : (a) Long term growth and effects (b) Large amount involved (c) Risk involved

(d) Irreversible decisions. Following are the factors the requirement of fixed capital : (a) Nature of Business (b) Scale of operations (c) Choice of technique (d) Tecnology up gradation (e) Growth prospects (f) Diversification (g) Financing Alternatives (h) Level of Collaboration.

8. Working capital is the amount of capital used in day to day operations of the business. It is calculated by using the formula Working Capital = Current Assets- Current Liabilities. The factors affecting the requirements of working capital are (a) Nature of business (b) Scale of Operations (c) Business Cycle (d) Seasonal factors (e) Production Cycle (f) Credit Allowed (g) Credit Availed (h) Operating Efficiency (i) Availability of raw material (j) Growth prospects (k) Level of competition (l) Inflation.

### egðbi wZ fclhq

1. foÙh; izak dk l rak Q ol kf; d xfrfof/k ladsfy, vlo'; d foÙk iHr rFlk l nq; k l sgA
2. foÙh; izak dkeq; mis; 'lsj/hjd %oleh/2dh l afuk dsvf/kdre djuk gA
3. ,d dEuh }jik rhu eq; fofuk fu. l fy, t krsG%
  - (a) fofu; k fu. l % bl dk l rak QeZ ds dklha dk l afuk la ea fofu; k l s gA , d s nPZlkyhu fu. l dls iph ct Vh fu. l dgk tkrk gS rFlk vYidkyd fu. l dls dk Zhy iph fu. l dgk tkrk gA
  - (b) foÙk Q oLFk fu. l % fofu nPZlkyhu òkr ; ku Lokfero iph , oa\_ .k iph l s fdruh ekk ea dkk iHr dh t k A
  - (c) yHak fu. l % fofu djdla dls /; ku ea j [krs gq 'lsj/hjdla dls fn; s t kus okys yHak dh ekk fu/Hjr djukA
4. iphct Vx fu. l dsiHfor djusokysdjd fuEufyflr gS%(1) ifj; k uk dk jklM-iolg (2) vk dh nj (3) fofu; k dk vkljA
 

foÙk Q oLFk dsiHfor djusokysdjd kgS%(1) dklhadhykr (2) t k [le (3) fuxZu ykra(4) Q ol k dh jklM-iolg fLFfr (5) LFbZi phy ykr l adk l rj (6) fu; akk dsekuuk (7) iph ct kj dh fLFfrA

yHak fu. l dsiHfor djusokysdjd fuEufyflr gS%(1) vk (2) vk dh fLFjrk (3) fodkl dh l akouk a(4) yHak dh fLFjrk (5) jklM-iolg fLFfr (6) vak kj hi Hfedrk (7) dj ulfr (8) Lda ct kj ifrf0; k (9) iph ct kj rd igp (10) oSkud calu (11) vuqfkr caluA
5. l xBu ds Hfo"; eaxfrfof/k ladsfoÙh; [kds dks S kj djuk foÙh; fu; k u ds vrxZ vkrk gA foÙh; fu; k u ds nls eq; mis; gS%(1) t c vlo'; drk gsr c dklha dh mi yCkrk l fuf' pr djuk (2) ; g l fuf' pr djuk dh dEuh vulo'; d l a klu u t qk A
6. Lokfero dklha, oa\_ .k dklhadsi kj Lifjd vuqkr , oamudhekk dks dEuh dk foÙh; <pk dgrsgA foÙh; <psdspok dsiHfor djusokysdjd fuEufyflr gS%(1) jklM-iolg fLFfr (2) Q kt vloj. kvuqkr (3) \_ .k dhykr (4) dj nj (5) lerk iph dh ykr (6) fuxZu ykra (7) t k [le fopj (8) ylp' h yrk



(9) fu; ak k (10) oSkud <pk (11) LVW ct kj dh fLfr; k (12) vU dFi fu; lck i p h <pk (13) \_ . k Harku vloj. k vuqkr (14) fofu; k ij i k A

7. eky vFlkl sk/ladsmR lnu grqLFkZl i fuk; laeyxlbZt kusokyh i p h dgrsgA bl si p h ct Vx fu. k Hh dgrsgA rFk; g fu fufyf[kr dlj. lal segubiwZgS% $\frac{1}{2}$ nlZkylu o f) , oaiZko  $\frac{1}{4}$ WZkjh ek k ea dKlck mi; k  $\frac{1}{2}$ Q kr t k le  $\frac{1}{2}$ vifjorZh fu. k A

LFkZi p h dh vlo'; drk fu fu dlj. lal siZfor glrh gS% (1) Q ol k dh i Nfr (2) fØ; k lck i k uk (3) i) fr dk p; u (4) rduldh uohrk (5) fodk l krouk a (6) fofof/kdj. k (7) fo k Q oLFk fod Yi (8) l gdk rk dk Lrj A

8. Q ol k dsfnu i frfnu ds dk k eami; k fd; st kusokyh i p h dgrsgA bl dk fu fufyf[kr l k gS% dk Zhy i p h  $\frac{3}{4}$  pkywl E fuk k & pkywns rk A pkyw i p h dh vlo'; drvlad siZfor djusokys dlj d fu fufyf[kr gS% (1) Q ol k dh i Nfr (2) fØ; k lck Lrj (3) Q ol k; d pØ (4) e k eh? Wd (5) mR lnu pØ (6) m k j miyØk djuk (7) m k j dh i k r ek k (8) i pkyu d qyrk (9) d p psey dh miyØk (10) fodk l krouk a (11) i fr; k xrk dk Lrj (12) eq k Q lra

### 1 MARK QUESTIONS

1. What is the Primary aim of financial management?

fo k i k i xUk dk i k f f e d m i s ; D ; k g S

2. S.B.I. want to open a new branch of his bank. What is this decision called?

S.B.I. c f l viuh , d ubZ' k k [ k [ k y u k p l g r h g A bl fu. k d k D ; k d g k t k r k g A

3. What is the other name of a long term investment decision?

nlZkylu fuo k fu. k dk n w j k u k e D ; k g S

4. A decision is taken to distribute certain part of the profit to shareholders after paying tax. What is this decision called?

' l s j / k j d l d s y k k d k d n H k V S l dk Harku djusdsch fn; st kusokyk fu. k d k D ; k d g k t k r k g S

5. Give a formula for calculating working capital requirements?

dk Z' h y i p h dk i f j d y u d j u s d k l k f y f [ k A

6. Name the two types of capital which are part of capital structure?

i p h l j p u k d s H k d s # i e a n k s i z l j dh i p h f y f [ k A

7. Give one example of flowing cost?

i o r z y k r dk , d m n l g j . k n l f t , \

8. Name any one factor affecting capital budgeting decision.  
 i) High cost of funds  
 ii) Riskiness of the investment  
 iii) Availability of funds
9. Name any one factor affecting the choice of capital structure?  
 i) High riskiness of the investment  
 ii) Availability of funds  
 iii) Cost of funds
10. Give one factor affecting the requirement of fixed capital?  
 i) High riskiness of the investment  
 ii) Availability of funds  
 iii) Cost of funds

### 3 MARKS QUESTIONS

11. Explain briefly
  - (a) Cash flow of the project
  - (b) The rate of return
  - (c) The investment criteria involved.

i) NPV, IRR, Payback period, etc.

ii) Riskiness of the investment, etc.

iii) Availability of funds, etc.
12. Explain three objective of Financial planning.  
 i) To determine the long-term financial goals of the firm.  
 ii) To determine the financial resources required to meet these goals.  
 iii) To determine the best way to raise the required funds.
13. "A decision to invest in fixed capital is irreversible decision" Explain briefly.  
 i) High cost of funds  
 ii) Riskiness of the investment  
 iii) Availability of funds
14. A company X Limited is engaged in manufacturing business. Where as another company Y Limited is engaged in trading business. Which of them will require more working capital. Justify your answer.  
 i) Manufacturing business requires more working capital because of high fixed costs.  
 ii) Trading business requires less working capital because of low fixed costs.
15. How "cost affects the financing decision"?  
 i) High cost of funds leads to higher capital structure.  
 ii) Low cost of funds leads to lower capital structure.
16. "Share capital is better than debt capital" Give two factor which affects the capital structure?  
 i) Riskiness of the investment  
 ii) Availability of funds

17. "A company having higher operating efficiency requires less working capital." Explain this statement with the help to an example?

^ml dEiuhdksde dk Zhy i p h d h v o ' ; drk g l r h g S f t l e a v f / k d l p k y u dk Z d d k y r k g l r h g A \* b l d F u d l s m n j . k } k j k l e > b , A

#### 4 MARKS QUESTIONS

18. Explain four objective of financial management?

f o f u k i z U k d s p l j m i s ; k a d k o . k d l f t , A

19. Explain the term 'trading on equity' with example?

1 e r k i j Q k i j \* d h m n j . k l f g r Q k ; k d l f t , A

20. Write short note on :

- (a) Meaning of fixed capital with example
- (b) Meaning of working capital with example

f u f u i j f v l i . k h f y f [ k %

1 d 1 / 2 L F k h i p h d k v F Z c r k r s g q m n j . k l f g r

1 k 1 / 2 d k Z h y i p h d k v F Z c r k r s g q m n j . k l f g r

21. Whether the following manufacturing concerns requires large or small working capital. Explain with reason?

- (a) Fans
- (b) Biscuits
- (c) Cars
- (d) Manufacturing of furniture on order

f u f u y f [ k f u e l z h m i O e l a d s T ; k k d k Z h y i p h p l g , ; k d e A d j . k l f g r Q k ; k d l f t ,

1 d 1 / 2 i a l a

1 k 1 / 2 f c l d y

1 x 1 / 2 d j

1 k 1 / 2 v n s k i j Q u l z j f u e l z k

22. How stock market reaction affect the dividend decision?

v a k c k l j i f r O ; k y H K l a f u . k d l s d s s i H f o r d j r h g A

## 5 MARKS QUESTIONS

23. Explain briefly any five factors to be considered in determining working capital requirements?  
 fdl h Q ol k dh dk Zhy i v h l Ec/h v lo'; drk v l adk fu/ h z. k d jus o k y s f d U h i p r B l a d h Q k ; k d l f t , A
24. Define fixed capital and explain the determinants of fixed capital?  
 L F k h i p h d h i f j H k k n l f t , v s L F k h i p h d s f u / h z d r B l a d h Q k ; k d l f t , A
25. Explain the difference between fixed capital and working capital?  
 d k Z h y i v h v s L F k h i p h e a v l r j d l f t , A
26. What is the effect of level of fixed operating costs on the financing decision?  
 L F k Z i p k y u y k r l a d s L r j d h f o k Q o L F k d s f u . k d s d s i m f o r d j r h g A
27. "A sound financial plan is a key to sound financial management of the company" Discuss?  
 P , d l V l d f o k Q o L F k ; k u k d E u h d s l V l d f o k i z U k d h d q h g S f o o p u k d l f t , A
28. Capital structure decisions are essentially optimisation of risk return relationship. Comment?  
 E i v h l j p u k f u . k v l e r s i j t k [ e i f r Q y l E a k e a l e a L ; L F k i r d j r s g A s f v l i . h d l f t , A

## 6 MARKS QUESTIONS

29. What are the factors those affecting financing decision of a business?  
 Q o l k e a f o k f u . k d s i m f o r d j u s o k y s d j d d l s & d l s l s g S
30. Explain the six factors affecting dividend decision?  
 y H a k f u . k d s i m f o r d j u s o k y s N % d j d l a d k o . k d l f t , A
31. What are the functions of a finance manager?  
 f o k i z U k d s i e q k d k Z d l s & d l s l s g A
32. Explain six factors affecting capital structure?  
 i v h l j p u k d s i m f o r d j u s o k y s N % d j d l a d h Q k ; k d l f t , A
33. A B. Ltd company works to design its capital structure. What factor should be considered by it?  
 A B L t d . d E u h v i u k i v h < p k r s j d j u k p l e r h g s b l d s f y ; s f d u & f d u ? W d l i j f o p l j f d ; k t k u k p l f g , A
34. A capital budgetting decision is capable of changing financial fortune business. Do you agree. why?  
 , d i v h c t V x f u . k Q o l k d k f o k H X c n y l d r k g S D ; k v i l g e r g S D ; k

CHAPTER 10

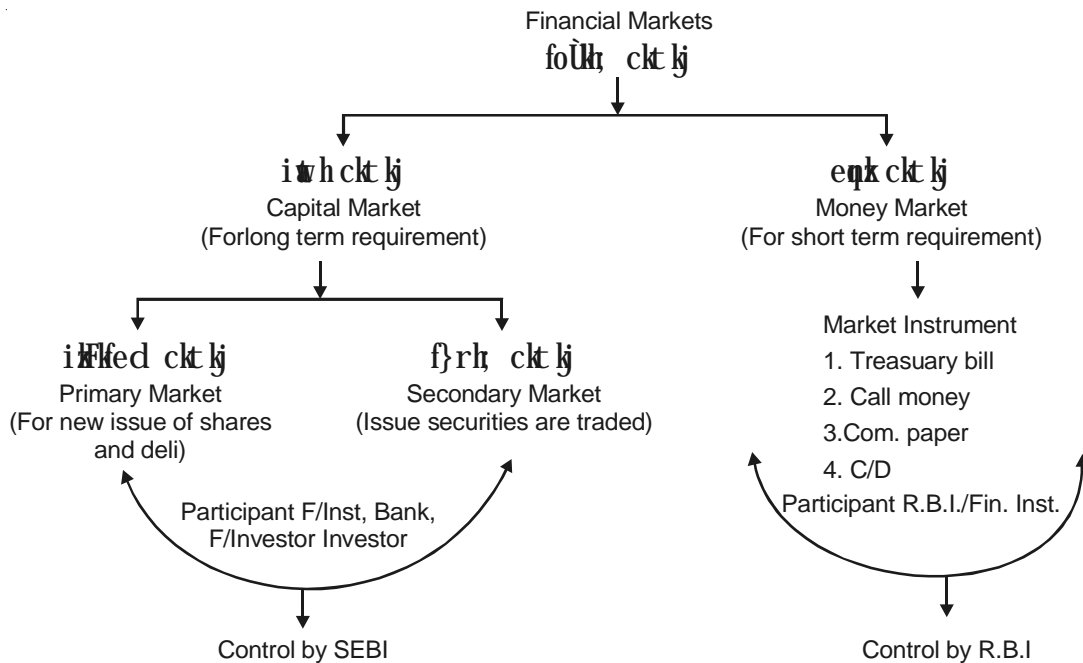
FINANCIAL MARKET

वित्तीय बाजार

POINTS TO REMEMBER

1. Financial market brings together lenders of money & borrowers of money.

foUk ckt kj foUk dh vki r djusokysrFlk foUk dh ek djusokysdsclp l fUk LFki r djrhgA



BSE and NSe are famous stock exchange in India. They provide platform for buying and selling existing securities. There are 23 stock exchange in India.

efbZLVkd , Dl pt vls jkVh LVkd , Dl pt ifl } 'lsj ckt kj gA t lsfuok dUkZ lads 'lsj [kjmus vls cpusdsfy, l f/k inku djrsgA Hjr ea23 LVkd , Dl pt gA

SEBI is a regulatory body set up by Govt. of India to protect the interest of investors. It performs protective regulatory and development function.

l chdhLFki uk l j d kj ds} j k, d oShud fudk ds: i eadhxbZgSrkd fuok d lads fgr l ch j (k dh tk l dA ; g l j (Red vls fodk Red rFlk fu; led dk ZdjrhgA

## 1 MARK QUESTIONS

1. What are the main features of Money market instruments?  
enp ckt lj ds mi dj. h ad h eq; fo' k r k D; k g S
2. Who determines the prices of new I P O?  
u; s i P O dh dler dk fu/ k fdl ds } lj k fd; k t k r k g S
3. Who is the borrower of call money?  
ek enp ds i eq k y un kj d h g S
4. How is the price of securities determined in the secondary market?  
f } r; d c k t lj e a i f r h r; h ad k e w; fdl i z lj fu/ h r fd; k t k r k g S
5. Who are the main participants in a money market?  
enp ckt lj d se q; H k n lj d h & d h l s g S
6. What is the other name of zero coupon bonds?  
t h j s d i u c h d k n w j k u l e D; k g S
7. Who Issues the treasury bill?  
V t j h f c y fdl ds } lj k t h fd; k t k r k g S
8. What is the minimum amount of treasury bill?  
V t j h f c y dh U w r e j k' k D; k g S
9. Name any one method of Issue of New Share?  
u; s' k j t h j d j u s dh fdl h, d fof/ k dk u l e fy [ h
10. What is the other name of primary market?  
i h f e d c k t lj d k n w j k u l e D; k g S
11. What is the main function of the broker?  
c h j d k e q; d k e D; k g S
12. What is 'Badla'?  
^ c n y k' D; k g S
13. What is a prospectus?  
fooj. k i f h k k D; k g S

14. What is Dematerialization?

Dematerialization is the process of converting physical securities into electronic form.

15. Who provides protection and guidelines to the investor?

The Securities and Exchange Board of India (SEBI) provides protection and guidelines to the investor.

16. Rakesh got a chance to buy shares in the ratio of 1:1 from ABC company. What is the type of issue of new securities?

This is a Rights Issue, where existing shareholders are given the right to buy new shares in proportion to their existing holdings.

### 3 MARKS QUESTIONS

17. Explain the trading procedure in stock markets?

The trading procedure involves placing an order, matching orders, and settling the transaction.

18. "Stock market imparts liquidity to investments". Comment.

The stock market provides a platform where investors can buy and sell securities, thus providing liquidity to their investments.

19. What do you mean price rigging and insider trading? Give one example of each?

Price rigging is the manipulation of prices to create artificial price movements. Insider trading is the trading of securities based on material, non-public information.

20. "The securities of money market are safer than share market securities." How?

Money market securities are typically short-term and highly liquid, making them safer than long-term equity securities.

21. State any three features of the capital market?

Features include: long maturity, high risk, and high return.

22. Give the difference between certificate of deposit (CD) and fixed deposit (FD) on the following basis:

(a) Safety (b) Negotiability (c) Time

CD is safer than FD, FD is negotiable, and CD has a shorter maturity period.

CD is not negotiable, FD is negotiable, and CD has a longer maturity period.

23. Explain the importance of capital market?

The capital market is important for raising funds for long-term investment and growth.

24. Explain any three features of Primary market?

Features include: direct issue, no intermediaries, and initial public offering.

#### 4 MARKS QUESTIONS

25. What are the functions of Financial market?

fofũk; ckt kj dsieqk dk ZD; k gS

26. Write the distinction between primary market and secondary market?

ihfed ckt kj vls f}fr; d ckt kj eaD; k vlrj gS

27. Distinguish between capital market and money market on the basis of :

- (a) Liquidity
- (b) Expected return
- (c) Duration
- (d) Ommentent traded

ipwhct kj vls enp ckt kj eafuFu vllkj ij vlrj dlft, %

¼½ rjyrk

¼½ vislr ifrQy

¼½ vof/k

¼½ Q ogkj fd, t kus okys iz=ha ds vllkj ij

28. "Primary markets contribute to capital formation directly, secondary market does so indirectly." Explain?

ihfed ckt kj iR {k #i l si ph fueZk d jrkgS rls f}fr; d ckt kj viR {k #i l AB Q k}; k dlft, A

29. Explain the objectives of NSE?

jkVh 'lsj ckt kj (NSE) dsD; k mis; gS

30. What are the segments of NSE?

jkVh 'lsj ckt kj (NSE) ds ckt kj [kM dls&dls l sgS

31. Distinguish between the NSE and OTCEI?

NSE vls OTCEI dschp vlrj dlft, \

#### 5 MARKS QUESTIONS

32. Explain the various money market Instruments with examples.

mnlgj.k l fgr enp ckt kj dsieqk iz=ha dh Q k}; k dlft, A



33. Describe five common features of NSE and OTCEI?

NSE vs OTCEI eaihp l eku fo' kkrv l dko. l dft , A

34. Explain the various methods of floating new issue in primary market?

ihfed ckt kj eaubZi fr Hr; k t kjh djusdh fof/k l dko. l dft , A

35. Explain the nature of capital market?

ip h ckt kj dh iñfr dko. l dft , A

### 6 MARKS QUESTIONS

36. You are a finance expert. Your father feels that there is no difference in primary market and secondary market. Where do you differ with him? How would you convince him? Give reasons in support of your answer?

vki fo k fo' kkr gsvki dsfir k h dsvu kj ihfed vs ffr; d ckt kj ead bZvUrj ughafduqvki l ger ughagmbafdl izkj vUrj l e>k xA viusm kj dsi{k eardZnft , A

37. "SEBI is the regulatory body of Indian capital Market." Comment?

^l ch Hjr h ip h ckt kj dk fu; led gSB fVi. l dft , A

38. Explain any six functions of the stock markets?

'lsj ckt kj dsN%ieqk dk Zdl & dli l sgA

39. What are the advantages of over the counter exchange of India (OTCEI)?

Hjr h vf/ki frnlok iVy 'lsj ckt kj (OTCEI) l sD; ky k gS

40. Explain the meaning and features of money market?

enp ckt kj dk vH zcr k rsgq ml dh fo' kkrv l dko. l dft , A

## CHAPTER 11

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# MARKETING

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### POINTS TO REMEMBER

1. Marketing is a social process whereby people exchange goods and services money or for something of value to them.
2. Any thing that is of value to the other can be marketed like products, services, ideas, persons, place, events, informations, experiencies etc.
3. Customer is the sector of satisfaction and the marketer is the deliverer or provider of satisfaction
4. Marketing activities put greater emphasis on maximizing customers satisfaction.
5. The different business philosophies of marketing management are :
  - (a) *Production concept* : Puts greater emphasis on improving the production.
  - (b) *Product concept* : Assumes that product quality is the key to profit maximization.
  - (c) *Sales concept* : Assumes that customers to be convinced and motivated enough to buy.
  - (d) *Marketing concept* : Implies that customer satisfaction is the key to success.
  - (e) *Societal marketing concept* : Stresses the ethical aspect of marketing and term welfare of the society.
6. Selling is only a part of the process of marketing and the main focus or selling is on affecting transfer of title and possession of goods from seller to consumers.
7. Objectivities of marketing :
  - (a) Choosing target marketing.
  - (b) Creation of demand
  - (c) Creating, developing, and communicating superior values for the customers.
  - (d) Market share
  - (e) Goodwill
  - (f) Profitable sales volume through customer satisfaction
  - (g) Planning and controlling marketing activities
8. Marketing mix refers to the ingredients which the marketer mixes in order to intract with a particular market.
9. Elements/components of marketing mix.

Product	Price
Product mix product quality new product design and development packaging labelling branding	Price level margins pricing policy

**Element of marketing mix**

<b>Place</b>	<b>Promotion</b> ( <i>Promotion mix</i> )
Channel strategy channel selection channel conflict channel cooperation physical distribution.	Advertising personal selling sales promotion Publicity.  Public relations

10. A brand that is given legal protection against its use by the other firms is called trade mark.
11. Labelling- An Important task in the marketing of goods relates to designing the lable to be put on the package. A lable is carrier of information which is to be provided to the customers.
12. Packaging refers to the act of designing & producing the container or wrapperof a product.
13. Advertising is an impersonal form of communication which is paid by the marketers to promote some goods of services.
14. Publicity is a non personal form of communication as well as non paid form of communication.
15. Personal selling involves oral presentation of message in the form of conversation with one or more perspective customers.
16. Sales promotion refers to short term incentivies which are designed to encourage the buyers to make immediate purchase of product of services.
17. Techniques/Methods/Tools Activities of sales promotions : Rebates, discounts, refunds gifts, contest luckydraw, packaged premium usable benefits @ 0%., container premium, sampling etc.
18. Classification of consumer products.

*Shopping efforts involved*

*Durability basis*

- |                           |                      |
|---------------------------|----------------------|
| (i) Convenience products  | Non durable products |
| (ii) Shopping products    | Durable products]    |
| (iii) Speciality products | Services.            |

19. Factors affecting choise of advertising media :

(1) Selectivity (2) Coverage (3) Flexibility (4) Cost (5) Objectivities of Advertising (6) Media used by the competitors (7)Type of message.

**eg`bi wZ fclhq**

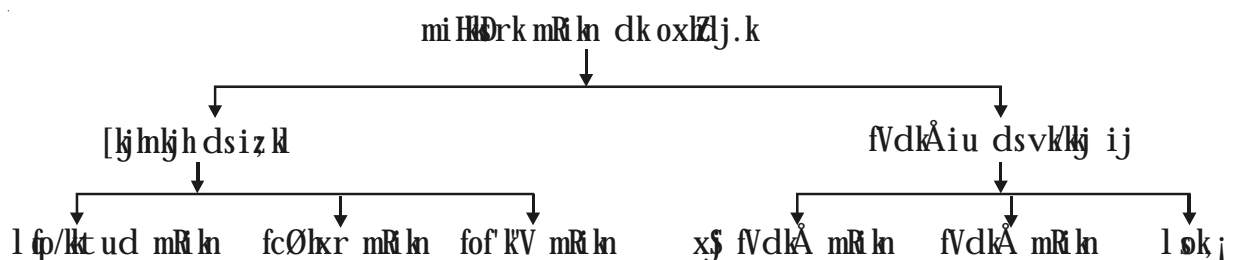
1. foi.ku , d l left d i0; kgSft l dsvraxZ Q fDr mRlna, oal sk/wadlsW, o vU ftudkeW, gSds l kfk ofue; djrsgA
2. og l c dn ft l dkeW, gSckfoi.ku glrkgSt \$ smRlnu] l sh fopkj] Q fDr] LFku] ?Wuk l pulk vudlo bR knA

3. xlgd l rfv dh [lt djrk gsvls foi.kd l rfv inku djrk gA
4. foi.ku xrfok/k k xlgd l rfv dsvf/kdre djusij vf/kd cy nrh gA
5. foi.ku izak dh foHku Q lol kf; d foplj/ljk ; %
  - (i) mR knu foplj/ljk % dh eku rk mR kn xqlork l s yHk vf/kdre djuk gA
  - (ii) foØ; foplj/ljk % xlgdla dls [ljlnjh ds fy, yHkuk gA
  - (iii) foi.ku foplj/ljk % miHDrk l rfv }lj gh l Qyrk iHr dh tk l drh gA
  - (iv) I lekt d foi.ku foplj/ljk % miHDrk dY;kk o foi.ku ds ufrd igywij cy nrh gA
6. foØ; foi.ku iØ;k dk dsy , d Hkx gA foØ; dk /; ku foØrk l smiHDrk dls oLrv la dk vf/kdj gLrkrj.k dls iHfor djuk gA
7. foi.ku dsmís;
  - (i) yfkr ckt lj dls puuk
  - (ii) ekx dk l tu
  - (iii) xlgd ds fy, mPp eW; la dk fuelzk fodkl rFlk l akk djuk
  - (iv) ckt lj vak
  - (v) l k/k
  - (vi) xlgd dh l rfv }lj foØ; ekk dls yHnk h cukuk
  - (vii) foi.ku xrfok/k la dk fu; kt u rFlk fu; akk djula
8. foi.ku feJ.kl svk k mu l aVdla sgSt l s foi.kd , d fo'kk ckt lj dls iHfor djusdsfy, feJr djrk gA
9. foi.ku feJ.k ds r`b

<i>mR kn</i>	<i>eW;</i>
• mR kn feJ.k	• eW; lrj
• mR kn xqlork	• yHk
• u; k mR kn fMtkbu vls fodkl	• eW; ulfr
• i slst x	• eW; j.kulfr; k
• ycyx	• eW; ifjorZ

<i>LFlu</i>	<i>l o/lzi</i>
• ek; e j.kulfr	• l o/lzi feJ.k
• ek; e pu <b>lo</b>	• foKki u
• ek; e fo <b>okn</b>	• Q fDrxr foØ;
• ek; e l g; <b>k</b>	• foØ; l o/lzi
• <b>H</b> rd forj.k	• i <b>p</b> lj
	• l <b>h</b> z fud l <b>a</b> k

10. ~~cl~~ t ~~ks~~fd QeZdksml dsmi; ~~k~~ ~~ea~~o**S**fud l j{kknrk gSV**M**eldZdgrsg**A**
11. oLr**v**ladsfoi.lu ea, d eg**R**i**w**Zdk; Zbl ds**y** dkf**M**lbu cukdj i**S**V ij yxkukg**A** y**r**y l **p**uvla dk o**g**d g**S**t ~~s~~x**g**d**l**adksmi y**C**k djok k t **kr**k g**A**
12. i**S**l**t** x l sr**R**i; Z**m**R**i** kn dsd**v**uj v**F**lok d**k**t dk f**M**lbu d**j**usv**F**lok cukusdh **f**Ø; k l sg**A**
13. foKki u l **a**k k dk, d vo; fDrxr #i g**S**t ~~ks~~fd foi.kd }**j**k oLr**v**l**v**l**S** l **o**k ~~l~~adks l o**Z**k d**j**usdsfy, f**n**; k t **kr**k g**A**
14. i**p**lj l **m**skolgu dk, d v**Q** fDrxr o e**D**r : i g**A**
15. Q fDrxr foØ; eal **m**skadhe**S**[**l**d i**Z**r**f**, d ; k, d l svf/**l**d l **m**for x**g**d**l**al sok**r**l**i** ds#i eafufgr g**A**
16. foØ; l o/lzi, d v**i**dkyhu i**d** g**S**t ~~ks~~o**r**k d**l**sg**l**r m**R**i kn o l **o**k ~~l~~adks [b]m**j**hdsfy, i**m** l**g**r d**j**rk g**A**
17. foØ; l o/lzi dh rduld@fof/k **p**xfrfof/k **k**N**w**] c**v**h oki l h mig**j**] i**r**; **k**xrk] y**w**j**h** i**h**e; e] fo**k** o%.
- 18.



19. foKki u ò**r**l**ad**ks i**m**for d**j**usok**y**sd**j**d
  - (1) pu**lo** ; **k**rk (2) Q **k**i drk (3) y**p**'**h**yrk (4) y**k**rk (5) foKki u dsmís; (6) i**r**; **k**x; **h**}**j**k mi; **k**fd, x, ò**r** (7) l **m**skdk i**z**lj

## 1 MARK QUESTIONS

1. "Name the process by which individuals and groups obtain what they need and want through creating, offering and freely exchanging products and services of value with others."

ml ifd; kdkule crlb, ft l ds}kj0 fDr rFk l eg nwjladsl Fkew, loku mRi nlarFk l okvladsl t u iZrfr rFk LorUk vlnku&znku dsek; e lsviuh t #jr okysmRi nlarv\$ l okvladsl iRr djrsgA

2. Which marketing philosophy gives more importance to "consumer welfare" instead of "consumer satisfaction".

dls l k foi .ku n'Zi Imi HDrk l rfvB dsLFku ij Imi HDrk dY; kls dksvf/ld egR nrk gA

3. State any one pillar of marketing concept.

foi .ku vo/kj .k dk dlsZ, d l rFk crlb, A

4. "Name the channel wherein goods are made directly available by the manufacturer to consumers without involving any intermediary."

ml ek; e dkule crlb, t c mRi nd eky e/; LFhadlsu cpdj l h/gh mi HDrk vlads cprsgA

5. "A lunch box free with Kissan sauce" is an example of one of the techniques of sales promotion. Name the technique.

P, d jWh dk fMck fdl ku l W ds l Fk efr feyulB l o/zi feJ.k dk , d fof/k gA ml fof/k dk ule crlb, A

6. State any one objective of marketing management.

foi .ku izUk dk dlsZ, d mis; crlb, A

7. Write any two brand names available in the market now-a-days.

dlsZnlsM ule fyf[k t lsvk dy ct kj eamiyCk gA

8. "A company has invented a new device to detect impurities of petrol." Name two advertising media would it use.

, d dEiuhusiVly v'q rkvadsl idMsdsfy, , d u; srUk dk vfo"dlj fd; k gA vli nlsfoKki u ek; eadkule fyf[k ft udlkog iz k djxhA

9. State any one feature of convenience goods.

l fp/kt ud mRi n dk dlsZ, d y{; crlb, A

10. "Toothpaste is packed in a tube" is an example of which type of packaging.

P/Wi LV dh V; w eaiSdxB fdl izlj dh iSst x dk mlgj.k gA

11. Name the non paid form of communication of information about the products.

ml x\$ Hqrku okysl Ekk dkule crlb, ft l eamRi n dscjseal epkj fn; k t l r k gA

12. Which concept of marketing suggests that the organisation should earn profit through volume of production.

ml foi.ku vo/hj.k dkule crlb, t lsl xBu dksvf/kl mRi nu }kjk yHk delusdsfy, i fjr djrhgA

13. What type of conversation takes place in "personal selling."

Q fDrxr foØ; eafdl rjg dhokrk/ki glrh gA

14. Name any two products which are subject to the process of grading.

mu nls mRi nls dsule crlb, t l Jskdj.k dh iØ;k }kjk vyx fd, t k rsgA

15. Name the element of marketing mix which makes the product available to the target customers.

foi.ku feJ ds ml rB dkule crlb, ft l ds }kjk mRi n yfkr xg dladl smiy Ck djok k t k rkgA

### 3 MARKS QUESTIONS

16. Explain briefly any three advantage of labelling to the customers.

yc yx l sxg dladl gksok ysf dgharhu yHk dkl fkr eao. h dft , A

17. Differentiate between marketing and selling on the basis of

(i) Meaning (ii) Scope (iii) Emphasis/Objectives

foi.ku vls foØ; eafu v kjk iij vlrj dft , A

(i) v fZ (ii) {sk (iii) mÍs;

18. Write any three points of distinction between advertising and personal selling.

foKki u o Q fDrxr foØ; ead bZrhu vlrj fyf[k A

19. State any three advantages of sales promotion.

foØ; l o) h ds d bZrhu yHk fyf[k A

20. "Selection of TV as an advertising medium is always the best alternative." Comment.

foKki u ds {sk eaV syfot u gesk , d l cl sv PNk e; e gA fVli . h dft , A

### 4 MARKS QUESTIONS

21. "Product is a bundle of utilities." Do you agree? Comment.

mRi n mi ; kxrk v d k Hvj gS D; k vki l ger gS fVli . h dft , A

22. Explain any four functions of packaging.

i st x ds f d ghapj dk k dk o. h dft , A

23. Explain briefly two important pricing strategies.

nksegDwiZew; j.kulfr; ldk l fhr easo. l dft, A

24. "Pooja limited is engaged in marketing ladies garments." Which type of advertising medium be chosen by her. Give three reasons.

iwkfyefVMefgyk ladsol=kcpusdkdk ZdjrhgA og foKki u dsfy, dls l kek; e pqa rhu dlj.k crlb, A

25. Explain briefly any four factors that you will keep in mind while selecting a suitable media of advertisement.

foKki u dsfdl hek; e fo'kk dk fu. l yrs l e; foplj. h; fdUhaplj ?Wd l adk o. l dft, A

26. What do you mean by industrial products. Explain briefly any three characteristics of these products.

vls l kxd mR l n fdl sdgrsgA bu mR l n l adsf dUgharhu y{k l adk l fhr easo. l dft, A

### 5 MARKS QUESTIONS

27. "Some products have certain unique features." They attract a significant groups of buyers. Identify the kind of product and list its features.

RdN mR l n l adsf' pr rFlk vf} rh; y{k k g l rsgA osfof' k'V oxZdsxlg d l adsf v d Z l r d j rsgA mR l n ds izlj dh igplu dft, rFlk bl dh fo' k k v l adh l p h r \$ l j dft, A

28. Explain the functions of intermediaries in the distribution of goods.

mR l n l adsf orj. k eae/; LFH l j k fd; st kusokys dk l Z d l s Li "V dft, A

29. How personal selling is important from the point of view of society? Give five reasons.

Q fDrxr foØ; l ekt dsfy, D; l adk l fhr easo. l dft, A

30. As a marketing manager of a firm, what customer care services would you plan for buyers of consumer durable products.

QeZdsfoi. ku izad ds#i eavki LFk hmi HD r k o L r y l adsf Ø r k v l adsfy, dls l hmi HD r k ds j l ok dk fu; k u d j x A

### 6 MARKS QUESTIONS

31. Explain the various functions of marketing management.

foi. ku izak dsfofRku dk l Z d l s Li "V dft, A



32. Explain four important elements of marketing mix.

foi.ku feJ dspkj egBivZrBkko. Zi dlft, A

33. Explain the factors to which the should pay attention before fixing the price of the product.

mu ?Wdhdh Q k; k dlft, ft u ij foi.ku drkZhdsoLrqdk eV; fu/WZ.k djusl sigys/; ku nsik plfg, A

34. Explain any four factors on which the choice of channels of distribution depend.

mu plj ?Wdhdh kko. Zi dlft, ft u ij forj.k dsek; e dkp; u djrsgA

35. "Advertising encourages sale of inferior products" and "advertising confuses rather than helps." Do you agree? Give reasons.

HoKki u ?kV; kmRlnhdhfcOh dsi h lgu nrkgS rFk HoKki u HUr mR U djrkgs D; kvki l ger gS dlj.k crlb, A

## CHAPTER 12

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# CONSUMER PROTECTION

## उपभोक्ता संरक्षण

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### POINTS TO REMEMBER

1. Consumer Protection means to protect consumer's against the Unfair Trade Practices of the Producers and Sellers.
2. World Consumer Day is celebrated on 15th of March every year.
3. Consumer Protection Councils (CPCs) have been established under Consumer Protection Act, 1986.
4. Consumer Protection Act, 1986, Provides Safeguards to Consumers against defective goods, deficient services, unfair trade practices and other forms of their exploitation.
5. Agriculture Produce (Grading and Marking) Act 1937, has the Provisions of issuing Agmark.
6. The Bureau of Indian Standards (BIS) has two major activities.
  - (i) The formulation of quality standards for goods and
  - (ii) Their certification through the BIS Certification Scheme.
7. The Competition Act, 2002 has replaced. The Monopolies and Restrictive Trade Practices Act 1969 (MRTP Act 1969).
8. The Trade Mark Act 1999. Prevents the use of Foundent Marks and on the product.
9. The Consumer Protection Act, 1986 has Provided Three-Tier Machinery for Redressing the consumers' Grievances it is :
  - (i) District forum
  - (ii) State commission
  - (iii) National commission.
10. The followings are standardized Marks for the different Products :

<i>Marks</i>	<i>Products</i>
1. ISI	Electronic Equipment
2. F.P.O.	Food product
3. Hall Mark	Jewellery
4. Agmark	Agricultured food product.

; kn j [kus ; k; ckr@fcUhg

- 1- mi HDrk l j {k k dk v HZgsmR knlavS Q ki kfj; la } jk mi HDrk fgr la ds fo#) dh xbZvufpr Q ki kfj d dk Zkf; la sl j {k k inku djula
- 2- fo'o mi HDrk fnol 15 ekpZdks i fro "Zeuk k t krk gA
- 3- ^mi HDrk l j {k k i f "n\* mi HDrk l j {k k v f /fu; e] 1986 ds v tr xZ LFHfir dh xbZgA
- 4- mi HDrk l j {k k v f /fu; e 1986] mi HDrk v la ds n k i w Z o L r y h v l tr k i n l o k v h l o k v h v u f p r Q ki kfj d dk Zkf; la v l n ds fo#) l j {k k inku djrk gA
- 5- N~"k mR kn 1/2 s k d j . k v l S f p o u l u 1/2 v f /fu; e] 1987] ea Agmark t k j h d j u s d k i t o /ku gA
- 6- H j r h ekud C j u s d s n k e g l b i w Z d k Z g S %
  - (i) o L r y h dh x q o U k ds ekud fu / H j r d j u k r F k
  - (ii) B I S i e k k i = k ; k u k ds } j k m l g a i e k k i z k i n k u d j u k g A
- 7- i f r L i / H Z v f /fu; e] 2002 usMRTP , dr] 1969 d k s i f r L F H f i r f d ; k A
- 8- V M e k d Z v f /fu; 1999] mi HDrk v la ds m R k n l a i j / H k k n s o k y s f p o u l l s c p k r k g A
- 9- mi HDrk l j {k k v f /fu; e] 1986 l s m i HDrk d h f k d k r l a d s f y , f = L r j h o S k u d e ' k u j h d k i t o /ku g A ; g g S %
  - (i) f t y k Q l j e
  - (ii) j k T ; v k k
  - (iii) j k V h v k k
- 10- fu f u f y f [ k r d s e k u d f p o u v y x & v y x m R k n l a d s f y , g S %

*ekdZ*

*mR kn*

- |              |                        |
|--------------|------------------------|
| 1. ISI       | fo   r mi dj . k       |
| 2. F.P.O.    | [k] mR kn              |
| 3. Hall Mark | To S j h 1/2 H k k 1/2 |
| 4. Agmark    | N f k r [k] o L r q a  |

## 1 MARK QUESTIONS

1. Define 'Consumer' Under Consumer Protection Act, 1986.

mi HDrk l j {k k vf/ku; e} 1986 dsvUr xZ mi HDrk dls i fj Hk'kr dlft , A

2. List any two Remedies available to consumers under Consumer Protection Act, 1986.

mi HDrk l j {k k vf/ku; e} 1986 dsvUr xZ mi HDrk dls feyh nls mi plj l dls crlb; A

3. What are the two Major Activities of Bureau of Indian Standards Act.

Hjrh ekud C; jls vf/ku; e ds nls eq; dk ZD; k gA

4. Mr. Veeru is a vegetarian, he went to a Snack Bar for having french fries and later on find out that it had a Non-vegetarian content. Neither the advertisement nor the packing of the product displayed that the products had Non-vegetarian content. Will Verru be able to claim compensation? Which right of the consumers is violated?

fe- ol# , d 'kdlgh gA og , d LuSl cjl es Ytp Hk u djust; k ch eaml usik kfd ml [kusea ek lglj dsrUb ek w HA u rlsfoKli u vls usghifdx ls; g ekyw iM-kFkfd ml eaek dsrUb es w gA D; k ol# {fritr yuseal Qy gkA ; gk ij mi HDrk dsfdl vf/klj dh vogyuk ghZgS

5. List any two Prominent Consumer Organisation.

fdUghnls eq; mi HDrk l l Fkvladsule fyf[k A

6. Name the ministry which introduced 'Eco-Mark' scheme to be used only on the environment friendly product.

ml eaky; dk ule crlb; sft l si; l j .k fe-k mRln ij yxk k t k r k gA

7. Name the Quarterly Journal Published by Govt. of India on Consumer Awareness.

Hjrh l j djl j } l j k mi HDrk t k # drk ij izlf'kr fdl h - l k l d i f - dk dk ule crlbZ A

8. Name any two Mass Media program tetecasted on television or radio based on consumer awareness.

mi HDrk t k # drk ij v k Hjr fdUghnls ek efm; k dk Ø ladsule crlbZ st l s Vhoh vFokj sM; l s ij iz l jr gk r h gA

9. Why 'Lok Adalats' how be constituted?

ylkl vnkyrã D; l aculbZx; h

10. Mr. Jack purchased a branded edible oil and get a cash memo. On opening the seal, he had doubt about the oil quality. He went for laboratory test which reveals that oil was adulterated. What are the two remedies available to Mr. Jack.

fe- t sl uschMM [k] ry [l j mkr Fk dSk eels Hh fy; k < Ddu [k] usij ml sry dh DofyVh dscj s eal ng gylA og ijl k k dsfy, iz k' lkyx; kft l usry eafeykoV g lsdh i fV dj nA vc fe- t sl dsik dls l snls mi plj mi yCk gS ule crlbZ A

11. Establishing a "Consumer Services Cell" is the example of which consumer right.

mi HDrk l ok l \$yB dh LFki uk fdl mi HDrk vf/kdj dk mngj. k gS

12. To publish a magazine under the title "Ubbhokta Adhikar" is the example of which consumer right?

mi HDrk vf/kdjB uled , d est hu izlf'kr djuk fdl mi HDrk vf/kdj dk mngj. k gS

13. Mr. Yedurappa purchased a heavy machinery from an engineering machinery for Rs. 1.45 crore. While using it he found some defect in the engine. After many complaints the defects was not rectified. Suggest to him the appropriate authority where he could file a complaint under the consumer protection Act, 1986.

fe- ; sljlik us, d bZut fu; jx dEi uh l sHjhe'kujh 1 djM-45 yk{k #i; sea [kjmh iz k dsnl\$ku ml dsbZ u eadN [kjch ik hx; h dEi uh dks dh x; h dbZf' kdk r h dscot w [kjch nyv ughagbA ml s l q-lo nft, fd og mi HDrk l j{k k vf/kfu; e] 1986 ds vUr xZ fdl i f/kdj. k ds l e{k f' kdk r nt Z dj k A

14. Name any two function NGOs engaged in promoting consumer interest.

mi HDrk ds fgr h ds l e fZ eayxs NGOs ds dbZ nls dk Zfyf [k A

15. What can serve as the proof of purchase made for filing a complaint against defective product.

, d l k; ds: i eaf' kdk r d jrs oDr fdl d si Z r f d; k t kl dr k gS fd [kj c oLrqdh [kj mh j dh x; h gS

**3 MARKS QUESTIONS**

16. Explain the needs of consumer protection.

mi HDrk l j{k k dh vlo'; drk dh Q k; k dlft , A

17. Briefly explain the Role of 'Consumer Protection Councils'.

mi HDrk l j{k k i f' nls dh Hf e dk dh l f' Hr Q k; k dlft , A

18. Mr. Kumaraswamy Ayangar, Purchased Medicine without noting the date of expiry. He also did not obtain the cash memo. Do you think he will be able to protect himself by the loss caused due to the expired medicine. Give reasons to support your answer.

fe- dekj Loh evk xj us, Dl i bZ h fr f' k n s l s f' cuk, d nobZ [kj mh A ml us d Sk e s l h ughafy, A D; kvli l e> rsgS fd ml sml nobZ l sgq uql ku ds fo#) l j{k k fey x k vius ml j dsl e fZ eadlj. k nft, A

19. Mrs. Neelmani purchased books worth Rs. 700. Later on she found that the actual price of the book is Rs. 500. But the book seller had put a sticker of Rs. 700 on the original price she also took the cash memo of Rs. 700. Can the Neelmani recover the extra money he paid? Where he can file the complaint what are the other options available to him against book-seller?

fel t uhyef. kus 700 #i; sdh, d i urd [kj mh A ch eaml sirkpykfd i urd dh dler oLro ea 500 #i; s fA y f' du nqlunkj us i urd dh oL r f' od dler ds Aj 700 #i; s dk LV h dj fpi dkj [k fA ml us

700 #i ; sdk dSk eSk Hh fy; k FkA D; kuhyef.ki\$ sQkyrwi\$ soki l ysi k xhml dks; g f kdk r dgk  
nt Zdjuh plfg, \

#### 4 MARKS QUESTIONS

20. Explain the importance of consumer protection from the consumers' point of view.

mi HDrk dsn fVdsk l smi HDrk l j{k k dsegU dh Q k; k dlft , A

21. Explain the role of the press in protecting the interests of the consumer.

mi HDrk dsfgr dsl j{k k eai\$ dh Hfedk dsk l e> bZA

22. State any four remedies available to the consumer.

mi HDrk dks mi yCk dbZplj mi plj fyf[k A

23. State any four ways of consumer protection.

mi HDrk l j{k k ds dbZplj rjldsfyf[k A

#### 5 MARKS QUESTIONS

24. Why the consumer protection is important from the point of view of business.

Q ol k dh n fV l smi HDrk l j{k k D; kavlo'; d gS

25. Give any five consumer responsibilities.

mi HDrk ds dbZilp mUjnk; B fyf[k A

26. Explain any five regulations provided by the Indian Legal System to protect consumers.

mi HDrk dh l j{k k dsfy, Hjr h o\$ kud izkyheafn; sx; sfdUgailp vf/k; eadk dh Q k; k dlft , A

#### 6 MARKS QUESTIONS

27. Explain any six relief/remedies available to consumer under consumer protection Act 1986.

mi HDrk l j{k k vf/k; e 1986 ds vUr xZ mi HDrk dks mi yCk fd Ugha N% mi plj adk dh Q k; k dlft , A

28. Elaborate any three ways and three means of consumer protection in India.

Hjr eami HDrk l j{k k dsfd Ugh rhu rjldar Fk rhu l kula dh foLr r Q k; k dlft , A

29. Explain any three right of a consumer.

- (i) Right to be Heard
- (ii) Right to be Informed

(iii) Right to Safety

(i) f ldk r dk vf/ldj

(ii) l puk i hr djus dk vf/ldj

(iii) l j{k dk vf/ldj

30. Write down important features of Consumer Protection Act, 1986.

mi HDrk l j{k k vf/fu; e] 1986 dh eg lbi wZfo' krk, afyf[k A

## CHAPTER 1

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# NATURE AND SIGNIFICANCE OF MANAGEMENT

## प्रबन्ध की प्रकृति तथा महत्त्व

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### ANSWERS

1. (i) Management of work and  
(ii) Management of people  
(i) **dk dk izUk**  
(ii) **yk dk izUk**
2. Dynamic nature  
**xfr'hy iÑfr**
3. Effective  
**iñoiwZ**
4. To frame objectives and goals.  
**mís; rFk y{; fu/WZr djuk**
5. To oversee and ensure the implementation of policies decided by the top management.  
**mPp izUk }kjkr; dhxbZulfr; s dk dk Zogu dsl fuf' pr djuk**
6. Directly oversee the efforts of workforce.  
**dk Zy dsizk dhndhnskj k iR {k #i lsdjuk**
7. Project/growth  
**yk@izfr**
8. Dynamic nature of management.  
**izUk dh xfr'hy iÑfr**
9. Excellence through coordination.  
**l eW; dselè; e l sJBrk**



10. Appropriate remuneration to workers.

deþkj; s dls mþr i kj Jfed nsA

11. Providing employment opportunities.

jk xkj dsvolj miyCk djka

12. Organising

l xBu

13. Pervasive nature of management.

l oð ki d iÑfrA

## CHAPTER 2

# PRINCIPLE OF MANAGEMENT

## प्रबंध के सिद्धान्त

### ANSWERS

1. Fayol's principle of 'equity'.  
'Qs lky dk lerk\* dk fl ) krA
2. Principle of 'order'.  
'Q oLFk\* dk fl ) kr
3. Functional foremanship.  
dk Red Qjesif ki
4. Differential piece wage system.  
foHRed et nyh njA
5. Principle of unity of command.  
vnsk dh , drk dk fl ) krA
6. Motivation through group efforts.  
Vle Hkouk lsdle dh ij. kA
7. Stability of tenure.  
deZkj ; lsaLFk; RoA
8. Scalar chain.  
\*l lku J dky\*
9. To maintain the performance land of workers.  
Jfedl dh dk Zdqyrk dsLrj dlcuk j [kukA
10. To ensure that worker are doing their job with specified speed.  
; g l fu' pr djrk gsd l Hh Jfed viuk de fu/kr xfr lsdj jgsgA
11. Violation of 'Remuneration' to workers.  
'deZkj ; lsdilf Jfed\* dsfl ) kr dk mYyakuA

## CHAPTER 3

# BUSINESS ENVIRONMENT

## व्यवसायिक वातावरण

### ANSWERS

- Consumer is defined as any person who buys any product or hires or avails of any service.  
ग्राहक को किसी भी प्रकार के वस्तु, सेवा या कार्य के लिए पैसे देना या सेवा का उपयोग करना।
- To get defective goods replaced without any extra cost.
  - To claim damages for loss because of use of goods.
  - दोषपूर्ण वस्तुओं को बिना किसी अतिरिक्त लागत के बदलवाना।
  - वस्तुओं के उपयोग के कारण होने वाले नुकसान के लिए नुकसान का दावा करना।
- Formulation of quality standards for goods and
  - Certification of goods through BIS certifications scheme.
  - वस्तुओं के गुणवत्ता मानकों का निर्धारण और
  - BIS प्रमाणन योजना के माध्यम से वस्तुओं का प्रमाणन।
- Yes, Veeru can claim for compensation. Seller has violated the “right to information.”  
हां, वीरू को नुकसान के लिए दावा करने का अधिकार है। विक्रेता ने “सूचना के अधिकार” का उल्लंघन किया है।
- Common cause, Delhi
  - Voluntary Organisation in Interest of Consumer Education (VOICE) Delhi.
  - सामान्य कारण, दिल्ली
  - उपभोक्ता शिक्षा के हित में स्वयंसेवक संगठन (VOICE) दिल्ली।
- Ministry of Environment and forest.  
पर्यावरण और वन विभाग।
- मिडक त.क. 'Upbhokta Jagran'
- Apne Adhikar

(ii) Jago Grahak

(i) ^vius vf/kdj\*

(ii) t kks xlgd

9. 'Lok Adalats' have been constituted to ensure a paddy, effective and economical redressal of consumers' grievances.

mi HDrk dhf' ldk r lds' k'k i Mohr Ek de [pZij fui Vlu l fu' pr djusdsfy, ykd vnkyra LFki r dh xba

10. (i) Replacement of adulterated oil with pure oil.

(ii) Not to offer Hazardous goods for sale.

(i) feykvh ry ds LFku ij 'k' ry i hr djula

(ii) t k[le okyh oLrya ds fcØh ds fy, iZrq u djula

11. Right to be Heard.

I qobZdk vf/kdjA

12. Right to consumer education.

mi HDrk f' k'k dk vf/kdjA

13. National commission.

jKVh vk kA

14. (i) To organise campaigns on various consumer issues to create social awareness.

(ii) To provide from legal advice to their members on matter of consumer interest.

(i) l kft d t k#drk c<kus ds fy, mi HDrk k' l s l EcfUr foHku eq'la ij vfh ku pykula

(ii) mi HDrk fgr' l s l EcfUr eleyk ij vius l nL; k ds eq' r dkuwh l gk rk mi y'k djula

15. Cash Memo

dSk eSa

## CHAPTER 4

# PLANNING

## नियोजन

### ANSWERS

1. High level management.  
महानिर्णयकारी
2. Planning  
योजना
3. All three levels of management.  
सर्वस्तरों की योजना
4. Means planning restricts creativity.  
योजना कल्पना को सीमित करती है।
5. No, efforts are necessary to ensure success.  
नहीं, सफलता के लिए प्रयास आवश्यक हैं।
6. (i) Capital and  
(ii) Raw material  
(i) पूंजी, सामग्री  
(ii) कच्चा माल
7. (i) Govt policies;  
(ii) Business competition  
(i) सरकारी नीतियाँ, सामग्री  
(ii) प्रतियोगिता
8. Strategy  
योजना
9. Rule  
योजना
10. Programme  
योजना
11. Procedures  
योजना

## CHAPTER 5

# ORGANISING

## संगठन

### ANSWERS

1. (a) Functional organisation.

(b) Divisional organisation.

½ dk Ed l xBu

½ folxh l xBu

2. (a) Informal organisation.

(b) Formal organisation.

½ vuspljd l xBu

½ vspjd l xBu

3. Authority – Responsibility

vf/dkj & nf; R

4. Optimum utilization of resources or any other objective.

l kulackmfr mi; k ; k vU d bZmís; A

5. Difficult to perform.

dk Zdjuk dfBuA

6. Increases

c<xh

7. Not followed.

l ikyu ughafd; k t k r l A

8. Essential

vlo'; d

9. Based on function.

dk k ij vkkj rA

10. Delegation of authority.

vf/ldj l kuka

11. Organising

l xBu

12. Span of management.

izak dk foLrjA

13. (a) Benefits of Specialisation.

(b) Clarity in working relationship.

1/2 of 'Vldj.k ds ykk

1/2 dk Z l aka dk Li "Vldj.k

14. Functional organisation.

dk k ed l xBu

15. Conflict may arise among different divisions

(a) relating to allocation of funds etc.

(b) It may lead to increase in cost.

1/2 dks ds vkyu ds yslj foHku iHka ea >xMA

1/2 ykr ea o f) A

16. Firms operations require a high degree of specialisation.

t gk QeZds l pkyu eamp dV dsfof 'Kldj.k dh v' ; drk gA

17. Functional organisation is formed on the basis of functions where as Divisional organisation is formed on the basis of line of production and its supported activities.

jpuk ds vky ij dk k ed l xBu dh jpuk dk k ds vky ij ghr gSrEk foHku l xBu dh jpuk mku jsk ij ghr gSrEk dk k jk l ekr ghr gA

18. It leads to delay in decision making.

fu. k ynsdh i0; k eanjh gkA

19. It originates by virtue of an individual's position in the organisational hierarchy.

It originates by virtue of an individual's position in the organisational hierarchy.

20. It arises from a superior subordinate relationship.

It arises from a superior subordinate relationship.



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# STAFFING

## नियुक्तिकरण

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### ANSWERS

1. Candidate are invited to apply for the jobs.

ikfk la dlsfjDr; k Hjusdsfy, vlefkr fd; k t krk gA

2. Selection

p; u

3. Development

fodk

4. Staffing

fu; fDr dj.k

5. Human Resource Management.

ekuo l a kku izUA

6. Transfer, Promotion

lFkula.j.k inKufr

7. Advertisement

foKku

8. Apprenticeship

if k k kHkZdk Øe

9. Training is tied to the goals of organisation more than to the goals of the individual. Education increases the knowledge and understanding of employees.

if k k k l xBu dsy{; la l svf/kd t Mghrh gSu fd Q fDr dsy{; la l A f'kk deplj; la ds Kku rFk  
ckk dlc<rh gA

10. Placement means fitting the selected person to the right job.

vufku u dk rR; Zdepljh ds inHj l illyusl sgSft l dsfy, ml dk p; u gqk gA

11. 1. Personality test.

2. Aptitude test.

1- QDrÙb ijkk

2- vff#fp ijkk

12. Selection is considered to be a negative process because selection rejects more candidates than are employed.

p; u i#0; k eavf/ld mFmolyldsfudky fn; k t k r k gA

13. Broader understanding of all jobs of the business.

Q ol k dsl Hh vxldsfolr r #i l sl e>useadk Zdjrk gA

14. External Source.

ck; l r

15. To eliminate unqualified and unfit job seekers.

v; k; rFk vuq; Dr iFk ld sfudky nslA

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## DIRECTING

## निर्देशन

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### ANSWERS/KEY POINTS

1. (i) Supervision is prevalent at all levels of management.  
(ii) It is a continuous process.  
(i) i; Zkk izk ds l Hh Lrjla ij ik k tkrk gA  
(ii) ;g yxrkj pyus okyh ifO; k gA
2. Circular network.  
xlykdlj rak
3. There are many needs of people and their order can be made.  
ykhadh vlo'; drk avusl gsvly mudk Øe fu/Hjr fd; k tkl drk gA
4. Co-partnership  
l gHfkrk
5. Motivation  
vfHij.k
6. Perquisites  
vugHk
7. At all levels.  
l Hh Lrjla ij
8. Leadership  
ur B
9. The scope of managership is wider than leadership.  
izk dyk dk dk, Zsk ur B l sfoLr r gA
10. Initiative  
igylerkA

11. Communication

l Ekk

12. Organisational informations are passed through it.

bl dsvarz l xBukEd l puk aif'r dh t k h gA

13. They are included in the upward communication.

bl sm/ozq h l Ekk eal ffefyr fd; k t k r k gA

14. It is the advantage of informal communication.

;g vuk pljd l i k k dk y k k gA

15. Free flow network.

edr i n g r a kA

## CHAPTER 8

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# CONTROLLING

## नियंत्रण

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### ANSWERS/KEY POINTS

1. (i) Critical point control.  
(ii) Control by exception  
(i) महत्त्वपूर्ण बिंदु नियंत्रण  
(ii) विचलन नियंत्रण
2. (i) Sales volume  
(ii) Production  
(i) बिक्री आय  
(ii) उत्पादन
3. (i) Labour relations  
(ii) Motivation level of employees.  
(i) श्रम संबंध  
(ii) कर्मियों की प्रेरणा
4. (i) Positive Deviation : Actual Performance (A.P.) Standard Performance (S.P.).  
(ii) Standard Performance (S.P.) Actual Performance (A.P.)  
(i) वास्तविक प्रदर्शन (A.P.) मानक प्रदर्शन (S.P.)  
(ii) मानक प्रदर्शन (S.P.) वास्तविक प्रदर्शन (A.P.)
5. (i) Desired or standard performance  
(ii) Actual performance.  
(i) वांछित या मानक प्रदर्शन  
(ii) वास्तविक प्रदर्शन

6. PERT and CPM are the two network Techniques which have been developed for effective planning and control of complex project work.

ihbZ/kj-Vh 1/2VZv/5 l hi h, e- nksuVodZrduldsgarlsfd t fvj ifj; k u dk ZdsiHo'kyhfu; k u , oa fu; ak k dsfy, fodfl r dh x; h gA

7. (i) Dynamic process

(ii) Action oriented

(i) M; used i f0; k

(ii) dk Z dshz

8. Critical path is A → C → E → F project completion time is 4 + 8 + 2 + 5 = 19 weeks.

vlylpured mik gA A → C → E → F ik DV iyk gnsdkl e; gS%4 \$ 8 \$ 2 \$ 5 ¼ 19 l IrigA

9. (i) Setting performance standards.

(ii) Taking corrective action.

(i) fu"i ku ekudh dk fu/47. k

(ii) l qj Red dk Z djukA

10. Supervision and control.

i; Zskk v/5 fu; ak k

11. Controlling

fu; ak k

12. 2% increased in the cost of raw material.

dPpseky dh dler ea2% of) A

13. Control/management by exception.

violn }jk fu; ak k@izUA

14. Key Results Areas (KRAs) are the point which are critical to the success of an organisation.

ew ifj. ke {sk (KRA) ofcUhgSt ksfdl h l LFk dh l Qyrk dsfy, vlo'; d gA

15. Repair the existing machinery or replace the machinery if it cannot be replaced.

orZku e' kujh dh ejFer vFlok; fn e' kujh dh ejFer ughadh t k l drh rc ml scnyukA

---

## FINANCIAL MANAGEMENT

### वित्तीय प्रबंध

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#### ANSWERS

1. To maximise the return to owners *i.e.* shares holders.  
dEi uh ds Loh ; kfu 'lsj /Hj dhdsvf/kdÙe ifrQy nslA
2. A long term investment decision.  
nl?Zvlof/k dsfy, fuosk fu. lZA
3. Capital Budgeting Decision.  
iwh ct Vx fu. lZA
4. Dividend Decision.  
yHk lafu. lZA
5. Working Capital = Current Assets – Current Liabilities  
dk Zhy iwh ¼ pywl E fùk k & pywnk; B
6. Debt and Equity.  
\_ .k vls l erA
7. Advertisement  
foKki u Q ; A
8. Cash Flow of the Project.  
; k uk dkjklM-iølgA
9. Cash Flow Position.  
jklM-iølg fLFfrA
10. Nature of Business.  
Q ol k dhiÑfrA

---

## FINANCIAL MARKET

## वित्तीय बाजार

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### ANSWERS

1. Provide funds for short term.  
य?कवof/k dsfy, dlk mi yCk djka
2. Management of the company.  
dEuh dk izUA
3. Banks with Temporary shortage of funds.  
cfl dlkadh vLFk h deh dsfy, A
4. By demand and supply of shares in the market.  
ck kj ea' s jadh ek v\$ i fr ds }kjA
5. R.B.I. Financial Inst. and Financial Company.  
fjt oZcfl v\$ bf.M; k foUk, l LFku v\$ foUk, dEuhA
6. Treasury Bill.  
Vt jh fcyA
7. Reserve Bank of India.  
fjt oZcfl v\$ bf.M; kA
8. Rs. 25,000.  
25,000 #i; A
9. Private Placement, Right Issue e-IPO.  
fut h fu; k u] v/klj fuxZ] by DVKud v\$ fHd l kZ fud fuxZA
10. New Issue Market.  
uohu fuxZ ck kjA



11. Buying and selling of securities.

ifz Hfr; ldk Ø; &fo Ø; A

12. This refers to carry forward system of settlement.

t sl iqzh; kif'V; lds Harku dls, d fuf'pr vof/klsvky nrhgA

13. The prospectus is a draft according to SEBI guidelines disclosing the needed information to the investor.

ifoj.k, d , i ki z-kgSt sl chdsekz' l ear\$ kj fuoskd UZ ladh vlo'; drk lds ijk djusdsfy, l puk miyØk djkrkgA

14. An electronic book entry form of holding and transferring.

ifz Hfr; lds vj.k, oa/ky.k grqby DV kud cql if'VA

15. SEBI

l chA

16. Right basis issue

vf/klj vkkjr fuxZA

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# MARKETING

## विपणन

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### ANSWERS

1. Marketing  
foi.ku
2. Societal Marketing Concept.  
l lekt d foi.ku fopj/hjk
3. Satisfying the needs of customers better than the competitors.  
xgdh v' ; drk d sif; l d seqsv/ d l rV inku djuk
4. Zero-level channel.  
'Wj Lrjh ek; eA
5. Product combination.  
mRn l qkA
6. Creation of demand.  
ek dkl tuA
7. Lakme, Colgate.  
yDe; dlyxVA
8. Newspaper, T.V.  
l ekpi-h Vsyfot uA
9. Regular and continuous demand.  
fu; fer , oayxrkj ekA
10. Primary Packaging.  
iMfed isst xA

11. Publicity

ipkj

12. Production Concept.

mR knu vo/kj. kA

13. A direct face to face dialogue takes place between buyer and sellers verbally or orally regarding price, colour, size design and its usage etc.

bl ds varZ foØ; drZ, oaxgd ds clp eaolrqdh fo' kRk w at \$ seW, ] jx] vdkj] fMt bu] iz k  
fof/kvkn dsl aHZeas[ld crpr grhgA

14. Cotton, tobacco

#bZ rakW

15. Place

LFkuA

---

## CONSUMER PROTECTION

### उपभोक्ता संरक्षण

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#### ANSWERS/KEY POINTS

1. 'Business Environment' refers to all those conditions and forces external to a business unit under which it operates.

Q kol k; d okroj.k l svfkk mu l Hh 'kDr; la, oai fllfr; la sgSt kQ kol k; d bdbZdsclg dh gft l dsvrxZ Q kol k; d bdbZde djrhgA

2. (i) Belief and customs of people.  
(ii) Education system.

(i) ykla dh ek rk a vs jfr&fjok A

(ii) f'kk i) frA

3. New Industrial Policy 1991.

ubZvls kxd ulfr 1991

4. Political environment comprises those elements that are related to government affairs *i.e.* the type of government is existence government attitude towards various industries, etc.

jkt urd okroj.kmu rbl sfydj cukg t ksd ljdkheylal st MgA t spy jghldkj dh izlj] foHu miOeladsifr ljdkj dk #[k BR knA

5. (i) Identification of opportunities for the first mover advantage.  
(ii) Tapping useful resources.

(i) ike iorZl dk ykk iHr djus ds fy, vol jla dh igpu\

(ii) mi; kch l a kula l s ykk mBlukA

6. (i) Economic environment

(ii) Technical environment.

(i) vkkd okroj.k

(ii) rdulfd okroj.k

7. L.P.G. stands for :

L → Liberalization

P → Privatization

G → Globalisation

8. (i) Increased competition

(ii) World class technology.

(i) ~~ifrLi/WZ~~ dk c<uk

(ii) fo'o Lrjh rdukdA

CBSE QUESTION PAPER 2008

**BUSINESS STUDIES**

**Q k l f; d v/; ; u**

Time : 3 hours

Maximum Marks : 100

fu/kr le; % 3 ?kVs

vf/kdre val % 100

**General Instructions :**

1. Answer to questions carrying 1 mark may be from one word to one sentence.
2. Answer to questions carrying 3 marks may be from 50 to 75 words.
3. Answer to questions carrying 4-5 marks may be about 150 words.
4. Answer to questions carrying 6 marks may be about 200 words.
5. Attempt all parts of a question together.

**l kkl; funZk %**

1. ,d val oksizuladsmUj ,d 'kñ ls, d oD; rd glA
2. rhu val oksizuladsmUj 50 ls75 'kñadsglA
3. plj&lp val oksizuladsmUj yxHx 150 'kñadsglA
4. N%val oksizuladsmUj yxHx 200 'kñadsglA
5. ,d izu dsl Hh Hx l F&l Fk gy dlft, A

1. 'The management principles can be applied to all types of activities.' Which characteristic of management is highlighted by this statement?

'vadh fl ) kr l Hh izlj dhfØ; vñesiz Økfd; st kl drsgA\* bl dflu } jkiz Uk dhfdl fo 'kñk dh vj l ar fd; kx; k gS 1

2. Name the process of designing and maintaining an environment in which individuals working together in groups, efficiently accomplish selected aims.

ml iØ; kdkule crlb, t k, d , l k k r k o j . k r \$ j d j r h g \$ r F k m l s d k e j [ k r h g \$ f t l l s d n Q f ä l e g h a i j l i j d e d j r s g q l p u s g q y { ; l a d s d k y r k i o z l i H r d j r s g A 1

3. What is the main objective of fatigue study?

Fdku v/; ; u d k e q; m í s; D; k g S 1

4. Name the function of management which co-ordinates the physical, financial and human resources and establishes productive relations among them for achievement of specific goals.

izUk dsml dk Zdkule crlb, t k Hfr d] foUk , oaeuoh l a k kulaeal eU; LFki r dj] fuf'pr m's; kadh i k r grqmueamR knd l Euk cukr k gA 1

5. State how the management principles are flexible?

crlb, fd izUk dsfl ) k r fdl izlj yphysglrsgA 1

6. Which function of management ensures that actual activities confirm to planned activities?

izUk dk d k l k dk Zbl cr dh i fV d jr k g s d o k r f o d f 0 ; k a f u ; k t r f 0 ; k v l a d s v u q i g A 1

7. A company wants to establish a new unit in which a machinery of worth Rs. 10 lakhs is involved. Identify the type of decision involved in financial management.

, d d E u h , d u b Z d l b Z d h L F k i u k d j u k p l g r h g s f t l e a 1 0 y k [ k # n d h e ' k u j h y x b z t k u h g A f o U k i z U k e a l y X u b l f u . k z d s i z l j d k s i g p k f u , A 1

8. Name the concept which increases the return on equity shares with a change in the capital structure of a company.

m l v o / k j . k d k u l e c r l b , f t l e a d E u h d s i w h < l p s e a i f j o r z d j u s l s l e r k v a l l a i j i f r y H k c < + t k r k g A 1

9. Ahmed wants to buy and iron. As an aware customer how can he be sure about the quality of iron?

v g e n , d i s % L r j h / 2 [ j m u k p l g r k g A , d t k : d m i H k a k d s : i e a o g i s % L r j h / 2 d h x q l o U k d s l E U k e a v i u s v k i d k d s s v k o L r d j l d r k g S 1

10. Mohit filed a case against 'Domestic Coolings Ltd.' in the 'District Forum,' but he was not satisfied with the orders of the District Forum. Where can he appeal further against the decisions of District Forum?

e l g r u s M e s L V d d i y x f y e V M d s f o # ) ' f t y k Q l e \* e a , d d s n t Z d ; k y f d u o g f t y k Q l e } k j f n , x , v n s k l s l a V u g l a F k A f t y k Q l e d s f u . k z d s f o # ) v k s o g d g l a v i h y d j l d r k g S 1

11. Explain how 'planning' provides direction to action?

' f u ; k u \* f 0 ; k v l a d s f n ' k & f u n z k i n k u d j r k g A d s s l e > l b , A 3

12. What is meant by 'formal organisation'? List any two advantages of formal organisation.

^ v s p l j d l x B u \* l s D ; k v f i k g S v s p l j d l x B u d s f d U g l a n s y k l l a d h l p h c u l b , A 3

13. To be a successful leader, one must possess some qualities. State any three such qualities of a leader.

fdl h dsl Qy urk cuusdsfy, dñ xqlal sl Eü glsk vlo'; d gA , d urk ds, d sfdlgarhu xqla dk mYyjk dlft , A 3

14. Explain any three advantages of 'labelling'.

ulei-k ycyx½dsfdlgarhu ylladko.ñ dlft , A

15. Nature of money market can be well explained with the help of its features. State any three such features of money market.

enk&ct kj dhiñfr dksml dhfo' kskvadhlgk rkl shyl&ñfr l e>k kt kl drkgA enk&ct kj dh , d hfdlgarhu fo' kskvadhlgk mYyjk dlft , A 3

16. Explain 'objective' and 'policy' as types of plan using suitable examples.

mi; q mlgj.k dk mi; k djrsgq ; k uk dsizljads: i ea'mis; \* , oa^ulfr\* dsl e>lb, A 4

17. What is required to tackle the uncertainty in respect of availability and timings of funds? Name the concept involved and explain any three points of its importance.

dksdh l e; ij miyClrk l EcUk vfuf' prrk dk l leuk djus ds fy, D; k vlo'; d gS l EcUk vo/lkj.k dk ule crkrsgq bl dsegñ ds dñZrhu fctñql e>lb, A 4

18. Explain the following rights of a consumer :

- (i) Right to safety
- (ii) Right to consumer education.

, d miñk ds fufyf[r vf/lkjads l e>lb, %

- (i) l g{k dk vf/lkj
- (ii) miñk f'k{k dk vf/lkj 4

19. State any four reasons why training is needed in any organisation?

fdl h l xBu eai f'kk dh vlo'; drk D; lagrh gS fdlgaplj dlj. ñadk mYyjk dlft , A 4

20. 'Supervision is not at all required in an organisation.' Do you agree? Give two reasons in support of your answer.

^, d l xBu eai; Zsk dh fcYdy Hñ vlo'; drk ughagrñ D; k vki l ger gS viusmÜj dsl eñZ ea dñZñs dlj. knft , A 4

21. Raman is working as 'Plant Superintendent' in Tifco Ltd. Name the managerial level at which he is working? State any four functions he will perform as 'Plant Superintendent' in this company.

jeu fvQdl&fyfeVM es'l aakl ijVsMV\* dsin ij dk Zdj jgk gA ml izUkdh Lrj dk ule crlb, ft l ij og dk Zdj jgk gS fdlgaplj dk ñadk mYyjk dlft , A t ñdE uhes'l aakl ijVsMV\* in ij og l Eü djxñ 5



22. Explain the following principles of management :

- (a) Scalar chain
- (b) Science, not thumb rule.

22. Explain the following principles of management :

- (a) Scalar chain
- (b) Science, not thumb rule.

5

23. Maslow's need-hierarchy is considered fundamental to understanding of motivation. Explain the role of need-hierarchy in motivation.

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5

24. Distinguish between 'Capital Market' and 'Money Market' on the following bases :

- (i) Participants
- (ii) Instruments traded
- (iii) Duration of securities traded
- (iv) Expected return
- (v) Safety

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5

25. Some products have certain unique features. They attract a significant groups of buyers. Identify the kind of product and list its features.

25. Some products have certain unique features. They attract a significant groups of buyers. Identify the kind of product and list its features.

5

26. What is meant by 'functional structure' of organisation? Explain any two advantages and any two limitations of this structure.

Or

What is meant by 'decentralisation'? Explain any four points which highlight the importance of decentralisation in an organisation.

l xBu ds^dk Hed <lp\* l sD; kvfhi k gS bl <lpdsdUghansyHh, oafdUghansl lekvladk l e>lb, A

vFlok

fodhdj.k l sD; kvfhi k gS , l splj fclhvladk l e>lb, t k, d l xBu esafodhdj.k dsegU dks mt klj djrsghA 6

27. 'Filling vacancies from within the organisation has some advantages as well as limitations.' Explain any three such advantages and any three limitations.

Or

Which function of management helps in obtaining right people and putting them on the right jobs? Explain any five points of importance of this function.

l LFk eal sgh fjä inladkHjusdsdN yHk Hh gävS dN l lek aHh\* , l sfdUgharhu yHh, oafdUgharhu l lekvladk l e>lb, A

vFlok

ixUk dk dks l k dk Zmfpr Q fä; ladh miyfUk vS mudhmfpr dle ij fu; fjä eal gk rk djrk gS bl dk ZdsegU dsfdUgha l p fclhvladk o. H dft , A 6

28. What is meant by 'Budgetary Control'? State its four advantages.

Or

'Controlling is an indispensable function of management.' Do you agree? Give four reasons in support of your answer.

^ct Vh; fu; Ukk k dk D; kvfhi k gS bl dsfdUghaplj yHh dk mYs{k dft , A 6

vFlok

fu; Ukk ixUk dk, d vfflu dk ZgA\* D; kvki l ger gS viusmUj dsl eHh eadlbZplj dlj.knft , A

29. Explain any four factors which affect the working capital requirements of a business.

Or

Explain any four factors which affect the capital structure of a company.

, d Q ol k dh dk Zhy iwh vlo' drkvladk iHfor djusokysfdUghaplj ?Wdladh Q k; k dft , A

vFlok

dEuh dh iwh kl jpk dks iHfor djusokysfdUghaplj ?Wdladh Q k; k dft , A 6

30. Explain four important elements of marketing mix.

Or

Explain the following functions of marketing :

- (i) Gathering and analysing market information;
- (ii) Market Planning;
- (iii) Product designing and development;
- (iv) Customer support services.

foi.ku feJ dspkj egÜbiwZrÜbndk o.Ü dltt , A

vFlök

foi.ku dsfuufyf[kr dk kch Q k; k dltt , %

6

- (i) ckt kj l fCUh l pukvls dks , df=kr djuk , oa mudk fo'yškk djuk
- (ii) ckt kj fu; kt u(
- (iii) mRkn fMt lbu djuk , oa mudk fodkl (
- (iv) miHk k l gk d l ok A

## MODEL QUESTION PAPER 1

# BUSINESS STUDIES

## Q u e s t i o n s

### CLASS XII

Time : 3 hours

Maximum Marks : 100

Duration : 3 hours

Maximum Marks : 100

#### General Instructions :

1. Answer to questions carrying 1 mark may be from one word to one sentence.
2. Answer to question carrying 3 marks may be from 50 to 75 words.
3. Answer to question carrying 4-5 marks may be about 150 words.
4. Answer to question carrying 6 mark may be about 200 words.
5. Attempt all parts of a question together.

#### Questions

1. If a production manager is able to achieve the target production of 4000 units but at a higher cost is he/she efficient or effective?

2. Rakesh Kumar is working as a foreman in a company. At which level of management is he working?

3. "To make the time table in an educational institution is the example of coordination." Comment in one sentence.

4. If a production manager is able to achieve the target production of 4000 units but at a higher cost is he/she efficient or effective?

5. Rakesh Kumar is working as a foreman in a company. At which level of management is he working?

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8. Rakesh Kumar is working as a foreman in a company. At which level of management is he working?

9. "To make the time table in an educational institution is the example of coordination." Comment in one sentence.

10. "To make the time table in an educational institution is the example of coordination." Comment in one sentence.

Þ d 'lðk ld l lðk dk vlbe vcy cukuk leö; dk mngj.k gðß , d oö; eafvli .lh dlft , A

4. If a ABC company Ltd. does not provide the right place for physical and human resources which principle of management is violated.

; fn , -chl h dEiuh fyefVM viusdeþlfj; ladsHðr d vð ekuoh l a kkuads l gh LFku mi yCk ugha djokhr rls izak ds dñ l sfl ) h dh vogyuk glrh gð

5. Which principle of management control is based on the belief that an attempt to control everything results in controlling nothing.

izUk dk dñ l kfl ) Hðr bl foplj ij vkhj r gSfd ið d pht dñfu; Ukk djusdh dñ k k dk vð dñ Hðfu; akku dj ikuseaglrk gð

6. Name any one technique of control.

fu; akk dh dñZ, d rduld dk ule crlb, A

7. Which marketing philosophy gives more importance to “consumer welfare” instead of “consumer satisfaction.”

dñ l k foi .ku n' ð ðmi Hðrk l rfvß ds LFku ij ðmi Hðrk dY; k ð dñsvf/ld egð nrk gð

8. What type of conversation takes place in “personal selling.”

Q ðrxx foö; eafdl rjg dh okrk/ki glrh gð

9. Write any one quality of a good brand.

, d vPnsch dh dñZ, d fo' ðrk fyf[k A

10. Which concept of marketing suggest that the organisation should earn profit through volume of production.

ml foi .ku vo/ly .k dkule crlb, t ðl xBu dñsvf/ld mRku }kjky ðk deusdsfy, iðr djrhgð

11. Write any three differences between policies and procedures

ulfr; lsvð i) fr; l earhu varj fyf[k A

12. Explain how motivation helps to reduce absenteeism in the organisation.

Q k; k dlft , fd fdl izlj vfhi j .k l lðk eavuq l lðr dh nj ?Wkuseal gk d gð

13. Communication originally drafted in English has been purely translated in Hindi. Name the type of barrier to effective communication and explain any other two barriers of this type.

l ask t ðigysvxt heafy [k x; k ðk ðgnh Hðk eaBrd l svuqhn ughagsl dñ bl sl ðk k dh dñ l h ckk dgðs bl rjg dh nsvð ckkwadh Q k; k dlft , A

14. Explain briefly

(a) Cash flow of the project.

(b) The rate of return.

fuFu dh Q k; k dlft , A

¼½ ifj; k uk dk jkM iolg

¼½ vk dh nj

15. What are the three factors affecting working capital of a business.

Q ol k dh dk Zhy iwh dsi for djusokysrhu dljd crk, A

16. "Planning is of vital importance in the managerial process." Do you agree? Explain four reasons in support of your answers.

fu; k u izadh if; keavfr egbiwZgA D; kvki lger gaviusmij dsi{keapj dj. kadko. k dlft , A

17. Explain the steps involved in the process of organising.

l xBu esufgr foHhU pj. kadh Q k; k dlft , A

18. "SEBI is the watching dog of the securities market." Do you agree. Give four reasons in support of your answer.

El shifr kr ck lj dsfy, j [lokh djusokysdij dsl eku gSD; kvki lger gaviusmij dsi{keapj dj. knft , A

19. Explain the following Money Market Instruments.

(a) Treasury bill

(b) Call money

enk ck lj dsufufy[kr vx kadh Q k; k dlft , A

¼½ Vtjh fcy

¼½ dlw euh

20. Differentiate between training and development on the basis of–

(i) Purpose

(ii) Duration

(iii) Scope

(iv) Level of trainees.

f kkkv\$ fodkl eafuFu vkkij varj dlft, &

(i) izktu

(ii) vof/k

(iii) l h[us dk {sk

(iv) f kkkk dk Lrj

21. "Success of an organisation largely depends upon its management." Explain any five reasons to justify the above statement.

Þ d l xBu dh l Qyrkdkvkkij bl dsirUkij fuHj djrkg\$ bl dFlu dsl eFlz eafdUhai p dkj. ka dk o. H dlft, A

22. Why does the principle of unity of command does not hold good in the case of functional organisation. Explain with the help of an example.

vnsk dh, drk dk fl }Hr dk Hed l xBu eaD; la ykwughagr k g\$ mngj. k l fgr Q k; k dlft, A

23. "Controlling is looking back as well as forward." Explain in detail.

Hu; ak k vksrFlk i Nsnk ulvli n\$ k r k g\$ o. H dlft, A

24. "Expenditure on advertisement is a social waste." Do you agree? Explain in detail.

Hokkiu ij fd; kx; k Q; l kft d viQ; g\$ D; k vki l ger g\$ o. H dlft, A

25. Explain the function of intermediaries in the distribution of goods.

mR l nadsforj. k ea eè; LFla } j k fd; st kusokysdk k d k Li"V dlft, A

26. What is meant by 'Divisional Structure' of an organisation? Explain any two of its advantages and two limitations.

l xBu ds fMot uy < psl sD; k vfi k g\$ bl dsfdUghans y Hs rFlk nsl l ekv l adk mYs k dlft, A

Or

vFlk

Distinguish between Delegation of Authority and Decentralisation on the basis of—

(i) Nature

(ii) Freedom in Action.

(iii) Status

v/ldj varj. k rFlk fodthdj. k e&

(i) iñfr

(ii) **dk Zlgh dh Lorark**

(iii) **fLFkr**

27. Explain in brief the steps involved the selection process of the employees. (Any four).

**deplj; h dh pqlb i fO; k esafgr pj. h dh Q k; k dlft , ½albZplj ½A**

Or

**vFlok**

Explain any three on the job methods of training.

**dk ZdsI Fk i f k k dh d bZrhu fof/k k fyf[k A**

**mu ?Wdh dsl ali eaLi"V dlft , ft UgamRln dkeW, fu/hz.k dk fu. h yrsI e; /; ku eaj [k t k r k gA**

28. Explain formal communication network with the help of a diagram.

**vS plj d l Fk k rak dh fp=k l fgr Q k; k dlft , A**

Or

**vFlok**

Write six qualities of a good leader.

**, d vPNsurk usN% xqk fyf[k A**

29. "A sound financial plan is a key to sound financial management of the company." Discuss.

**Þ d l Vld foUk ; k uk dEuh dsl Vld foUk i zUk dh d h gS foopuk dlft , A**

Or

**vFlok**

Explain six factors affecting fixed capital structure.

**LFk h i v h dsl i ffor djusokysN% d j d h d k o. h dlft , A**

30. Explain the role of consumer organisation and NGO's in protecting the interest of the consumers.

**mi hDrk dsfgr h dh l j (k esmi hDrk l LFk v l r Fk , u-t h v s dh h f e d k dh Q k; k dlft , A**

Or

**vFlok**

Explain the following rights of the consumers :



- (i) Right to be heard.
- (ii) Right to be informed.
- (iii) Right to be Safe.

fuufyf[r mi HDrk ds vf/klj la dk o. lz dlft , A

- (i) I qobZ dk vf/klj
- (ii) I puk dk vf/klj
- (iii) I j{k dk vf/kljA

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## MODEL TEST PAPER - 2

### emMy VLV isj & 2

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1. "Management cannot be seen but its presence can be felt in the way the organisation functions." Which characteristic of management is highlighted by this statement? 1

izUk dlsnq k ughat kl drkij urqbl dhmi fLFfr l LFk dk Z}jk egl w dh t kl drhgA izUk dh dls l hfo' kkrkbl dflu dlsinfkr djrhgA

2. Mr. William has a good business of iron and steel. His father wants him to go to USA for MBA. What does this show about the nature of management? 1

Jleku fofy; e dk ylgk vls Likr dk vPnk Q ol k gA ml dsfir kt h ml sMBA djusdsfy, vesj dk Ht uk plgrsgA ; g izUk dk dls l hfo' kkrk dlsn' HZk gS

3. Name the two methods by which the principle of management derived. 1

mu nlsfof/k h dck ule fyf[k ft uds} jk izUk dsfl ) kr dh mR fuk ghZgA

4. If a company is not giving adequate compensation for better performance. Which Technique of Scientific Management is being violated. 1

; fn , d dEuh vPnsfu "iku dsfy, mpr ifr Qy ughanshgA ; gkij oKkud izUk dhfdl rduld dh vogyuk dh x; h gA

5. Name the technique in which key Areas what are critical for the success of an organisation should be the focus of control? 1

bl rduld dk ule fyf[k ft l ds} jkl LFk dls Qyrke aeg ubi wZv xh dsfu; akkij e; ku fn; kt krk gA

6. In which situation the need of corrective action arises. 1

l qj Red dk Zk h djusdh vlo'; drk dc isk glrh gA

7. State any one objective of marketing management.

foi.ku izUk dk dlsZ, d mis; crbZA

8. State any one feature of convenience product. 1

l fp/kt ud mR kn dh dlsZ, d fo' kkrk fyf[k A

9. Name the channel where in goods are made directly available by the manufactures to consumers without involving any intermediary. 1

ml forj.kek; e dk ule crbZstc mR ind eky ek; LFk dsu cpdj l hsmi HDrk vads cprrsgA

10. Name the process by which the individuals and groups obtain what they need and want through creative offering and freely exchanging product and services of value with others. 1
11. How does planning restricts creativity. 3
12. What is meant by capital structure? Describe the two factor determining the capital structure. 3
13. Explain the process of financial planning. 3
14. Explain the process of motivation with the help of diagram. 3
15. Managerial function cannot be carried out without an efficient system of communication. Do you agree write any three reasons in support of your answers. 3
16. State and explain four important features of planning 4
17. "Delegation of authority, the mean where by a manager multiplies himself." Highlight the importance of delegation of authority. 4
18. "Product is a bundle of utility" do you agree? Comment. 4
19. Explain the following methods of floating : 4
- (i) Right issue
  - (ii) e – IPO

20. Explain the four function of financial market. 4  
foUk, ct kj dspkj dk kdk o. k dft, A
21. Explain the role of management in 21st century with examples. 5  
210al nh eaizUk dh Hfedk dksmngj. k l fgr l e>lb, A
22. What is the principle of “Scalar chain” explain briefly the utility of gang plank with the help of diagram. 5  
H li ku JqkyB dsfl ) Hr D; kgS fp=kdh l gk rkl sfeyku i VVhdhmi Hkxrkdh l f{Hr Q k; k dft, A
23. Explain any five problems faced by an organisation in implementing an effective control system. 5  
iHo' kyh fu; ak k izkyh ykwdjus dks vksokyh fdUgha l p l eL; k vldh Q k; k dft, A
24. Sonu products have certain unique features. They attract a significant group of buyer. Identify the kind of product and list its features. 5  
dN mRlnaeafuf' pr rFk vf}rh y{kkgkrgsA osfof"V oxZdsxlgdhdksvldfkr djrsgA mRln ds izkj dh igplu dft, rFk bl dh fo' kskvldh l ph r\$ kj dft, A
25. Distinguish between primary market and secondary market as component of capital market. (Any five). 5  
i ph ct kj ds vks ds #i eaifed ct kj v\$ f}rh, d ct kj eavUrj Li"V dft, A ½Zilp ½
26. Define functional structure of an organisation and write its two advantages and two disadvantages. 6

Or

Differentiate between informal and formal organisation on the basis of–

- (i) Formation
- (ii) Purpose
- (iii) Behaviour of members.
- (iv) structures.
- (v) Flow of communication
- (vi) Leadership.

delled l xBu dh ifjHk k nrsqg bl ds nls yHk rFk nls gfu; k fyf[k A

vFok

fufyf[kr vkkj laij v\$ pljd rFk vus pljd l xBu eavUrj Li"V dft, %

- (i) mRi fUk
- (ii) mÍs;
- (iii) l nL; la dk Q ogkj
- (iv) <lpk
- (v) l EÍk k
- (vi) ur B

27. "Employees' training is necessary in an organisation." In the light of this statement. Explain any four reasons of training. 6

^deZlfj; la dksfdl h Hh l xBu eai f kkk nsuk vfuok ZgA\*\* bl dFlu dsl nHZeafdUghaplj dj. la dk mYyqk dlft , A

Or vFlók

"An organisation can achieve its objectives when it has the right person in the right position." Explain the four points highlighting the importance of staffing function.

, d l lFkl ghinlaij l ghQ fDr; la dk pql o dj viusmÍs; dks iRr dj l drhbl Q Flu dh jkkuhea fu; fDr dj. k dk Zdk egR o fyf[k A

28. "Human beings can be motivated only through the satisfaction of their needs." Explain. 6

Or

Explain any six barriers to effective communication.

ekuo dks ml dh vlo'; drk la dh l rfV } jk gh i fjr fd; k t k l drk gA Q k; k dlft , A

vFlók

l EÍ. k dh fdUgh N%ckk la dk mYyqk dlft , A

29. Explain the six factors affecting dividend decisions 6

Or

You are the finance manager of a company. The Board of Directors asked you to determine the working capital requirement of the company. State the factors would you take into consideration while determining the working capital requirement of a company.

yHk la fu. Z dks iRr for djusokys N% dj d la dk o. Z dj A

vFlók

vki , d dEiuh ea foUk izUld gA dEiuh ds l pkydks us vki l s dEiuh dh dk Zhy i p h l ECUh

30. Explain any six remedies available to a consumer under consumer protection act, 1986. 6

Or

Explain any six responsibilities of a consumer.

30. Explain any six responsibilities of a consumer.

Or

Explain any six responsibilities of a consumer.

## MARKING SCHEME

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### MODEL TEST PAPER 2

### emmy V&V isj & 2

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1. Management is an intangible force. 1 mark
2. Management becomes a profession. 1 mark
3. (i) By observation  
(ii) by experimentation.  $\frac{1}{2} \times 2 = 1$  mark
4. Differential piece wages. 1 mark
5. Critical point control. 1 mark
6. In case of negative deviation.
7. Creation of demand.
8. Regular and continuous demand.
9. Zero-level channel.
10. Marketing.
11. Planning is thinking in advance and therefore, there is scope of finding better ideas and better methods and procedures to reach the objectives/goals of the enter price.

(Full marks for correct explanation)

12. **Capital Structure** : The types of securities to the issued and proportionate amount that make up the capitalisation in known as capital structure. 1 mark

Factor

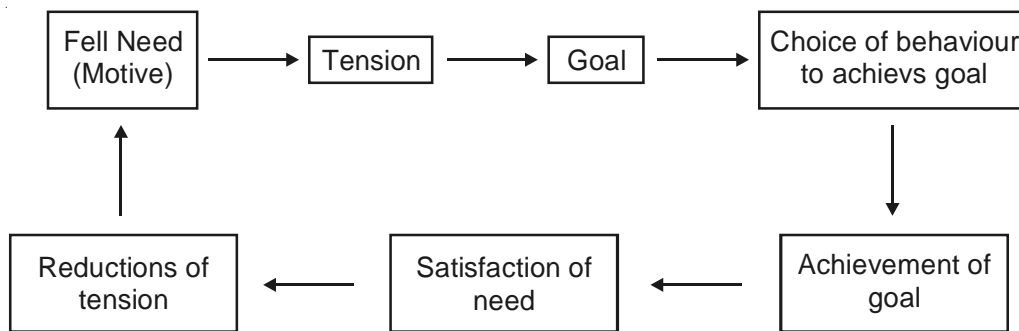
- (i) Financial leverage trading an equity.
- (ii) Flexibility of financial structure (or any other two).

$2 \times (\frac{1}{2} \text{ mark the naming} + \frac{1}{2} \text{ mark for explanation}) = 1 + 2 = 3$  marks

13. Process of financial planning.
  1. Determination of financial objectives.
  2. Determination of financial policies.
  3. Determination of financial procedures.

$3 \times (\frac{1}{2} \text{ mark to naming} + \frac{1}{2} \text{ mark for explanation}) = 3$  mark

14.



**The Process of Motivation**

15. Yes, the reasons are

1. Gives commitment of employees to organisational objections.
2. Provides data necessary for decision making.
3. Classifies test responsibilities and authority positions.
4. Facilitates coordination. (Any three)

3 × (1 mark for each correct reason) = 3 marks.

- 16.
1. Focus on objectives.
  2. Primary function.
  3. Pervasive function.
  4. Continuous process. (or any other).

4 (½ mark for naming + ½ mark for explanation) = 4 marks.

17. Importance of delegation of authority.

1. Effective management.
2. Quick decision making.
3. Motivation of subordinates.
4. Basis of better coordination. (or any other)

4 × (½ mark for naming + ½ mark for explanation) = 4 marks.

18. Yes, it is due to following reason. It provides

1. Functional satisfaction.
2. Psychological satisfaction.
3. Social satisfaction.



19. **Right Issue** : This method is used by those companies who have already issued their shares. When an existing company issues new shares, first of all it invites its existing shareholders. This is called the right issue.

**e-IPO** : Under this method, companies issue their securities through the electronic medium. The company issuing securities through this medium enters into a contract with a stock exchange.

2 × 2 = 4 marks

20. Function of financial markets.

1. Mobilisation of savings.
2. Pricing of financial instruments.
3. Liquidity of financial assets.
4. Low transaction costs.

4 × (½ mark for naming + ½ for explanation) = 4 marks

21. Role of management in 21<sup>st</sup> century :

organisation and its management are changing new communication technology makes it possible to think of the world as 'Global village'. The scope of inter national and inter cultural relationship in rapidly expanding.

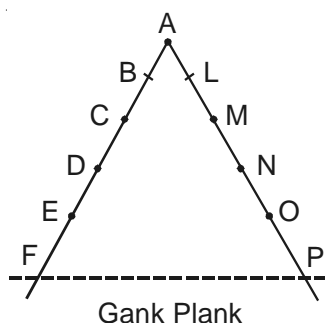
So, the modern organisation of 21<sup>st</sup> century in a global world has to be managed in a global perspective + related example.

2 + 2 = 4 marks

22. **Scalar Chain** : It is a line of authority from the highest to lowest ranks. It suggests that there should be a clear of authority from top to bottom, linking managers at all level.

**Gank Plank** : "Gang plank" is an exception to the principle of 'scalar chain'. It enables two subordinates or employees at the same level to communicate directly with each other on urgent matters.

2½ × 2 = 5 marks



23. The followings are the difficulties faced by an organisation in implementing an effective control system :

- (i) Difficulties in setting standards
- (ii) No control on external factors.

(iii) Resistance from employees.

(iv) Costly process.

(v) Limitations of corrective actions.

1 × 5 = marks

24. Speciality products. These products are the products which have certain unique features. Features of speciality products are :

(i) The demand for speciality products is limited.

(ii) These products are generally expensive.

(iii) Number of customers is limited.

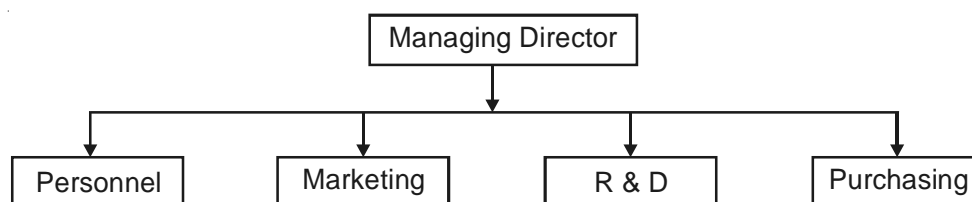
(iv) Special promotional efforts are required for the sale of such product. 5 × 1 = 5 marks

25.

<i>Basis</i>	<i>Primary Market</i>	<i>Secondary Market</i>
1. Nature	Concerned with the issue or sale of new securities.	Concerned with trading in the existing securities.
2. Purpose	To ensure flow of funds from investors to entrepreneurs.	to provide liquidity of securities.
3. Pricing	Determined by the management of share issuing company.	Determined by the forces of demand and supply.
4. Period	Long term only.	Can be short term/medium term/long term.
5. Sequence	New securities are issued to the investors before they could be traded in the stock exchange.	old and purchased time and again in stock exchange.

5 × 1 = 5 marks

26. A functional structure is an organisational design that groups similar or related jobs together for instance.



2 marks

### Advantages

1. Specialisation

2. Efficiency (or any other)

2 marks

### Disadvantages

1. Functional empires

2. Problems in coordination (or any others)

2 × 3 = 6 marks

Or

<i>Basis</i>	<i>Formal Organization</i>	<i>Informal Organisation</i>
1. Formation	Deliberately planned and created by management.	Emerges spontaneously as a result of interaction among employees.
2. Purpose	to achieve planned organisational goals.	To satisfy social and cultural needs and fulfill common interest.
3. Behaviour or members.	It is directed by rules.	No set behaviour of patterns.
4. Structure	Has well defined structure of task and relationships.	Form a complex network of relations.
5. Low of communication	Takes place through 'scalar chain.'	Can take place in any direction.
6. Leadership	Managers are leaders.	Leaders may or may not be managers.

6 × 1 = marks

### Reasons

1. Training reduces learning time.
2. It enhances better performance.
3. For attitude formation.
4. To improve quality and quantity of out put. (or any two)

1½ × 4 = 6 marks

Or

### Importance of staffing

1. Efficient performance.
  2. Effective use of technology and other resources.
  3. Development of human capital.
  4. Building higher morale. (or any two)
28. Needs are the starting point in motivation. If the needs of the human beings are identified and satisfied, they will feel happy and contribute to their maximum extent.

1½ × 6 = marks

A. Maslow felt that people have a wide range of needs which motivate them to strive for their fulfilment. Maslow categorised human needs into five types viz. : Physiological needs, security, social needs, esteem needs and self actualization needs.

The above needs have a definite sequence of domination for example, third need does not dominate until the first two need have been reasonably satisfied. If one need is satisfied then the other arises.

The management can get desired behaviour from the employees by satisfying their needs by offering incentives. Like Bonus, commission, job enrichment, challenging work etc.

**Or**

Six Barriers to effective Communication :

- (i) Premature evaluation
- (ii) Perceptual errors.
- (iii) Screening or filtering of information.
- (iv) Poor listening
- (v) Lack of trust.
- (vi) Semantic barriers.

6 × 1 = 6 marks.

29. The following factors should be taken into consideration by management before taking the dividend decision :

- (i) Current earning.
- (ii) Financing of new projects for growth.
- (iii) Liquidity or cash flow position.
- (iv) Shareholders' expectations.
- (v) Past earnings.
- (vi) Issue of bonus shares.

6 × 1 = 6 marks

**Or**

The amount of working capital required by an enterprise depends upon the following factors :

- (i) Nature of business.
- (ii) Scale of operations.
- (iii) Length of production cycle.
- (iv) Seasonal nature of production.
- (v) Credit availed from vendors.
- (vi) Level of competition.

6 × 1 = 6 marks

30. The remedies available to a dissatisfied consumer through the redressal machinery are as under:

- (i) Removal of the defects in goods or services supplied by the seller.
- (ii) Replacement of goods with new goods of similar descriptions.
- (iii) Returns of price by the seller or manufacturer.
- (iv) Payment of compensation if the consumer has suffered any loss.

(v) Discontinue unfair or restrictive. Trade practices, and not to repeat them.

(vi) Not to offer the hazardous goods for sale.

6 × 1 = 6 marks

**Or**

Right and responsibility are two sides of the same coin. Along with, consumer rights, there are consumer responsibilities also. These are :

(i) To provide adequate information to the seller.

(ii) To exercise caution in purchasing.

(iii) to insist on cash memo or receipt.

(iv) to file complaint against genuine grievances.

(v) To be quality conscious.

(vi) To exercise his legal rights.

6 × 1 = 6 marks

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# ACCOUNTANCY QUESTION BANK

## DEVELOPMENT TEAM

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<i>Name of the Team Members</i>	<i>Designation / Contact Information</i>
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## DESIGN OF QUESTION PAPER

# ACCOUNTANCY

## CLASS XII

Time : 3 hours

Maximum Marks : 80

The weightage to marks over different dimensions of the question paper shall be as under :

### A. Weightage to Current/Subject units

<i>S.No.</i>	<i>Content Unit</i>	<i>Mark</i>
<b>PART A : Accounting for not for Profit Organizations, Partnership Firms and Companies</b>		
1.	Accounting for Not for Profit organizations	10
2.	Accounting for Partnership Firms	5
3.	Reconstitution of Partnership	20
4.	Accounting for Share Capital and Debentures	25
<b>Total</b>		<b>60</b>
<b>PART B : Financial Statement Analysis</b>		
5.	Analysis of Financial Statements	12
6.	Cash Flow Statement	8
<b>Total</b>		<b>20</b>
<b>PART C : Computerized Accounting</b>		
5.	Overview of Computerized System	5
6.	Accounting using Database Management System (DBMS)	8
7.	Accounting applications of Electronic Spread sheet.	7
<b>Total</b>		<b>20</b>
<b>Grand total (A + B) (A + C)</b>		<b>80</b>

### B. Weightage to forms of questions

S. No.	Forms of Questions	Marks of each question	No. of questions	Total Marks
1.	Very Short Answer (VSA)	1	8	8
2.	Short Answer Type-I	3	4	12
3.	Short Answer Type-II	4	5	20
4.	Long Answer Type-I	6	4	24
5.	Long Answer Type-OO (LA II)	8	2	16
<b>Total</b>			<b>23</b>	<b>80</b>

### C. No. of Section

The question paper will have three sections A, B and C. Section A will be compulsory for all students. However there will be a choice between section B and C.

### D. Scheme of Options

There will be no overall choice. However, there is an internal choice in the question of 8 marks

### E. Weightage to difficulty level of questions

S.No.	Estimated difficulty level of questions	Percentage
1.	Easy	20%
2.	Average	60%
3.	Difficult	20%



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# ACCOUNTING FOR NOT FOR PROFIT ORGANISATIONS

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## POINTS TO REMEMBER

### Meaning

Not for profit organisations are formed to promote certain cultural, recreational, religious, medical activities etc. These institutes are formed with service motive and not to earn profit. However, they try to earn surplus to continue their activities.

### Financial Statement of not for Profit Organizations

- The receipts and payment account.
- The income and expenditure account.
- The Balance sheet.

### The Receipts and Payment Account

Receipts and payments a/c is a summary of cash transactions during a particular year. It contains the transactions related with actual cash received and actual cash paid.

### Features of Receipt and Payment Account

- It is a real account.
- It records all receipts and payment whether capital or revenue in nature.
- It records, all cash receipts and payments for the current year, previous and next year.
- Its opening and closing balance refers to opening cash balance and closing cash balance respectively.
- All cash receipts are shown on the debit side and all cash payments are shown on the credit side of receipts and payments account.

### Limitations of Receipts and Payment Account

- This account does not show whether the current income exceeds the current expenditure or vice-versa.
- It does not tell the amount received or paid is only for a particular year.
- It is not prepared on accrual basis, so no adjustment are made.

Receipts and payment account and cash book (cash a/c) can be distinguished on the following basis :

1. Period
2. Format
3. Usage
4. Cash and bank transactions.

### **Income and Expenditure Account**

It is the summary of income and expenditure of a particular year (generally called current year) whether income is received or not and all expenditure related to current year whether. It is paid off or not.

### **Features of Income and Expenditure A/c**

- It is a nominal A/c.
- It records only revenue receipts and revenue payments.
- It records the items related to current year only.
- It is prepared on Accrual Basis.
- It shows the surplus or deficit.

Distinction can be made between income and expenditure account and profit and loss A/c on the following basis :

- Institutions
- Source and income
- Basis for final accounts
- Balancing figure.

Distinction can be made between receipt and payment A/c and income and expenditure A/c on the following basis :

- Nature
- Purpose
- Form
- Opening and closing balance.
- Accounting base (cash or accrual basis).

### **Relevant Items of Income and Expenditure A/c**

- **Subscription** : It is treated as recurring income for not for profit organisations. This is the main source of revenue for any not for profit organisation.

Calculation of subscription (or any other income) to be shown in the income and expenditure A/c.

		Rs.
	Amt received during the year (receipt and payment A/c)	xxx
<i>Add</i>	(i) Current year's outstanding subscriptions.	xxx
	(ii) Subscriptions received in advance in last year, for current year.	xxx
<i>Uses</i>	(i) Last year's outstanding subscription, received in current year.	(xxx)
	(ii) Subscriptions received in advance in current year for next year.	(xxx)
	Income to be shown in incomes and expenditure A/c	xxx

#### Alternative Method

<i>Dr.</i>	<i>Subscription A/c</i>		<i>Cr.</i>
<i>Particulars</i>	<i>Rs.</i>	<i>Particulars</i>	<i>Rs.</i>
To balance b/d last year's) outstanding subscription)	xxx	By balance b/d (Advance subscription in last year)	xxx
To income and Expenditure A/c (Balancing figure)	xxx	By cash A/c (Total subscriptions received during the year)	xxx
To balance c/d (Advance subscription in current yr.)	xxx	By balance c/d (total subscription at the end yr.)	xxx
	xxx		xxx

- **Donations** : Donations are of two types :
  - (a) **Specific Donations** : It is a capital receipts and should be shown on the liabilities side of the balance sheet, but if it is general in nature with a huge amount then it would also be capitalized.
  - (b) **General Donations** : Any donation received which in comparatively small amount is taken as general donation and should be treated as revenue to be shown in Income and Expenditure A/c.
- **Grants** : Grants received from state or local govt., for routine expenses, should be treated as revenue receipt and shown in income and expenditure a/c. But if its is for any specific purpose, then it should be treated as capital receipt and shown in liabilities of balance sheet.
- **Legacy** : Legacies represents the amount received by organisation ion under a will or dealt of the contributors. Legacies are very rare in real life situations, hence it should be capitalized.
- **Entrance Fees** : It is the amount received from the persons for becoming the new members, in addition to subscription. It is a normal revenue of the organisation, hence should be shown as income in income and expenditure a/c.

#### Consumable Items

- Calculation of amount of consumable items to be shown in income and expenditure a/c for current year.

	Rs.
Amount paid for material during the year	xxx
<i>Add</i> : Opening stock of materials	xxx
Closing creditors for materials	xxx
<i>Less</i> : Opening creditors for material	(xxx)
Closing stock of materials	(xxx)
Material consumed to be shown in income and exp. a/c	xxx

### Alternative

Material purchased during the year	xxx
+ opening stock of material	xxx
(-) Closing stock of material	(xxx)
Material consumed to be shown in income and expenditure a/c	xxx

**(Note :** When the amount of material purchased during the year is given in question, no adjustment of creditor's balance will be made in determining the material consumed during the year.)

- **Payment for Revenue Expenses :** Calculation of any expense to be shown in the Income and Expenditure a/c :

Amount paid for expense during the year	xxx
<i>Add</i> : (i) Expense outstanding at the end of current year	xxx
(ii) Expenses paid in advance in previous year for current year	xxx
<i>Less</i> : (i) Outstanding exp. of previous year, paid during the current year	(xxx)
(ii) Expenses paid in advance in current year for next year	(xxx)
Expenses to be shown in the Income and Expenditure A/c	xxx

- **Concept of Fund Base Accounting :** Not for profit organizations receive some funds for some specific purposes and these funds are used only for those purposes for which that have been contributed. Hence, for optimum utilization of such classified contribution, separate accounting is needed.

### Accounting Treatment

Specific funds are shown on the liabilities side of balance sheet as

Opening balance of fund	xxx
Add : Donation for that specific purpose received during the year	xxx
Add : Interest on fund investment (if any)	xxx
Less : Expenses through fund for that specific purpose	(xxx)
Amount to be shown in liabilities	xxx

### Receipts and Payment A/c

To balance b/d (cash balance of opening balance sheet)	xxx	By Revenue Payment	xxx
To Revenue Receipts	xxx	By Capital Payment	xxx
To Capital Receipts	xxx	By Balance C/d (Cash balance of closing balance sheet)	xxx
	xxx		xxx

### Income and Expenditure A/c

Expenditure	Rs.	Income Rs.	Rs.
To Revenue Payment		By Revenue Receipts	
+ Outstanding current year		+ Outstanding current year	
+ Prepaid previous year		+ Advance Previous year	
- Outstanding current year		- Outstanding received for previous year	
- Prepaid current year	xxx	- Advance in current year	xxx
Surplus (if Cr side exceeds the Dr. side)	xxx	Deficit (If Dr. side exceeds the Cr. side)	xxx
	xxx		xxx

### Balance Sheet (closing)

Liabilities	Rs.	Assets	Rs.
Capital Fund xxx (to be taken from opening balance sheet)		Balance of assets xxx (to be taken from opening balance sheet)	
+ Surplus/Deficit xxx		+ Capital payments xxx	
Liabilities		Cash	
+ Capital Receipts	xxx	(Closing balance of Receipt and Payment A/c)	xxx
	xxx		xxx

## SHORT ANSWER QUESTIONS (1 Mark)

1. State any two characteristics of a "Not for profit organisations."

xy yHdjh l lFk ladh nls fo' kkr; crlb, A

2. Name the financial statement prepared by a not for profit organisations.

yHk u dekusokysl xBula}jik cuk t kusokysfoUk foj. ladsule fyf[k A

3. Write two sources of capitals receipts of not for profit organisation.

yHk u dekusokysl xBula dh i vkr iHr; ladsnsl k fyf[k A

4. Name any two sources of revenue receipts of not for profit organisation.

yHk u dekusokysl xBula dh vk xr iHr; ladsnsl k ladh kule fyf[k A

5. Categorise the following accounts of not for profit organisation on the basis of type of accounts:

(a) Receipt and payment A/c

(b) Income and expenditure A/c

yHk u dekusokysl lFk ladsufu [k ladsizlj crlb, %

1/2 iHr , oa Hkrku [krk

1/2 vk , oa Q ; [krk

6. How would you deal with following in the balance sheet and income and expenditure A/c of a not for profit organisation.

(i) Salaries paid in advance

(ii) Proceedings from a charity match.

(iii) Sale of an old asset.

(iv) Addition in Investment.

(v) Subscription received in advance during current year.

(vi) Life membership fees.

(vii) Govt. Grants

(viii) Sale of Newspaper.

(ix) Prize fund and prizes given during current year.

(x) Receipts for construction of swimming pool Rs. 32,000, expenses incurred on construction Rs. 31,400.

fuFu enladslfLfr foj.ko vk rFlk 0; [kraevki d\$ sn'kZxa%

- (i) iwZk oru
- (ii) l gk rFlk e\$ l s iFlr
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- (vii) l ekpj i=ka dh fcØh
- (viii) igLdkj dkk o o"Z ds n\$ku forfjr igLdkjA
- (ix) rj.lrky ds fuelZk ds fy, feyk dkk 32000 #i fuelZk dk Zea gyk [kZ 31,400 : iA

**QUESTIONS [THEORY] (3 - 4 Marks)**

7. Explain any three points of distinctions of :

- (i) Capital expenditure and revenue expenditure.
- (ii) Receipts and payment a/c and income and expenditure A/c.
- (iii) Profit and loss a/c and income and expenditure a/c.
- (iv) Receipts and payments a/c and cash book.

fdUgh rhu fcthyaij fuFu eavUrj dlft, %

- (i) iwkr 0; rFlk vk xr 0; a
- (ii) iFlr ,oa Hqrku [krk rFlk vk ,oa 0; [krkA
- (iii) yHk ,oa gfu [krk rFlk vk ,oa 0; [krkA
- (iv) iFlr ,oa Hqrku [krk rFlk jslM cglA

8. Explain the concept of fund based accounting for not for profit organisation.

yHk u dekyoskyl xBulsdl nHZeadkk vk/kfjr ysHodu dh vlo/kj.k dks Li"V djA

9. 'Legacies are very rare,' in view of this statement, should legacies be treated as capital receipts? Justify your answer.

10. What amount of salaries will be debited to income and expenditure a/c for the year 2007-08.

	Rs.
• Salaries outstanding on 01-04-2007 (paid during the year)	1,080
• Salaries prepaid on 31-03-2007	1,440
• Salaries paid during the year 2007-08	11,700

11. A Charitable trust owned on 31<sup>st</sup> March 2007, computer Rs. 50,625, furniture Rs. 33,750, Building 2,25,000 and a cash balance of Rs. 2,250. Rent payable and outstanding subscription on that date were Rs. 2,250 and Rs. 1,125 respectively. Calculate the amount of capital fund on 1<sup>st</sup> April 2007.

12. Book value of sports equipments on 1<sup>st</sup> April 2007 was Rs. 1,44,000, if half of the equipment was sold on 1<sup>st</sup> Oct 2007 for Rs. 48,000 and further sports materials and equipment were purchased on 1<sup>st</sup> Jan'08 for Rs. 81,000. Calculate the amount of sports equipment to be shown on 31<sup>st</sup> March 2008, in the balance sheet, if the rate of depreciation is 10% on sports equipment.

13. Calculate the amount of subscription to be shown in the income and expenditure a/c and balance sheet for the year ending 2008. Subscription received in year 2008 Rs. 43,200 which includes :

Year 2007 ..... Rs. 4,000

Year 2009 ..... Rs. 3,200

**Additional Information :—**

- Subscription outstanding in year 2007 Rs. 6,000.
- Subscription outstanding in year 2008 Rs. 8,000.
- Subscription received in advance in year 2007 for year 2008 Rs. 5,200 and for year 2009 Rs. 1,600.
- Life membership subscription received in year 2008, Rs. 2,000 included in general subscription.

14. Find the amount of medicine consumed during the year 2007.

Amount paid for medicine during the year is Rs. 1,08,000.



**Additional Information :—**

<i>Particulars</i>	<i>01-01-07 (Rs.)</i>	<i>31-12-07 (Rs.)</i>
Stock or Medicine	30,000	5,000
Creditors of medicine	20,000	13,000
Advance paid for medicine	2,000	13,000

15. Calculate the amount of salaries, to be shown in income and expenditure a/c, and balance sheet for the year ending Dec. 31, 2007 from the following informations :

- Salaries paid during year 2007 Rs. 63,600 which includes Rs. 4,000 for 2006 and Rs. 3,600 for year 2008.
- Salaries outstanding on 31-12-2006 Rs. 5,000
- Salaries outstanding on 31-12-2007 Rs. 9,000
- Salaries paid in advance on 31-12-2006 Rs. 2,000

\*16. On the basis of the following information, calculate the amount that will appear against the item "stationery used" in the "Income and Expenditure A/c" for the year ended 31<sup>st</sup> Dec 2008 in each cases :

	<i>1<sup>st</sup> Jan 2008</i>	<i>31<sup>st</sup> Dec. 2008</i>
Stock of stationery	18,000	34,800
Creditors for stationery	38,400	36,000

(a) Amount paid for stationery during the year 2008 Rs. 2,10,000.

(b) Amount of stationery purchased during the year Rs. 2,10,000.

\*17. Find the amount of subscription to be included in Income and Expenditure A/c for the year ended 31<sup>st</sup> Dec. 2007. Subscription received during the year.

For 2006 ..... 7,000  
 For 2007 ..... 1,05,000  
 For 2008 ..... 10,500

Subscription outstanding as on 31<sup>st</sup> Dec. 2006 were Rs. 12,250 out of which Rs. 1,750 were considered to be irrecoverable. On the same date, subscription received in advance for 2007 were Rs. 7,000, subscription still outstanding as on 31<sup>st</sup> Dec. 2007 amounted to Rs. 21,000.

\*18. Subscription received by a club during 2007-08 is Rs. 50,000 while the amount shown in Income and Expenditure A/c is Rs. 60,000. If the outstanding subscription for the year 2007-08 is Rs. 6,000 and Advance subscription received during 2006-07 for 2007-08 is Rs. 7,000 and outstanding subscription for 2006-07 is Rs. 5,000. Show the out of subscription received for 2006-07 during 2007-08.

19. Prepare receipt and payment A/c of New India Sports Club from the following information given below, for the year ending 31-3-2008.

Rs.

Cash at Bank as on April 1, 2007		18000
Cash in hand as on April 1, 2007		1,15,200
Subscription received for		
2006 - 07	36000	
2007 - 08	5,28,000	
2008 - 09	<u>14,400</u>	5,78,400
Donation received		60,000
Donation received for ground stands		4,80,000
8% investment purchase on 01-07-2007		4,80,000
Purchase of refreshment		28,800
Rent paid		14,400
Entrance Fees		43,200
Honorarium to secretary		24,000
Interest received on 8% investment		21,600
Furniture Purchased		48000
Sales of old furniture		9600
Sales of refreshments		72000
Sports materials purchased		1,92,000
Salaries and wages		1,77,600
Sports expenses		60,000
Cash in hand as on 31 <sup>st</sup> March 2008		14,880
Rate of depreciation on furniture @10% p.a.		

### QUESTIONS (8 Marks)

20. Following is the receipt and payment of New Asha Medical Society for the year ending 31<sup>st</sup> March 2008.

#### Receipt and Payment A/c

<i>Receipts</i>	<i>Rs.</i>	<i>Payments</i>	<i>Rs.</i>
Balance b/d	2,800	Medicines	12,000
Subscription	20,000	Honorarium to doctors	4000
Interest on investment (@ 8% for the year)	3,200	Salaries	11,000
Charity show proceeds	4,000	Sundry Exp	200
Donation	5,800	Equipment	6,000
		Charity show exp.	400
		Balance c/d	2,200
	35800		35800

<i>Additional Information</i>	<i>1-4-2007</i>	<i>31-3-2008</i>
(a) Subscription due	200	400
(b) Subscription received in advance	400	200
(c) Stock or medicines	4000	6000
(d) Creditors for medicines	3200	4800
(e) Equipments	8400	12000
(f) Building	16000	15200

You are required to prepare Income and Expenditure A/c for the year ended 31<sup>st</sup> March 2008 and Balance Sheet as on that date.

21. The Sahitya Literary Club's Balance Sheet on 1<sup>st</sup> Jan 2008 was as under :

<i>Liabilities</i>	<i>Rs.</i>	<i>Assets</i>	<i>Rs.</i>
Subscription in advance	16,000	Cash and bank balance	82,000
Salaries unpaid	10,000	Subscription outstanding	14,000
Capital fund	2,00,000	Books	60,000
Kavi Sammelan Fund	80,000	Furniture	50,000
		Building	1,00,000
	3,06,000		3,06,000

The Receipts and payments account for the year ending Dec. 31<sup>st</sup>, 2008 was as follows :

<i>Receipts</i>	<i>Rs.</i>	<i>Payments</i>	<i>Rs.</i>
Balance b/d	82,000	Wage and Salaries	80,000
Subscriptions	1,80,000	Upkeep of buildings	10,000
Sales of old books	2,500	Stationery	45,000
Sales of old furniture	8,000	Audit fees	20,000
(Book value Rs. 10,000)		Exp. on Kavi Sammelan	15,000
Donations for Kavi Sammelan	20,000	Books Purchased	30,000
Entrance fee	9,000	Investment @ 5% (on 1 <sup>st</sup> July 2008)	
Life Membership Fee	60,000		40,000
	3,61,500	Balance c/d	1,21,500
			3,61,500

**Additional Information :—**

- Books are now valued at Rs. 50,000 on 31<sup>st</sup> Dec. 2008.
- Salaries unpaid are Rs. 6,000.
- Subscription received include Rs. 4,000 for year 2009 also.
- Subscription due for 2008 are Rs. 6,000.

Prepare Income and Expenditure A/c for the year ending Dec. 31, 2008 and Balance sheet as on that date.

22. Following is the receipt and payment account of a cricket club and you are required to prepare an Income and Expenditure A/c for the year ended on 31<sup>st</sup> Dec. 2008 and a Balance Sheet as on that date :

**Receipt and Payment Account**

<i>Receipts</i>	<i>Rs.</i>	<i>Payments</i>	<i>Rs.</i>
Balance b/d		Maintenance	4,092
Cash	2,110	Salaries	6,600
Bank	16,430	Upkeeps of laws	2,544
Fixed Deposit @ 6%	18,000	Sports equipment	5,832
Subscription (including Rs. 3,600 for 2007)	24,000	Crockery purchased	1,590
Donation	3,006	Investment	3,420
Entrance Fees	1,650	Match Expenses	7,944
Tournament fund	12,000	Refreshment	4,92
Sale of crockery	1,200	Postage stamps	6,30
(Book value Rs. 480)		Electricity	1,200
Interest on fixed deposit	540	Tournament expenses	11,280
(including Rs. 40 for 2007)		Balance c/d	
		Cash	1320
		Bank	13992
		Fixed Deposit	18000
	78,936		33,312
			78,936

<i>Information</i>	<i>31-12-2007</i>	<i>31-3-2008</i>
(a) Stock of sports equipment	1926	1680
(b) Stock of postage stamps	450	540
(c) Subscriptions outstandings	3960	4800
(d) Monthly salary is Rs. 600.		
(e) Entrance fees are not to be capitalized but donation will be capitalized to the extent of 1/3rd of total amount received.		

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# ACCOUNTING FOR PARTNERSHIP FIRMS : FUNDAMENTALS

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## POINTS TO REMEMBER

**Meaning of Partnership :** Partnership is the relation between persons who have agreed to share the profits of a business carried on by all or any of them acting for all.

### Characteristics of Partnership

- (i) Association of two or more persons.
- (ii) Agreement between the partners.
- (iii) Legal business.
- (iv) Sharing of profits.
- (v) Mutual Agency.

**Partnership Deed :** Written document containing terms and conditions of agreement between the partners is called partnership deed.

The account of a partnership firm are regulated by the contents mentioned in partnership deed of that firm. If there is any dispute among the partners, the partnership deed will serve as evidence in the court of law.

### Rules Applicable in the Absence of Partnership Deed

- (i) Profit sharing ratio among partners will be equal.
- (ii) Rate of interest on partner's loan will be 6% p.a.
- (iii) No interest on capital.
- (iv) No. interest on drawings.
- (v) No. salary to any partner.
- (vi) No commission to any partner.

### Methods of Preparing Capital Accounts of Partners

- (i) Fixed capital method.
- (ii) Fluctuating capital method.

**Profit and Loss Appropriation Account :** It is a nominal account prepared for appropriation of profits among the partners.

**Past Adjustment** : To rectify the errors, omissions in distribution of profits through an adjusting entry for the previous years.

### SHORT ANSWER QUESTIONS ( 1 Mark)

1. Define partnership.
2. What is partnership deed?
3. What is the rate of interest on loan of partner in the absence of partnership deed?
4. Is registration of a partnership firm compulsory?
5. Write two items of debit side of partner's current accounts.
6. Write two items of credit side of partners current accounts.
7. A and B are partner's sharing profits 2:1. They together have given a loan of Rs. 30,000 to the firm on 1-4-2008 in their profit sharing ratio. In the absence of partnership deed find the interest on loan to be given to the partners A and B if accounts close on 31-12-2008.
8. Calculate the interest on drawings if Rs. 500 drawn on last day of every month and interest is charged @ 6% p.a.
9. Give one difference between profit and loss A/c and profit and loss appropriation A/c.
10. Amit, Ravi and Honey are partners. They agree to distribute profit upto Rs. 10,000 as 50%, 30% and 20% respectively and surplus in equal proportions. The divisible profit of the firm for the year 2008 was Rs. 16,000. Distribute the profit.
11. Jai, Veeru and Thakur are partner sharing profit and loss in the ratio of 3 : 2 : 1. Thakur is to be paid commission of 6% p.a. on the remaining net profit after charging such commission. Total profit of the firm was Rs. 6,996. Find out what total amount will be received by Thakur?
12. Charu and Pawan are partners in a firm. The partnership deed provided that interest on drawing will be charged @ 8% p.a. During the year March 31, 2008 Pawan withdraws Rs. 3,000 at the end of each quarter. Calculate interest on drawing.
13. Rajni and Radha are partners and they had Rs. 80,000 and Rs. 1,20,000 in Capital account as on Jan. 1,2008 respectively. Rajni introduced further capital Rs. 5,000 on August 1, 2008 and Rs. 10,000 on November 1, 2008. Compute the interest on capital to be allowed to Rajni assuming the rate of interest to be 6% p.a. for the year ending Dec. 31, 2008.
14. Calculate the interest of drawings if Rs. 500 are drawn on the last day of every month for six months and rate of interest is charged @ 6% p.a.

### QUESTIONS [THEORY] (3 - 4 Marks)

15. State any four essentials of partnership.

1. k n j h d h d b z p j fo' k r k ; c r b, A

16. What is partnership deed? Give any two contents of it.

I k>nljh l ysk D; k glrk gS bl dh fdUghans fo" k oLry l adk mYysk dlft , A

17. Mention any four rules applicable to accounting in the absence of partnership deed.

y f hdu ij l k>nljh l ysk dh vuif l ffr eay kw ghs okys dl bZ plj fu; e fyf [k A

18. Why is profit and loss appropriation account prepared? Prepare the specimen.

y Hk gl fu fu; k u [ l rk D; l acuk k t k rk gS bl dk , d uew k nlft , A

19. Distinguish between the following :

(i) Fixed capital account and fluctuating capital account.

(ii) Partner's capital account and partners current account.

fu fufyf [k eav l rj Li"V dlft , %

(i) LFbZ i v h [ l rs r Fk v LFbZ i v h [ l r A

(ii) l k>nljh l ds i v h [ l rs r Fk p h y w [ l r A

20. Why it is necessary to have partnership deed? Give reasons.

I k>nljh l ysk glrk D; l avlo' ; d gS bl dk dlj . k Li"V d j A

### QUESTIONS [PRACTICAL] (3 - 4 Marks)

21. A, B and C are equal partners. They draw Rs. 4,000 each per month. Calculate interest on drawing if it is charged @ 3% p.a. in the following cases.

(i) A withdraws in the beginning of each month.

(ii) B withdraws at the end of each month.

(iii) C withdraws in the middle of each month.

22. Ram and Shyam were partners sharing profit in 4 : 1 ratio. Their fixed capital were Rs. 50,000 and Rs. 10,000 respectively. For the year ended 31<sup>st</sup> March 2008 interest on capital was credited to them @ 10% p.a. instead of 12% p.a. pass necessary adjustment entry.

23. P, Q and R were partners in a firm. On Jan 1, 2008 their capitals stood at Rs. 1,00,000, Rs. 50,000 and Rs. 50,000 respectively. As per the provisions of the partnership deed.

(i) R was entitled for a salary of Rs. 2,000 p.a.

(ii) Partners were entitled to interest on capital at 5% p.a.

(iii) Profits were to be shared in the ratios of capitals.

The net profit for the year 2008 of Rs. 66,000 was divided equally without providing for the above terms. Pass an adjustment entry to rectify the above error.

24. X, Y and Z were partners sharing profits in 3 : 2 : 1. X however personally guaranteed that Z's share of profit after charging interest on capitals @ 5% p.a. would not be less than Rs. 30,000 in any year. The capitals contribution were X Rs. 3,00,000, Y Rs. 2,00,000 and Z Rs. 1,00,000. The profits for the period were Rs. 1,25,000. Show the distribution of Profits.
25. A partner withdraws for personal use the following amounts on different dates :

<i>Date</i>	<i>Rs.</i>
Feb. 28, 2008	3,000
April 30, 2008	3,800
Jun. 1, 2008	4,200
Sep. 1, 2008	3,000
Nov. 1, 2008	4,000

Calculate interest on drawings @ 3% p.a. assuming that the books are closed on December 31 each year.

26. Ravi and Pari are partners with capitals of Rs. 4,00,000 and Rs. 6,00,000 respectively. Interest on capital is allowed @ 6% p.a. They share profits in the ratio of 3 : 2 and their profit before providing for interest on capital for the year is Rs. 50,000 only. Show the distribution of profit under following cases :
- When interest on capital will be allowed even if there is a loss to the firm as per partnership deed;
  - When there is no such provision in the deed.
27. P and Q are partners sharing profits in the ratio of 3 : 2 with capital of Rs. 50,000 and Rs. 30,000 respectively. Interest on capital is agreed @ 10% p.a. Q is to be allowed an annual salary of Rs. 30,000. During the year they withdraw Rs. 6,000 each. Profit for the year amounted to Rs. 18,000 prior to above adjustment and before charging depreciation at 10% on furniture valued Rs. 10,000 and before writing off bad debts Rs. 500. Manager is to be allowed a commission of 10% of divisible profit after charging such commission. Prepare partners capital and current account when their capitals are fixed.
28. A, B and C were partners in a firm sharing profits in the ratio of 2 : 2 : 1 respectively. C wants that he should share equally in the profits with A and B and this change should be applicable retrospectively from the last three years. A and B agreed the proposal. The profit for the last three years were Rs. 52,000, Rs. 44,200 and Rs. 51,610. Show the adjustment of profit for the last three years by means of a journal entry.
- \*29. The capital accounts of Gurmeet and Hema stood at Rs. 8,00,000 and Rs. 6,00,000 respectively after necessary adjustments in respect of the drawings and the net profits for the year ending 31<sup>st</sup> March, 2008. It was subsequently ascertained that 5% p.a. interest on capital and drawings



were not taken into account in arriving at the net profit. The drawings of the partners had been: Gurmeet - Rs. 24,000 drawn at the end of each quarter and Hema - Rs. 36,000 drawn at the end of each half year.

The profits for the year as adjusted amounted to Rs. 4,00,000. The partners share profits in the ratio of 3 : 2 you are required to pass journal entry for the above effect.

- \*30. Mrs. C, Mrs. K and Mrs. D are partners. They had distributed following profit/loss in respective profit and loss ratio.

<i>Year</i>	<i>Profit/Loss</i>	<i>Profit Sharing Ratio</i>
2005 - 06	30,000	5 : 3 : 2
2006 - 07	12000	2 : 3 : 5
2007 - 08	(5000)	2 : 2 : 1

Now due to disputes created by Mrs. K to distribute profit and losses in 13 : 17 : 7 from the year 2005 - 06, all the partners have agreed to Mrs. K. You are required to show necessary adjusting entry.

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# ACCOUNTING FOR PARTNERSHIP : CHANGE IN PROFIT SHARING RATIO AND ADMISSION OF A PARTNER

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## POINTS TO REMEMBER

**Meaning of Reconstitution** : Any change in agreement of partnership, results the changes in the relationship between partners and such change in the relationship is known as reconstitution of partnership.

**Sacrificing Ratio** : Profit sharing ratio may change due to changes in agreement of partnership. Sacrificing ratio is the ratio in which old partners have agreed to sacrifice their share of profit in favour of the new partner. This ratio is calculated by deducting the new ratio from the old ratio.

$$\text{Sacrificing Ratio} = \text{Old Share} - \text{New Share}$$

**Gaining Ratio** : As a result of change in the profit sharing ratio or admission or retirement of a partner, one or more of the existing partners gain some portion of other partner's share of profit. The ratio of gain of profit sharing ratio is called as gaining ratio.

$$\text{Gaining Ratio} = \text{New Share} - \text{Old Share}$$

**Meaning of Goodwill** : Goodwill is the value of image or reputation of a firm, which enables it to earn higher profits in comparison to profits earned by other firms in the same type of business.

### Nature of Goodwill

- (i) Intangible Asset.
- (ii) Helpful in earning higher profits.
- (iii) Difficult to place an exact value.

### Methods of Valuation of Goodwill

- (i) Average profit method.
- (ii) Super profit method.
- (iii) Capitalisation method.

### Factors Affecting the Value of Goodwill

- (i) Location of business.
- (ii) Efficiency of management and staff.
- (iii) Longevity of business.

- (iv) Possession of Licence.
- (v) Future competition.
- (vi) Brand popularity etc.

At the time of change in profit sharing ratio of existing partners, the accounting treatment for the:

- (i) Goodwill
- (ii) Reserves and accumulated profit.
- (iii) Revaluation of assets and liabilities.

### **Calculation of New Ratio and Sacrificing Ratio**

At the time of admission of a partner, accounting treatment for the :

- (i) Good will
  - (a) When new partner brings in his share of goodwill.
  - (b) When new partner is unable to bring his share of goodwill.
  - (c) When new partner brings some amount out of his share of goodwill.
- (ii) Joint life policy :
  - (a) When premium paid is treated as revenue expenses.
  - (b) When joint life policy is shown in the asset side of balance sheet at its surrender value.
  - (c) When joint life policy reserve also maintained.
- (iii) Revaluation of assets and liabilities :

Profit or loss on revaluation is to be divided among old partners in their old ratio.
- (iv) Reserves and accumulated profits/losses :

Divided among old partners in old ratio.
- (v) Adjustment of capitals :
  - (a) Determining the new partner's capital on the basis of combined capital of old partners.
  - (b) Adjusting the capitals of old partners on the basis of the capital of new partner.

### **SHORT ANSWER QUESTIONS (1 Mark)**

1. Mention any two occasions on which reconstitution of partnership firm can take place.
2. What is meant by reconstitution of partnership firm?
3. Define sacrificing ratio.

4. What is the formula for calculating sacrificing ratio?
5. Why it is necessary to revalue the assets and liabilities if there is a change in profit sharing ratio of existing partners?
6. When the profit sharing ratio changes, who should compensate whom?
7. In which ratio old partners will divide the amount of goodwill brought in by the new partner?
8. Define gaining ratio.
9. Give the formula for calculating gaining ratio of a partner in a partnership firm.
10. P and Q were partners in a firm sharing profits in the ratio of 4 : 3. With effect from April 1, 2008 they agreed to share profits equally. Calculate the individual partners gain or sacrifice due to change in the ratio.
11. What is goodwill?
12. What entry will you pass for accounting treatment of Joint Life Policy on the admission of a partner, incase the premium paid on policy is treated as revenue expenditure?
13. Name any two factors affecting goodwill of a partnership firm.
14. X and Y are partners sharing profits in the ratio of 5 : 3. Z was admitted with  $\frac{1}{4}$  share in profits, which she acquires equally from X and Y. What will be sacrificing ratio?
15. How are the accumulated profits and losses distributed when there is change in profit sharing ratio amongst existing partners?
16. A and B are sharing profits in the ratio of 4 : 3. C joins and the new ratio are 7 : 4 : 3. Calculate sacrificing ratio.
17. X and Y are partners sharing profits in the ratio of 2 : 1. Z is admitted with  $\frac{1}{4}$  share in profits. What will be sacrificing ratio?
18. State the ratio in which the old partners share the amount of cash brought in by the new partner as premium for goodwill.
19. What treatment is made of accumulated profits and losses on the admission of a new partner?
20. Under what circumstances premium for goodwill brought by the incoming partner would never be recorded in the books of account?
21. A and B shared profits in the ratio of 3 : 1. They admit C for one-third share in the future profits. What will be the new profit sharing ratio?
22. P and Q who shared profits in the ratio of 2 : 1 admit R as a partner for  $\frac{1}{5}$ th share in profits, which he acquires equally from the old partners. What will be the new profit sharing ratio?
23. A and B are partners sharing profits in the ratio of 4 : 3. They admit C as a partner. A surrenders  $\frac{1}{3}$ rd of his share and B surrenders  $\frac{1}{4}$ th of his share in favour of C. What will be the new profit sharing ratio?

24. Parul and Jyoti are partners. Kamal is admitted for  $\frac{1}{4}$ th share. What is the ratio in which Parul and Jyoti will sacrifice their share in favour of Kamal?
- \*25. When there is change in the profit sharing ratio of existing partners, does it require adjustment for goodwill why?
- \*26. When there is change in profit sharing ratio of existing partners, should the assets and liabilities be revalued? Why?

### QUESTIONS [THEORY] (3 - 4 Marks)

- What is meant by reconstitution of a partnership firm? Give cases which lead to reconstitution.  
 , d l k > n j h Q e Z d s i q x B u l s D ; k r k R ; Z g S f d u & f d u i f j l F k r ; l a e a i q x B u g l k k g S
- What adjustment are required at the time of reconstitution of a partnership firm?  
 f d l h l k > n j h Q e Z d s i q x B u d s l e ; f d u l e k k u l a d h v l o ' ; d r k i M h g S
- Explain any two methods of valuation of goodwill.  
 [ ; k r d k e W ; l a l u d j u s d h f d l U h a n k s f o f / k l a d k o . k i d l f t , A
- What do you mean by 'Super Profit'? How it is calculated?  
 v f / k y k k l s v l i d k D ; k v f i k k g S b l d h x . k u k d S s d h t k r h g S
- How and when hidden goodwill is valued?  
 i E N U u [ ; k r d h x . k u k d c v l S d S s d h t k r h g S
- What is 'Revaluation Account'? Why it is prepared?  
 i q Z W ; l a l u [ k r k D ; k g S ; g D ; l a c u k k t k r k g S
- If new partner brings in proportionate capital, how can it be calculated?  
 ; f n i n s k d s l e ; u ; k l k > n j v k u i k r d i p h y k r k g S r l s m l s d S s i f j d f y r d j a s
- Explain the accounting treatment of goodwill when the new partner brings his share of goodwill in cash.  
 [ ; k r d s y [ l a l u d s l e > b , ] t c u ; k l k > n j [ ; k r d h j k k d s u d n y r k g S
- Explain the accounting treatment of goodwill when new partner cannot brings his share of goodwill in cash.  
 [ ; k r d s y [ l a l u d s l e > b , ] t c u ; k l k > n j v i u s f g l l s d h [ ; k r d s u d n e a u g h a y k r k g S

### QUESTIONS [PRACTICAL] (3 - 4 Marks)

1. Priya, Seema and Seeta were partners sharing profits in the ratio of 2 : 3 : 4. With effect from January 1, 2008 they agreed to share profits in the ratio of 1 : 2 : 3. Calculate each partner's gain or sacrifice due to change in ratio.
2. Calculate goodwill on the basis of two years' purchase of average profits of last six years. Profits are as follows :

Year	Profit / Loss
2002 .....	1,20,000
2003 .....	(80,000)
2004 .....	60,000
2005 .....	2,00,000
2006 .....	3,40,000
2007 .....	4,40,000

- \*3. P sold his business to Q. Calculate the value of goodwill taking into consideration the following factors :
- (i) Goodwill is valued at three years purchase of the average profits of the last four years. Profits of the last four years were as : year 2004 Rs. 40,000; year 2005 Rs. 58,000; year 2006 Rs. 53,000; year 2007 Rs. 62,000.
  - (ii) Abnormal loss of Rs. 2,000 due to fire has reduced the profits of the year 2004.
  - (iii) Profits for the year 2005 include abnormal profit of Rs. 4,000.
  - (iv) A speculative and lottery profit of Rs. 5,000 was received during the year 2006 which was included in that year's profit.
  - (v) Profits of the year 2007 were reduced by Rs. 10,000 of the depreciation on such a machinery which was destroyed by an accident during the year.

4. The profits earned by a firm during the last four years were as follows :

Year	Profit (Rs.)
2004-05 .....	40,000
2005-06 .....	50,000
2006-07 .....	55,000
2007-08 .....	75,000

Calculate the value of goodwill on the basis of three year's purchase of weighted average profits. Weights to be used are 1, 2, 3 and 4 respectively to the profits for 2004-05, 2005-06, 2006-07 and 2007-08.

5. The capital of X and Y is Rs. 50,000 and the market rate of interest is 15%. Annual salary to partners is Rs. 3,000 each., The profits for the last 3 years were Rs. 15,000; Rs. 18,000 and Rs. 21,000. Goodwill is to be valued at 2 years purchase of the last 3 years average super profits. Calculate the goodwill of the firm.
6. The net assets of a firm as on December 31, 2007 were Rs. 2,00,000. If the normal rate of return is 20% and the goodwill of the firm is valued at Rs. 62,500 at 5 years purchase of super profits, find the average profits of the firm.
7. The average profits of a firm is Rs. 30,000. The total assets of the firm are Rs. 5,00,000. Value of outside liabilities is Rs. 3,12,500. Average rate of return in the same type of business is 10%.
- (i) Calculate goodwill from capitalisation of average profits method.
- (ii) Calculate the value of goodwill according to capitalisation of super profit method.
8. A and B were partners sharing profits in the ratio of 2 : 1 with effect from January 1, 2008, they decided to share profits in the ratio of 3 : 1. For this purpose the goodwill of the firm is valued at Rs. 90,000. Give the necessary journal entry.
9. P, Q and R are partners in a firm sharing profits in the ratio of 3 : 2 : 1. Their Balance Sheet as at march 31, 2008 showed a balance of Rs. 60,000 in General Reserve. From April, 2008 they will share profits and losses equally. Record the necessary journal entry to give effect to the above arrangement when they decide not to distribute the General Reserve.
- \*10. A, B and C are partners charging profits and losses in the ratio of 7 : 5 : 4. Their balance sheet as on march 31, 2008 stood as follows :

Liabilities		Rs.	Assets		Rs.
Capitals			Sundry Assets		3,00,000
A	1,00,000				
B	75,000				
C	60,000	2,35,000			
General Reserve		37,500			
Profit and loss A/c		7,500			
Creditors		20,000			
		3,00,000			3,00,000

Partners decided that with effect from April 1, 2008, they will share profits and losses in the ratio of 3 : 2 : 1. for this purpose goodwill of the firm was valued at Rs. 75,000. The partners do not want to record the goodwill and also do not want to distribute the general reserve and profits.

Pass a single journal entry to record the change and prepare a revised balance sheet.

11. Amit, Sanjay and Sonam trading in partnership shareing profits as  $\frac{1}{2}$ ,  $\frac{1}{3}$  and  $\frac{1}{6}$ . Veena is admitted for  $\frac{1}{6}$  th share of profits. Find out the new profit sharing ratio of Amit, Sanjay, Sonam and Veena.

12. P and Q are in partnership sharing profits and losses in the ratio of 3 : 2. They admit R into partnership with  $\frac{1}{4}$  th share which he acquires equally from P and Q. Calculate the new profit sharing ratio.
13. A and B are partners in a firm sharing profits and losses in the ratio of 3 : 2. C is admitted as a new partner. A surrenders  $\frac{3}{15}$  th of his share in favour of C and B surrenders  $\frac{6}{15}$  th of his share in favour of C. Calculate new ratio.
14. P, Q, R and S are in partnership sharing profits and losses in the ratio of 9 : 6 : 5 : 5 respectively. T joins the partnership for 20% share. P, Q, R and S would in future share profits among themselves as 3 : 4 : 2 : 1. Calculate the new profit sharing ratio after admission of T.
15. A and B divided profit and losses in the ratio of 3 : 2. C is admitted in the firm as a new partner with  $\frac{1}{4}$  th share which he acquires from A and B in the ratio of 4 : 1. Calculate the new profit sharing ratio among A, B and C.
16. Seeta and Geeta are equal partners. They admit Cheeta as a partner in their firm and the new ratio of all the three has been decided upon as 4 : 3 : 2. Find the sacrificing ratio.
17. X and Y are partners sharing profits in the ratio of 3 : 2. They admit Z in partnership. Z pays a premium of Rs. 1,000 for  $\frac{1}{4}$  th share of profit. The new ratio is 3 : 3 : 2. Goodwill account appears in the books at Rs. 1,000. Give the necessary journal entries.
18. P and Q are partners sharing profits in the ratio 3 : 2. They admit R into the firm for  $\frac{3}{7}$  th share of profits, which he takes  $\frac{2}{7}$  th from P and  $\frac{1}{7}$  th from Q. R brings Rs. 12,000 as premium out of his share of Rs. 14,400. Goodwill account does not appear in the books of P and Q.
19. Kanika and Yugakshi were partners in a firm sharing profits in the ratio of 3 : 1. They admitted Amita for  $\frac{1}{5}$  th share in the profits. Amita did not bring her share of goodwill Rs. 20,000 in cash. Pass the necessary Journal entry for the treatment of goodwill on admission of Amita.
20. A and B are partners with capitals of Rs. 65,000 and Rs. 45,000 respectively. They admit C into partnership for  $\frac{1}{5}$  th share in the profits of the firm. C brings Rs. 40,000 as his capital. Give Journal entries to record the treatment of goodwill.

### QUESTIONS [PRACTICAL] (6 - 8 Marks)

21. Sonam commenced business with a capital of Rs. 1,80,000 on April 1, 2004. During the four years ending March 31, 2008 the results of the business were :



Year	Profit / (Loss) Rs.
2004-05 .....	9,000
2005-06 .....	(3,000)
2006-07 .....	24,000
2007-08 .....	42,000

During this period he withdrew Rs. 18,000 for her personal use. On April 1, 2008 she admitted Sanjay into partnership on the following terms :

- (i) Goodwill is to be valued at  $2\frac{1}{2}$  times the average profits of last three years.
- (ii) Sanjay will be entitled to  $\frac{2}{5}$ th share in future profits.
- (iii) He will bring his share of goodwill in cash.
- (iv) He will bring his share of capital in cash equal to her share of profit based on Sonam's capital after his admission.

Calculate the amount to be brought in by Sanjay and make entries to record these transactions regarding Sanjay's admission.

22. The Balance Sheet of A and B, who share profits and losses as 5 : 3, as at April 1, 2008 is as follows :

Liabilities	Rs.	Assets	Rs.
Capital		Goodwill	16,000
A	1,04,000	Machinery	76,000
B	<u>1,08,000</u>	Furniture	30,000
General Reserve	9,600	Sundry Debtors	66,000
Bank Loan	12,000	Stock	14,000
Sundry Creditors	10,000	Bank Balance	50,000
Employees' Provident Fund	2,000	Advertisement Suspense	1,600
Workmen compensation Reserve	8,000		
	<u>2,53,600</u>		<u>2,53,600</u>

On the above date, they decided to change their profit-sharing ratio to 3 : 5 and agreed upon:

- (i) Goodwill be value on the basis of 2 years' purchase of the average profits of the last three years:  
Profits for 2005-06 : Rs. 15,000; 2006-07 : Rs. 8,000; 2007-08 : Rs. 13,000.
- (ii) Machinery and stock be revalued at Rs. 90,000 and Rs. 16,000 respectively.

Prepare the Revaluation Account, Partners' Capital Accounts and the Balance Sheet of the new firm.

23. P and Q are partners in a firm sharing profits and losses in the ratio of 3 : 1. The balance sheet of the firm as on December 31, 2007 was as follows :

<i>Liabilities</i>	<i>Rs.</i>	<i>Assets</i>	<i>Rs.</i>
Creditors	3,600	Bank Balance	2,000
Workmens' Compensation Furn.	2,400	Bills Receivable	5,000
General Reserve	4,200	Debtors	8,000
Capital		Less : Provision	<u>1,000</u>
P	12,000	Stock	6,000
Q	<u>9,800</u>	Investments	10,000
		Goodwill	2,000
	32,000		32,000

On the above date R is admitted for  $\frac{2}{5}$  th share in the profits of the firm and the following revaluations were made :

- (i) Accrued incomes not appearing in the books Rs. 200.
- (ii) Market value of Investments is Rs. 9,000.
- (iii) Claim on account of workmens' compensation is estimated at Rs. 300.
- (iv) X, an old customer, whose account was written off as bad, has promised to pay Rs. 700 in settlement of his full debt.
- (v) R is required to bring Rs. 16,000 as capital and Rs. 4,000 as goodwill. His share of goodwill was calculated as Rs. 4,800.

Your are required to make journal entries and prepare initial Balance Sheet of the new firm.

24. A and B share profits in the ratio of 5 : 3. Their balance sheet as on December 31, 2007 was as follows :

<i>Liabilities</i>	<i>Rs.</i>	<i>Assets</i>	<i>Rs.</i>
Creditors	30,000	Cash at Bank	10,000
Provident Fund	20,000	Sundry Debtor	40,000
Workmen's Compensation Fund	11,600	Less : Provision	<u>1,200</u>
Capitals :		Stock	50,000
A	1,40,000	Fixed Assets	1,60,000
B	<u>62,000</u>	Profit and Loss A/c	4,800
	2,63,600		2,63,600

They admit C into partnership with  $\frac{1}{8}$  th share in profits. C brings Rs. 40,000 as his capital and Rs. 24,000 for goodwill in cash. C acquires his share entirely from A. Following revaluations are also made :

- (i) Provident fund is to be increased by Rs. 10,000.
- (ii) Debtors are all good. Therefore, no provision is required on debtors.
- (iii) Stock includes Rs. 6,000 for obsolete items.
- (iv) Creditors are to be paid Rs. 2,000 more.
- (v) Fixed Assets are to be revalued at Rs. 1,40,000.

Prepare Journal entries, necessary accounts and new balance sheet. Also calculate the new profit sharing ratio.

25. P and Q were partners sharing profits in the ratio of 3 : 1. R was admitted on April 1, 2008 as a partner. The balance sheet of P and Q on March 31, 2008 was as follows :

<i>Liabilities</i>	<i>Rs.</i>	<i>Assets</i>	<i>Rs.</i>
Capitals		Cash	2,500
P	10,000	Bills Receivable	5,000
Q	<u>5,000</u>	Buildings	10,000
Bills Payable	7,500	Car	5,000
Sundry Creditors	2,500	Plant	7,500
Reserve Fund	4,000		
Employees Provident Fund	1,000		
	30,000		30,000

The terms of admission were as follows :

- (i) R was to pay Rs. 15,000 as capital and Rs. 8,000 as goodwill for  $\frac{1}{5}$  th share in profits.
  - (ii) Building was to be revalued at Rs. 20,000 and car at Rs. 7,500. Plant was to be written down by Rs. 5,000.
  - (iii) Capitals of all partners of the new firm were to be in the profit sharing ratio on basis of new partner. Give the revaluation account, partners' capital account and the balance sheet of the new firm.
26. X and Y are in partnership sharing profits and losses in the ratio of 3 : 2. On January 1, 2008, they admitted Z into partnership. He paid Rs. 25,000 as his capital but nothing for goodwill which was valued at Rs. 20,000 for the time. He acquired  $\frac{1}{5}$  th share in the profits, equally from both partners. It was also decided that :
- (i) Land and Building be written off by Rs. 10,000.
  - (ii) Stock be written down by Rs. 1,600.
  - (iii) A provision of Rs. 500 be created for doubtful debts.
  - (iv) An amount of Rs. 600 included in Sundry Creditors, be written back as it is no longer payable.

The Balance Sheet of X and Y on December 31, 2007 was as under :

<i>Liabilities</i>	<i>Rs.</i>	<i>Assets</i>	<i>Rs.</i>
Capitals		Goodwill	5,000
X	43,000	Land and Building	30,000
Y	<u>32,000</u>	Plant and Machinery	35,000
General Reserve	10,000	Stock	18,000
Sundry Creditors	15,600	Sundry Debtors	10,000
		Cash at Bank	2,000
		Cash in Hand	600
	<u>1,00,600</u>		<u>1,00,600</u>

Prepare Revaluation Account, Partners' Capital Accounts and new Balance Sheet of the firm.

27. P and Q are partners sharing profits in the ratio of 3 : 2. Their Balance Sheet stood as under on March 31, 2008.

**Balance Sheet**  
**as on March 31, 2008**

<i>Liabilities</i>	<i>Rs.</i>	<i>Assets</i>	<i>Rs.</i>
Creditors	77,000	Cash	4,000
Outstanding Liabilities	8,000	Stock	30,000
Capital		Prepaid Insurance	3,000
P	58,000	Debtors	18,800
Q	<u>30,000</u>	Less : Provision	<u>800</u>
		Machinery	38,000
		Buildings	70,000
		Furniture	10,000
	<u>1,73,000</u>		<u>1,73,000</u>

R is admitted as a new partner introducing a capital of Rs. 32,000. The new profit sharing ratio is decided as 5 : 3 : 2. Following revaluations are made :

- (a) Stock to depreciate 5%.
- (b) Provision for doubtful debts is to be Rs. 1,000.
- (c) furniture to depreciate 10%.
- (d) Building valued at Rs. 80,000.

Pass Journal entries and prepare Revaluation Account and Balance Sheet after admission of R.

28. X, Y and Z are partners sharing profits and losses in the ratio of 2 : 3 : 5 on March 31, 2008. Their balance sheet was as follows :

<i>Liabilities</i>	<i>Rs.</i>	<i>Assets</i>	<i>Rs.</i>
Capitals		Cash	9,000
X	18,000	Bills Receivable	12,000
Y	22,000	Furniture	14,000
Z	<u>26,000</u>	Stock	22,000
Creditors	32,000	Debtors	21,000
Bills Payable	16,000	Investments	16,000
Profit and Loss A/c	7,000	Machinery	17,000
		Goodwill	10,000
	1,21,000		1,21,000

They admit A into partnership on the following terms :

- (i) Furniture, Investments and Machinery to be depreciated by 15%.
- (ii) Stock is revalued at Rs. 24,000.
- (iii) Goodwill is to be valued at Rs. 12,000.
- (iv) A to bring Rs. 18,000 towards capital for  $\frac{1}{6}$ th share and partners will re-adjust their capital accounts on the basis of their profit sharing ratio.
- (v) Adjustments of capitals to be made by cash.

Prepare Revaluation Account, Partners' Capital Accounts, Cash Account and Balance Sheet of new firm.

\*29. P, Q and R are partners sharing profits and losses in the ratio of 2 : 3 : 5. On March 31, 2008 their Balance Sheet was as follows :

<i>Liabilities</i>	<i>Rs.</i>	<i>Assets</i>	<i>Rs.</i>
Capitals		Cash	9,000
P	18,000	Bills Receivable	7,000
Q	22,000	Stock	22,000
R	<u>26,000</u>	Debtors	21,000
Creditors	32,000	Machinery	47,000
Bills Payable	11,000	Goodwill	10,000
General Reserve	7,000		
	1,16,000		1,16,000

They decided to admit S into the partnership on the following terms :

- (a) Machinery is to be depreciated by 15%.
- (b) Stock is to be revalued at Rs. 24,000.
- (c) It is found that the creditors included a sum of Rs. 6,000 which was not to be paid.

(d) Outstanding rent is Rs. 950.

(e) S is to bring in Rs. 3,000 as goodwill and sufficient capital for a  $\frac{2}{5}$ th share in the total capital of the firm.

Prepare the Revaluation Account, the Partners' Capital Accounts, the cash Account and the Balance Sheet of the new firm.

30. X and Y are partners in a firm sharing profits in the ratio of 3 : 2. They decide to admit Z as a new partner w.e.f. April 1, 2008. In future, profits will be shared equally. The balance sheet of X and Y as at April 1, 2008 and the terms of admission are given below :

**Balance Sheet of X and Y**

<i>Liabilities</i>	<i>Rs.</i>	<i>Assets</i>	<i>Rs.</i>
Sundry creditors	30,000	Cash in Hand	20,000
Outstanding Expenses	7,500	Sundry Debtors	18,000
Capitals		Stock	42,000
X                   1,50,000		Furniture and Fittings	32,500
Y <u>1,50,000</u>	3,00,000	Plant and Machinery	2,25,000
	3,37,500		3,37,500

- (a) Capital of the firm is fixed at Rs. 3,00,000 to be contributed by partners in the profit sharing ratio. The difference will be adjusted in cash.
- (b) Z to bring in his share of capital and goodwill in cash. Goodwill of the firm is to be valued on the basis of two year purchases of super profits. The average net profits expected in the future by the firm Rs. 45,000 per annum. The normal rate of return on capital in similar business is 10%. Calculate goodwill and prepare the Partners' Capital Account and the Bank Account.

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# RECONSTITUTION OF PARTNERSHIP FIRM : RETIREMENT OR DEATH OF PARTNER

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## POINTS TO REMEMBER

- Calculation of new profit sharing ratio and gaining ratio.
- Distinction between sacrificing ratio and gaining ratio.
- Accounting treatment for the following in case of retirement or death of a partner :
  - (i) Goodwill
  - (ii) Revaluation of assets and liabilities.
  - (iii) Reserves and accumulated profits.
- Adjustment of capitals according to the new profit sharing ratio.
- Disposal of the amount due to the retiring partner.
- Calculation of the amount payable to the executor of deceased partner.

## SHORT ANSWER QUESTIONS (1 Mark)

1. A, B, and C are partners sharing profits and losses equally. C retires and his share is acquired by A and B in the ratio of 2 : 1. Give new profit sharing ratio.
2. Ramneek, Mayank and Someshwar were partners sharing profits in the ratio of  $\frac{1}{5}$ ,  $\frac{1}{3}$  and  $\frac{7}{15}$  respectively. Someshwar retires and his share was taken up by Ramneek and Mayank. New ratio will be 3 : 5. Give the gaining ratio.
3. A, B and C are partners sharing profits and losses in the ratio of 5 : 4 : 3. C retires and his share is purchased by A and B in the ratio of 3 : 2. Give new profit sharing ratio.
4. L, M and O are partners sharing profits and losses in the ratio of 4 : 3 : 2. M retires and the goodwill is valued at Rs. 72,000. L and O decided to share the future profits and losses in the ratio of 5 : 3. Pass the necessary Journal entry for the treatment of goodwill.
5. State the ratio in which the partners, at the time of retirements of a partner, share all the accumulated profits and losses.
6. Z, Y and X were partners sharing profits and losses in the ratio of 2 : 1 : 1. On January 1, 2008, their goodwill was valued at Rs. 40,000. On this date, Z retired. Give journal entry to record the goodwill.
7. A, B and C are partners and sharing profits in the ratio of 3 : 2 : 1. B retires. State the new ratio.

8. Is a retiring partner liable for firm's acts after his retirement?
9. The estimated profits credited to deceased partner, will be shown in which side of the balance sheet?
10. If debtors appears in the balance sheet at Rs. 30,000 (gross) and the provision on debtors is Rs. 600 and on revaluation, it was found there were bad debts of Rs. 1,000. What should be the treatment in the Revaluation Account and Balance Sheet?

### QUESTIONS [THEORY] (3 - 4 Marks)

1. Explain gaining ratio. How it is calculated?  
 vf/lykk vuqkr dk o.kZ dft, A bl dh x.kuk d\$ sdh t k h g\$
2. Distinguish between sacrificing ratio and gaining ratio.  
 R k vuqkr rFk vf/lykk vuqkr eavaj dft, A
3. Explain any four problems which arise at the time of retirement or death of a partner.  
 fdl hl k>nj ds vodk k xg.k vFoke R qdsl e; mR u gksokyhfdUghapj l eL; k h dko. lZ dft, A
4. If a partner dies during the year, how will you find out the share of profit of the deceased partner?  
 ; fn fdl hl k>nj dhe R qd n'k eaml ds Hk dsyHk dh x.kuk vki d\$ sdj x\$
5. Discuss the treatment of goodwill at the time of retirement of a partner.  
 , d l k>nj ds vodk k xg.k dsl e; [; kr dsy [halu Q ogj dh ppZ dft, A
6. Explain the various methods of computing the share of profit in case of death of a partner.  
 fdl hl k>nj dhe R qd n'k eaml ds Hk dsyHk dh x.kuk dh fo fHk fo f/k h dsl l e>lb, A

### QUESTIONS [PRACTICAL] (3 - 4 Marks)

1. X, Y and Z are three partners in a firm sharing profits and losses in the ratio of 5 : 4 : 3. You are required to calculate the new profit sharing ratio, when :
  - (i) X retires
  - (ii) Y retires
  - (iii) Z retires.
2. L, M and O were partners in a firm sharing profits in the ratio of 3 : 2 : 2. M retired and his share was divided equally between L and O. Calculate the new profit sharing ratio of L and O.
3. M, N and O are partners sharing profits in the ratio of  $\frac{1}{2}$ ,  $\frac{3}{10}$  and  $\frac{2}{10}$  respectively. N retires and his share is taken up by M and O in the ratio of 2 : 1. Find out the new profit sharing ratio.



4. A, B and C are partners in a firm sharing profits in the ratio of 7 : 6 : 7. B retires and his share was divided by A and C equally. Calculate the new profit sharing ratio of A and C.
5. P, Q and R are partners sharing profits in the ratio of 2 : 1 : 2. R retires and his share is entirely taken by Q. Find out new profit sharing ratio.
6. A, B and C are partners sharing profits and losses in the ratio of 3 : 2 : 1. C retires and his share is acquired by A and B as  $\frac{1}{24}$  and  $\frac{1}{8}$ . Calculate the new profit sharing ratio of A and B.
7. P, Q, R and S are partners in a firm sharing profits and losses in the ratio of 2 : 2 : 1 : 1. Q retires and P, R and S decided to share future profits equally. Calculate the gaining ratio.
8. X, Y and Z are partners in a firm sharing profits in the ratio of 4 : 3 : 2. Y retires and surrenders  $\frac{4}{5}$ th of his share to X and remaining in favour of Z. Find new profit sharing ratio and gaining ratio.
9. A, B and C are partners sharing profits and losses in 4 : 3 : 2. B retires and the goodwill is valued at Rs. 36,000. Calculate B's share of goodwill and pass necessary journal entry for the same. A and C decided to share profits and losses in 5 : 3 in future.
10. P, Q and R are equal partners in a firm. Goodwill is valued at Rs. 36,000. On R's retirement from the firm, P and Q agreed to share profits in the ratio of 3 : 2. Pass necessary journal entry for the treatment of R's share of goodwill.
11. K, B, S and N are partners in a firm sharing profits and losses in 2 : 1 : 2 : 1. On K's retirement, the goodwill of the firm is valued at Rs. 72,000. B, S and N decided to share future profits equally. Pass the necessary journal entry for the treatment of goodwill.
12. M, N and O are partners in a firm sharing profit in the ratio of 3 : 2 : 1. Goodwill has been valued at Rs. 60,000. On N's retirement, M and O agree to share profits equally.  
Pass necessary journal entry for the treatment of N's share of goodwill.
13. A, B and C are partners in a firm :
  - (i) Sharing profits in the ratio of 4 : 3 : 1. A retires and his share is taken up by B and C equally. Find the new profit sharing ratio and the gaining ratio.
  - (ii) The goodwill of the firm valued at Rs. 32,000. Pass necessary journal entry for recording the goodwill treatment.
14. P, Q, and R are partners in a business sharing profits and losses in the ratio of 2 : 2 : 1. R decides to retire from the firm on March 31, 2008. On this date, goodwill of the firm is valued at Rs. 24,000. P and Q will share the future profits in the ratio of 2 : 1. Record the goodwill adjustment entries in the following cases :
  - (i) When goodwill accounts is already appearing in the books at Rs. 12,000.
  - (ii) When no goodwill account exists in the books.
15. A, B and C are partners. C retires and his capital after making adjustment of reserves and profits on revaluation, exists at Rs. 32,000. A and B have agreed to pay him Rs. 40,000 in full settlement of his claim. Record necessary journal entry for goodwill on his retirement.

16. X, Y and Z were partners in a firm sharing profits in the ratio of 3 : 2 : 1. Z retired and the new profit sharing ratio between X and Y was 1 : 2. On Z's retirement the goodwill of the firm was valued at Rs. 30,000. Pass necessary journal entry for the treatment of goodwill on Z's retirement.
17. A, B and C are partners sharing profits in the ratio of 2 : 3 : 3. A retires. B and C decide to share future profits in the ratio of 5 : 4. On that date, there was a balance of Rs. 1,50,000 in General Reserve and a balance of Rs. 60,000 in the Profit and Loss Account of the firm. Record the necessary Journal entries.
18. X, Y and Z are partners sharing profits and losses in the ratio of 3 : 2 : 1. Y retires and selling his share to X and Z for Rs. 16,000; Rs. 10,000 being paid by X and Rs. 6,000 by Z. The profit for the year after Y's retirement is Rs. 96,000.

Pass necessary entries to (i) record the sale of Y's share to X and Z, and (ii) distribute the profit between X and Z.

19. A, B and C are partners in a firm sharing profits in the ratio of 5 : 3 : 2. On Feb. 15, 2008, A died and the new profit sharing ratio of B and C was equal. On A's death, the goodwill of the firm was valued at Rs. 25,000.

Calculate the gaining ratio and pass necessary journal entry on A's death for the treatment of goodwill.

### QUESTIONS (6 - 8 Marks)

20. P, Q and R were partners sharing profits in the proportions of  $\frac{1}{2}$ ,  $\frac{1}{3}$  and  $\frac{1}{6}$  respectively. The balance sheet of the firm as on March 31, 2008 was as follows :

<i>Liabilities</i>	<i>Rs.</i>	<i>Assets</i>	<i>Rs.</i>
Sundry creditors	6,300	Cash at Bank	2,050
Provident Fund	1,500	Debtors	15,000
Reserve Fund	4,500	Less : Provision	500
Capital :		Stock	12,500
P	20,000	Investments	5,000
Q	18,250	Patents	2,500
R	10,000	Plant and Machinery	24,000
	48,250		
	60,550		60,550

R retired on the above date on the following terms :

- Goodwill of the firm was valued at Rs. 13,500.
- Value of the patents was to be reduced by 20% and that of plant and machinery by 10%.
- Provision for doubtful debts was to be raised to 6% on Debtors.
- R took over the Investments at a value of Rs. 7,900.
- Liability on account of Provident Fund was only Rs. 1,250. Show the necessary Journal Entries, Partner's Capital Accounts and Balance Sheet of P and Q after R's retirement.

21. X, Y and Z were partners sharing profits and losses in the proportions of  $\frac{1}{2}$ ,  $\frac{1}{3}$  and  $\frac{1}{6}$  respectively.

The Balance Sheet of the firm on December 31, 2007 was as follows :

Capital Accounts			Factory Buildings	45,000
X	40,000		Plant and Machinery	35,000
Y	30,000		Motor Lorries	8,000
Z	<u>25,000</u>	95,000	Stock	25,000
Reserve Fund		12,000	Debtors	16,000
Sundry Creditors		24,000	Less : Provision	<u>500</u>
			Cash at Bank	2,500
		1,31,000		1,31,000

Z retires on that date subject to the following adjustments :

- Goodwill of the firm to be valued at Rs. 18,000.
- Depreciate Plant and Machinery @ 10% and Motor lorries @ 15%.
- Appreciate Stock by 20% and Buildings by 10%.
- The Provision for Bad Debts to be increased by Rs. 1,800.

Set out only the Journal entries to give effect to the above adjustments.

22. Charu and Company is a partnership with Charu, Sonali and Chandani sharing profits and losses in the ratio of 5 : 3 : 2. The balance sheet of the firm on March 31, 2008 is as under :

<i>Liabilities</i>	<i>Rs.</i>	<i>Assets</i>	<i>Rs.</i>
Capitals :		Land and Buildings	1,05,000
Charu	40,000	Plant and Machinery	65,000
Sonali	10,000	Furniture	20,000
Chandani	<u>15,000</u>	Investments	6,000
General Reserve	10,000	Stock	63,000
Long term loan	1,50,000	Debtors	69,500
Bank overdraft	22,000		
Trade creditors	81,500		
	3,28,500		3,28,500

It was mutually agreed that Sonali will retire from partnership, and for this purpose the following adjustments are to be made :

- Goodwill is to be valued at Rs. 50,000.
- Land and Building and Plant and Machinery are to be depreciated by 10% and 5% respectively.
- Investments are to be taken over by Sonali at Rs. 7,500.

(iv) Provision of 20% is to be made on debtors to cover doubtful debts.

Charu and Chandani will share future profits equally. The amount due to Sonali is to be transferred to her loan account.

Prepare Revaluation Account, Capital Accounts of Partners and Balance Sheet of the reconstituted firm.

23. X, Y and Z are partners with a profit sharing ratio of 5 : 3 : 2. Z retires from the business. On his retirement, X and Y had capital of Rs. 28,500 and Rs. 18,000 respectively after all adjustments. They decide to share future profits and losses equally. The total capital of the firm is fixed at Rs. 52,500 which is to be in their profit sharing ratio. Partners are expected to withdraw or introduce the cash amount required. Show how accounts of X and Y will be adjusted.

24. The Balance Sheet of Bharati, Champa and Dimple who were sharing profits in proportion to their capitals, was as follows on December 31, 2007 :

Creditors	14,000	Land and Buildings	50,000
Capital Accounts :		Machinery	17,000
Bharti	40,000	Stock	16,000
Champa	30,000	Debtors	10,000
Dimple	<u>20,000</u>	Cash at Bank	11,000
	90,000		
	1,04,000		1,04,000

Champa retires on the following conditions :

- (i) Land and Buildings to be appreciated by 20 per cent.
- (ii) Stock to be depreciated by 6 per cent.
- (iii) Goodwill of the entire firm to be fixed at Rs. 21,600 and champa's share of the same be adjusted into the accounts of Bharti and Dimple who are going to share in future in the proportion of five eights and three-eights. Pass Journal entries and prepare Balance Sheet.

25. The balance sheet of P, Q and R who were sharing profits in proportion to their capital stood as follows on March 31, 2008 :

<i>Liabilities</i>	<i>Rs.</i>	<i>Assets</i>	<i>Rs.</i>
Creditors	13,800	Cash at Bank	11,000
Capital Accounts :		Debtors	10,000
P	40,000	Less : Provision	<u>200</u>
Q	30,000	Stock	16,000
R	<u>20,000</u>	Machinery	17,000
	90,000	Buildings	50,000
	1,03,800		1,03,800

Q retires on the above date and the following was agreed upon :

- (i) The stock be depreciated by 6%.

- (ii) The provision for doubtful debts to be brought up to 5% on debtors.
- (iii) That buildings be appreciated by 20%.
- (iv) That a provision of Rs. 1,540 be made in respect of outstanding legal charges.
- (v) That the goodwill of the firm be valued at Rs. 21,600.
- (vi) P and Q are going to share future profits in the ratio of 5 : 3.
- (vii) That the entire capital of the firm as newly reconstituted to be fixed at Rs. 56,000 between P and R in the new ratio. Adjustment may be made through cash.

You are required to prepare the Revaluation Account, Capital Accounts of the partners and the Balance Sheet of the firm after Q's retirements.

26. A, B and C are partners in a business, sharing profits and losses in the ratio of 3 : 2 : 1. Their Balance Sheet as the December 31, 2007, was as follows :

Bills Payable	3,200	Cash	2,400
Sundry Creditors	3,200	Bank	4,000
Reserve Fund	24,000	Sundry Debtors	36,000
Capital Accounts		Stock	28,000
A	40,000	Machinery	24,000
B	40,000	Land and Buildings	56,000
C	<u>40,000</u>		
	1,20,000		
	<u>1,50,400</u>		<u>1,50,400</u>

On January 1, 2008, C retires from the firm. It is agreed to adjust the values of assets as follows:

- (a) That a provision of 4% on Sundry Debtors be made for Doubtful Debts.
- (b) That the value of stock be depreciated by 5% and Machinery be depreciated by 10%.
- (c) That Land and Buildings be revalued at Rs. 60,400.
- (d) That C's Capital Account be closed by transferring to his Loan Account.

Prepare Revaluation Account, Capital Accounts and Balance Sheet of A and B, the remaining partners.

27. A and B are in partnership sharing profits and losses in the proportion of one-half, one-fourth and one-fourth respectively. Their balance sheet on March 31, 2008 was as follows :

<i>Liabilities</i>	<i>Rs.</i>	<i>Assets</i>	<i>Rs.</i>
Sundry creditors	8,000	Cash	2,000
Capitals :		Sundry Debtors	9,000
A	20,000	Stock-in-Trade	11,000
B	12,000	Loan to A	6,000
C	<u>8,000</u>	Freehold Premies	20,000
	40,000		
	<u>48,000</u>		<u>48,000</u>

A died on April 1, 2008. The firm's goodwill was to be calculated at two years purchase of average profits of three completed years preceding the death or retirement of a partner. The deceased partner's share of capital and goodwill etc. was paid out in cash on June 1, 2008. The available cash balance being supplemented by a loan from the firm's banker on the security of the freehold property. The net profits of the year 2005-06, 2006-07 and 2007-08 were Rs. 11,000; Rs. 9,600 and Rs. 13,200 respectively.

You are required to show the ledger accounts of the partners and Balance Sheet of B and C as it would stand after A's share is paid out.

28. You are given the Balance Sheet of P, Q & R who are partners sharing profits and losses in the ratio of 2 : 2 : 1 as on March 31st, 2008 is as under :

<i>Liabilities</i>	<i>Rs.</i>	<i>Assets</i>	<i>Rs.</i>
Creditors	20,000	Goodwill	15,000
Reserve Fund	12,500	Fixed Assets	30,000
Capitals :		Stock	5,000
P	15,000	Sundry Debtors	10,000
Q	12,500	Cash at Bank	7,500
R	<u>7,500</u>		
	35,000		
	<u>67,500</u>		<u>67,500</u>

Q died on June 15, 2008. According to the deed, his legal representatives were entitled to :

- (i) Balance in Capital Account.
- (ii) Share of goodwill valued on the basis of thrice the average of the last four year's profits.
- (iii) Share in profits upto the date of death on the basis of average profits for the last four years.
- (iv) Interest on Capital Account @ 12% p.a.

Profits for the year ending on March 31, 2005, 2006, 2007 and 2008 were Rs. 7,500, Rs. 8,500, Rs. 9,500 and Rs. 6,500 respectively.

Q's legal representatives were paid the amount due. P and R continued as partners by taking over Q's share equally. Work out the amount payable to Q's legal representatives.

29. A, B and C are partners sharing profits and losses in the proportions of 3 : 2 : 1 and their Balance Sheet on December 31, 2007 stood as under :

<i>Liabilities</i>	<i>Rs.</i>	<i>Assets</i>	<i>Rs.</i>
Bills Payable	15,120	Cash in hand	500
Creditors	24,600	Bank Balance	1920
Reserve Fund	6,000	Debtors	14,900
Capitals :		Bills Receivable	6,600
A	20,000	Stock	24,940
B	12,000	Investments	20,860
C	<u>8,000</u>	Buildings	16,000
	40,000		
	<u>85,720</u>		<u>85,720</u>

B died on February 29, 2008 and according to the deed of the said partnership, his executors are entitled to be paid as under :

- (i) The capital to his credit at the time of his death and interest upon the time of his death at 6% p.a.
- (ii) His proportionate share of Reserve Fund.
- (iii) His share of profit for the period based on the figure of the previous year.
- (iv) Goodwill according to his share of profits to be calculated by taking twice the amount of the average profits of the last three years. The profits of the previous years were : 2005 – Rs. 15,600; 2006 – Rs. 18,000 and 2007 – Rs. 19,200.

The investments were sold for Rs. 32,400 and B's executors were paid out. Pass the necessary Journal entries and prepare the B's Capital Account.

30. The following is the Balance Sheet of Ram, Mohan and Sohan as on December 31, 2007 :

<i>Liabilities</i>	<i>Rs.</i>	<i>Assets</i>	<i>Rs.</i>
Sundry creditors	10,000	Tools	3,000
Reserve Fund	7,500	Furniture	18,000
Capitals		Stock	16,000
Ram	20,000	Debtors	12,000
Mohan	10,000	Cash at Bank	8,000
Sohan	<u>10,000</u>	Cash in hand	500
	40,000		
	57,500		57,500

Ram, Mohan and Sohan shared profits and losses in the ratio of 2 : 2 : 1. Sohan died on March 31, 2008. Under the partnership agreement the executor of Sohan was entitled to :

- (a) Amount standing to the credit of his capital Account.
- (b) Interest on capital which amounted to Rs. 150.
- (c) His share of goodwill Rs. 5,000.
- (d) His share of profit from the closing of last financial year to the date of death which amounted to Rs. 750.

Sohan's executors was paid Rs. 1,775 on April 1, 2008 and the balance in four equal yearly installments from March 31, 2009 with interest @ 6% p.a.

Pass necessary journal entries and draw up. Sohan's Account to be rendered to his executor and Sohan's Executor's Account till it is finally paid.

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# COMPANY ACCOUNTS

## ACCOUNTING FOR SHARE CAPITAL

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### POINTS TO REMEMBER

- **Meaning of a Company** : A company is an artificial person created by law, having separate entity with a perpetual succession and a common seal.
- **Characteristics of a Company** : Incorporation, separate legal entity. Perpetual secession/existence, limited liability, transferability of shares, common seal etc.
- **Distinction between a Private Company and Public Company** : The basis of distinction are number of members, transfer of shares, paid up share capital, prospectus etc.
- **Govt. Companies** : A govt. company is a company in which 51% or more shares are held by the central govt. or state govt., or partly by the central govt. and partly by one or more state govt.
- **Prospectus** : Prospectus means an invitation to the public for subscription of its shares or debentures.
- **Types of Share Capital** : Authorised capital, issued capital, subscribed capital, called up capital, paid up capital, uncalled capital, reserve capital.
- **Distinction Between Reserve Capital and Capital Reserve** : Basis of distinction :

<i>Reserve Capital</i>	<i>Capital Reserve</i>
<i>Meaning</i> : It is the part of uncalled share capital which shall be called only which the company is to be wound up.	It is created out of capital profits.
<i>Mandatory</i> : It is not mandatory.	It is mandatory in case of capital profit.

- **Type of Shares** : 1. Equity shares, 2. Preference Shares.
- Distinction between equity shares and preference shares.
- **Basis of Distinction** : 1. Rate of dividend, 2. Voting Right, 3. Right to participate in the management, etc.
- **Minimum Subscription** : Minimum subscription is that number of shares on which amount received from shareholders is sufficient, from the point of view of directors.
- **Issue of Share** :
  - (i) For easily by public subscription of shares.
  - (ii) For cash by private placement of shares.
  - (iii) For consideration other than cash.



- **Under Subscription of Shares** : Means a situation where applications received for shares are less than the have been invited for subscription.
- **Over Subscription of Share** : When applications for shares received are more than the number of shares offered to the public for subscription.
- **Private Placement of Share** : An issue, which is not a public issue but offered to a selected group of persons such as directors, employees is called private placement of shares.
- Purpose for which amount of securities premium may be used (Section 78) :
  - (i) Issue of fully paid Bonus Shares to the existing share holders.
  - (ii) Writing off preliminary expenses.
  - (iii) Writing off discount on shares or debentures.
  - (iv) Providing the premium payable on the redemption of preference shares or debentures.
  - (v) In purchase of its own shares (buy back of shares)
- **Issue of Shares at a Discount (Sec. 79)** : The following conditions must be fulfilled :
  - (i) A resolution in this regard must be passed in the general meeting and sanctioned by central govt.
  - (ii) The rate of discount on debenture must not exceed 10%. For more discount permission from central govt. is required.
  - (iii) Not less than one year has been elapsed since the company entitled to commence its business.
  - (iv) The shares are of a class already issued.
  - (v) The shares are issued within 2 month of the date on which the issue id sanctioned by the central govt.
- **Employees Stock Option Scheme (ESOS)** : Meaning : A scheme under which the company grants option (a right but not an obligation) to an employee to apply for shares of the company at a predetermined price which is less than the market price.
- **Calls-in-Arrears** : Refers to the amount which is unpaid by the share holder after its is due. It is subtracted from subscribed capital.
- **Calls-in-Advance** : Refers to amount paid in advance by the shareholders before the amount due on his shares.
- **Interest on Calls-in-Arrears** : Is charged @ 5% p.a. as per Table A of Company Act. 1956 or as specified in the articles of association.
- **Interest on Calls in Advance** : Is given to the shareholders @ 6% p.a. as per Table A of Company Act. 1956 or as specified in the articles of association.
- **Forfeiture of Shares** : When a shareholder fails to pay his arrears the directors of a company have a right to forfeit his shares and the amount received on these shares is credited to share forfeiture A/c.

- **Re-issue of Forfeited Shares** : The company can re-issue the forfeited shares at a minimum price of the amount unpaid on these shares at the time of forfeiture.
- **Capital Reserve** : The profit on re-issue of forfeited shares is transferred to Capital Reserve A/c. Calculation of Capital Reserve :
  - (a) Amount forfeited. ....
  - (b) Shares forfeited. ....
  - (c) Shares re-issued. ....
  - (d) Maximum amount available for discount  $\left[ \frac{a}{b} \times c \right]$  .....
  - (e) Capital reserve. (Balancing figure).
- Alternatives of issue of shares in case of over subscription :
  - (i) The excess applications received can be rejected and the shares allotted to the remaining applicants in full.
  - (ii) To allot pro-rata allotment to all the applicants.
  - (iii) To reject some applications and allot the remaining applicants proportionately.
- Shares issued for consideration other than cash. When a company purchases any fixed asset of business of an existing company and makes the payment to the vendor not in cash but by issuing fully paid shares (at par/at premium/at a discount), it is called the issue of shares for consideration other than cash.

Formula for calculating no. of shares to be issued :

$$= \frac{\text{Amount Payable}}{\text{Issue Price of a share}}$$

### SHORT ANSWER QUESTIONS (1 Mark)

1. What is the definition of a company?
2. What are the types of companies on ownership basis?
3. What is the rate of interest on calls-in-arrears as per 'Table A' of Company Act. 1956?
4. Which type of company can put restrictions on transfer of its shares?
5. Name the document of the company which describes the objectives of the company.
6. In how many days the allotment of shares should be completed after the issue of prospectus?
7. If a company wants to issue its shares at more than 10% discount, whose permission is to take/required?

8. What is the rate of interest on calls-in-advance as per 'Table A' of company Act.
9. What is the maximum rate of discount on issue of shares can be provided by a company?
10. Which section of the company Act 1956 permits a company to issue its shares at a discount, if a company fulfilled the desired conditions?
11. Which section of the company Act 1956 restricts the use of amount collected as premium on shares?
12. Can forfeited shares be re-issued at a discount? If yes, to what extent?
13. To which account the profit on re-issue of forfeited shares transferred?
- \*14. If some of the forfeited shares are re-issued, which account will appear in the Balance Sheet in relation to :
  - (i) Profit of re-issue of forfeited shares.
  - (ii) The shares which have not been re-issued.
- \*15. The directors of X Ltd. had invited applications for 60,000 shares of Rs. 20 each a premium of Rs. 2 per shares. The total application money received at Rs. 5 per share was Rs. 3,50,000. Name the kind of subscription.

### QUESTIONS [THEORY] (3 - 4 Marks)

1. What is the difference between a private company and a public company? 3  
 fu h dE u h r f k l k z f u d d E u h e a D ; k v l r j g S
2. What is the difference between Reserve Capital and Capital Reserve? 3  
 l f o r i p h , o a i p h l p ; e a v l r j L i " V d l f t , A
3. Name the various types of 'Share Capital' of a company.  
 d E u h d h v a k i p h d s f o f k u i z l j k d s u l e f y f [ k A
4. Distinguish between 'Over subscription' and 'Under subscription' of shares. 3  
 v a l k a d s v f / k v f k u , o a v Y i v f k u e a v l r j L i " V d l f t , A
5. List the three alternatives for allotting of shares in case of over subscription. 3  
 v a l k a d s v f / k v f k u d h l f f r e a v a l k a d s f o r j . k d s d l b Z r h u f o d Y i f y f [ k A
6. Explain the meaning of 'Pro-rata Allotment of Shares' with one example? (1½+1½ = 3)
7. Define 'Calls in Arrears'. 3  
 v n k ; k p u k d l s i f j k k r d l f t , A

8. Define 'Calls in Advance.'

vfxe ; kpk dksifjHk"r dlft , A

9. Define company what are the essential characteristics of a company?

1 + 3 = 4

dEuh dksifjHk"r dlft , A dEuh dh eq ; fo' ksk ; D; k gS

10. How will you show 'Share Capital' in the Balance Sheet of a Joint Stock Company?

3

l aDr iph dEuh ds vkf d fpvBseavki vak iph dksfdl izkj infk djs

11. Distinguish between 'Equity Share' and 'Preference Shares.'

l erk vako i vzk d j vako avUrj Li"V dlft , A

12. State purposes for which 'Securities Premium' money can be used.

ifrHr ife; e dk mi ; k fdu mis ; adh ifr dsfy, fd; k t k l drk gS

13. Explain any four Provisions of Sec. 79 of the company Act 1956 regarding issue of shares at a discount?

dEuh vf/kq; e 1956 dh /kj 79 ds vUrZr vako ds dVsh ij fuxZu l sl fcfUrkdUghapj i h/ku dh Q k ; k dlft , A

14. Write short notes on the following :

(i) Prospectus

(ii) Minimum subscription.

2 + 2 = 4

fuEufyf[kr ij l fkr fVli. h fyf[k %

(i) ifoj.k i=k

(ii) U wre vfHku

15. Write short notes on the following :

(i) Employees stock option plan (ESOP)

(ii) Private placement of shares.

2 + 2 = 4

fuEufyf[kr ij l fkr fVli. h fyf[k %

(i) deZjh Ldak fodYi ; k uA

(ii) fut h Q oLFk ds vUrZr vako dk vkoYuA

\*16. Usha Co. Ltd. with paid up share capital of Rs. 56,00,000 has a balance of Rs. 8,00,000 in securities premium A/c. The company management does not want to carry-over this balance.

You are required to suggest the method for utilising this premium many that would achieve the objective of the management and maximize the return to shareholders. 3

m'l k dE u h fy fe VM dh n k v a k i p h 56,00,000 #ñ gSo 8,00,000 #ñ i fr Hr i fe; e dh j k' k d k s v k s  
u g h a y s t k u k p l g r A m D r i fr Hr i fe; e dh j k' k d s m i ; k d k l q - l o n l f t , f d f t l l s v a k H j ; l a d k s  
v f / k d r e v k i H r g l s o i z U k d k m i s ; H h i y k g l s t k A

### QUESTIONS [PRACTICAL] (3 - 4 Marks)

#### (A) Forfeiture and Re-issue of Forfeited Shares

1. X Ltd. forfeited 100 shares of Rs. 10 each for non-payment of 1st call of Rs. 3 per share and final call of Rs. 2 per share. The co. re-issued these shares to Sohan as fully paid for Rs. 7 per share. Give the necessary journal entries.
2. Y Ltd. forfeited 150 shares of Rs. 100 each issued at 10%. Premiums for non payment of final call of Rs. 25 per share. Out of these 50 shares were re-issued as fully paid for Rs. 40 per share journalise.
3. Z Ltd. forfeited 200 equity shares of Rs. 10 each issued at a premium of Rs. 3 per share, held by Khanna for non payment of allotment money of Rs. 6 per share (including premium of Rs. 3 per share), first call of Rs. 2 per share and final call of Rs. 3 per share. Out of these 125 equity shares were re-issues to Shyam at Rs. 9 per share as fully paid. Journalise.
4. XYZ Ltd. forfeited 50 shares of Rs. 100 each issued at a premium of Rs. 20. On which Rs. 90 (including premium) was called and Rs. 70 (including premium) was called and Rs. 70 (including premium) was received. Out of these 40 shares were re-issued as fully paid for Rs. 80 each. Journalise.
- \*5. S Ltd. forfeited 20 shares of Rs. 10 each (Rs. 7 called up) issued at a discount of 10% to Anil on which he had paid Rs. 2 per share. Out of these 18 shares were re-issued to Rakesh as Rs. 8 called up for Rs. 6 per share. Journalise.
- \*6. Anil holds 100 shares of Rs. 10 each on which he has paid Re. 1 as application money.  
Bimal holds 200 shares of Rs. 10 each and has paid Re. 1 on Application and Rs. 2 on allotment. Chetan holds 300 shares of Rs. 10 each and has paid Re. 1 on application, Rs. 2 on allotment and Rs. 3 on first call.

They all fail to pay their arrears and the second call of Rs. 2 per share. These shares are forfeited and subsequently re-issued to Deepak at Rs. 12 per share as fully paid. Give journal entries to record forfeiture and re-issue of shares in the books of the co.

#### (B) Issue of Shares for Consideration other than Cash

7. Y Ltd. purchased furniture worth Rs. 98,000 from A Ltd. The purchase consideration was paid by issue of 10,000 shares of Rs. 10 each as fully paid up. Journalise in the books of Y Ltd.
8. S Ltd. purchased business of G. Ltd. for Rs. 10,00,000. Give journal entries for the purchase of business and issue of shares for consideration if S Ltd. paid Rs. 10,000 by cheque and the

- (i) balance by issue of shares of 100 each at per.
- (ii) If the balance by issue of shares of Rs. 1,000 each at a premium of 10%.
- (iii) If the balance by issue of shares of Rs. 1,000 each at a discount of 10%.

9. K Ltd. issued 4,000 equity shares of Rs. 10 each as fully paid to its promoters as remuneration of services returned by them. Journalise.
- \*10. PK Ltd. purchased S Assets of Rs. 20,00,000 and took liabilities of Rs. 1,80,000 of K.K. Ltd for Rs. 18,00,000 payable 25% in cash and the balance in fully paid shares of Rs. 100 each. Give journal entries if such shares are issued at a discount of 10%.

**(C) Interest on Calls in Arrears and Calls in Advance**

11. A B C Ltd issued 20,000 shares of Rs. 100 each at a premium of Rs. 20 per share. The amount was payable as follows :

On Application .....	Rs. 25
On Allotment .....	Rs. 70 (including premium)
On 1st and final call .....	The balance

All calls were made and received except the final call on 1,200 shares. The unpaid amount of these shares was received a month later along with interest. The company follows the rules of table A of the company Act 1956 for charging interest on calls in arrears. Pass the necessary journal entries in the books of the company.

- \*12. X Ltd. issued 45,000 equity shares of Rs. 10 each payable as follows :

On Application .....	Rs. 3.00
On Allotment .....	Rs. 2.50
On 1st Call .....	Rs. 3.00
On Final Call .....	Rs. 1.50

The applications were received for 90,000 equity shares. The allotment was made on 01-10-07 as follows :

- (a) Applications for 40,000 equity shares..... Full.
- (b) Applications for 20,000 equity shares..... 25%.
- (c) Remaining applications ..... Rejected.

The 1st call was made on 01-11-07 and the 2nd call on 01-02-08. According to the terms of issue the excess application money can be adjusted against amount due are allotment and calls. One shareholder holding 5,000 shares paid the entire amount on his shares on allotment. On 01-02-08 interest on calls in advance was paid according to 'Table A' of the company Act 1956. Give journal entries assuming that all sums were duly received by the company.

### Preparation of Balance Sheet

- \*13. Z Ltd. was registered with an authorised capital of Rs. 5,00,000 divided into 50,000 equity shares of Rs. 10 each. The company offered to the public for subscription 40,000 equity shares. Applications for 30,000 equity shares were received and allotment was made to all the applicants. All calls were made and were duly received except the final call of Rs. 3 per share on 100 shares. Prepare the Balance Sheet of the company showing the different categories of share capital.
- \*14. X Ltd. has registered with an authorised capital of Rs. 10,00,000 divided into equity shares of Rs. 10 each. The company invited applications for 50,000 shares and applications were received for 60,000 shares. The company rejected applications for 10,000 shares and allotted the remaining applicants in full. All calls were made and were duly received except the final Call of Rs. 2 per share on 100 shares. The shares were forfeited. Out of these shares 75 shares were reissued at Rs. 7 per share as fully paid. Prepare the Balance Sheet of the company as per schedule VI part I of the company Act. 1956.

### QUESTIONS (8 Marks)

#### (E) Forfeiture and Re-issue of Forfeited Shares (Long Questions)

15. Zolta Ltd. was registered with an authorised capital of Rs. 10,00,000 divided into shares of Rs. 10 each. During the first year 20,000 shares were offered to the public and the amount was payable on these shares as follows :

On Application .....	Rs. 3
On allotment .....	Rs. 3
On 1st and final call the balance	

Applications were received for 36,000 shares and the allotment was made as follows :

- |  |
|--|
| (a) Application for 5,000 shares – Full. |
| (b) Application for 10,000 shares – 75%. |
| (c) Application for 15,000 shares – 50%  |
| (d) Application for 6,000 shares – Nil.  |

All the money were duly received except the amounts due on allotment and 1st and final call from Mohan who applied for 1000 shares in category (b) above. These share were forfeited and 600 of these shares were re-issued to Hari as fully paid on receipt of Rs. 8 per share. Give the necessary journal entries and Balance Sheet in the books of Zolta Ltd.

16. Y Ltd. invited applications for 36,000 shares of Rs. 50 each at a discount of 10%. The amount was payable as under :

On Application .....	Rs. 10
On Allotment .....	Rs. 20 and the Balance on Call.

The public applied for 30,000 shares and these shares were allotted. All money was duly received with the exception of call money on 400 shares. These shares were forfeited. Out of these 300 shares were re-issued as fully paid up for Rs. 35 per share. Prepare cash book, journal entries and the Balance Sheet of the company.

17. Tata tea Ltd. with are authorised capital of Rs. 20,00,000 invited applications for 20,000 shares of Rs. 10 each at a premium of Rs. 2 per share as follows :

On Applications . . . . .	Rs. 5 (including premium)
On Allotment . . . . .	Rs. 4
On Call-the Balance.	

All money was duly received with the exception of the allotment on 200 share and the call money on 500 shares (including the 200 shares on which the allotment money has not been paid). The above 500 shares were duly forfeited and 400 of these shares were re-issued @ Rs. 7 per share as fully paid up (including the 200 shares on which allotment was overdue.) Prepare cash book, journal entries and Balance Sheet of the company.

18. Onida Ltd. was registered with an authorised capital of Rs. 30,00,000 divided into shares of Rs. 100 each. During the first year 6000 shares were issued to Gambhir as fully paid for the purchase of a machinery. 8000 shares offered to the public and only Rs. 60 per share were called up as under :

On Application . . . . .	Rs. 30 per share
On Allotment . . . . .	Rs. 20 per share
On Call . . . . .	Rs. 10 per share

The amount received in respect of these shares were as followers :

On 6000 shares, the full amount called.

On 1,500 shares, Rs. 50 per share.

On 500 shares, Rs. 30 per share.

The directors forfeited 500 shares on which less than Rs. 50 per share were paid and re-issued out of which 200 shares to Hari at Rs. 50 per share, Rs. 60 paid up. Pass journal entries in the books of the company.

- \*19. J.K. Co. Ltd. issued 30,000 shares of Rs. 10 each payable as Rs. 2 per share on application, Rs. 4 per share an allotment and the balance 3 months later. Applications for 46,000 shares were received on which the directors allotted as follows :

- (i) Applications for 20,000 shares – Full.
- (ii) Applications for 25,000 shares – 40%.
- (iii) Applications for 1,000 shares – Nil.



Rs. 86,000 was realised on account of allotment money (excluding the amount carried from application money) and Rs. 1,00,000 on A/c of Call. The directors decided to forfeit those shares on which allotment money was overdue. Pass journal entries and prepare the Balance Sheet of the company.

20. Plaza Ltd. issued 10,000 shares of Rs. 10 each at a premium of Rs. 3 payable as follows :
- (i) Rs. 6 on application (including Rs. 2 as premium).
  - (ii) Rs. 5 on allotment (including Re. 1 as premium).
  - (iii) Rs. 2 on 1st and final call.

Applications for 20,000 shares were received out of which applications for 4000 shares were rejected and pro-rata allotment was made of the rest.

All amounts were received except from Sita who had 250 shares and who did not pay the allotment and the call money and Chandan who had applied for 640 shares. He did not pay the call money. Shares of both Sita and Chanda were forfeited after the final call. Out of the forfeited shares 400 shares including 100 shares of Sita, were re-issued at Rs. 8 per share fully paid up. Pass journal entries in the books of the company.

- \*21. Gautam Ltd. issued 10,000 shares of Rs. 20 each payable Rs. 5 on application, Rs. 8 on allotment and Rs. 7 on 1st and final call. 15,000 applications were received and allotment was made as follows :

- (a) Applicants for 10,000 shares – 6,000 shares,
- (b) Applicants for 5,000 shares – 4,000 shares.

All applicants paid to money as and when due except Dinkar and Chanhan. They did not pay anything after application money. Dinkar belonged to 1st category and was allotted 144 shares and Chandan belonged to 2nd category and he had applied for 120 shares. Their shares were forfeited after the 1st and final call. Out of these 100 shares (including 50 shares of Dinkar) were re-issued for Rs. 2100 as full paid up. Pass journal entries in the books of the company.

22. Siemens Ltd. issued 25,000 shares of Rs. 10 each at a discount of 10% payable as follows :

On Application . . . . .	Rs. 5 per share
On Allotment . . . . .	Rs. 3 per share
On 1st and Final Call . . . . .	The balance

Applications were received for 32,000 shares and allotment was made on pro-rata basis to applicants for 30,000 shares.

Anil had 300 shares and he did not pay the allotment and the call money. His shares were therefore, forfeited, 200 of the forfeited shares were re-issued at Rs. 6 per share fully paid up. Pass journal and Cash Book entries in the books of the company.

\*23. Bala Ltd. invited applications for 1,00,000 shares of Rs. 10 each payable as under :

On Application .....	Rs. 2 per share
On Allotment .....	Rs. 3 per share
On 1st and Final Call .....	Rs. 5 per share.

Applications for 2,50,000 shares were received and pro-rata allotment was made as follows :

- (a) Applications for 80,000 shares – 40,000 shares
- (b) Applications for 1,70,000 shares – 60,000 shares.

Rohan to whom 600 shares were allotted out of the group (a) failed to pay allotment money and Sohan who had applied for 850 shares out of the group (b) failed to pay 1st and final call. Their shares were forfeited after the 1st and final call.

Out of the forfeited shares 750 shares were re-issued at Rs. 9 per share fully paid up. The re-issued shares included all the forfeited shares of Rohan. Pass the necessary journal entries in the books of the company.

\*24. Sohan Ltd. invited applications for 20,000 shares of Rs. 10 each at a premium of Rs. 2 per share, payable Rs. 3 on application, Rs. 7 on allotment (including premium) and the balance on 1st and final call.

Applications for 25,000 shares were received and it was decided :

- (i) to refuse allotment to the applicants for 1,000 shares.
- (ii) to allot in full to applicants for 4,000 shares.
- (iii) to allot the balance of the shares on pro-rata basis.

Mr. Hari holding 200 shares to whom shares had been allotted on pro-rata basis failed to pay the amount due on allotment. His shares were immediately forfeited after the allotment. Mr. Shyam holding 100 shares to whom full allotment was made failed to pay the amount due on call only. His share were also forfeited after the call. 160 forfeited shares of Mr. Hari and 40 forfeited shares of Mr. Shyam were re-issued at a discount of Re. 1 per share. Pass journal entries in the books of the company.

25. Preeti Ltd. has been registered with an authorised Capital of Rs. 2,00,000 divided into 2,000 shares of Rs. 100 each of which 1,000 shares were offered for public subscription at a premium of Rs. 5 per share, payable as under :

On Application .....	Rs. 10
On Allotment .....	Rs. 25 (including premium)
On 1st call .....	Rs. 40
On Final call .....	Rs. 30

Applications were received for 1,800 shares, of which application for 300 shares were rejected outright, the rest of the applications were allotted 1000 shares on pro-rata basis. Excess application

money was transferred to allotment. All the money were duly received except from Mahesh, holder of 100 shares, who failed to pay allotment and first call money. His shares were forfeited and re-issued to Suresh at Rs. 60 per share Rs. 70 paid up. Final call has not been made. Pass the necessary journal entries in the books of co.

26. AB Ltd. issued prospectus inviting applications for 2000 shares of Rs. 10 each at a premium of Rs. 3 per share, payable as follows :

On Application . . . . .	Rs. 6 (including premium Re. 1 per share)
On Allotment . . . . .	Rs. 2 (including premium Re. 1 per share)
On 1st and Final Call . . . . .	Rs. 5 (including premium Re. 1 per share)

Applications were received for 3600 shares and pro-rata allotment was on the applications for 2400 shares. It was decided to utilise excess application money towards the amount due on allotment. Hari to whom 40 shares were allotted, failed to pay allotment money and his shares were forfeited after the allotment.

Mohan, who applied for 72 shares failed to pay 1st and final call and his share were also forfeited of the forfeited shares, 86 shares were sold to Sarita credited as fully paid for Rs. 9 per share, the whole of Hari's share being included. Pass the necessary journal entries in the books of the company.

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# ISSUE OF DEBENTURES

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## POINTS TO REMEMBER

- **Debenture : Meaning** : A debenture is a document given by a company as evidence of a debt to the holder usually arising out a loan and most commonly secured by a charge.
- **Types of Debenture** : Debentures can be classified on the basis of :
  - (i) **Security** : Secured and unsecured debentures.
  - (ii) **Redemption** : Redeemable and irredeemable debentures.
  - (iii) **Records** : Registered and bearer debentures.
  - (iv) **Priority** : First debentures and second debentures.
  - (v) **Convertibility** : Convertible and non-convertible debentures.
  - (vi) **Coupon Rate** : Specific Rate (coupon rate) and zero coupon or deep discount bond.
- **Distinction between a share and a debenture. Basis of difference** :
  - (i) Capital or loan
  - (ii) Dividend or interest.
  - (iii) Fluctuating or fixed rate of return.
  - (iv) Voluntary or compulsory redemption.
  - (v) Convertibility
  - (vi) Unsecured or secured.
  - (vii) Voting right.
- **Issue of debenture for consideration other than cash debentures can be issued to vendors against purchase of assets or for purchase of a business.**
  1. What assets are purchased from vendor :

Sundry assets a/c	Dr.
To vendor	
  2. When business is purchased : (both assets and liabilities acquired).
    - (a) If purchase consideration is not given in the question :

Sundry assets A/c	Dr.
To sundary liabilities	
To vendor	(Difference between assets and liabilities)

(b) If purchase consideration is given in the question :

(i) If purchase consideration is more than the difference between the value of assets and liabilities.

Sundry assets a/c	Dr.	
Goodwill a/c	Dr.	(balancing figure)
To sundry liabilities a/c		
To vendor		(purchase consideration is given)

(ii) If purchase consideration is less than the difference between the value of assets and liabilities.

Sundry assets A/c	Dr.	
To sundry liabilities A/c		
To vendor (purchase consideration)		
To capital reserve (balancing figure)		

3. When debentures are issued to vendor

(i) At par

Vendor	Dr.	(purchase consideration)
To x% debenture a/c.		

(ii) At premium :

Vendor A/c	Dr.	(purchase consideration)
To x% debenture a/c.		(face value)
To security premium a/c		(premium amount)

(iii) At discount :

Vendor A/c	Dr.	(purchase consideration)
Discount on issue of debenture a/c	Dr.	(discount amount)
To x% debentures a/c		(face value)

- Writing off Loss on Issue of Debenture :

**1st Method** : When debentures are to be redeemed after a fixed period. Amount of loss on issue of debenture to be written off each year :

$$= \frac{\text{Total amount of loss on issue of debentures}}{\text{No. of years}}$$

**2nd Method** : Where the debentures are to be redeemed in installments. In that cases the loss on issue of debentures should be written off each year in the ratio in which the amount of debentures has been available or outstanding.

- **Formula** : Calculation of number of debentures issued =  $\frac{\text{Purchase consideration}}{\text{issue price of debenture}}$

(i) Purchase consideration means = Total purchase consideration – cash payment.

(ii) Issue price of debenture means = At par = nominal price.

At discount = Nominal price – discount

At premium = nominal price + premium

- **Important Cases**

(i) When Debenture are issued at par but are redeemable at a premium–

(a) Bank a/c Dr.

To debenture application a/c

(b) Debenture application a/c Dr.

Loss on issue of debenture A/c Dr. (amount of premium redemption)

To debentures a/c

To premium on redemption of debentures a/c.

(ii) When Debentures are issued at a discount but are redeemable at a premium–

(b) Debenture application a/c Dr.

Loss on issue of debentures a/c Dr. (Combined amount of discount is sue and premium on redemption of debenture)

To debenture a/c.

To premium on redemption of debenture a/c.

(iii) When debentures are issued at a premium and redeemable at a premium :

(a) Debenture application a/c Dr.

Loss on issue of debentures A/c Dr (Amount of premium on redemption)

To debentures a/c

To security premium a/c

To premium redemption of debentures a/c

### SHORT ANSWER QUESTIONS (1 Mark)

1. What is 'debenture'?
2. What is the nature of interest on debentures?
3. Debentures comes under which of the major heading of the company's balance sheet.
4. Name the type of debentures which are payable only to the person who is holding the debentures.
5. In whose favour a debenture trust deed is enacted?
6. List any one disqualification to become Debenture Trustee.
7. Give the meaning of a bond.
8. Excess of net assets over purchase consideration is credited to which account?
9. Excess of purchase consideration over net assets is debited to which account?
10. What is meant by 'convertible debentures'?
11. What is meant by PCD (partly convertible debenture) FCD fully convertible debentures?
12. X Ltd. bought furniture for Rs. 9,90,000 and the considerations was paid by issuing debentures of Rs. 100 each as at a premium of 10%. Find the number of debentures issued at premium.
13. Y Ltd. purchased the assets of Rs. 30,00,000 and took over the liabilities of Rs. 12,00,000 for the purchase consideration of Rs. 18,50,000. The amount of Rs. 50,000 will be debited or credited to which account.
14. See Ltd. purchased the assets of Rs. 4,00,000 and takeover the liabilities of Rs. 1,20,000 of Akash Ltd. for the purchase consideration of Rs. 2,50,000. The amount of Rs. 30,000 will be debited or credited to which a/c?
15. On 1st April 21007, Sun India Ltd. issued 50,000, 12% debentures of Rs. 100 each at a discount of 5%. What will be total amount of interest for they year ending 31st March 2008?
16. Vastava Ltd. issue 2,00,000 9% debentures if Rs. 10 each at a discount of 5% redeemable at the end of 5 year at a premium of 6% for what amount 'loss on issue of debenture a/c will be debited?
17.
  - (a) X Ltd. issued 3000, 10% debenture of Rs. 100 each as a collateral security to a bank, who has advanced a loan of Rs. 2,50,000 to the company.
  - (b) Z Ltd. issued Rs. 2,50,000, 12% debentures of Rs. 100 each to a creditor for Rs. 2,25,000 capital expenditure in satisfaction of his claim. Journalise the above transactions.
18. Which method of calculating the amount of loss on debentures is adopted when debentures are to be redeemed at the end of specific period?
19. Do the provision of sec. 78 apply to premium collected on issue of debentures? Give your reason.

20. Do the provision of sec. 79 apply to discount on issue of debenture? Give reason.
21. If the debentures are issued at par and are to be redeemed at a premium, why do you record premium payable on redemption as loss at time of issue of debentures?

### QUESTIONS [THEORY] (3 - 4 Marks)

1. Define debentures. Describe any two characteristics of a debenture.

— .ki=k dls if Hk"r dlft , A — .ki=k dh fd Ugh nls fo 'kkr k dh Q k; k dlft , A

2. Distinguish between shares and debenture.

vák , oa — .ki=k ea v r j Li "V dlft , A

3. Can the nominal value of debentures be called at once? If yes, what will be its accounting treatment?

— .ki=k Hads v dr e V; dls D; k, d c j eagh; k pr fd; k t k l dr k g S ; f n g h r s m l d k y s k a l u Q o g j c r b , A

4. Give journal entries to record :

(i) When interest is due on debentures.

(ii) When interest is paid on debenture.

f u f y f [ k r d h j k u l e p k i f o f V ; k f y f [ k %

(i) t c — .ki=k H a i j C k t n s g k r k g S

(ii) t c — .ki=k H a i j C k t d k H a r k u f d ; k t k r k g S

5. What are the alternative available to a company for allotment of debentures when there is an over subscription of debentures?

— .ki=k H a d s v f / k f h n u d h f l f r e a d E i u h d s l e > — .ki=k f u x e z i d s d l s i & d l s i l s f o d Y i m i y C k g S

6. Can a company issue debentures for consideration other than cash? If so give its Accounting treatment.

D; k — .ki=k H a d s j k l M - d s v f r f j D r f d l h i f r Q y d s : i e a t k j h f d ; k t k l d r k g S b l d k y f k m i p j f y f [ k A

7. Explain the meaning of debentures issued as collateral security?

— .ki=k H a d s l g o r z i f r H r d s : i e a f u x e z i d l s l e > b ; A

8. What is meant by debentures issued at par but redeemable at premium?

— .ki=k H a d s l e e V ; i j t k j h d j u s r F k v f / k y H k 1 / 2 e h e 1 / 2 i j ' k k u d j u s d k D ; k r k R ; Z g S



9. What is meant by 'debentures issued at discount and redeemable at premium?'  
cêsij t ljh r f k i f e ; e i j ' k k \_ . k i - k d k D ; k v f z g s
10. Write a short note on "Zero Coupon Bond."  
^ k i d i u c h i j , d l f h r f v i . k n l f t ; A
11. Who can be trustees of "Debenture Trust Deed."  
P . k i - k V L V M t ß d s V L V h d k i g s l d r s g s
12. List the person who cannot become trustees of the "Debenture Trust Deed."  
d k i l k Q f D r \_ . k i - k V L V h u g h a c u l d r k
13. If the debenture had been issued at discount, what precaution is to be taken before converting them into shares?  
; f n \_ . k i - k d k s cêsij t l j h f d ; k x ; k g s r l s m g a v a l l e a c n y u s l s i o z D ; k l l o / k u h c j r h t k r h g s
14. What do you understand by term "Purchase Consideration."  
E ; i f r Q y ß l s v k i D ; k l e > r s g s

### QUESTIONS [PRACTICAL] (3 - 4 Marks)

1. AXA Ltd. issued 50,000, 12% debentures of Rs. 100 each at a premium of Rs. 5 payable as follows :

On Application .....	Rs. 30 (including premium)
On Allotment .....	Rs. 40
On 1st and Final call .....	The balance amount.

Applications were received for 60,000 debentures and allotment was made pro-rata to all applicants. All the money was duly received. Pass necessary journal entries.

2. Aradhaya Ltd. issued 10,00,000, 8% debentures of Rs. 500 each at a discount of 4%, redeemable at a premium of 5% after 4 years payable as : Rs. 200 on application and balance on allotment. Record necessary entries for issue of debentures.
3. What journal entries will be made in the following cases :
  - (i) Rs. 80,000, 12% debenture issued at par and redeemable also at par.
  - (ii) Rs. 80,000, 12% debenture issued at a discount of 5% and redeemable at par.
  - (iii) Rs. 80,000, 12% debenture issued at a premium of 5% and redeemable at par.
  - (iv) A company issued 1000 debentures of 100 each at a premium of 5% and redeemable at a premium of 10%.

- (v) A company issued 5000 debentures of Rs. 10 each at a discount of 5% and redeemable at a premium of 10%.
4. Ashwat Ltd. purchased a machinery costing Rs. 1,30,000 Payable as to Rs. 31,000 in cash and the balance by an issue of 10% debentures of Rs. 100 each. Give necessary journal entries in following cases and find out no. of debentures to be issued.
    - (i) 10% debentures are issued at par;
    - (ii) 10% debentures are issued at a discount of 10%;
    - (iii) 10% debentures are issued at a premium of 10%.
  5. Asmit Ltd. took out assets of Rs. 3,50,000 and liabilities of Rs. 1,20,000 of Akash Ltd. for the purchase consideration of Rs. 2,70,000. The purchase consideration is settled by issuing debentures of Rs. 100 each at a discount of 10%. Give journal entries in the books of Asmit Ltd.
  6. X Ltd. took over the assets of Rs. 5,00,000 and liabilities of Rs. 1,50,000 of Z Ltd. for the purchase consideration of Rs. 3,30,000. The purchase consideration is settled by issuing debentures of Rs. 100 each at a premium of 10%. Give necessary journal entries in the books of X Ltd.
  - \*7. Das Ltd. purchased machinery worth Rs. 2,50,000 from Dabas Ltd. on 1.07.2007. Rs. 1,00,000 were paid immediately and the balance was paid by issue of Rs. 1,75,000, 12% debenture is Dass Ltd. Pass the necessary journal entries for recording the transactions in the book of Dass Ltd.
  - \*8. Shyam Ltd. purchased machinery worth Rs. 5,00,000 from Sudama Ltd. on 01.07.2007. Rs. 1,00,000 were paid immediately and the balance was paid by issue of Rs. 3,50,000, 15% debentures in Shyam Ltd. pass the necessary journal entries in the books of Shyam Ltd.
  9. Y Ltd. issued 6,000, 12% debentures of Rs. 100 each on 1 Jan 2007. Interest on these debentures is paid half yearly. *i.e.* on 30th June and 31st Dec. Pass the necessary journal entries for the year 2007. Assuming income tax is deducted @ 25% on the amount of interest.
  10. Rasa Ltd. issued 9,000, 9% debentures of Rs. 5,000 each, pass necessary journal entries for the issue of debentures when the debentures were issued :
    - (i) at 10% premium and redeemable at 5% premium;
    - (ii) at par and redeemable at 6% premium;
    - (iii) at 6% premium and redeemable at par;
    - (iv) at 10% discount and redeemable at 5% premium;
    - (v) at 10% discount and redeemable at par.
  11. Ram Ltd. Purchased a running business from Krishna Ltd. for a seem of Rs. 15,00,000, payable Rs. 3,00,000 by cheque and for the balance issued 11% debentures of Rs. 100 at 25% premium.

The assets and liabilities consisted of the following :

Plant and machinery 3,00,000; Buildings 7,00,000; Stock 4,00,000;

Sundry debtors 4,00,000; sundry creditors 1,75,000.

Record necessary journal entries in the books of Ram Ltd.

12. A Ltd. company purchased an established business for Rs. 5,00,000 from B Ltd. 25% was paid by A Ltd by accepting a bill of exchange in favour of B. Ltd. and the balance was paid by issue of 12% debentures of Rs. 100 each at a premium of 20%, redeemable after three years. Pass necessary journal entries in the books of A Ltd.
- \*13. R Ltd. purchased sundry assets worth Rs. 5,40,000 and assumed liabilities of Rs. 60,000. The amount due was paid by issue of 11% debentures of Rs. 100 each. However, market value on the day was Rs. 150 each. Pass necessary journal entries if :
- (a) Debentures are issued at par
  - (b) Debentures are issued at a premium of 10%.
14. A company issued 15% debenture of Rs. 10,00,000 at par redeemable at 8% premium. Assume further that debentures are to be redeemed by drawing method in the following manner :

<i>Year end</i>	<i>Amount (face value)</i>
2	1,00,000
3	200,000
4	3,00,000
5	4,00,000

Pass journal entry for issue of debentures and prepare ledger account of loss on issue of debenture for five years.

15. Ashwat Ltd. issued debentures of facevalue Rs. 60,000 at par on 1 June, 2001 repayable at 10% premium by six annual drawing of Rs. 10,000 each. The company prepares its final accounts on 31st December every year. Calculate the amount of loss on issue to be written off every accounting year assuming that the company decides to write off the loss during the life of the debentures.

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# REDEMPTION OF DEBENTURES

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## POINTS TO REMEMBER

- **Meaning** : Redemption of debentures means repayment of the amount of debentures to the debenture holders or discharge of the liability on account of debentures.
- **Sources of Redemption of Debentures** : (i) Raise fresh capital; (ii) Utilise the profits (iii) Sale of assets (iv) surplus fund.

### Debenture Redemption Reserve (DRR) Guidelines

- (A) For listed (companies)
- **SEBI Guidelines**
    - (i) Debenture redemption reserve should be created before the redemption begins.
    - (ii) A company is required to create a DRR of an amount equal to 50% of the amount of debentures issue before redemption of debentures commences.
  - **Exceptions to the creation of DRR** : (According to SEBI)
    - (i) Infrastructure companies.
    - (ii) If debentures maturity period is less than 18 months.
- (B) □ **For Unlisted Companies** : The government has issued guidelines for unlisted companies, whereby an amount equal to 25% of face value of debentures should be transferred to DRR before redemption commences.
- (C) □ **DRR Guidelines of Companies Act** : Section 117 C requires, all the companies (including infrastructure and debentures issued maturity period less than 18 month companies) that have issued non-convertible debentures must create DRR with adequate amount out of its profit before commencing redemption of debentures.

**Note** : In the absence of any specific requirement as per the question, the student should specify whether he/she is following 117C or SEBI Guidelines

### Methods of Redemption of Debentures

1. On maturity in lumpsum.
  - (a) Redemption of debentures out of capital;
  - (b) Redemption of debentures out of profit.
2. In installments by draw of lots.
3. By purchase in open market.
4. By conversion.

### Note

1. If debentures are redeemed out of capital then 50% of the amount of issue of debentures must be transferred to DRR A/c from its profit and loss appropriation a/c.
2. If debentures are redeemed out of profit then 100% of the amount of issue of debentures must be transferred to DRR a/c from its profit and loss appropriation a/c.

### In the Case of Conversion of Debentures

1. If debentures originally issued at par or premium.

$$\text{The number of new shares/debentures to be issued} = \frac{\text{The amount due to debenture holders}}{\text{Issue price of the shares}} \\ \text{(Including premium and less discount which the case)}$$

2. If debentures originally issued at discount and redeemed before the maturity period at the option of debenture holders.

Number of new shares/debentures to be issued

$$= \frac{\text{The amount received on issue of debentures}}{\text{Issue price of the shares}}$$

### SHORT ANSWER QUESTIONS (1 Mark)

1. If debentures issued at par and redeemable at a premium, the premium payable will be debited to which account?
2. To which a/c the profit on cancellation of its own debentures is transferred?
3. When all the debenture have been redeemed than balance of debenture redemption reserve (DRR) is transferred to which account?
4. Profit on redemption of debenture is transferred to which account?
5. When debentures of Rs. 2,00,000 are redeemed out of capital, than state the minimum amount to be transferred from profit to debenture redemptions reserve a/c.
6. Aradhaya Ltd. has Rs. 1,00,000, 8% debentures. The same were to be redeemed at 10% premium out of capital. What amount should be transferred to debenture redemption reserve A/c, if the company already has a balance of Rs. 20,000 in debenture redemption reserveA/c.
7. A X A Ltd. redeemed Rs. 1,55,000; 18% debentures at 105% by converting them into equity shares of Rs. 10 each at Rs. 15. State the number of equity shares issued.
8. ZAD Ltd. redeemed 10,000, 10% debentures of Rs. 100 each at a premium of 10% by converting them into equity shares or Rs. 10 each at par. How many equity shares should be issued.

9. (a) Yee company redeemed Rs. 9,900 debentures by converting them into equity share of Rs. 10 each at a premium of 10% find the number of shares to be issued?  
 (b) What will be number of shares issued by the company if the company issue the shares at a discount of 10% in the above question.
10. When the debentures are redeemed out of capital, state the minimum amount to be transferred to DRR a/c.
11. State the exceptions to the DRR as per SEBI guidelines.
12. What amount will transfer from profit and loss appropriation a/c to DRR a/c at the time of redemption of debentures by conversion?
13. Why a company purchases its own debentures from open market?

### QUESTIONS [THEORY] (3 - 4 Marks)

1. State the exceptions to the debenture redemption reserve as per SEBI guidelines.  
 1. ch funZkads vuq kj \_ .ki=k 'Hsku l p; dsD; k viokn gā
2. What are the various sources for redemption of debentures? Explain.  
 \_ .ki=Hads' Hsku dsfoffku l k fyf[k rFlk Q k; k dlft , A
3. Explain the methods of redemption of debentures.  
 \_ .ki=Hads' Hsku dh fof/k la dh Q k; k dlft , A
4. How would you deal with the conversion of debentures into shares which were originally issued at a discount?  
 (i) Before maturity period.  
 (ii) Conversion of debenture at maturity.  
 ft u \_ .ki=Hads' VVsij t kj hfd; kx; k Hk mudlavāhaeifjofrr djusij vki fdl izlkj yskda  
 Q ogkj djā
- (i) ifjiDork dh frfk l s iōZ vāha ea ifjorZA  
 (ii) ifjiDork frfk ds mijkr vāha ea ifjorZA
5. How would you treat the profit of cancellation of own debentures purchased by the company in the open market? Give journal entries.  
 dEuh }kj k vius \_ .ki=Hads [kysct kj eaØ; dj fujlr djusij gq yHk dk vki D; k Q ogkj djā  
 jk ulepk i fofV nft , A

6. If own debentures purchased from open market are not cancelled (i.e. when purchase for investment purpose) where would they appear in the balance sheet?

; fn dāuh lo; ads\_ .ki=k ckt kj l sØ; djds l ekr ughadjrh rls, l s\_ .ki=k dks l fkr foj.k eadgk n'kz k t k r k gS

7. Is it necessary to create a debenture redemption reserve a/c before starting the process of redemption? What are the legal provisions in this regard.

D; k\_ .ki=k dk 'kku i kj fkr djus l s i wZ\_ .ki=k l p; dkk dk fueZk djuk vfuok ZgS bl l a/k ea oSkud i b/ku dks l sgA

8. When does a company purchase its own debentures from the open market? Explain with example and give journal entries.

, d dEuh dc vius\_ .ki=k dk Ø; [kys ckt kj eadjr h gS mngj.k } kj k l e> b; s r fkr j k ulepk i f o'V; k d l f t , A

9. How the DRR is to be treated :

- (a) When debentures are redeemed completely?  
(b) When only a proportion of debenture is redeemed?

\_ .ki=k 'kku l p; ds l fkr D; k mi plj djxs; fn

1/2 t c \_ .ki=k dk i wZ : i l s 'kku fd; k t k r k gA

1/2 t c d o y \_ .ki=k dk v u i f r d 'kku fd; k t k r k gA

10. Give two advantages of redemption by purchase in the open market.

[kys ckt kj l s\_ .ki=k Ø; djus ds n k s y k k n l f t ; A

11. SEBI has exempted certain companies from creating DRR. Do you think DRR should still be created and why?

l chus d n i z l j d h d i f u; h d l s\_ .ki=k 'kku d k l f k r djus l s n w n h g S D; k\_ .ki=k 'kku d k l v l o'; d g s v l s D; k

### QUESTIONS [PRACTICAL] (3 - 6 Marks)

#### Redemption of Debenture Out of Capital

- On 31.03.2008 Ramo Ltd. had Rs. 10,00,000, 9% debentures due for redemption the company had a balance of Rs. 3,40,000 in its debenture redemption reserve account. Pass necessary journal entries for redemption of debentures.
- On March 31st, 2008, X Ltd. redeemed Rs. 1,50,000; 15% debentures at a premium of 10%. Pass journal entries if the debentures redeemed out of capital.

3. X Ltd. has Rs. 50,00,000; 10% debentures of Rs. 100 each due for redemption in five equal installments from 31st March, 2008. Debenture redemption reserve has a balance of Rs. 18,00,000 on that date
  - (a) Pass journal entries for the year ending 31st March 2008.
  - (b) Give journal entry from 31st March 2008 to 31st March 2011.
4. Z Ltd. issued 20,000, 10% debentures of Rs. 50 each at a premium of 2% on June 30, 2007 redeemable at a premium of 5% on June 30, 2008. Pass necessary entries for issue and redemption of debentures. How much amount of DRR is to be created before redemption of debentures as per the provision of section 117 (C.) of companies act.
5. Y Ltd. purchased its own debentures of Rs. 80,000 from the open market at 95%. Pass the necessary journal entries if these debentures were immediately cancelled and the expenses of purchase amounted to Rs. 300.
6. Z Ltd. purchase for cancellation, Rs. 2,50,000 of its 18% debenture at Rs. 97. The expenses of purchase amount to Rs. 500. Journalise.
7. AXA Ltd. redeemed Rs. 1,50,000; 12% debenture out of capital by drawing a lot. Journalise.
8. X Ltd. purchased for cancellation Rs. 50,000 of its 10% debenture at Rs. 93. The brokerage being 1%. Journalize.
9. On January 1, 2008 Rolta Ltd. issued 60,000, 18% debenture of Rs. 10 each at a discount of 10% redeemable at premium of 5%. Give journal entries for the issue and redemption (out of capital) of debentures if :
  - (a) the debentures are redeemed in lump sum payment at the end of the three years; and
  - (b) the debentures are redeemed by three equal annual draw of lots at the end of each year.
10. Akash Ltd. issued 1,00,000, 15% debentures of Rs. 100 each at a discount of 4% on Jan. 1, 2006, repayable at par. The terms of issue provided for the redemption of 2000 debentures every year starting from the end of 2007 either by purchase in the open market or by draw of lots.
 

On Dec. 31, 2007, the company purchased 800 debentures at Rs. 95 and 700 debentures at Rs. 96 for cancellation. The remaining of debentures were redeemed by draw of lots.

Give journal entries for the year 2006 and 2007.
- \*11. Rajeev Ltd. has Rs. 1,00,000, 15% debentures of Rs. 100 each outstanding on January 1, 2007. Give journal entries :
  - (a) If it purchased Rs. 5,000, own debentures at Rs. 94 as an investment on June 30, 2007 and kept these debentures till December 31, 2007. Interest is paid on June 30 and Dec. 31.
    - (i) On 31st Dec. 2007 it cancelled these debentures.
    - (ii) On 31st Dec 2007, it sold these debentures @ 102 each.
  - (b) If the Rs. 5,000 debentures are purchased at Rs. 94 for immediate cancellation.



\*12. Aradhaya Ltd. redeemed Rs. 50,00,000, 10% debentures issued at a premium of 5% as follows:

- (i) Rs. 12,00,000, 10% debentures were converted into equity shares of Rs. 100 each issued at a premium of Rs. 25 per share,
- (ii) and balance by converting them into 8% preference shares of Rs. 100 each issued at a discount of Rs. 10 per share.

Pass the necessary journal entries in the books of the company. Show your working clearly.

13. Journalise the following transactions :

- (i) Rakesh Ltd. redeemed Rs. 20,000, 15% debenture each by converting them into equity shares of Rs. 100 each at par.
- (ii) Kavita Ltd. redeemed Rs. 24,000, 10% debenture of Rs. 25 each by converting them into 18% preference shares of 10 each at a premium of Rs. 2 per share.
- (iii) Shivani Ltd. redeemed Rs. 9,400; 10% debenture of Rs. 5 each by converting them into 18% new debenture of Rs. 100 each at a discount of 6%.

14. Journalise the following transaction :

- (i) X Ltd. redeemed 5000, 12% debenture of Rs. 20 each which were issued at a discount of 6% by converting them into equity share of Rs. 10 each issued at par.
- (ii) Y Ltd. redeemed 20,000, 12% debenture of Rs. 5 each which were issued at a discount of 10% by converting them into 11% preference share of Rs. 100 each at a premium of Rs. 25 per share.
- (iii) Z Ltd. redeemed 40,000, 12% debenture of Rs. 10 each issued at a discount of 10% converting them into equity shares of Rs. 50 each, Rs. 45 paid up.

All the above debentures were converted at the option of the debenture holders before the date of redemption.

15. On 1.04.2003 Radha Ltd. issued 10,000, 11% debentures of Rs. 100 each at a discount of 5% redeemable after 5 years at a premium of 10% by converting them into equity shares of Rs. 10 each issued at a premium of 25%. Pass the necessary journal entries for the issue and redemption of debentures.
16. On 01.04.2004. Radhey Ltd. issued Rs. 2,00,000, 8% debentures at 95% and redeemable at par after 4 years and offered the holder options to convert their holding into equity shares of Rs. 10 each at a discount of 5% after 31st March 2006. On 01.04.2006, 25% holders exercised their option, and the balance debenture redeemed on maturity date. Give the necessary journal entries at the time of issue, conversion and redemption of debentures.
17. On 1st Jan. 2004, a company issued 5,000, 15% debentures of Rs. 100 each. The terms of issue provided that the debentures of face value of Rs. 30,000 will be redeemed annually commencing from 31st Dec. 2007; either by drawing at par or by purchase in open market at the company option. On 31.12.07, the company purchased for immediate cancellation, Rs. 10,000 of debenture at Rs. 95, Rs. 5,000 debenture at Rs. 96 and Rs. 7,000 debentures at Rs. 98. The expenses being Rs. 240. The debentures were redeemed out of capital. Show

the necessary journal entries to record the above transaction during 2004 and 2007. (Ignore debenture interest).

18. Rajan Ltd. redeemed 40,000, 15% debentures of Rs. 10 each at Rs. 12 by converting them into equity shares of Rs. 25 each at 20% discount each. Journalise.
19. X Ltd. redeemed Rs. 2,00,000, 15% debentures of Rs. 100 each at 108% by converting them in 16% debentures of Rs. 100 each at 90%. Journalise.
20. Aradhya Ltd. redeemed 20,000, 15% debentures of Rs. 10 each which were issued at a discount of 5% by converting them into equity shares of Rs. 100 each issued at a premium of 25%. Journalise.
21. On 01.04.2003, A Ltd. issued 20,000, 7% debentures of Rs. 100 each at a discount of 10% redeemable at par after 4 years by converting them into equity shares of Rs. 100 each issued at a premium of 25%.

Pass necessary journal entries for the issue and redemption of debentures.

- \*22. Pinki Ltd. redeemed 4,000, 12% debentures of Rs. 100 each, which were issued at par, at 10% premium by converting them into equity shares of Rs. 10 each issued at a discount of 4%. Journalise and show your working clearly.
23. On July 1, 2007, A Ltd. give notice of its intention to redeem its outstanding Rs. 5,00,000, 5½% debentures on January 1, 2008 at 102 percent and offered the holders the following options.

(i) To subscribe for :

- (a) 6% cum preference share of Rs. 20 each at Rs. 22.50 per share accepted by holders of Rs. 1,71,000 stock

**Or**

- (b) 6% debenture stock at 96% accepted by the holders of Rs. 1,44,000 stock.

(ii) To have their holdings redeemed for cash if neither of option under (i) was accepted Journalise above and to state the amount of cash required to satisfy the option (ii).

24. On 1st April 2007, Raghav Ltd had 20,000, 12% debentures of Rs. 100 each on the same date the balance in DRR was Rs. 20,00,000. The company purchased in the open market 2000 debentures @ 98 each on 1st October 2007 as investment. Debenture interest is payable on 31st March and 30th Sep. every year. The company cancelled all the debentures (purchased on 1st Oct. 2007) on 31st March 2008, the date of the year ending. Journalise.

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# FINANCIAL STATEMENT OF A COMPANY

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## POINTS TO REMEMBER

Preparation of simple balance sheet of a company in the prescribed form with major headings only.

**Balance Sheet as per Schedule VI Part I of the Company Act, 1956**

<i>Liabilities</i>	<i>Rs.</i>	<i>Assets</i>	<i>Rs.</i>
(i) Share capital		(i) Fixed assets	
(ii) Reserve and surplus		(ii) Investments	
(iii) Secured loans		(iii) Current assets, loans and Advances	
(iv) Unsecured loans		(a) Current assets	
(v) Current liabilities and provisions		(b) Loans and advances	
(a) Current liabilities		(iv) Misc. expenditure	
(b) Provisions		(v) Profit and loss (Dr. balance)	

### □ **Financial Statements Analysis**

Financial statement analysis is the purposeful and systematic presentation of financial statements to measure the profitability, operational efficiency, solvency and growth potential of the business.

### □ **Significance and Purpose of Financial Statement Analysis**

- (i) Judging the operation efficiency.
- (ii) Measuring short-term and long-term financial solvency.
- (iii) Measuring profitability.
- (iv) Intra-firm and inter firm comparison.
- (v) Assessing the growth potential of the business.

### □ **Limitations of Financial Statements Analysis**

- (i) Suffers from limitations of financial statements.
- (ii) Ignores price level changes.
- (iii) Ignores qualitative aspects.
- (iv) Subjective-Affected by the personal ability and basis of the analysts.

### □ **Tools for Financial Statements Analysis**

- (i) Comparative statements.
  - (a) Comparative balance sheet.
  - (b) Comparative income statement.

- (ii) Common size financial statement.
  - (a) Common size balance sheet.
  - (b) Common size income statement.
- (iii) Ratio Analysis
- (iv) Cash Flow Statements

□ **Significance of Comparative Financial Statements**

- (i) To make the data simpler and more understandable.
- (ii) To indicate the strong points and weak points of concern.
- (iii) To compare the firms, performance.
- (iv) to help in forecasting.

**SHORT ANSWER QUESTIONS (1 Mark)**

1. Correct the statement given below :
  - (i) Goodwill is shown under the heading of current assets in the balance sheet of a company.
  - (ii) Prepaid expenses are shown under the head Misc. Expenditure.
  - (iii) Current assets include preliminary expenses.
  - (iv) Bills discounted and not matured are a part of current liabilities.
  - (v) Proposed dividends are shown under the heading reserves and surplus.
2. How would you show the following items in the balance sheet of a limited company.
  - (i) Provision for tax.
  - (ii) Forfeited share account.
  - (iii) Loose tools.
  - (iv) Securities premium account.
  - (v) Interest accrued and due on secured loans.
  - (vi) Interest accrued but not due on loans.
  - (vii) Public deposits.
  - (viii) Discount on issue of debentures account.
  - (ix) Goodwill.
  - (x) Interest outstanding.

- (xi) Unclaimed dividend.
- (xii) Live stock.
- (xiii) Calls in arrears.
- (xiv) Calls in advance.
- (xv) Debit balance of P/L A/C.
- (xvi) Capital reserve.
- (xvii) Long term investments.
- (xviii) Reserve for doubtful debts.
- (xix) Work in progress

### QUESTIONS [THEORY] (3 - 4 Marks)

3. Is analysis of financial statement must to check the regular growth of business concern? Give your comment in brief.

(Hint : Importance of financial statement analysis).

D; kfoUk foj. hachfo'ySk kQ ol k dhizfr dlt lpusdkvlo'; d eLe; e gS l ali eafVli. h dlt , A

4. Explain the meaning of analysis of financial statements.

foUk foj. hachfo'ySk B dk vHZLi"V dlt , A

5. List out the parties interested in financial statement analysis. Give the major area of interest of at least four parties.

foUk foj. hachfo'ySk j [kusokyai {hachl phculb, rEkfdUghaplj dkcrib, fd ;si{kfdu {shachfo'ySk j [krsgA

6. In spite of having an important role in checking the performance of management, analysis of financial statement has some limitations also. Describe some of these limitations.

hachfo'ySk dlt lpusdsfy, foUk foj. hachfo'ySk dh egubiwZhe dkgrsgq Hhml dh dN l lek ; gB foUk fo'ySk dh dN l lek ; crib, A

### Tools for Financial Analysis

7. Explain briefly the tools for financial statement analysis.

foUk foj. hachfo'ySk dh rduld hachfo'ySk l ali eafVli"V dja

8. Explain the importance of comparative financial statements.

ryule foUk foj. hachfo'ySk egub l ali eafVli"V dlt , A

### QUESTIONS [PRACTICAL] (3 - 4 Marks)

1. From the following, prepare comparative income statement and interpret the result also.

	2007 (Rs.)	2008 (Rs.)
Sales	72,000	90,000
Cost of goods sold	42,000	45,000
Indirect expenses	12,000	15,000
Provision for tax	3,600	6,000

2. From the following data you are required to prepare comparative income statement with your comments :

	2007 (Rs.)	2008 (Rs.)
Sales	30,00,000	38,00,000
Gross profit ratio	30%	25%
Office and Adm. Exp.	15% of sales	15% of sales
Income tax rate	40%	40%

3. Prepare a comparative balance sheet along with your comments and interpretation from the following balance sheet.

**Balance Sheet**  
*as on 31st March 2006 and 2007*

<i>Liabilities</i>	2006 (Rs.)	2007 (Rs.)	<i>Assets</i>	2006 (Rs.)	2007 (Rs.)
Creditors	400,000	6,00,000	Fixed assets	46,00,000	70,00,000
Bills payable	3,00,000	6,00,000	Less : Depreciation	(6,00,000)	(10,00,000)
Provision for Tax	1,00,000	4,00,000		40,00,000	60,00,000
12% loan	20,00,000	32,00,000	Current assets	18,00,000	33,00,000
Debenture	35,000	28,000	Investments	200,000	3,00,000
Reserves	16,00,000	8,00,000	Discount on issue of Deb.	10,000	8,000
Share capital	16,00,000	40,00,000	Goodwill	25,000	20,000
	60,35,000	96,28,000		60,35,000	96,28,000

4. Prepare a common size income statement from the following income statement :

	Rs.
Net sales .....	4,40,000
Cost of goods sold .....	3,30,000
Gross profit .....	1,10,000
Salaries .....	24,000

	<i>Rs.</i>
Administrative Exp. ....	2,000
Advertisement .....	5,000
Loss on sale of fixed assets .....	15,000
Net Profit .....	64,000

5. From the following balance sheet of ABC publishing house, prepare a common size balance sheet.

**Balance Sheet  
as at 31st Dec. 2007**

<i>Liabilities</i>	<i>Rs.</i>	<i>Assets</i>	<i>Rs.</i>
Capital	9,700	<b>FIXED ASSETS</b>	
Long term loans	2,500	Machinery	5,000
Reserves	500	Building	10,000
Bills payable	1,000	<b>CURRENT ASSETS</b>	
Sundry creditors	2,500	Cash	100
		Bank	200
		Debtors	400
		Stock	500
	16,200		16,200

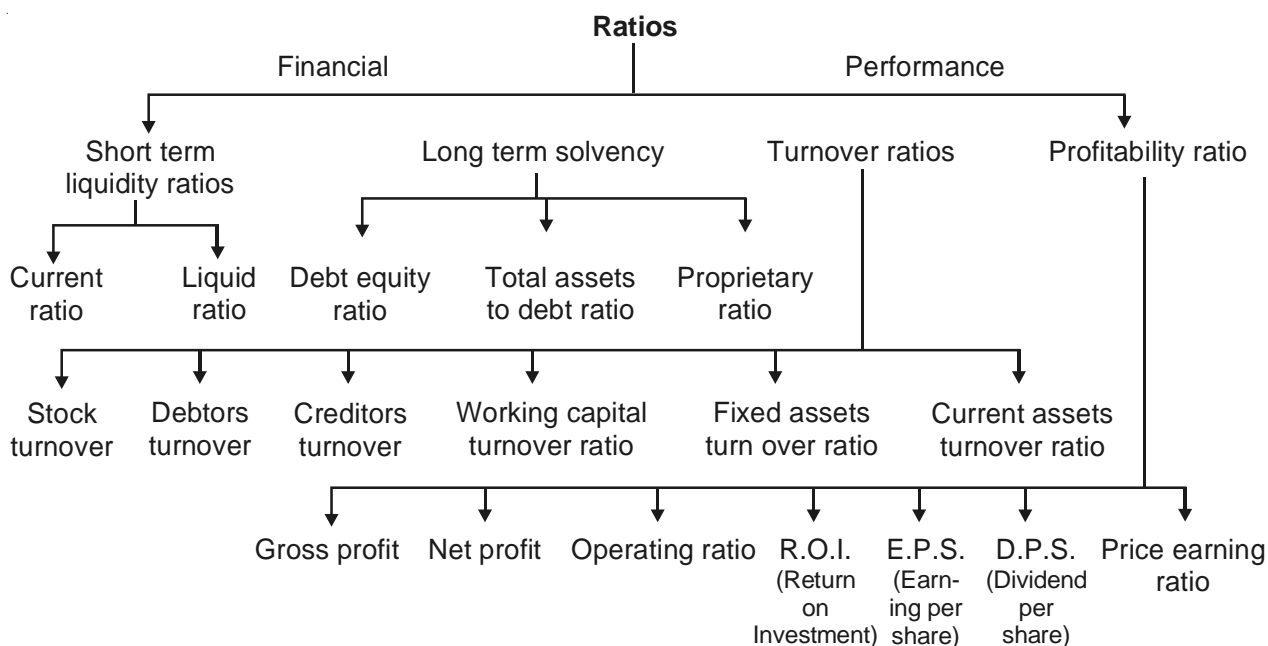
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# RATIO ANALYSIS

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## POINTS TO REMEMBER

- Ratio is the relationship between two figures, expressed in Arithmetical terms.
- Ratio may be expressed as–
  - (i) Simple ratio
  - (ii) Rate or so many times.
  - (iii) Percentage
  - (iv) Fraction



### Ratios may be classified into four categories

- (i) Liquidity ratios
- (ii) Solvency ratios
- (iii) Activity ratios or Turnover ratios.
- (iv) Profitability ratios of income ratios.

### Objectives

- (i) Analysis of financial statement.



- (ii) Simplification of accounting data.
- (iii) Comparative study.
- (iv) Locating the weak spots of business forecasting.
- (v) Study of financial soundness.
- (vi) Business decision making.

### Limitations

- (i) Difficulty in comparison if different firms adopt different accounting policies.
- (ii) Does not take into account price level changes.
- (iii) Ratios may be misleading in the absence of absolute data.
- (iv) Window dressing
- (v) Lack of uniformity.

### Types of Ratios

1. **Liquidity Ratios** : The ability of a business enterprise to meet its short term commitments is referred to as liquidity. They are also known as short term solvency ratios. The following ratios are included in liquidity ratios :

- (i) **Current Ratio** : It is a relation between current assets and current liabilities. Current ratio is also known as working capital ratio. It indicates the extent to which current assets are adequate to meet current liabilities.

$$\text{Current ratio} = \frac{\text{Current assets}}{\text{Current liabilities}}$$

Ideally it should be 2 : 1. High current ratio will mean that funds are lying idle and inventory control is poor. On the other hand, lower current ratio shows that inadequacy of liquidity.

- (ii) **Liquid Ratio** : or quick ratio or acid test ratio. Liquid ratio is a relationship between liquid assets and current liabilities. It shows the immediate capacity of the company to meet its current liabilities.

$$\text{Liquid ratio} = \frac{\text{Liquid assets}}{\text{Current liabilities}}$$

Liquid assets = current assets – (stock + prepaid expenses)

Liquid ratio of 1 : 1 is considered as ideal ratio.

2. **Solvency Ratio** : The ability of a business enterprise to meet its long term liabilities is referred to as solvency. Thus solvency ratios are computed to know the long term solvency of business. The following ratios are included in solvency ratios :

- (i) **Debt-equity Ratio** : It is the relation between long term debts and owner's funds. This ratio can be calculated as :

$$\text{Debt - equity ratio} = \frac{\text{Long term debts}}{\text{Shareholders funds}}$$

Long term debts = Debentures, bank loans, mortgage loan, public deposits etc.

Shareholder's funds = share capital + securities premium + capital reserves + general reserves + accumulated profits – P and L a/c (Dr. Bal) – Misc. expenditure.

High-Debt equity ratio indicates that the owners are employing comparatively less money of their own.

- (ii) **Total Assets to Debts Ratio** : In this ratio, total assets are shown in relation to long term debts. It shows the extent to which total assets are financed by long term loans.

$$\text{Total assets to debt ratio} = \frac{\text{Total assets}}{\text{Long term loans}} \\ \text{(secured and unsecured loans)}$$

For calculation of total assets, the following assets are not to be included. Preliminary expenses, share issue expenses, underwriting commission, discount on issue of shares or debentures, advertising expense, Dr. balance of profit and loss account. Total assets to debt ratio measures the extent to which long term loans are covered by assets.

- (iii) **Proprietary Ratio** : It indicates the ratio of total assets funded by share holders. It is calculated as :

$$\text{Proprietary ratio} = \frac{\text{Shareholders fund}}{\text{Total assets}}$$

A higher proprietary ratio shows the sound financial position from long term point of view. It means that a large part of total assets is provided by shareholders and the firm is less dependent of external source of finance.

3. **Activity Ratios** : It indicates the effectiveness with which a company is utilising its resources. These ratios are also known as performance ratios or turnover ratios. The following ratios are included in activity ratios :

- (i) **Inventory Turnover Ratio** : This ratio is also known as stock turnover ratio. This ratio show the relationship between the cost of goods sold during the year and average stock kept during the year.

$$\text{Inventory turnover ratio} = \frac{\text{Cost of goods sold}}{\text{Average stock}}$$

$$\text{Cost of goods sold} = \text{Net sales} - \text{Gross profit}$$

Or

$$\text{Opening stock} + \text{purchases} + \text{direct expenses} - \text{closing stock}$$

$$\text{Average stock} = \frac{\text{Opening stock} + \text{Closing stock}}{2}$$

Stock turnover ratio indicates whether stock has been efficiently used or not.

- (ii) **Debtors Turnover Ratio** : This ratio shows the relationship between credit sales and average debtors during the year.

$$\text{Debtors turnover ratio} = \frac{\text{Net credit sales}}{\text{Average debtors} + \text{Average B / R}}$$

Debtors turnover ratio indicates the speed with which amount is collected from debtors. Therefore a higher debtors turnover ratio is better.

It indicates how quickly the company is able to collect its receivables.

- (iii) **Creditors Turnover Ratio** : This ratio is also known as payable turnover ratio. It shows the relationship between credit purchases and average creditors during the year–

$$\text{Creditors turnover ratio} = \frac{\text{Net credit purchases}}{\text{Average creditors} + \text{average B / P}}$$

- (iv) **Working Capital Turnover Ratio** : Working capital turnover ratio indicates the relationship between sales and net working capital.

$$\text{Working capital turnover ratio} = \frac{\text{Net sales}}{\text{Net working capital}}$$

This ratio shows how effectively working capital has been used for making sales. So higher working capital turnover ratio is considered good.

- (v) **Fixed Assets Turnover Ratio** : This ratio establishes the relationship between Net Sales and net fixed assets.

$$\text{Fixed assets turnover ratio} = \frac{\text{Net sales}}{\text{Net fixed assets}}$$

Fixed assets turnover ratio indicates the efficiency with which fixed assets have been used for making sales. A higher ratio is preferred.

- (vi) **Current Assets Turnover Ratio** : This ratio establishes relationship between Net Sales and current assets.

$$\text{Current assets turnover ratio} = \frac{\text{Net sales}}{\text{Current assets}}$$

This ratio measures the efficiency with which current assets are being utilized by a company.

4. **Profitability Ratio** : The efficiency and the success of a business can be measured with the help of profitability ratios. The following ratios are included in profitability ratios :

- (i) **Gross Profit Ratios** : This indicates the relationship between gross profit and sales.

$$\text{Gross profit ratio} = \frac{\text{Gross profit}}{\text{Net sales}} \times 100$$

This ratio shows the margin of gross profit on sales. Therefore higher gross profit ratio is considered better.

- (ii) **Operating Ratio** : This ratio establishes the relationship between operating costs and sales.

$$\text{Operating ratio} = \frac{\text{Operating cost}}{\text{Net sales}} \times 100$$

Operating cost = Cost of goods sold + operating expenses.

Operating ratio indicates the extent of sales that is absorbed by the operating cost. Lower the operating ratio is better because it means higher profits.

- (iii) **Net Profit Ratio** : This ratio establishes the relationship between net profit and sales. It can be calculated as :

$$\text{Net profit ratio} = \frac{\text{Net profit}}{\text{Net sales}} \times 100$$

This ratio is calculated to measure the overall profitability of the business. Higher net profit ratio is better.

- (iv) **Return on Investment** : This ratio is calculated by comparing the profit earned and the capital employed to earn it. It is used to decide whether to continue a business or not.

$$\text{Return on investment} = \frac{\text{Profit before interest, tax and dividend}}{\text{Capital employed}} \times 100$$

Capital employed includes shareholders funds and borrowed funds.

- (v) **Earning Per Share** : This is an indication of capacity of a company of pay maximum amount of dividend per equity share. It is the return on each equity share provided by the company.

$$\text{Earning per share} = \frac{\text{Net profit after tax – preference dividend}}{\text{Number of equity shares}}$$

- (vi) **Dividend Per Share** : This means that part of profit which is distributed among equity shareholders dividend by number of equity shares.

$$\text{Dividend per share} = \frac{\text{Profit distributed among equity shareholders}}{\text{Number of equity shares}}$$

This ratio indicates amount of dividend per equity share.

- (vii) **Price Earning Ratio** : This ratio indicates the relationship between market price of equity share and earning per share.

$$\text{Price earning ratio} = \frac{\text{Market price of equity share}}{\text{Earning per share}}$$

### QUESTIONS [THEORY] (3 - 4 Marks)

1. What is meant by 'Accounting Ratio'? Explain the classification on the basis of purpose.

Accounting ratio is a relationship between two financial statements. It is used to measure the financial position of a business. It is classified into two types: (i) Solvency ratios and (ii) Profitability ratios.

2. Write any three objectives of ratio analysis.

The objectives of ratio analysis are: (i) To measure the financial position of a business, (ii) To measure the profitability of a business, and (iii) To measure the liquidity of a business.

3. What are the categories under which the various ratios are grouped. What objectives are served by the solvency ratios?

The various ratios are grouped into two categories: (i) Solvency ratios and (ii) Profitability ratios. Solvency ratios are used to measure the ability of a business to meet its long-term obligations. They include: (i) Current ratio, (ii) Liquid ratio, and (iii) Debt-equity ratio.

4. What ratios will you calculate for the following purposes :

- (i) Analysis for short term debts.
- (ii) Analysis for long term debts.

For short term debts, we will calculate Current ratio and Liquid ratio. For long term debts, we will calculate Debt-equity ratio.

- (i) Current ratio =  $\frac{\text{Current assets}}{\text{Current liabilities}}$
- (ii) Liquid ratio =  $\frac{\text{Liquid assets}}{\text{Liquid liabilities}}$

5. "Accounting ratios ignore qualitative factors and are also not comparable if different firms follow different accounting policies." Comment.

This statement is correct. Accounting ratios are based on quantitative data and ignore qualitative factors. Also, if different firms follow different accounting policies, their ratios will not be comparable.

6. Explain briefly the meaning and significance of the following ratios :

- (i) Liquid ratio.
- (ii) Debt-equity ratio.
- (iii) Proprietary ratio.
- (iv) Stock turnover ratio.
- (v) Debtors turnover ratio.

- (vi) Net profit ratio.
- (vii) Operating ratio.
- (viii) Return on investment.
- (ix) Earning per share.
- (x) Price earning ratio.

ਫੁਲੂ ਵੁੱਕਰ ਲਾਭ ਵਫ਼ੋ ਏਊ ਚਕਕ%

- (i) ਰਜ਼ ਵੁੱਕਰ
- (ii) ਏਕ ਲ ਏਕ ਵੁੱਕਰ
- (iii) ਲਾਭ ਵੁੱਕਰ
- (iv) ਲਾਭ ਵਲਰZ ਵੁੱਕਰ
- (v) ਨਾਨਕ ਵਲਰZ ਵੁੱਕਰ
- (vi) 'ਕੁ ਯਕ ਵੁੱਕਰ
- (vii) ਲ ਏਕ ਵੁੱਕਰ
- (viii) ਫੁਲੂ ਏਕ ਵੁੱਕਰ
- (ix) ਏਕ 'ਕੁ ਵਕ (E.P.S.)
- (x) ਏਕ ਵਕ ਵੁੱਕਰ

### SHORT ANSWER QUESTIONS (1 Mark)

7. Debt equity ratio of a company is 1.5 : 2. Which of the following suggestions would increase/decrease and not change it.
- (i) Issue of equity shares.
  - (ii) Redemption of debentures.
  - (iii) Cash received from debtors.
  - (iv) Purchase of goods on credit.
  - (v) Sale of goods for cash.

, d ਏਕ ਵੁੱਕਰ 1.5 : 2 ਗੁ ਫੁਲੂ ਏਕ ਵੁੱਕਰ ਲਾਭ ਵਫ਼ੋ ਏਊ ਚਕਕ%

- (i) ਲ ਏਕ ਵਕ ਵੁੱਕਰ

- (ii) ~~...k i=la dk l aHku djula~~
- (iii) ~~nsnkjla l s jklMk i Hr djula~~
- (iv) ~~m/lkj ij eky [kjlnA~~
- (v) ~~eky udn cplA~~

8. Current ratio of a company is 2.5 : 1. Which of the following transactions would improve, reduce and not change it.

- (i) Purchase of goods on credit.
- (ii) Sale of goods costing Rs. 10,000 for Rs. 12,000 on credit.
- (iii) Selling a fixed assets at loss.
- (iv) Purchasing goods for cash.
- (v) Payment to trade creditors.
- (vi) Borrowing money on a promissory note.
- (vii) Giving promissory note to a creditor.
- (viii) Repayment of long term liability.
- (ix) Purchase of land on long term deferred payment basis.
- (x) Purchase of building on credit at 6 months.

, d dEiuh dk plywuqkr 2.5 : 1 gSfuFu eal s dli&l kysu&nsu plywuqkr dsl d kxh ?Wk xkrFlk d bZifjorZ ughadjxkA

- (i) eky m/lkj [kjlnA
- (ii) 10,000 #ñ dh ykr dk eky 12,000 #ñ ea m/lkj ij cplA
- (iii) LFbZ l E fük glfu ij cph xbA
- (iv) eky udn [kjlnA
- (v) Q ki kjd yankjla dls Hrku fd; kA
- (vi) ifrKk i=k ij /lu m/lkj fy; kA
- (vii) yankj dls ifrKk i=k fn; kA
- (viii) nHkZkyhu nsnkj; k dls iq% Hrku fd; kA
- (ix) nHkZkyhu vLFxr Hrku ds vkkj ij Hfe dls [kjlnA
- (x) 6 eghus ds m/lkj ij Hou [kjlnA

### QUESTIONS [PRACTICAL] (3 - 4 Marks)

9. X Ltd. has liquid ratio of 1.5 : 1. Its stock is Rs. 60,000 and its current liabilities are Rs. 1,20,000. Calculate the current ratio.
10. K Ltd. has a current ratio of 4 : 1 and liquid ratio 3 : 1. If its inventory is Rs. 36,000. Find out the value of total current assets, quick assets and current liabilities.
11. The working capital of M Ltd. was Rs. 1,80,000, its total debts were of Rs. 3,90,000 out of which long-term debts were Rs. 3,00,000. If stock is Rs. 75,000 and prepaid expenses are Rs. 15,000. Find liquid ratio.
- \*12. The ratio of current assets (Rs. 5,00,000) to current liabilities (Rs. 4,00,000) is 5 : 4. The company decided to make it an ideal current ratio by making cash payments to creditors. Find the amount paid to creditors.
13. Total assets Rs, 14,50,000, fixed assets Rs. 4,50,000, total debts Rs. 7,50,000, long-term debts Rs. 2,50,000, stock Rs. 75,000 and prepaid expenses Rs. 25,000. Find current ratio and quick ratio.
14. (a) From the following information calculate closing stock. Opening stock is Rs. 62,000, purchases are Rs. 4,20,000. Sales are Rs. 6,00,000, profit on cost is  $33\frac{1}{3}\%$ .  
 (b) A company's stock turnover ratio is 5 times. Stock at the end of the year is Rs. 4,000 more than the stock in the beginning of the year. Sales during the year were Rs. 3,00,000. Rate of gross profit on sales is 20%. Current liabilities at the end of the year were Rs. 60,000. Quick ratio is 1 : 1. Calculate the current assets at the end of the year.
15. Rs. 1,50,000 is the cost of goods sold. Inventory turnover ratio is 8 times. If stock at the beginning is 1.5 times more than the stock at the end then find the values of opening and closing stocks.
16. Calculate cost of goods sold from the following information :

Sales .....	Rs. 12,00,000
Sales return .....	Rs. 80,000
Operating Expenses .....	Rs. 1,82,000
Operating ratio .....	92%

17. Calculate the following ratios on the basis of information given below :
  - (a) Gross profit ratio
  - (b) Stock turnover ratio
  - (c) Debt - equity ratio
  - (d) Working capital turnover ratio.



Net sales .....	Rs. 7,87,500
Loan .....	Rs. 87,000
Cost of goods sold .....	Rs. 3,95,600
Average stock .....	Rs. 1,97,800
Current liabilities .....	Rs. 2,37,000
Current assets .....	Rs. 3,99,000
Equity share capital.....	Rs. 3,75,000
8% debentures .....	Rs. 1,25,000

18. Calculate stock turnover ratio :

Sales – Rs. 2,00,000

Gross profit 25% on cost

Opening stock was  $\frac{1}{3}$ rd of the value of closing stock.

Closing stock was 30% of sales.

19. From the following information calculate the following ratios :

- (a) Gross profit ratio.
- (b) Working capital turnover ratio.
- (c) Proprietary ratio.

Paid-up capital.....	Rs. 8,00,000
Current assets .....	Rs. 5,00,000
9% debentures .....	Rs. 3,40,000
Cost of goods sold .....	Rs. 6,80,000
Current liabilities .....	Rs. 2,90,000
Credit sales .....	Rs. 3,00,000
Cash sales are 75% of credit sales.	

20. The balance sheet of Z Ltd had the following figures as on 31 March 2008.

- |                              |              |
|------------------------------|--------------|
| (i) Securities premium       | Rs. 10,000   |
| (ii) 10% Pref. share capital | Rs. 50,000   |
| (iii) Equity share capital   | Rs. 1,50,000 |

(iv) Reserve and surplus	Rs.	40,000
(v) 10% loan from ICICI Bank	Rs.	3,00,000
(vi) Current assets	Rs.	1,20,000
(vii) Current liabilities	Rs.	80,000
(viii) Fixed assets (WDV)	Rs.	4,60,000

Calculate the ratios indicating long term and short term financial position of the company.

21. Calculate current assets of a company from the following information :
- Stock turnover ratio is 4 times.
  - Stock in the end is Rs. 20,000 more than stock in the beginning.
  - Sales Rs. 3,00,000.
  - Gross profit ratio 25%.
  - Quick ratio 0.75.
22. Net profit after interest and tax Rs. 11,10,000. Profit distributed as dividend 50%. Equity share capital Rs. 10,00,000 consisting of share of Rs. 100 each. Calculate dividend per share.
23. On the basis of below information calculate Earning Per Share and Price Earning Ratio.

Equity share capital . . . . .	Rs.	50,00,000
Reserves and surplus . . . . .	Rs.	5,00,000
15% secured loan . . . . .	Rs.	25,00,000
10% unsecured loan . . . . .	Rs.	12,50,000
Fixed assets . . . . .	Rs.	30,00,000
Investments . . . . .	Rs.	5,00,000
Operating profit . . . . .	Rs.	25,00,000
Income tax rate . . . . .		50%
Market price per share . . . . .	Rs.	50

24. Calculate the amount of opening debtors and closing debtors from the following figures—  
Debtors turnover ratio 4 times, cost of goods sold Rs. 6,40,000, Gross profit ratio 20%, closing debtors were Rs. 20,000 more than the opening debtors, cash sales being  $33\frac{1}{3}\%$  of credit sales.

25. Calculate current ratio, quick ratio and debt equity ratio from the following :

(i) Stock	Rs.	30,000
(ii) Prepaid expenses	Rs.	2,000
(iii) Other current assets	Rs.	50,000
(iv) Current liabilities	Rs.	40,000
(v) 12% debentures	Rs.	30,000
(vi) Accumulated profits	Rs.	10,000
(vii) Equity share capital	Rs.	1,00,000
(viii) Long-term investments	Rs.	15,000

\*26. Star Ltd. indicates the following financial ratios and performance figures for the year ending 31st March 2008.

Current ratio 2.5, liquid ratio 1.6, inventory turnover (on cost of sales) 8 times, gross profit on sales 20%, credit allowed 1.5 months. Net working capital Rs. 3,00,000.

The company's fixed assets are equivalent to 80% of its net worth *i.e.* share capital and reserves and surplus, while the latter amount to 50% of share capital.

Prepare balance sheet of the company as on 31st March 2008.

\*27. Mr. Ram owns a business and given the following figures :

Particulars	2007	2008
Sales	9,00,000	18,00,000
Gross profit	2,25,000	3,60,000
Current assets	3,00,000	4,50,000
Current liabilities	1,50,000	2,50,000

Mr. Ram is of the opinion that his manager is very efficient as there is an increase in profit from Rs. 2,25,000 to Rs. 3,60,000 by his efforts. Moreover, he also thinks that his business's short-term financial position has also become stronger as current liabilities has increased by Rs. 1,00,000 whereas current assets has increased by Rs. 1,50,000. Comment.

28. Calculate fixed assets turnover ratio :

Sales	Rs.	7,50,000
Gross profit		25% of cost of goods
Fixed assets (at original cost)	Rs.	2,00,000
Total depreciation	Rs.	75,000

29. Calculate current assets turnover ratio from the following information :

Sales .....	Rs. 10,00,000
Gross profit .....	25% on cost
Fixed assets .....	Rs. 2,50,000
Current assets .....	Rs. 2,00,000

30. Calculate working capital turnover ratio :

Current assets .....	Rs. 47,000
Creditors .....	Rs. 8,000
Bills payable .....	Rs. 4,000
Sales .....	Rs. 6,00,000
Gross profit .....	25% of the cost.

31. The following information is related with Satyam computer Ltd.

Particulars	2007 (Rs.)	2008 (Rs.)
Net sales	12,00,000	18,00,000
Less cost of sales	9,00,000	13,50,000
Gross profit	3,00,000	4,50,000
Less operating expenses	1,50,000	2,50,000
Net profit	1,50,000	2,00,000

**Balance Sheet**

Liabilities	2006 (Rs.)	2007 (Rs.)	Assets	2006 (Rs.)	2007 (Rs.)
Sh. capital	3,00,000	3,75,000	Fixed Assets	4,27,500	5,25,000
Reserves and surplus	2,62,500	2,70,000	Stock	1,80,000	2,25,000
Creditors	1,74,000	2,16,000	Bills receivable	12,000	15,000
Debentures	90,000	60,000	Debtors	1,08,000	97,500
Bills payable	6,000	9,000	Prepaid Exp.	7,500	3,000
Provision for taxation	30,000	15,000	Bank	1,12,500	67,500
			Preliminary Exp.	15,000	12,000
	8,62,500	9,45,000		8,62,500	9,45,000

Calculate

- |                             |                                |
|-----------------------------|--------------------------------|
| (i) Current ratio.          | (ii) Quick ratio.              |
| (iii) Stock turnover ratio. | (iv) Working capital turnover. |
| (v) Debtors turnover ratio. | (vi) Net profit ratio.         |
| (vii) Gross profit ratio.   | (viii) Operating ratio.        |

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# CASH FLOW STATEMENT

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## POINTS TO REMEMBER

- **Meaning of Cash Flow Statement** : A statement showing changes in financed position of a business during different intervals of time in terms of cash and cash equivalents is known as cash flow statement.
- **Objectives**
  - (i) To assess flow from different activities separately.
  - (ii) To assess deviation of cash and cash equivalents from related net earnings.
  - (iii) Helps in formulating dividend policy.
  - (iv) Helpful in financial planning.
  - (v) Helps in preparing cash budget.
  - (vi) For judging the operational efficiency.
  - (vii) Statutory requirement.
- Business activities as per (AS-3) revised are divided into three parts.
  - (i) Cash flow from operating activities : The operating activities of an enterprise refer to revenue producing activities. They include all those activities, which are helpful in ascertaining net profit or net loss of an enterprise.
  - (ii) Cash flow from investing activities : Investing activities of an enterprise refer to purchase and sale of fixed assets and investments which are not held for resale purpose.
  - (iii) Cash flow from financial activities : All those activities of an enterprise which result in the change in capital and borrowing are referred to financial activities.

### OPERATING ACTIVITIES

<i>Cash Inflows</i>	<i>Cash outflows</i>
(i) Cash sales	(i) Cash purchases
(ii) Cash received from debtors.	(ii) Cash paid to creditors.
(iii) Cash received from royalty, fees and commission.	(iii) Payment of operating expenses.
(iv) Insurance claim received for loss of stock.	(iv) Tax paid.

### INVESTING ACTIVITIES

<i>Cash Inflows</i>	<i>Cash outflows</i>
(i) Sales of fixed assets.	(i) Purchase of fixed assets.
(ii) Sale of investment.	(ii) Purchase of investment.
(iii) Interest and dividend received.	(iii) Payment of capital gain tax.
(iv) Insurance claim received for destruction of fixed assets.	

## FINANCING ACTIVITIES

<i>Cash Inflows</i>	<i>Cash outflows</i>
(i) Issue of shares for (cash). (ii) Issue of debentures for (cash). (iii) Issue of bonds for (cash). (iv) Borrowing in cash (short term as well as long term)	(i) Loan paid (short term as well as long term). (ii) Redemption of preference shares. (iii) Buy-back of equity shares. (iv) Redemption of Debentures for cash. (v) Payment of interest and dividend. (vi) Payment of inter in dividend.

### Limitations

- (i) Non-cash transactions are ignored.
- (ii) Historical in nature.
- (iii) Misleading results if based on wrong data.
- (iv) Ignores basic accounting principles.
- (v) Mere duplicacy of work.

There are two methods of preparation of cash flow statement.

- (i) Direct method.
- (ii) Indirect method.

- **Extra Ordinary Items** : Extra ordinary items indicate items which result in cash receipt or payment out of natural disasters like proceeds from earthquake disaster settlement, payment for blood, payment for food relief etc. It may also include extra ordinary items arising from business operations like receipt/payment resulting, out of a legal proceeding in a court of law.
- Treatment of some special items according to As-3 (revised).

1. **Treatment of Interest** : Treatment of interest depends upon the nature of business enterprise.

- (i) *If it is a financial enterprise* : Cash flow interest part and interest received should be treated as cash flow from operating activities.
- (ii) *If it is a non-financial enterprise* : Cash flows from interest paid should be treated as cash flows from financing activities while interest received should be treated as cash flows from investing activities.

2. **Treatment of Dividend** : This depends upon the nature of business enterprise. AS - 3 (revised).

- (i) *If it is financial enterprise* : Cash flows from dividend received should be treated as cash flows from operating activities. Cash flows from dividend paid should be treated as cash flows from financing activities.
- (ii) *If it is a non-financial enterprise* : Cash flows from dividend received should be treated as cash flows from investing activities. Cash flows from dividend paid should be treated as cash flow from financing activities.

**Note** : Dividend paid should always be treated as cash flows from financing activities

- **Cash and Cash Equivalents** : Cash comprises cash in hand and demand deposits with banks while cash equivalents are short-term, highly liquid investments that are readily convertible into the known amount of cash. *Examples* : treasury bills, commercial paper, money market funds.

### QUESTIONS [THEORY] (3 - 4 Marks)

1. Explain the meaning of cash flow statement? Give two flows and two outflows of cash.

*Meaning of cash flow statement: It is a statement which shows the inflows and outflows of cash and cash equivalents during a period.*

2. Briefly explain the objectives of preparing a cash flow statement?

*Objectives of preparing a cash flow statement: To ascertain the liquidity and solvency of the business, to ascertain the ability to pay the liabilities, to ascertain the ability to pay the taxes, to ascertain the ability to pay the dividends.*

3. Explain the limitations of cash flow statement.

*Limitations of cash flow statement: It does not show the change in working capital, it does not show the change in debtors and creditors, it does not show the change in stock.*

4. Explain the meaning of cash from operating activities. Give a first list of items which results in reduction of cash.

*Meaning of cash from operating activities: It is the cash generated from the primary business activities of the business. Items which result in reduction of cash: Increase in debtors, decrease in creditors, increase in stock, decrease in bills payable.*

5. For calculating "cash from operating activities" from the given figure of profit earned during a year, how would you deal with the increase in debtors, decrease in stock, decrease in bills payable and increase in creditors?

*Calculation of cash from operating activities: Profit earned during a year is adjusted with the increase in debtors, decrease in stock, decrease in bills payable and increase in creditors to arrive at the cash from operating activities.*

6. How are the various activities classified according to AS - 3 (revised) while preparing cash flow statement? Give two example of each type of activity.

*Classification of activities according to AS - 3 (revised): Operating activities, Investing activities, Financing activities. Examples: Operating activities: Sale of goods, purchase of goods. Investing activities: Purchase of land, sale of land. Financing activities: Issue of shares, redemption of shares.*

7. List our three major inflows and three major outflows of cash from investing activities.

*Major inflows and outflows of cash from investing activities: Inflows: Sale of land, sale of building, sale of machinery. Outflows: Purchase of land, purchase of building, purchase of machinery.*

### SHORT ANSWER QUESTIONS (1 Mark)

8. Find whether the following items will be added or deducted from the net profit while calculating cash from operating activities :

- (i) Decrease in value of stock.
- (ii) Goodwill written off.

- (iii) Increase in value of creditors.
- (iv) Issue of share capital.
- (v) Decrease in value of bills payable.
- (vi) Buy-back of equity shares.
- (vii) Increase in value of goodwill.
- (viii) Decrease in preliminary expenses.
- (ix) Decrease in outstanding expenses.
- (x) Decrease in general reserve.

crb; sfd fu fu enla ds ifj pkyu fØ; k l s j l M- K k r dj rsl e; 'l q y k k eat l M k s v f l o k ? W k x A

- (i) j g f r ; k d s e W ; e a d e l A
- (ii) [ ; k r v i f y f [ k r d l A
- (iii) y u n j l a d s e W ; e a o f ) A
- (iv) v á k i p h d k f u x Z u A
- (v) n s f c y l a d s e W ; e a d e l A
- (vi) l e r k v á l a d h o k f i l h [ l j l n A
- (vii) [ ; k r e W ; e a o f ) A
- (viii) i k j f f l d Q ; l a e a d e l A
- (ix) v n r Q ; l a e a d e l A
- (x) l k k j . k d k l a e a d e l A

9. (a) Distinguish between cash from operating activities and net profit.

ifj pkyu fØ; k l a l s j l M , o a ^ l q y k k e a v r H d l f t , A

(b) Classify the following into—

- |                           |                          |
|---------------------------|--------------------------|
| (i) Operating activity.   | (ii) Investing activity. |
| (iii) Financing activity. | (iv) Cash equivalent.    |
- (a) Sale of patent.
  - (b) Bank overdraft.
  - (c) Income tax refund received.



- (d) Interest on debentures paid by finance company.
- (e) Interest on debentures received by non-finance company.
- (f) Sale of marketable securities.
- (g) Purchase of investment.
- (h) Repayment of loan.
- (i) Purchase of goodwill.
- (j) Dividend received by finance company.
- (k) Dividend received by non-finance company.
- (l) Short term deposit in bank.
- (m) Selling expenses.
- (n) Rent received by manufacturing company.
- (o) Rent received by company dealing in property.
- (p) Cash credit.
- (q) Income tax paid.
- (r) Administrative expenses.
- (s) Dividend paid.
- (t) Cash paid to creditor.

fuFu dls (i) ifjpk yu fØ; k (ii) fofu; k fØ; k (iii) foUk fØ; k (iv) jklM-rq; eaoxlZr dlft ; &

- (a) iVW dh fcØA
- (b) cñl vf/kod"lA
- (c) vk dj dh ofil lA
- (d) foUk dEuh }jk \_ .ki=la ij C kt dk HxruA
- (e) x\$ foUk dEuh }jk \_ .ki=la ij C kt dh iHrA
- (f) cpus ; k; i frHr; la dk foØ; A
- (g) fofu; k Ø; A
- (h) \_ .k vnk xhA
- (i) [; kfr dk Ø; A

- (j) foÜh; dEiuh }lk yHak iMrA
- (k) x\$ foÜh; dEiuh }lk yHak iMrA
- (l) cfi ea vYidkyhu t eA
- (m) foØ; Q ; A
- (n) mRi knu dEiuh }lk iMr fdjk kA
- (o) l E fÜk ea Q ki kj djus okyh dEiuh }lk iMr fdjk kA
- (p) udn l k kA
- (q) vk dj HarkuA
- (r) izH fud Q ; A
- (s) yHak HarkuA
- (t) yunlj dls udn HarkuA

### QUESTIONS [PRACTICAL] (3 - 4 Marks)

10. The following balances appeared in Plant and Accumulated Depreciation Accounts in the books of AB Ltd.

	31st March' 2007	31st March' 2008
Plant	7,50,000	9,70,000
Accumulated Depreciation	1,80,000	2,40,000

Plant costing Rs. 1,45,000 (accumulated depreciation there on Rs. 70,000) was sold for Rs. 35,000. You are required to—

- (a) Compute the amount of plant purchased, depreciation charged for the year and loss on sale of plant.
  - (b) Show how each of the item is related to the plant will be shown in cash flow statement.
11. X Ltd. made a profit of Rs. 1,20,000 after charging depreciation of Rs. 20,000 on assets and transfer to General Reserve of Rs. 30,000. The goodwill written off was Rs. 7,000 and the gain on sale of machinery was Rs. 3,000. The other information with regard to changes in the value of current assets and current liabilities are as follows :

Debtors increases by Rs. 6,000, creditor increases by Rs. 10,000, prepaid expenses increases by Rs. 200, B/R decreases by Rs. 3,000, B/P decrease by Rs. 4,000 and outstanding expenses decreases by Rs. 2,000. Ascertain the cash flow from operating activities.

12. (a) From the following particulars calculate cash flow from investing activities.

<i>Particulars</i>	<i>Purchased (Rs.)</i>	<i>Sold (Rs.)</i>
(i) Machinery	2,00,000	1,00,000
(ii) Investments	1,00,000	1,50,000
(iii) Goodwill	50,000	–
(iv) Patent	–	75,000
(v) Interest received on debentures held as investment Rs. 5,000.		
(vi) Dividend received on shares held as investment Rs. 2,500.		
(vii) A plot of land was purchased out of surplus funds for investment purposes and was let for commercial use and rent received was Rs. 10,000.		

- (b) Compute cash flow from financial activities from the following facts :—

<i>Particulars</i>	<i>31st March 2007</i>	<i>31st March 2008</i>
Share capital (Rs. 100 each)	4,00,000	5,25,000
10% debentures	1,50,000	1,00,000
Bank loan	–	40,000

**Information –**

- (i) Interest paid on debentures Rs. 15,000.
- (ii) Dividend paid Rs. 40,000.
- (iii) Issue of bonus shares for Rs. 1,00,000.

13. From the following particulars of Mr. Y (Proprietor). Prepare a cash flow statement as per AS-3 (revised).

**Balance Sheet**

<i>Liabilities</i>	<i>01-04-2006</i>	<i>31-03-2007</i>	<i>Assets</i>	<i>01-04-2006</i>	<i>31-03-2007</i>
Creditors	30,000	42,000	Cash	4,000	5,000
Mr. Y's loan	5,000	20,000	Debtors	35,000	40,000
Bank loan	20,000	10,000	Stock	20,000	25,000
Capital	1,50,000	1,60,000	Land	25,000	36,000
Provision for Depreciation	10,000	15,000	Building	50,000	55,000
			Machinery	81,000	86,000
	2,15,000	2,47,000		2,15,000	2,47,000

Additional Information : During the year Mr. Y had drawn Rs. 21,000 for domestic use. A part of the machine costing Rs. 10,000 (accumulated depreciation there on Rs. 8,000) was sold for Rs. 5,000.

14. Prepare cash flow statement from the following information :

**Balance Sheet**

<i>Liabilities</i>	<i>2006</i>	<i>2007</i>	<i>Assets</i>	<i>2006</i>	<i>2007</i>
Capital	1,25,000	1,75,000	Cash and Bank	75,000	1,00,000
Long term loan	1,50,000	1,00,000	Debtors	1,00,000	1,50,000
Accumulated			Stock	1,25,000	1,50,000
Profit	75,000	1,25,000	Goodwill	75,000	50,000
Trade creditors	1,50,000	2,25,000	Plant	1,25,000	1,75,000
	5,00,000	6,25,000		5,00,000	6,25,000

Depreciation charged on plant amounted to Rs. 25,000.

15. From the following information prepare cash flow statement for X Ltd.

**Balance Sheet**

<i>Liabilities</i>	<i>2005</i>	<i>2006</i>	<i>Assets</i>	<i>2005</i>	<i>2006</i>
Share capital	50,000	75,000	Fixed Assets	1,00,000	1,75,000
Securities premium	–	25,000	Bills receivable	12,500	25,000
Profit and loss A/c	25,000	50,000	Stock	25,000	42,500
Long term loan	50,000	–	Cash	1,250	–
Provision for tax	7,500	12,500	Bank	11,250	–
Loan from Y	5,000	37,500			
Bills payable	12,500	17,500			
Bank overdraft	–	25,000			
	1,50,000	2,42,500		1,50,000	2,42,500

Net profit for the year after charging Rs. 12,500 as depreciation was Rs. 37,500. Dividend paid on shares was Rs. 12,500. Tax provision created during the year amounted to Rs. 15,000.

16. From the following balance sheet of Mohan Ltd. as on 31st March 2006 and 2007 prepare a statement of cash flow.

**Balance Sheet**

<i>Liabilities</i>	<i>31-03-2006</i>	<i>31-03-2007</i>	<i>Assets</i>	<i>31-03-2006</i>	<i>31-03-2007</i>
Equity Sh. capital	1,50,000	2,00,000	Fixed Assets	1,00,000	2,50,000
Preference share			Investments	20,000	22,500
Capital	50,000	37,500	Stock	75,000	1,00,000
15% debentures	1,00,000	1,25,000	Debtors	88,000	28,000
Securities premium	–	30,000	Bank	47,000	1,07,000
Profit and Loss Account	–	36,000	Discount on Issue of		
Accumulated Depreciation	15,000	24,000	Debentures	10,000	8,000
Provision for doubtful debts	5,000	8,000	Profit and Loss Account	5,000	–
Creditors	25,000	55,000			
	3,45,000	5,15,500		3,45,000	5,15,500

Additional Information :

- (i) Dividend paid during the year Rs. 18,000.
- (ii) Investments costing Rs. 5,000 were sold at a profit of 40%.
- (iii) Fixed assets costing Rs. 10,000 (accumulated depreciation of Rs. 4,000) were sold for Rs. 8,500.
- (iv) Additional debentures amounting to Rs. 25,000 were issued on 1st August 2006. Interest on debentures has been paid regularly.

17. From the following balance sheets of Vinod Bhadana Ltd as on 31 Dec. 2006 and 31 Dec. 2007 prepare a cash flow statement.

**Balance Sheet**

<i>Liabilities</i>	<i>31st Dec. 2006</i>	<i>31st Dec. 2007</i>	<i>Assets</i>	<i>31st Dec. 2006</i>	<i>31st Dec. 2007</i>
Equity Share Capital	25,000	35,000	Bank	4,000	5,000
Profit and Loss Account	10,000	25,000	Stock	20,000	27,000
General reserve	6,000	15,000	Debtors	6,000	13,000
10% debentures	15,000	12,000	Gross block	30,000	50,000
5% preference Share capital	4,000	8,000			
	60,000	95,000		60,000	95,000

During the year machine costing Rs. 6,000 was sold for Rs. 4,000. Dividend paid Rs. 3,000.

18. From the following information, prepare cash flow statement.

**Balance Sheet as at March 31, 2007 and 2008**

<i>Liabilities</i>	<i>2008 (Rs.)</i>	<i>2007 (Rs.)</i>	<i>Assets</i>	<i>2008 (Rs.)</i>	<i>2007 (Rs.)</i>
Share capital	8,00,000	5,00,000	Goodwill	1,50,000	1,00,000
Profit and loss a/c	3,50,000	2,00,000	Buildings	2,50,000	4,00,000
6% debentures	–	1,00,000	Plant and machinery	2,70,000	3,00,000
Bank loan	50,000	–	Investments	2,70,000	–
Provision for tax	65,000	50,000	Debtors	80,000	40,000
Trade creditors	55,000	50,000	Stock	1,50,000	60,000
Bills payable	20,000	50,000	Cash	1,40,000	40,000
			Bank	30,000	10,000
	13,40,000	9,50,000		13,40,000	9,50,000

Additional Information :

- (i) Share capital issued includes shares issued for cash Rs. 1,50,000 and for stock Rs. 1,00,000.
- (ii) Rs. 50,000 as dividend were paid during the year.

19. Prepare the cash flow statement from the following balance sheets of M/s Pooja Bhati.

<i>Liabilities</i>	<i>2007</i>	<i>2008</i>	<i>Assets</i>	<i>2007</i>	<i>2008</i>
Equity Share capital	30,000	35,000	Goodwill	10,000	12,000
General reserve	10,000	9,000	Machine	41,000	54,000
Profit and loss A/c	6,000	13,000	10% investment	3,000	8,000
10% debentures	15,000	25,000	Stock	4,000	4,500
Sundry creditors	7,500	11,000	Debtors	8,000	15,000
Bills payable	1,000	1,500	Cash	10,000	11,000
Provision for Dep. on machinery	9,000	13,000	Disc. on 10% debentures	500	700
			Disc. on Eq. share capital	2,000	2,300
	78,500	1,07,500		78,500	1,07,500

**Additional Information :**

- (i) Discount on 10% debentures written off during the year was Rs. 200.
- (ii) Investment costing Rs. 3,000 were sold for Rs. 2,800 during the year 2008.
- (iii) A new machine was purchased for Rs. 13,000.

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# ACCOUNTANCY (CBSE - 2008)

## लेखाशास्त्र

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Time : 3 hours  
समय : 3 घण्टा

Maximum Marks : 80  
अधिकतम अंक : 80

### General Instructions :

- This questions paper contains three parts A, B and C.
- Part A is Compulsory for all candidates.
- Candidates can attempt only one part of the remaining parts B and C.
- All parts of the questions should be attempted at one place.

### लक्ष्य फलक

- यह प्रश्न पत्र में तीन भाग A, B और C हैं।
- भाग A सभी उम्मीदवारों के लिए अनिवार्य है।
- उम्मीदवारों को शेष भाग B और C में केवल एक भाग का प्रयास करना चाहिए।
- सभी भागों के प्रश्नों का प्रयास एक ही जगह पर करना चाहिए।

### PART A

#### (NOT FOR PROFIT ORGANISATIONS, PARTNERSHIP FIRMS AND COMPANY ACCOUNTS)

#### भाग A

#### (अनियमित संगठनों, साझेदारी फर्मों और कंपनी खातों के लिए)

1. Give two main sources of income of a 'Not for Profit Organisations'.

अनियमित संगठनों के दो मुख्य आय स्रोत बताएं।

1

2. A and B are partners in a firm without a partnership deed. A is an active partner and claims a salary of Rs. 18,000 per month. State with reasons whether the claim is valid or not.

A और B एक फर्म के साझेदार हैं, जो साझेदारी की शर्तों के बिना है। A सक्रिय साझेदार है और मासिक वेतन के रूप में ₹ 18,000 का दावा करता है। कारणों के साथ बताएं कि यह दावा वैध है या नहीं।

1

3. Define gaining ratio.

अधिकतम अंक का अनुपात की परिभाषा दें।

1

4. State any two occasions when reconstitution of a partnership firm takes place.

1

, i s d b z n s v o l j c r l b ; s t c l k s k j h Q e Z d k i q x B u g l r k g A

5. Give the meaning of 'Calls in Arrears.'

1

^ n U k ; k p u k j k ' k ' d k v F Z c r l b ; A

6. On the basis of the information given below calculate the amount of stationery to be debited to the 'Income and Expenditure Account' of Good Health Sports Club for the year ended 31st March 2007 :

	1-4-2006 Rs.	31-3-2007 Rs.
Stock of Stationery	8,000	6,000
Creditors for Stationery	9,000	11,000

Stationery purchased during the year ended 31-3-2007 was Rs. 47,000.

3

f u f u l p u k d s v k j i j 31 e p z 2007 d s l e k r g q o " l z d s f y , x y l g y f k l i w z D y c d s ^ v k & 0 ; [ k r s d s u l e i { k e a f y [ h t k u s o k y h L V s k u j h d h j k ' k K l r d l f t , %

	1-4-2006 Rs.	31-3-2007 Rs.
L V s k u j h d k L V k d	8,000	6,000
L V s k u j h d s y a n k j	9,000	11,000

31 e p z 2007 d s l e k r g q o " l z d s n s k u Ø ; d h x b z L V s k u j h d h j k ' k 47,000 # ñ F M A

7. PS Ltd. forfeited 500 equity shares of Rs. 100 each for the non-payment of first call of Rs. 30 per share. The final call of Rs. 10 per share was not yet made. The forfeited shares were re-issued for Rs. 65,000 fully paid up. Pass necessary journal entries in the books of the company.

3

i h , l f y - u s 100 # ñ i f r , d s 500 l e r k v a l e d k 3 # ñ i f r v a k d h i e ; k p u k d k H a r k u u d j u s i j g j . k d j f y ; A b u v a l e i j 10 # ñ i f r v a k d h v f r e ; k p u k j k ' k u g h a e l a x b z F M A g j . k f d ; s g q v a l e d k 65,000 # ñ i w z i n U k j k ' k d h : i e a i q % f u x z u d j f n ; k x ; A d E u h d h i r d l e a v k o ' ; d r k j k u l e p k i f o f V ; k d l f t , A

8. X Ltd. purchased machinery for Rs. 5,50,000 from Y Ltd. Rs. 55,000 were paid by X Ltd. in cash and the balance was paid by issue of 9% debentures of Rs. 1,000 each at 10% premium redeemable after three years. Pass necessary journal entries in the books of the company.

3

, D l f y - u s o b z f y - l s 5,50,000 # ñ d h e ' l u j h d k Ø ; f d ; A , D l f y - } j k 55,000 # ñ d k u d n H a r k u f d ; k x ; k r f k ' k k j k ' k d k H a r k u 1,000 # ñ i f r , d s 9 % \_ . k i - H a d s 10 % v f / k y k k i j f u x z e r d j s f d ; k x ; A b u \_ . k i - H a d k ' H a r k u r h u o " l z i ' p r - g l a k g A d E u h d h i r d l e a v k o ' ; d j k u l e p k i f o f V ; k d l f t , A



9. Ravi and Mohan were partners in a firm sharing profits in the ratio of 7 : 5. Their respective fixed capitals were Ravi Rs. 10,00,000 and Mohan Rs. 7,00,000. The partnership deed provided for the following :

(i) Interest on Capital @ 12% p.a.

(ii) Ravi's salary Rs. 6,000 per month and Mohan's salary Rs. 60,000 per year.

The profit for the year ended 31-3-2007 was Rs. 5,04,000 which was distributed equally, without providing for the above. Pass an adjustment entry.

4

jfo rFk elgu , d QeZeal k>nkj Fst lsyHhals 7 : 5 dsvuqkr eachRsFA mudhLFk hiwhØe'kjofo dh 10,00,000 #ñ rFk elgu dh 7,00,000 #ñ FkA l k>nkj h l ysk eafufu i to/ku Fk %

(i) iwh ij Ç k 12% ifro"Z dh nj l A

(ii) jfo dk oru 6,000 #ñ ifr ek rFk elgu dk oru 60,000 # - ifr o"Z ns FkA

31-3-2007 dks l ekfr gq o"Z ea yHk 5,04,000 #ñ Fk ft l dk foHk u mij kQ dk è; ku j [ls fcuk cjkj&cjkj vuqkr eadj fin; kx; k l ek k u i fo"V dlft , A

10. A, B and C were partners in a firm sharing profits in 3 : 2 : 1 ratio. The firm closes its books on 31st March every year. B died on 12.6.2007. On B's death the goodwill of the firm was valued at Rs. 60,000. On B's death his share in the profits of the firm till the time of his death was to be calculated on the basis of previous year's profit which was Rs. 1,50,000. Calculate B's share in the profit of the firm. Pass necessary journal entries for the treatment of goodwill and B's share of profit at the time of his death.

4

^\* rFk ^\* , d QeZeal k>nkj FsrFk 3 : 2 : 1 dsvuqkr ea yHk chRsFA QeZvius [krsifr o"Z 31 elpZdscn djrhgA 12-6-2007 dks ^\* dhe R qdsl e; QeZdh [; kfr dkeW; ldu 60,000 #ñ fd; kx; k ^\* dhe R qdsl e; QeZdsyHk eal sml dhe R qdsl e; rd ml dsvák dhx. kuk fi Nyso"ZdsyHk dsvák ij dh tk xht lsd 1,50,000 #ñ FkA QeZdsyHk eal s^\* dkvák Kkr dlft , rFk ^\* dsvák dh [; kfr rFk yHk dsy [ ldu dsfy, ml dh e R qdsl e; rd dh vlo'; d i fo"; k dlft , A

11. S Ltd. was registered with an authorised capital of Rs. 4,00,000 divided into 40,000 equity shares of Rs. 10 each. The company offered to the public subscription 30,000 equity shares. Applications for 28,000 equity shares were received and allotment was made to all the applicants. All calls were made and were duly received except the final call of Rs. 2 per share on 200 shares. Prepare the Balance Sheet of the company showing the different categories of Share Capital

4

, l - fy- 4,00,000 #ñ dh vf/Ñr vák iwh l s i t Ñr gSt lsd 10 #ñ i R, sl ds 40,000 l erk vák ea foHktr gA dEi uhus 30,000 l erk vák adst urk ds v fHku dsfy, vlefr fd; k 28,000 l erk vák dsfy, vlo nu iHr gq rFk l Hh vlo nd lsd vák vku i kfrd v k ij v k Yu fd; kx; k l Hh; kpu k a elxh b y fdu 200 vák i j 2 #ñ i fr vák dh nj l svfre ; kpu k d s N i M l j l Hh; kpu k ai Hr g l s x b A foHk u izlj dh vák iwh d l s n' k Z sgq dEi u h dk r y u i - k culb; A

12. Following is the Receipt and Payment Account of Literacy Club for the year ended 31-3-2006:

Receipts	Amount Rs.	Payment	Amount Rs.
Balance b/d	19,550	Salary	3,000
Subscriptions :		Newspaper	2,050
2004-2005           1,200		Electricity bill	1,000
2005-2006           26,500		Fixed deposit	20,000
2006-2007           500	28,200	(on 1-7-2005 @ 9% p.a.)	
Sale of old newspapers	1,250	Books	10,600
Government Grants	10,000	Rent	6,800
Sale of old furniture		Furniture	10,500
(Book value Rs. 7,000)	5,700	Balance c/d	11,200
Interest on fixed deposits	450		
	65,150		65,150

Additional Information :

- (i) Subscriptions outstanding as on 31-3-2005 were Rs. 2,000 and on 31-3-2006 Rs. 2,500.
- (ii) On 31-3-2006 salary outstanding was Rs. 600 and rent outstanding was Rs. 1,200.
- (iii) The Club owned furniture Rs. 15,000 and books Rs. 7,000 on 1-4-2005.

Prepare Income and Expenditure Account of the Club for the year ended 31-3-2006 and ascertain 'Capital Fund' on 31-3-2005.

31-3-2006 dls l ekr gg o"Zdsfy, fyVj h Dyc dk ikr rFlk Hgrku [krkfulu izlj Flk %

iKr	jfk #ñ	Hgrku	jfk #ñ
'kk vl@yk	19,550	oru	3,000
v@nku %		l elplj i=k	2,050
2004-2005           1,200		fctyh fcy	1,000
2005-2006           26,500		LFBZ tek	20,000
2006-2007           500	28,200	(1-7-2005 dls 9% ifr o"Z dh nj l ½	
iglus l elplj i=k dk foØ;	1,250		
ljdljh lgk rk	10,000	iqrda	10,600
iglus Qulzj dk foØ;		fdjk k	6,800
¼qrd eV, 7,000 #ñ½	5,700	Qulzj	10,500
LFBZ tek ij Çk	450	'kk vl@ys	11,200
	65,150		65,150

vrfjä l puk %

- (i) 31-3-2005 dls vnÜk v@nku 2,000 #ñ rFlk 31-3-2006 dls 2,500 #ñ FkA

(ii) 31-3-2006 dls vnÜk oru 600 #ñ rFlk vnÜk fdjk k 1,200 #ñ FKA

(iii) 1-4-2005 dls Dyc dsik 15,000 #ñ dk Qulþj rFlk 7,000 #ñ dh iþrdafKA

31-3-2006 dls leþr gg o"Zdsfy, Dyc dk vk, rFlk 0; [þrk culb, rFlk 31-3-2005 dls iþrdafKA  
Kkr dlft, A

13. A and B were partners in a firm sharing profits and losses in the ratio of 5 : 3. They admitted C as a new partner. A surrendered  $\frac{1}{3}$ rd of his share in favour of C and B surrendered  $\frac{1}{4}$ th of his share in favour of C. C brought Rs. 1,50,000 for his capital and Rs. 58,000 for his share of goodwill. Calculate new profit sharing ratio of A, B and C, sacrificing ratio of A and B and pass necessary journal entries for the above transactions on C's admission.

6

^\* rFlk ^\*, d QeZeal kþnj FsrFlk 5 : 3 ds vuþkr eayþgfu clRs FA mþgms% \* dls, d u; k  
l kþnj cuk KA ^\* usviusvák dk  $\frac{1}{3}$  Hkx 1 \* dsl eþr fd; k rFlk ^\* usviusvák dk  $\frac{1}{4}$  Hkx 1 \* dls  
l efiZ fd; KA 1 \* viuh iþrdafsfy, 1,50,000 #ñ rFlk [; þr ds viusvák dsfy, 58,000 #ñ yk KA ^\*  
^\* rFlk 1 \* dk u; kyþk vuþkr Kkr dlft, ] ^\* rFlk ^\* dk R, k vuþkr Kkr dlft, rFlk 1 \* dsu; s  
l kþnj cuusij QeZdh iþrdafsfy, vlo'; d jk uleþk iþrdafsfy; k dlft, A

14. Pass necessary journal entries for the following transactions :

- (i) Issued 60,000, 9% debentures of Rs. 75 each at a premium of Rs. 25 per debenture.  
(ii) Purchased 3,000, 9% own debentures of Rs. 100 at Rs. 97 each for immediate cancellation.  
(iii) Converted 1,800, 9% debenture of Rs. 100 each into 12% debentures of Rs. 100 each issued at a premium of 25%.

6

fuþyfþþr ynsuladsfy, vlo'; d jk uleþk iþrdafsfy; k dlft, %

- (i) 75 #ñ iþrdafsfy ds 60,000, 9% \_ .ki=þa dk fuxZu 25 #ñ iþrdafsfy \_ .ki=k ds vf/leþ; ij fd; KA  
(ii) rþþr jþ djuds ds fy, lo; ads 100 #ñ iþrdafsfy ds 3,000, 9% \_ .ki=þa dk 0; 97 #ñ iþrdafsfy  
\_ .ki=k dh nj l s fd; KA  
(iii) 100 #ñ iþrdafsfy ds 1,800, 9% \_ .ki=þa dk 100 #ñ iþrdafsfy ds 12% \_ .ki=þa ft Uga 25% ds  
vf/leþ; ij fuxZer fd; k x; þ ea iþrdafsfy; k x; KA

15. X and Y were partners in a firm sharing profits in 5 : 3 ratio. They admitted Z as a new partner for  $\frac{1}{3}$ rd share in the profits. Z was to contribute Rs. 20,000 as his capital. The Balance Sheet of X and Y on 1-4-2007 the date of Z's admission was as follows :

<i>Liabilities</i>	<i>Amount Rs.</i>	<i>Assets</i>	<i>Amount Rs.</i>
Creditors	27,000	Land and building	25,000
Capital :		Plant and machinery	30,000
X	50,000	Stock	15,000
Y	35,000	Debtors	20,000
General reserve	16,000	Less provision for doubtful debts	1,500
		Investments	20,000
		Cash	19,500
	1,28,000		1,28,000

Other terms agreed upon were :

- (i) Goodwill of the firm was valued at Rs. 12,000.
- (ii) Land and Building were to be valued at Rs. 35,000 and Plant and Machinery at Rs. 25,000.
- (iii) the provision for doubtful debts was found to be in excess by Rs. 400.
- (iv) A liability for Rs. 1,000 included in sundry creditors was not likely to arise.
- (v) The capitals of the partners be adjusted on the basis of Z's contribution of capital in the firm.
- (vi) Excess or shortfall if any to transferred to current accounts.

Prepare Revaluation Account, Partner's Capital Accounts and the Balance Sheet of the new firm.

**8**

**Or**

The Balance Sheet of A, B and C who were sharing profits and losses in the ratio of  $\frac{1}{2}$ ,  $\frac{1}{3}$  and  $\frac{1}{6}$  respectively, was as follows on 1-4-2004 :

<i>Liabilities</i>	<i>Amount Rs.</i>	<i>Assets</i>	<i>Amount Rs.</i>
Bills payable	6,400	Cash	25,650
Sundry creditors	12,500	Bills receivables	5,400
Capitals :		Debtors	17,800
A	40,000	Stock	22,300
B	25,000	Furniture	3,500
C	20,000	Plant and Machinery	9,750
Profit and Loss A/c	4,500	Building	24,000
	1,08,400		1,08,400

A retired from the business on 1-4-2004 and his share in the firm was to be ascertained on the revaluation of the assets as follows :

Stock Rs. 20,000, Furniture Rs. 3,000; Plant and Machinery Rs. 9,000; Building Rs. 20,000; Rs. 850 was to be provided for doubtful debts. The goodwill of the firm was valued at Rs. 6,000.

A was to be paid Rs. 11,500 in cash on retirement and the balance in three equal yearly instalments with interest at 9% per annum.

Prepare Revaluation Account, Partner's Capital Accounts and A's Loan Account on the date of his retirement.

, Dl rFk obZ, d QeZdal k>nlj FlsrFlk 5 : 3 dsvuikr eayHk cWrsFla mlgust M dlsyHk ea  $\frac{1}{3}$  Hk dsfy, , d u; kl k>nlj cuk ka tM viuhiw hdsfy, 20,000 #ñ yk, sKa 1-4-2007 dlt M dsl k>nlj cuk st kusdsl e; , Dl vls obZdh QeZdk flFlr&fooj. k fuFu izlj Flk %

<i>nş rk a</i>	<i>jk'k #ñ</i>	<i>l Eflk la</i>	<i>jk'k #ñ</i>
yankj	27,000	Hfe rFlk Hou	25,000
iwh %		l aUk rFlk e'kujh	30,000
, Dl	50,000	LvkW	15,000
obZ	<u>35,000</u>	nşnkj	20,000
l kU; l p;	16,000	?Wk l fnXk __.ka ds fy,	
		i ho/ku	<u>1,500</u>
		fuošk	20,000
		jk dM-	19,500
	1,28,000		1,28,000

vU 'krşfuFu izlj Flk %

- (i) QeZdh [; kř dk eW; ldu 12,000 #ñ fd; k x; ka
- (ii) Hfe rFlk Hou dkeW; ldu 35,000 #ñ fd; k x; k rFlk l aUk rFlk e'kujh dkeW; ldu 25,000 #ñ fd; k x; ka
- (iii) l fnXk \_\_.ka dsfy, i ho/ku dls 400 #ñ vf/kl ik k x; ka
- (iv) yankj l eal fl efy 1,000 #ñ dh, d nş rk dk Hqrku ugha djuk Flk
- (v) l k>nlj l ds iw [kr l adkl ek l tu tM }lk yk bZxbZi w h dsvuikr eaglk ka
- (vi) vH/D; ; k deh dls plyw [kr l eal Flk u r fjr fd; k t k sKa

l ueW; ldu [kr] l k>nlj l ds iw [kr rFlk ubZ QeZdk flFlr&fooj. k culb; a

vFlk

1-4-2004 dls ^\* ^\* rFlk 1 \* dk fLfr & foj. kt ksf d yH&glfu Øe' %  $\frac{1}{2}$ ,  $\frac{1}{3}$  rFlk  $\frac{1}{6}$  ds vuqhr each Wrs

Fls fuFu izlj l sFlk %

ns rk a	jk'k #ñ	l Ei fũk la	jk'k #ñ
ns fcy	6,400	jk l M-	25,650
fofHũ ysnkj	12,500	iH; fcy	5,400
iwh :		nsnkj	17,800
^*	40,000	LVK	22,300
^*	25,000	Qulzj	3,500
1*	20,000	l a Uk rFlk e' hujh	9,750
yH&glfu	4,500	Hou	24,000
	1,08,400		1,08,400

1-4-2004 dls ^\* us Q ol k l s vodk k xg. k fd; k rFlk QeZea ml ds vak dk fu/Hz. k l Ei fũk la ds iqe; lulu } kjk fd; k x; k t ksfu fuku kj Flk %

LVK 20,000 #ñ Qulzj 3,000 #ñ l a Uk rFlk e' hujh 9,000 #ñ Hou 20,000 #ñ 850 #ñ l fũk . la dsfy, i k/ku fd; k x; k QeZdh [; lfr dk e; lulu 6,000 #ñ fd; k x; k

vodk k xg. k d jusij ^\* dls 11,500 #ñ dk udn Harku fd; k x; k rFlk 'lk Harku ml s 9% i fro'Z ds C kt dsl fgr rhu cjkj l k ykuk fd l rlae agluk Flk

iqe; lulu [k k] l k n kj la ds iwh [k r s rFlk ^\* dk . k [k r k ml ds vodk k xg. k d juso k ysfnu r\$ kj dlft , A

16. X Ltd. invited applications for issuing 80,000 equity shares of Rs. 10 each at a premium of Rs. 2 per share. The amount was payable as follows :

On application Rs. 6 (including premium) per share.

On allotment Rs. 3 per share and the balance on first and final call. Applications for 90,000 shares were received. Applications for 5000 shares were rejected and pro-rata allotment was made to the remaining applicants. Over payments received on application was adjusted towards sum due on allotment. All calls were made and were duly received except the allotment and final call on 1,600 shares allotted to Vijay. These shares were forfeited and the forfeited shares were re-issued for Rs. 18,400 fully paid up. Pass necessary journal entries in the books of the company.

Or

Y Ltd. invited applications for issuing 10,000 equity shares of Rs. 100 each at a discount of 6%. The amount was payable as follows :

On application Rs. 20 per share.

On allotment Rs. 44 per share and the balance on first and final call.

Applications for 13,000 shares were received. Applications for 500 shares were rejected and pro-rata allotment was made to the remaining applicants. Over payments received with applications were adjusted towards sums due on allotment. All calls were made and were duly received except Kanwar who had applied for 250 shares failed to pay allotment and call money. His shares were forfeited. The forfeited shares were re-issued at Rs. 22,000 fully paid up.

Pass necessary journal entries in the books of the company.

8

, Dl fy- us 10 #ñ iR, sl ds 80,000 l erk valla dls 2 #ñ i fr vāk ds vf/leW, ij fuxZer djus ds fy, vlonu vlefr fd; A jk' k fuFu izlj l snš Fh %

vlouu ij 6 #ñ ¼f/leW, l fgr ½i fr vāA

vkYu ij 3 #ñ i fr vāk rFk 'kk iZe rFk vfre ; kpk i jA

90,000 valla ds fy, vlonu i Hr gqA 5,000 valla ds fy, vlonu dls jī dj fn; kx; k rFk 'kk vlon dls vkuqfrd vkij ij valla dk vkYu fd; kx; A vlonu ij i Hr vfrjā jk' k dk l ek k u vkYu ij nš jk' ke adj fy; kx; A l Hh; kpk ael xxb+rFk l Hh; kpk a fot ; ft l s, 600 valla dk vkYu fd; kx; k Fk dh vkYu rFk vfre ; kpk jk' k dls NIMel j i Hr glsxbA bu valla dk gj. k dj fy; kx; k rFk gj. k fd; sx; s valla dls i wZin Ûk 18,400 #ñ eai q% fuxZer dj fn; kx; A

dEi uh dh i rrdlaeavlo'; d jk' ulepk i fo'V; kadft, A

vFlok

obZfy- us 6% dscê sij 100 #ñ iR, sl ds 10,000 l erk valla ds fuxZu ds fy, vlonu vlefr fd; A jk' k dk Hqrku fuFu izlj l sdjuk Fk %

vlouu ij 20 #ñ i fr vāA

vkYu ij 44 #ñ i fr vāk rFk 'kk iZe rFk vfre ; kpk i jA

13,000 valla ds fy, vlonu i=ki Hr gqA 500 valla ds vlonu dls jī dj fn; kx; k rFk 'kk vlon dls vkuqfrd vkij ij vkYu dj fn; kx; A vlonu ij i Hr vfrjā jk' k dk l ek k u vkYu ij nš jk' ke adj fy; kx; A l Hh; kpk ael x yxb+rFk l Hh i Hr glsxb=fl ok do j ft l us 250 valla ds fy, vlonu fd; k Fk us vkYu jk' k rFk iZe rFk vfre ; kpk jk' k dk Hqrku u glaf; A ml ds valla ds t ū dj fy; kx; A t ū fd; sx; s valla dk 22,000 #ñ eai wZin Ûk i q% fuxZu dj fn; kx; A

dEi uh dh i rrdlaeavlo'; d jk' ulepk i fo'V; kadft, A

**PART B**  
**(ANALYSIS OF FINANCIAL STATEMENT)**

**ඔබගේ පිටුවේ** [k  
1/4 ඔබගේ පිටුවේ කාලයේ දී

17. Quick ratio of a company is 1.5 : 1. State giving reason whether the ratio will improve, decline or not change on payment of dividend by the company.

1

දේශීය වශයෙන් 1.5 : 1. ගාස්තු කිරීමේදී, දේශීය වශයෙන් කොටසක් දීමට  
; ගාස්තු කිරීමේදී වෙනසක් සිදුවීමට හේතු වන්නේ

18. State whether conversion of debentures into equity share by a financing company will result in inflow, outflow or no flow of cash.

1

කොටසකට, දේශීය වශයෙන් කොටසක් බවට පරිවර්තනය කිරීමේදී, දේශීය වශයෙන් කොටසක්  
විකුණීමට හේතු වන්නේ

19. Dividend paid by a finance company is classified under which kind of activity while preparing cash flow statement.

1

කොටසක් දීමට, දේශීය වශයෙන් කොටසක් බවට පරිවර්තනය කිරීමේදී, දේශීය වශයෙන් කොටසක්  
විකුණීමට හේතු වන්නේ

20. List the major headings on the asset side of the Balance Sheet of a company as per schedule VI Part I of the Companies Act 1956.

3

දේශීය වශයෙන් 1956 දී සිදු කළ විට, දේශීය වශයෙන් කොටසක් බවට පරිවර්තනය කිරීමේදී,  
වෙනස් වන්නේ

21. From the following information prepare a comparative Income Statement :

	2006 Rs.	2007 Rs.
Sales	6,00,000	8,00,000
Cost of Goods Sold	4,50,000	4,80,000
Indirect Expenses	10% of Gross Profit	20% of Gross Profit
Income Tax	40%	40%

4



fuufyf[kr l puk l s, d r y u l e d v k f o o j . k c u l b ; s %

	2006 #ñ	2007 #ñ
foØ;	6,00,000	8,00,000
cps x; s eky dh ykr	4,50,000	4,80,000
viR {k Q ;	l dy ykk dk 10%	l dy ykk dk 20%
vk dj	40%	40%

22. From the following information calculate any two of the following ratio :

- (i) Gross profit ratio;
- (ii) Working capital turnover ratio; and
- (iii) Proprietary ratio.

**Information :**

Paid up capital . . . . .	Rs. 8,00,000
Current assets . . . . .	Rs. 5,00,000
Credit sales . . . . .	Rs. 3,00,000
Cash sales . . . . .	75% of Credit sales
9% debentures . . . . .	Rs. 3,40,000
Current liabilities . . . . .	Rs. 2,90,000, and
Cost of goods sold . . . . .	Rs. 6,80,000

fuFu l p u k d s v k l j i j f u f u y f [ k r e a l s f d l g h a n s v u i k r l a d h x . k u k d l f t , %

- (i) l dy ykk vuikr]
- (ii) dk Zhy i w h v l o r Z v u i k r ] r Fk
- (iii) LofeRb vuikrA

**l p u k %**

vffnÜk i w h	8,00,000 #ñ
plywl Eifük la	5,00,000 #ñ
m/kj foØ;	3,00,000 #ñ
udn foØ;	m/kj foØ; dk 75%
9% _ .ki=k	3,40,000 #ñ
plywnkf; Rb	2,90,000 #ñ rFk
cpsx; seky dh ykr	6,80,000 #ñ

23. From the following Balance Sheet of X Y Ltd. as on 31-3-2006 and 31-3-2007 prepare a Cash Flow Statement :

Liabilities	2006	2007	Assets	2006	2007
Equity Share Capital	4,00,000	7,50,000	Fixed Assets	5,00,000	7,00,000
Profit and Loss	1,70,000	1,20,000	Stock	2,10,000	2,50,000
10% Debentures	2,00,000	1,80,000	Debtors	1,40,000	1,90,000
8% Pref. Shares	60,000	1,00,000	Bank	50,000	60,000
Gen. Reserve	70,000	50,000			
	9,00,000	12,00,000		9,00,000	12,00,000

Additional information : During the year machine costing Rs. 80,000 was sold for Rs. 50,000. Divident paid Rs. 80,000.

31-3-2006 rFlk 31-3-2007 dls, Dl obZfy- dsfuFu fLFfr&fooj. ka l s jk dM- i nlg foj. k culb; s%

ns rka	2006 #ñ	2007 #ñ	l Ei fũk ka	2006 #ñ	2007 #ñ
l erk v ak i w h	4,00,000	7,50,000	LFkbZ l Ei fũk ka	5,00,000	7,00,000
yH&glfu	1,70,000	1,20,000	LVW	2,10,000	2,50,000
10% _ . ki =k	2,00,000	1,80,000	nsukj	1,40,000	1,90,000
8% i o l / d l j	60,000	1,00,000	cñl	50,000	60,000
l k e l j l p;	70,000	50,000			
	9,00,000	12,00,000		9,00,000	12,00,000

vfrfj ä l p uk % "Z ea 80,000 #ñ ykr okyh e' lu 50,000 #ñ eacph xbZrFlk yH&glfu H q rku 80,000 #ñ fd; k x; ka

CLASS XII

ACCOUNTANCY

Time : 3 hours

Maximum Marks : 80

General Instructions :

- 1. This question paper contains two part A and B. Both the parts are compulsory.
- 2. All parts of questions should be attempted at one place.

PART A

- 1. Write any two sources of revenue receipts of 'NOT for Profit Organisation.' 1  
 ykk u dekusokysl xBula dh vk xr i klr; lads d bZnks l k fyf[k A
- 2. Where will you show the 'Additional capital introduced by a partner' in case of partners capitals are fixed? 1  
 l k>nlj lads LFk bZi v h [ k r l ad h n' k eavki 'fdl h l k>nlj } k j k y k bZ x bZ v f r f j Dr i v h t d l s d g k v f d r d j x s
- 3. How will you calculate the sacrificing ratio? 1  
 R k v u i k r dh x. k u k v k i d s s d j x s
- 4. How will you deal with accumulated profit at the time of admission of a partner? 1  
 , d l k>nlj d s i o s k d s l e; v k i l f o r y k l a d k D; k Q o g j d j x s
- 5. Nelcast Ltd. bought machinery for Rs. 1,80,000 and the consideration was paid by issuing debentures of Rs. 100 each at a discount of 10%. Find the number of debentures issued at a discount. 1  
 u y d k l v f y e v M u s 1,80,000 # i; s d h e' h u j h [ k j h n r F k i f r Q y d s: i e a 100 # i; s i R, s l d s \_ . k i = k 10% c e s i j t k j h f d; A c e s i j t k j h f d, x, \_ . k i = h a d h l q; k K l r d l f t , A
- 6. Book value of sports equipments on April 1, 2006 was Rs. 48,000. Half of the equipments were sold on October 1, 2006 for 16,000 and further sports materials and equipments were purchased on January 1, 2007 for Rs. 27,000. Calculate the amount of sports equipments to be shown on March 31, 2007 in the Balance Sheet, if the rate of depreciation is 10% on sports equipments. 3  
 1 v i s y 2006 d l s O I M k m i d j. h a d k i q r d h, e v, 48,000 # i; s F l A 1 v D V w j 2006 d l s v k l s m i d j. k 16,000 # i; s e a c p f n, x, r F k 1 t u o j h 2007 d l s 27,000 # i; s d s v f r f j Dr O I M k m i d j. k Ø; f d,

x, A ; fn ØMk mi dj. Haij Dk dh nj 10% gsrks31 elpZ2007 dsfLFfr foj.k ean'WZt kusokyh ØMk mi dj. hadh /kujf' k ifjdfyr dlft , A

7. On March 31, 2007, Archana Software Limited redeemed Rs. 3,00,000, 12% Debentures at a premium of 10%. Pass journal entries if the debentures redeemed out of capital.

3

31 elpZ2007 dksvpZkl Wos j fyfeVM 3,00,000 #i; sds12% \_ .ki=H 10% iheh e ij 'Wkr djrh gA ; fn bu \_ .ki=hadk 'ksu i p'heal sfd; k tk rls 'ksu dh tuZ i fof'V; k dlft , A

8. Mani Limited forfeited 100 shares of Rs. 10 each for non-payment of first call money of Rs. 3 per share and final call of Rs. 2 per share and re-issued the same to Kanika as fully paid for Rs. 7 per Share. Give the journal entries.

3

3 #i; sdhiEe ; lpuk rEk 2 #i; sdh v'ire ; lpuk dj jf'ku feyusij ef.k fyfeVM us10 #i; sokya 100 valadst r dj fy; k rEk m'ga 7 #i; svak dh nj l sdfudk dkt ljh dj fn; k tuZ i fof'V; k dlft , A

9. Sandeep and Yogesh are partners with capitals of Rs. 40,000 and Rs. 60,000 respectively. Interest on capital is allowed @ 6%. They share profits in the ratio of 3 : 2 and their profit before interest for the year is Rs. 5,000 only. Show the distribution of profit under the following two cases :

(i) When partnership deed says that the interest on capital will be allowed even if there is a loss to the firm; and

(ii) When there is no such provision in the deed.

4

l ali rEk; ksk Øe' %40,000 #i; srEk 60,000 #i; sdhi p'hdsl Ek l k>nj gA i p'hi j C kt dh nj 6% gA os3 : 2 dsvui k eayEk c'p'rs gA rEk C kt l siwZdk yEk 5,000 #i; sgA fu fufyf[kr nkeyleya eayEk dk forj.k n'W; s%

(i) ; fn l k>nj h l y[k dsvud l j] i p'hi j C kt vo' ; fn; k tk xH p'gs QeZ dks gfu g l st k] rEk

(ii) ; fn l y[k ea bl rjg dk d bZ i to/ku u glA

10. Neeraj, Richa and Sourabh are partners in a firm sharing profits in the ratio of 4 : 2 : 1. From April 1, 2007, they decided to share the profits in the ratio of 5 : 3 : 2. For this purpose the goodwill was valued at Rs. 50,000. General reserve appears in the books at Rs. 65,000 and profit and Loss Account (Dr. Balance) is Rs. 10,000. Partners do not want to record the goodwill and disturb the reserve and profit and loss a/c. You are required to record the change by passing a single journal entry.

uljt] \_ pkrEk l sEk, d QeZeal k>nj gA rEk 4 : 2 : 1 dsvui k eayEk c'p'rs gA 1 vi s 2007 l s os5 : 3 : 2 dsvui k eayEk c'p'rs gA bl mis; dsfy, 50,000 #i; s[; kr eW, kdr dh xbZgA l l eU l p; i qrdlea 65,000 #i; agA rEk yEk, oagfu [kr k WcV 'WZ 10,000 #i; sgA l k>nj u rls[; kr dky[k djuk p'rs gA v s u gh l l eU l p; rEk yEk, oagfu [kr sd l s c'p'rs gA mi; Dr i forZ dks v fky[kr d jusgrvki , d tuZ i fof'V dlft , A

11. Sibar Media and Entertainment Limited invited application for 1,00,000 equity shares of Rs. 10 each, issued at a premium of Rs. 4 per share. The amount was payable as follows :

On Application .....	6 (including premium of Rs. 2)
On Allotment .....	6 (including premium of Rs. 2)
On 1st and Final Call .....	Balance

Applications for 1,50,000 shares were received. Allotment was made to all the applicants on pro-rata basis. Shivangi to whom 200 shares were allotted, failed to pay allotment and call money. Amrita to whom 100 shares were allotted failed to pay the call money. Their shares were forfeited and afterwards re-issued @ Rs. 8 per share fully paid up.

Pass necessary journal entries on forfeiture and re-issue.

4

1,50,000 shares of Rs. 10 each were applied for. 1,00,000 shares were allotted on a pro-rata basis. Shivangi to whom 200 shares were allotted failed to pay the allotment and call money. Amrita to whom 100 shares were allotted failed to pay the call money. Their shares were forfeited and afterwards re-issued @ Rs. 8 per share fully paid up.

Bank .....	6 (2 @ Rs. 10)
Share Application Money Received .....	6 (2 @ Rs. 10)
Share Forfeited .....	100

1,50,000 shares of Rs. 10 each were applied for. 1,00,000 shares were allotted on a pro-rata basis. Shivangi to whom 200 shares were allotted failed to pay the allotment and call money. Amrita to whom 100 shares were allotted failed to pay the call money. Their shares were forfeited and afterwards re-issued @ Rs. 8 per share fully paid up.

1,00,000 shares of Rs. 10 each were applied for. 1,00,000 shares were allotted on a pro-rata basis. Shivangi to whom 200 shares were allotted failed to pay the allotment and call money. Amrita to whom 100 shares were allotted failed to pay the call money. Their shares were forfeited and afterwards re-issued @ Rs. 8 per share fully paid up.

12. (a) X Y Ltd. issued 2,500 7% debentures of Rs. 100 each. Pass necessary journal entries in the books of the company for the issue of debentures when debentures were :

- Issued at par, redeemable at 8% premium.
- Issued at 4% premium, redeemable at 5% premium.
- Issued at 5% premium, redeemable at par.

3

- (b) On August 1, 2007 KCC Software Limited buys, 10,000 9% debentures of Rs. 100 each at Rs. 95 each. Record necessary journal entries when debentures are purchased for cancellation.

3

10,000 debentures of Rs. 100 each were bought at Rs. 95 each. Record necessary journal entries when debentures are purchased for cancellation.

- Debentures issued at par, redeemable at 8% premium.
- Debentures issued at 4% premium, redeemable at 5% premium.
- Debentures issued at 5% premium, redeemable at par.

1. 1 vxLr 2007 dls dsl hl h l Wos j fyfeVM ea 100 #i; s olys 10,000 9% .ki=ha dk 95 #i; s iR sl dh nj l s Ø; fd; k jk uleps ea vlo'; d i foV; k dlft ,] t cfd .ki=ha dls fujLr djus ds fy, Ø; fd; k x; k glA

13. From the following Receipts and Payments Accounts and from the given additional information, prepare Income and Expenditure Account of Sonali Club for the year ended Dec. 31, 2006 and the Balance Sheet as on that date :

**Receipts and Payments Account for the year ending Dec. 31, 2006**

<i>Receipts</i>	<i>Rs.</i>	<i>Payment</i>	<i>Rs.</i>
To Balance b/d	19,000	By Salaries	33,000
To Subscriptions	66,000	By Sports Equipments	40,000
To Interest on Investment @ 8% p.a. for full year	4,000	By Balance c/d	16,000
	89,000		89,000

**Additional Information :**

- (a) The club had received Rs, 2,000 for subscription for 2006 in 2005.
- (b) Salaries had been paid only for 11 months.
- (c) Stock of sports equipments on December 31, 2005 was Rs. 30,000 and on December 31, 2006, Rs. 65,000.

**6**

l klyh Dyc dsfu fudr i Hr , oa Harku [kr\* rFlk vrfjDr l puk ds vkh ij 31 fnl aj 2006 dls l ekr gq o"Zdk vk , oaQ ; [kr\* rFlk ml h fnul d k fLFkr foj.k culb, %

**i Hr , oa Harku [krk 31 fnl aj 2006 dls l ekr gq o"Zdk**

<i>i Hr; k</i>	<i>#i; s</i>	<i>Harku</i>	<i>#i; s</i>
ikj fhd 'kk	19,000	oru	33,000
plhk 1/2 fhnku 1/2	66,000	ØMk mi dj.k	40,000
fuošk ij C; k] 8% iæ- dh nj l s l EwZ o"Z dk	4,000	vftre 'kk	16,000
	89,000		89,000

**vrfjDr l puk; %**

1/2 o"Z 2006 dk 2,000 #i; s plhk Dyc }kj 2005 ea gh i Hr fd; k x; k A

1/2 dsy 11 elg es oru dk gh Harku fd; k x; k gA

1/2 31 fnl aj 2005 dls ØMk mi dj.k 30,000 #i; s ds Fls rFlk 31 fnl aj 2006 dls 65,000 #i; s ds FlA

14. A, B and C were partners in a firm sharing profits in the ratio of 5 : 3 : 2. On March 31, 2007 their Balance Sheet was as under :

Liabilities		Rs.	Assets		Rs.
Creditors		11,000	Building		20,000
Reserves		6,000	Machinery		30,000
Capital :			Stock		10,000
A	30,000		Patents		11,000
B	25,000		Debtors		8,000
C	<u>15,000</u>	70,000	Cash		8,000
		87,000			87,000

A died on October 1, 2007. it was agreed between his executors and the remaining partners that :

- (a) Goodwill to be valued at  $2\frac{1}{2}$  years purchase the average profit of the previous four years, which were :

Year	Rs.
2003-04	13,000
2004-05	12,000
2005-06	20,000
2006-07	15,000

- (b) Patents be valued at Rs. 8,000; Machinery at Rs. 28,000 and buildings at Rs. 25,000.  
(c) Profit for the year 2007-08 be taken as having accrued at the same rate as that of the previous year.  
(d) Interest on capital be provided at 10% p.a.  
(e) Half of the amount due to A, to be paid immediately to the executor and the balance transferred to his Executor's loan a/c. Prepare revaluation account, A's capital account and A's executor's account. 6

v] c v] l 5 : 3 : 2 dsvuikr eal k>nj gA 31 elpZ2007 dksmudk fLFkr fooj.k fuEuku kj gS%

nsnkj; k		#i; s	l Efk k		#i; s
ysnkj		11,000	Hou		20,000
l p;	6,000		e'kujh		30,000
ipth %			LdVk		10,000
v	30,000		iVWl		11,000
c	25,000		nsnkj		8,000
l	<u>15,000</u>	70,000	jkM-		8,000
		87,000			87,000

1 vDVoj 2007 dks v dhe R qgkxbA ml dsmUj k/kljh , oa' k l k>njl dscp l gefr ghZfd %

1/2 fi Nys plj o'k ds v k r y k dk 2 1/2 o'Z Øe ds v k ij [; kr e v; k dr dh t k A  
fi Nys plj o'k dk y k fu fufy f [kr g S %

o'Z	#i; s
2003-04	13,000
2004-05	12,000
2005-06	20,000
2006-07	15,000

1/2 i v v l dk 8,000 #i; s ij] e' hujh dk 28,000 #i; s ij r k Hou dk 25,000 #i; s ij  
e v; k lu fd; k x; k g A

1/2 o'Z 2007-08 ds y k dh x. k l fi Nys o'Z ds v k ij dh t k h g A

1/2 i p h ij 10% i f r o'Z dh nj l s C; k dk i b/ k u g A

1/2 v d k n s d y / k j k' k dh v k h j d e dk H r k u ml d s m U j k/ k l j h d s r j l r d j f n; k x; k  
v l s ' k k j k' k dk ml ds \_ . k ds [ k r s e a g l r l r f j r dh t k h g A

i q e v; k lu [ k r k] v dk i p h [ k r k r k v ds m U j k/ k l j h dk [ k r k c u l b; A

15. C and C constructions Limited offered to public 20,000 shares of Rs. 10 each a premium of Re. 1 each payable as follows :

On	Rs.
Application	2
Allotment	3 (including premium)
First Call	4
Final Call	2

Applications were received for 32,000 shares, out of which those for 6,000 shares were rejected outright. Full allotment was made to the applications for 8,000 shares and pro-rata allotment was made to balance.

Final call was not made and a shareholder holding 200 shares, to whom allotment was made on pro-rata basis, failed to pay the allotment and first call money. His shares were forfeited. Pass journal entries.

l h, M a l h d a v D' k l f y e v M 10 #i; s o k y s 20,000 v a k d k 1 #i; s i f r v a k v f/ e v; ij t u r k d s  
v l e a k n s r h g A j k' k b l i z l j n s g S %



<i>ij</i>	<i>#i; s</i>
vlonu	2
vkYu	3 ¼/leW, 1 fgr½
iEe ekx	4
vire ekx	2

32,000 vallsdfy, vlonu iHr gqj ft lea 6,000 vallsdfy vlonu fujLr dj fn, A 8,000 vallsdfy vlonu dls iWvkYu fd; kx; k rFlk 'k vlonu dls vkuqfrd vkkj ij vkYu fd; kx; k vire ekx ughelx xbA vakkj ft lsvkuqfrd vkkj ij 200 vak vkYu r fd, x, Ee vkYu rFlk iEe ekx dhjfk ughansik k ml dsvak tGr dj fy, x, A tuZ iHfV; k dlt, A

### Or vFlk

Kirloskar Multimedia Limited offered to public 1,000 shares of Rs. 100 each at a premium of Rs. 5 each, payable as under :

<i>On</i>	<i>Rs.</i>
Application	10
Allotment	25 (including premium)
First call	40
Second and final call	30

Applications were received for 1,800 shares of which applications for 300 shares were rejected outright; the rest of the applications were allotted on pro-rata basis.

All the money were duly received except from Yogesh, holder of 100 shares, who failed to pay allotment and first call money. His shares were forfeited and re-issued to Sheetal at Rs. 60 per share as Rs. 70 paid up. Final call has not been made.

Pass necessary cash book and journal entries in the books of company.

fdyLdj eVleHfM, k fyfeVM 100 #i; sokys 1,000 vallsdfy, turk dls fueakk djrh gA jfk k bl izlkj ns gS

<i>ij</i>	<i>#i; s</i>
vlonu	10
vkYu	25 ¼/leW, 5 #i; sl fgr½
iEe ekx	40
f}rh , oavfire ekx	30

1,800 vāhdsfy, vlonu iHr gq ft leals300 vāhdsvlonu fujLr dj fn, A 'k dks vkuifrd vkkj ij vlcYu fd; kx; A

; kskds100 vāhdsij vlcYu rFk iLe ek dksNMdj l Hh /ujf'kiHr glsxbA ml dsvaktGr dj fy, x, rFk70 #i; sinūkds vkkj ij 60 #i; sifr vākdj nj ij 'lry dsiq% fuxZer dj fn, x, A jkdM-cgh rFk jk ulepseai foV; k dlft, A

16. A and B are partners in a firm sharing profits and losses in 7 : 3. Their Balance Sheet as on March 31, 2007 is as follows :

**Balance Sheet**  
as on March 31, 2007

<i>Liabilities</i>	<i>Amount Rs.</i>	<i>Assets</i>	<i>Amount Rs.</i>
Sundry creditors	40,000	Cash in hand	36,000
Bank overdraft	20,000	Sundry Debtors	46,000
Reserves	10,000	Less : Prov. for B. Debts	<u>2,000</u>
Capital Accounts :		Stock	50,000
A	50,000	Furniture	30,000
B	<u>40,000</u>		
	90,000		
	1,60,000		1,60,000

On April 1, 2007 C joins the firm as a third partner for  $\frac{1}{4}$  th share of future profits on the following terms and conditions :

- (a) Goodwill is valued at Rs. 40,000 and C is to bring necessary amount in cash as goodwill.
- (b) 20% of the reserves is to remain as a provision against bad and doubtful debts.
- (c) Stock is to be reduced by 40% and furniture is to be reduced by 40%.
- (d) A agrees to pay off bank overdraft.
- (e) C is to introduce Rs. 30,000 as his share of capital to which amount other partner's capitals shall have to be adjusted.

Show the necessary journal entries to carry out the above transactions and prepare a Balance Sheet after C becomes a partner.

**8**

v rFk c 7 : 3 ds vūikr eayHk gfu cWusokysl k-nlj gA 31 elpZ 2007 dks mudk fLFfr & foj.k fu fufyf[kr gS%



Z retired on the above date on the following terms :

- (a) Goodwill of the firm was valued at Rs. 30,000.
- (b) Value of the patents was to be reduced by 20% and that of plant and machinery by 10%.
- (c) Provision for doubtful debts was to be raised to 6%.
- (d) Z took over the Investments at a value of Rs. 17,600.
- (e) Liability on account of provident fund was only Rs. 2,400.

Prepare revaluation account, partner's capital accounts and the balance sheet after Z's retirement.

, Dl | obZr Fk t M  $\frac{1}{2}$ ,  $\frac{1}{3}$  r Fk  $\frac{1}{6}$  ds vu i k r eay Hk c W usok ysl k > nj gA 31 el pZ 2007 dks mudk fLFfr  
fooj.k bl izlkj gS%

fLFfr fooj.k  
31 el pZ 2007 dks

ns rk j	j k' k #ñ	l E f l k k	j k' k #ñ
fofo/k ys nku	15,000	cñl ea j k l M-	5,000
Hfo"; fuf/k	6,000	ns nk j	40,000
l fpr fuf/k	12,000	? W k k % i k o / k u	<u>2,000</u>
i p h %		L d U k	30,000
, Dl	65,000	fuošk	15,000
obZ	30,000	i V V l	10,000
t M	<u>20,000</u>	l a U k , oa e' hujh	50,000
	1,48,000		1,48,000

mij Dr fr f k d k s f u f y f [ k r ' k r k i j t M v o d k k x g . k d j r k g S %

¼½ QeZ dh [; k r 30,000 #i; s e W; k d r dh x b A

¼½ i V V l ds e W; ea 20% r Fk l a U k , oa e' hujh ea 10% deh djuh gA

¼½ M r & \_ . k i k o / k u c < k j 6% rd djuk gA

¼½ t M 17,600 #i; s ea fuošk t s t k r k gA

¼½ Hfo"; fof/k dk n f; R d d o y 2,400, #i; s gA

i q e W; k u [ k r k l k > n j l a d s i p h [ k r s r Fk t M d s v o d k k x g . k d s c h d k f L F f r f o o j . k c u l b , A

## PART B

17. Assuming that the current Ratio is 2.5 : 1, state giving reason, whether the ratio will improve, decline or will have no change in case of 'Sales of goods costing Rs. 10,000 for Rs. 12,000 on credit'?

1

Example 2.5 : The sale of stock of Rs. 47,500 at a profit of 10% will increase the inflow of cash by what amount?

18. 'The sale of stock of Rs. 47,500 at a profit of 10%' will increase the inflow of cash by what amount? 1

47,500 ₹ dikēy 10% ykij cpl rskM-eafdrhjk' k dk vūriZlg glk

19. Name the base on which cash flow statement is prepared. 1

jkM-iolg foj.kfdl vkkij ij cuk k t k r k g S

20. Show the major headings of Assets side of a company's Balance Sheet as per Schedule VI Part I of company Act. 1956. 1

dEuhv/fu; e 1956 dhvud ph VI Hk I dsvud kj , d dEuhdsvkfd fpVbsdsl E f ū i { k dseq ; 'HkZl n' Hk ; A

21. Prepare comparative Income Statement from the following :

fuEufyf[kr l s, d r y u k d v k foj.k culb, %

		2006 Rs. ₹1/2	2007 Rs. ₹1/2
Sales	foØ;	3,00,000	3,80,000
Gross profit ratio	l dy yk vūkr	30%	25%
Office and Administrative Exp.	dk k; , oa izk fud 0;	45,000	57,000
Income tax rate	vk dj dh nj	40%	40%

22. Calculate fixed assets turnover ratio :

LHkZl E f ū v l o r Z v u i k r K l r d l f t , %

		Rs. ₹1/2
Sales	foØ;	7,50,000
Gross profit	l dy yk	25% of COGS
Fixed assets (original cost)	LHkZl E f ū k 1/2 y y k r 1/2	2,00,000
Total depreciation	dy Øk	75,000

4

23. From the following information, calculate cash from operating activities :

fuEufyf[kr l p u k v l a l s i p k y u f Ø ; k v l a l s j k M - K l r d l f t , %

		Rs. ₹1/2
Profit and loss a/c on Jan. 1 2006 (Dr.)	1 t u o j h 2006 d k y k g l f u [ k r k (Dr.)	10,000
Profit and loss a/c on Dec. 31, 2006 (Cr.)	31 f n l a j 2006 d k y k g l f u [ k r k (Cr.)	45,000

Depreciation	Ðkl	12,500
Goodwill written off	vifyf[kr [; kr	8,000
Loss on sale of plant	l aak ds foØ; ij glfu	20,000
Provision for tax	dj ds fy, iho/ku	15,000
Transfer to general reserve	l leU l p; ea gLrkrj.k	30,000
Decrease in debtors	nsnkjla ea deh	22,800
Decrease in creditors	ysnkjla ea deh	4,700
Outstanding salaries on Jan. 1, 2006	voÙk oru 1 tuojh 2006 dls	5,000
Outstanding salaries on Dec. 31, 2005	vnÙk oru 31 fnl aj 2006 dls	6,500
Prepaid Insurance on Jan. 1,2006	ioÙk cek 1 tuojh 2006 dls	2,000

8

## MARKING SCHEME

# ACCOUNTANCY

### CLASS XII

- |   |                              |   |
|---|------------------------------|---|
| 1. (i) Subscription   | (ii) Sale of old Newspapers. |   |
| (iii) Locker rent.  | (iv) Interest etc.           |   |
| (any two sources) $\frac{1}{2} \times 2 = 1$  |                              |   |
| 2. Credit side of partner's capital account.  |                              | 1 |
| 3. Sacrificing ratio = old ratio – New ratio.   |                              | 1 |
| 4. Accumulated profits will be distributed to old partners in their old profit sharing ratio. |                              |   |
| 5. 2000 debentures.   |                              | 1 |

	<i>Rs.</i>	
6. Sports equipments in the beginning	48,000	
Less : Half equipments are sold	24,000	1
Add : Further purchased on Jan. 1, 2007	27,000	
	51,000	1
<i>Less : Depreciation :</i>		
On old : 2,400		
On New : 675	3,075	
Sports equipments to be shown in B/s	47,925	1
		<b>Total = 3</b>

7.

12% debenture A/c	Dr.	3,00,000	
Premium on redemption of deb. a/c	Dr.	30,000	
To debenture holders			3,30,000
(For 12% debentures due for redemption at a premium of 10%)			
Debenture holders	Dr.	3,30,000	
To bank A/c			3,30,000
(For debentures redeemed)			

**$1\frac{1}{2} \times 2 = 3$**

8.

**Journal**

Share Capital a/c	Dr.	1,000	
To share first call a/c			300
To share final call a/c			200
To share forfeited a/c			500
(For 100 share forfeited for non-payment of first call and final call)			
Bank A/c	Dr.	700	
Share forfeited a/c	Dr.	300	
Ton share capital a/c			1,000
(For 100 shares re-issued @ Rs. 7 each)			
Share forfeited a/c	Dr.	200	
To capital reserve a/c			200
(For share forfeited a/c transferred to capital reserve a/c)			

**1 × 3 = 3**

9. (i)

**Profit and Loss Appropriation Account**

To interest on capital			By net profit	5,000
Sandeep	2,400		By loss transferred to partner's capital a/c	
Yogesh	<u>3,600</u>	6,000	Sandeep	600
			Yogesh	<u>400</u>
				1,000
		6,000		6,000

**2**

(ii)

**Profit and Loss Appropriation Account**

To interest on capital			By net profit	5,000
Sandeep	2,000			
Yogesh	<u>3,000</u>	5,000		
		5,000		5,000

10.

	<i>Neeraj</i>	<i>Richa</i>	<i>Sourabh</i>
Old ratio	4	: 2	: 1
New ratio	5	: 3	: 2
Change	$\frac{5}{70}$	$\frac{1}{70}$	$\frac{4}{70}$
	(Sacrifice)	(Gain)	(Gain)

**1**



	Rs.
Good will	50,000
General Reserve	65,000
Profit and loss a/c (Dr.)	(10,000)
<b>Total amount to be adjusted</b>	<b>1,05,000</b>

**1**

**Journal**

2007	Richa's capital a/c	Dr.	1,500	
April	Sourabh's capital a/c	Dr.	6,000	
	To Neeraj's capital a/c			7,500
	(For adjusting entry for change in profit sharing ratio)			

**2 Total 1 + 1 + 2 = 4**

11.

**Journal**

	Equity share capital a/c	Dr.	3,000	
	Securities premium a/c	Dr.	400	
	To equity share allotment a/c			600
	To equity share call a/c			600
	To share forfeited a/d			2,200
	(For shares of Shivangi and Amrita forfeited)			
	Bank a/c	Dr.	2,400	
	Share forfeited a/c	Dr.	600	
	To equity share capital a/c			3,000
	(For 300 shares re-issued @ Rs. 8 each)			
	Share forfeited a/c	Dr.	1,600	
	To capital reserve a/c			1,600
	(For transfer of share forfeited a/c to capital reserve)			

1 mark for each entry  $1 \times 3 = 3$

Calculation of capital reserve 1

Total  $3 + 1 = 4$

12. (a)

**Journal**

(i)	Bank a/c	Dr.	2,50,000	
	Loss on issue of debenture a/c	Dr.	20,000	
	To 7% debenture a/c			2,50,000
	To premium on red. of deb. a/c			20,000
	(For 2,500 7% debentures of Rs. 100 each issued at par, but redeemable at a premium of 8%)			

(ii)	Bank a/c	Dr.	2,60,000	
	Loss on issue of debenture	Dr.	12,500	
	To 7% debenture a/c			2,50,000
	To securities premium a/c			10,000
	To premium on Red. of deb. a/d			12,500
	(For 2,500 7% debentures of Rs. 100 each issued at a premium of 4% but redeemable at a premium of 5%)			
(iii)	Bank a/c	Dr.	2,62,500	
	To 7% debenture a/c			2,50,000
	To securities premium a/c			12,500
	(For 2,500 7% debentures issued at a premium of 5%)			

**1 × 3 = 3**

(b)

	Own debenture a/c	Dr.	9,50,000	
	To bank a/c			9,50,000
	(For 10,000 9% own debentures purchased from open market @ Rs. 95 each)			
	9% debenture a/c	Dr.	10,00,000	
	To own debenture a/c			9,50,000
	To profit on cancellation of own debenture a/c			50,000
	(For 9% own debenture cancelled)			
	Profit on cancellation of own deb. a/c	Dr.	50,000	
	To capital reserve			50,000
	(For profit on cancellation of own debentures transferred to capital reserve)			

13.

**Balance Sheet**  
**as on December 31, 2007**

<i>Liabilities</i>	<i>Rs.</i>	<i>Assets</i>	<i>Rs.</i>
Subscription in Advance	2,000	Sports equipments	30,000
Capital	97,000	Cash	19,000
		Investments	50,000
	99,000		99,000

**Income and Expenditure Account**  
**for the year ended on December 31, 2006**

<i>Expenditure</i>	<i>Rs.</i>	<i>Income</i>	<i>Rs.</i>
To salaries	33,000	By Subscriptions	66,000
Add : outstanding	3,000	Add : received in 2005	2,000
To depreciation on sports eq.	5,000	By interest on investment	4,000
To surplus	31,000		
	72,000		72,000

**Balance Sheet**  
**as on December 31, 2006**

<i>Liabilities</i>	<i>Rs.</i>	<i>Assets</i>	<i>Rs.</i>
Salaries outstanding	3000	Sports equipments	65,000
Capital fund	97,000	Investments	50,000
Add : Surplus	<u>31,000</u>	Cash	16,000
	1,31,000		1,31,000

Opening Balance Sheet	1		
Income and expenditure account	3		
closing balance sheet	2		<b>6</b>

14.

**Revaluation Account**

<i>Dr.</i>	<i>Rs.</i>	<i>Cr.</i>	<i>Rs.</i>
<i>Particulars</i>		<i>Particulars</i>	
To patents	3,000	By buildings	5,000
To machinery	2,000		
	5,000		5,000

**A's Capital Account**

<i>Particulars</i>	<i>Rs.</i>	<i>Particulars</i>	<i>Rs.</i>
		By balance b/d	30,000
		By B's capital a/c	11,250
To A's executor's a/c	57,000	By C's capital a/c	7,500
		By P and L suspense a/c	3,750
		By Interest on capital	1,500
		By reserve	3,000
	57,000		57,000

**A's Executor's Account**

<i>Particulars</i>	<i>Rs.</i>	<i>Particulars</i>	<i>Rs.</i>
To cash	28,500	By A's capital a/c	57,000
To A's executor's loan a/c	28,500		
	57,000		57,000

Revaluation a/c	1		
A's capital Account	3		
A's executors a/c	2		<b>6</b>

15.

**Journal**

Bank a/c	Dr.	64,000	
To share application a/c			64,000
(For application money received on 32,000 shares @ Rs. 2 each)			

Share applications a/c	Dr.	64,000	
To share capital a/c			40,000
To share allotment a/c			12,000
To bank a/c			12,000
(For application money transferred to share capital a/c, share allotment a/c and balance refundend.)			
Share allotment a/c	Dr.	60,000	
To share capital a/c			40,000
To securities premium a/c			20,000
(For allotment money due on 20,000 shares @ Rs. 3 each, including premium of Re. 1 each)			
Bank a/c	Dr.	47,600	
To share allotment a/c			47,600
(For allotment money received except Rs. 400)			
Share first call a/c	Dr.	80,000	
To share capital a/c			80,000
(For first call money due on 20,000 shares @ Rs. 4 each)			
Bank a/c	Dr.	79,200	
To share first call a/c			79,200
(For first call money received except on 200 shares)			
Share capital a/c	Dr.	1,600	
Securities premium a/c	Dr.	200	
To share allotment a/c			400
To share first call a/c			800
To share forfeited a/c			600
(For 200 shares forfeited for non-payment of allotment and first call money)			

First 6 entries of 1 mark each =  $1 \times 6 = 6$

Last entry of 2 marks 2

**8**

**Or**

Dr.		Cash Book		Cr.	
Particulars	Rs.	Particulars	Rs.		
To share application	18,000	By share application	3,000		
To share allotment	18,000				
To share first call	36,000	By balance c/d	75,000		
To share capital	6,000				
	78,000		78,000		

**Journal**

Share Application	Dr.	15,000	
To share capital a/c			10,000
To share allotment a/c			5,000
(For application money transferred to share capital a/c and share allotment a/c)			

Share allotment a/c	Dr.	25,000	
To share capital a/c			20,000
To securities premium a/c			5,000
(For allotment money due on 1,000 shares @ Rs. 25 each including premium of Rs. 5 each)			
Share first call	Dr.	40,000	
To share capital			40,000
(For first call money due on 1,000 shares @ Rs. 40 each)			
Share capital	Dr.	7,000	
Securities premium	Dr.	500	
To share allotment a/c			2,000
To share first call			4,000
To share forfeited a/c			1,500
(For 100 shares forfeited for non-payment of allotment money and first call money)			
Share forfeited a/c	Dr.	1,000	
To share capital a/c			1,000
(For discount on re-issue of 100 shares charged from share forfeited a/c)			
Share forfeited a/c	Dr.	500	
To capital reserve			500
(For share forfeited a/c transferred to capital reserve)			
Cash book	2 marks		
6 journal entries	$1 \times 6 = 6$		<b>8</b>

16.

**Journal**

2007	Cash a/c	Dr.	40,000	
	To C's capital a/c			30,000
	To premium a/c			10,000
(For capital and goodwill introduced by C)				
	Premium a/c	Dr.	10,000	
	To A's capital a/c			7,000
	To B's capital a/c			3,000
(For premium a/c transferred to old partners capital a/c)				
	Revaluation a/c	Dr.	32,000	
	To stock			20,000
	To furniture			12,000
(For revaluation of assets)				
	Bank overdraft	Dr.	20,000	
	To A's capital a/c			20,000
(For bank overdraft paid by A)				
	A's capital a/c	Dr.	22,400	
	B's capital a/c	Dr.	9,600	
	To revaluation a/c			32,000
(For loss on revaluation)				

Cash a/c To A's capital a/c (For additional capital introduced by A)	Dr.	8,400	8,400
B's capital a/c To cash a/c (For capital withdrawn by B)	Dr.	6,400	64,00

**Balance Sheet  
as on April 1, 200**

Liabilities	Rs.	Assets	Rs.
Sundry creditors	40,000	Cash in hand	78,000
Reserves	8,000	Sundry debtors	46,000
		Less : Prov. for bad debts	<u>4,000</u>
Capital accounts			42,000
A	63,000	Stock	30,000
B	27,000	Furniture	18,000
C	<u>30,000</u>		
	120,000		
	<u>1,68,000</u>		<u>1,68,000</u>

7 journal entries of ½ marks each =  $7 \times \frac{1}{2} = 3 \frac{1}{2}$

Balance sheet 4½

**3½ + 4½ = 8**

**Or**

**Revaluation Account**

Particulars	Rs.	Particulars	Rs.
To patents	2,000	By Investment	2,600
To plant and machinery	5,000	By provident fund	3,600
To provision for doubtful debts	400	By loss transferred to partner's	
		X	600
		Y	400
		Z	<u>200</u>
	<u>7,400</u>		1,200
			<u>7,400</u>

**2 marks**

**Partners' Capital Account**

Particulars	X	Y	Z	Particulars	X	Y	Z
To Z's capital A/c	3,000	2,000		By Balance b/d	65,000	30,000	20,000
To Investments			17,600	By X's Capital A/c			3,000
To Revaluation	600	400	200	By Y's Capital A/c			2,000
To Z's loan A/c			9,200	By Reserve Fund	6,000	4,000	2,000
To Balance C/d	67,400	31,600					
	<u>71,000</u>	<u>34,000</u>	<u>27,000</u>		<u>71,000</u>	<u>34,000</u>	<u>27,000</u>

**3 marks**

**Balance Sheet**

<i>Liabilities</i>	<i>Rs.</i>	<i>Assets</i>	<i>Rs.</i>
Sundry creditors	15,000	Patents	8,000
Provident Fund	2,400	Plant and Machinery	45,000
Z's loan	9,200	Debtors	40,000
Capital		Less : Provision	<u>2,400</u>
X 67,400		Cash at Bank	5,000
Y 31,600		Stock	30,000
	99,000		
	1,25,600		1,25,600

**3 marks**

**Total = 2 + 3 + 3 = 8**

17. Ratio will improve.

Reason : Current Assets will improve by Rs. 2,000 and current  $\frac{1}{2}$  liabilities will not change.

**Total  $\frac{1}{2} + \frac{1}{2} = 1$**

18. Rs. 52,250

19. Cash Base

20. (i) Fixed Assets  
(ii) Investments  
(iii) Current Assets, Loans and Advances  
(iv) Miscellaneous Expenditure  
(v) Profit & Loss (Dr. Balance)

$\frac{1}{2}$  Mark for each heading =  $\frac{1}{2} \times 5 = 2\frac{1}{2}$

Proforma of Balance Sheet  $\frac{1}{2}$

**3**

21.

**Comparative Income Statement**

<i>Particulars</i>	<i>2006 Rs.</i>	<i>2007 Rs.</i>	<i>Absolute Change Rs.</i>	<i>% Change Rs.</i>
Sales	3,00,000	3,80,000	80,000	26.67
Less : Cost of Goods Sold	2,10,000	2,85,000	75,000	35.71
Gross Profit	90,000	95,000	5,000	5.56
Less : Office and Administrative Exp.	45,000	57,000	12,000	26.67
Net Profit before Tax	45,000	38,000	(7,000)	(15.56)
Less : Income Tax	18,000	15,200	(2,800)	(15.56)
Net Profit after Tax	27,000	22,800	(4,200)	(15.56)

**4 Marks**

22. If Gross Profit is 25% of COGS

The COGS is 80% Sales

$$\text{COGS} = 7,50,000 \times \frac{80}{100} = 6,00,000 \quad 1$$

$$\text{Net Fixed Assets} = 2,00,000 - 75,000 = 1,25,000 \quad 1$$

$$\text{Fixed Assets Turnover Ratio} = \frac{\text{Cost of Goods sold}}{\text{Net Fixed Assets}} \quad 1$$

$$= \frac{6,00,000}{1,25,000}$$

$$= 4.8 \text{ Times} \quad 1$$

**Total 1 + 1 + 1 + 1 = 4**

23.

<i>Particulars</i>	<i>Amount</i>	<i>Amount</i>	
(A) Cash from Operating Activities			
Profit & Loss A/c at the end	45,000		
Less : Profit and Loss A/c at the beginning	<u>(10,000)</u>		
		35,000	1
Adjustments for :			
Depreciation	12,500		
Goodwill written off	8,000		
Loss : on Sale of Plant	20,000		
Provision for Tax	15,000		
Transfer to General Reserve	<u>30,000</u>		
		85,500	
		1,20,500	2
Add : Decrease in Current Assets and Increase in C.L.			
Debtors	22,800		
Outstanding Salaries	1,500		
Prepaid Insurance	<u>2,000</u>		
		26,300	
		1,46,800	2
Less : Increase in Current Assets and Decrease in C.L.			
Creditors		4,700	
Cash from Operating Activities		1,42,100	1

**6**



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# MODEL QUESTION PAPER I

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Time : 3 hours

Maximum Marks : 100

1. Give any two examples of capital receipt in respect of not for profit organisation. **1**
2. Amit and Vijay are partner with 5:3 profit sharing ratio, they have introduced additional capital Rs. 50,000 and Rs. 30,000 respectively on 1 July, 2007. State giving reason, what rate of interest will be given on their additional capitals in the absence of partnership deed, if their accounts close on 31st Dec. 2007. **1**
3. What is 'gaining ratio'? **1**
4. Vinod and Mukesh are partners, they admitted Dr. Dharmender for 1/5th share of profit. What is the ratio in which old partner will sacrifices their share in favour of Dr. Dharmender. **1**
5. State any two purposes for which the amount of Securities Premium can be used as per sec. 78 of Companies Act. **1**
6. On the basis of given information, calculate the amount of stationery to be debited to the Income and Expenditure A/c of Royal Sports Club for the year ended 31st March 2008.

<i>Particulars</i>	<i>1.4.07</i>	<i>31.3.08</i>
Stock of Stationery	6000	4500
Creditors for stationery	6750	8250

Stationery purchased during the year ended 31.3.08 was Rs. 35,250. **3**

7. K Ltd. forfeited 200 equity shares of Rs. 100 each issued at a discount of 10%, for the non-payment of 1st call of Rs. 20 each. The second and final call of Rs. 20 per share has not yet been made. The forfeited shares were reissued at Rs. 22,000 fully paid up. Pass necessary journal entries. **3**
8. Harsh Ltd. purchased machinery Rs. 11,00,000 from Amandeep Ltd.. was paid by Harsh Ltd. by accepting a bill of exchange in favour of Amandeep Ltd. and the balance was paid by issue of 12% debenture of Rs. 100 each at par, redeemable after five years. Pass necessary journal entries in the books of Harsh Ltd. **3**
9. On March, 31, 2008 the Capital Accounts of Ravi, Hari and Pintoo Gupta after making adjustments for profits, drawings etc. were Rs. 80,000; Rs. 60,000 and Rs. 40,000 respectively. Subsequently, it was discovered that interest on capital and interest on drawings had been omitted. They were entitled to interest on capital @ 5% p.a. The drawings during the year are Rs. 20,000; Rs. 15,000 and Rs. 9,000 respectively. Interest on drawing were Rs. 500; Rs. 360 and Rs. 200 respectively. The net profit during the year amounted to Rs. 1,20,000, the profit sharing ratio of the partners were 3:2:1. Record the adjustment entry for rectifying the above errors of omission. Show your workings also. **4**
10. Divya, Farzana and Nikita were partners in a firm sharing profits in 3:2:1 ratio. The firm closes its books on 31st March every year. Nikita died on 12.06.2008. On Nikita's death the goodwill

of the firm was valued at Rs. 30,000. On Nikita's death her share in the profits of the firm till the time her death was to be calculated on the basis of previous year's profit which was Rs. 1,50,000. Calculate Nikita's share in the profit of the firm. Pass necessary journal entries for the treatment of goodwill and Nikita's share of profit at the time of her death. **4**

11. A company purchased a running business from M/s Satyender Traders for a sum of Rs. 3,00,000 payable as Rs. 2,52,000 in equity shares of Rs. 100 each at a premium of 5% and balance in cash. The assets and liabilities so purchased are as follows :

Plant and Machinery	Rs. 80,000	Stock	Rs. 1,00,000
Building	Rs. 80,000	Cash	Rs. 40,000
Sundry Debtors	Rs. 60,000	Sundry Creditors	Rs. 40,000

You are required to pass necessary journal entries in the company's book. **4**

12. From the following Receipt and Payment A/c of Charan Dass Arts Club and additional information, prepare Income and Expenditure Account for the year ending 31st December, 2008 and Balance Sheet as on that date.

**Receipt and Payment A/C  
for the year ending 31st Dec. 2008**

		<i>Cr.</i>	
<i>Receipts</i>	<i>Rs.</i>	<i>Payment</i>	<i>Rs.</i>
To Balance b/d	19,000	Cash	33,000
To subscriptions	66,000	By Sports Equipment	40,000
To Int. on Investment @8% p.a. for full year	4,000	By Balance c/d	16,000
	89,000		89,000

**Additional Information**

- (i) The club had received Rs. 20,00 for subscription in 2007 for 2008.
- (ii) Salaries had been paid only for 11 months.
- (iii) Stock of Sports Equipment on 31st Dec. 2007 was Rs. 30,000 and on 31st Dec. 2008 was Rs. 65,000. **6**

13. Hema and Neelam are partners sharing profits in ratio of 3/6<sup>th</sup> to Hema 2/6<sup>th</sup> to Neelam and 1/6<sup>th</sup> transfer to reserve. Their Balance Sheet on 31st March 2008 was as follows :

<i>Liabilities</i>		<i>Rs.</i>	<i>Assets</i>		<i>Rs.</i>
Employees' Provident Fund		36,000	Goodwill		30,000
Reserve Fund		24,000	Plant		1,80,000
Sundry Creditors		20,000	Patents		8,800
Profit and Loss A/c		48,000	Stock		60,000
Capitals			Investment		40,000
Hema :	1,60,000		Debtors	40,000	
Neelam :	<u>80,000</u>	2,40,000	Less : Provision	<u>800</u>	39,200
			Cash		10,000
		3,68,000			3,68,000

Neelam retires on 1st April 2008. The terms were :

- Goodwill is to be valued at Rs. 1,00,000.
- Value of Patents is to be increased by Rs. 6,000 but plant was found over-valued by Rs. 30,000.
- Provision for doubtful debts should be 5% on debtors and provision for discount should also be made on Debtors and Creditors at 3%.
- Out of Insurance which was entirely debited to profit and loss a/c Rs. 1,740 be carried forward as unexpired insurance.
- Investment were revalued at Rs. 32,000. Half of these investments were taken over by Neelam.
- There is a claim for Workmen's Compensation to the extent of Rs. 10,000.

Neelam was paid off in full. Hema borrowed the necessary money from the bank on the security of plant and stock to pay off Neelam. **6**

Prepare Revaluation A/c, Capital A/cs and Balance Sheet of Hema.

14. Journalise the transactions in the following cases :

- Archana Ltd. convert 1250; 5% debentures of Rs. 100 each issued at 10%, Discount into 12% debentures of Rs. 40 each at 25% Premium. **2**
- A 10% debenture issued at Rs. 90 repayable at Rs. 110 and a 12% debenture issued at Rs. 110 repayable at Rs. 100. (Face value of Debenture is Rs. 100 in both cases). **4**

15. Journalise the following transactions in the books of Soniya Ltd:

- 400 shares of Rs. 20 each issued at a premium of Rs. 10 per share payable with allotment were forfeited for the non-payment of allotment money of Rs. 18 per share including premium. The first and final call of Rs. 6 per share was not made. The forfeited shares were re-issued at Rs. 28 per share fully paid up. **4**

- (b) Kavita Ltd. forfeited 500 shares of Rs. 10 each, issued at a discount of Re. 1 per share, for the non-payment of the first call of Rs. 2 per share. The final call of Rs. 3 per share has not yet been made. Subsequently 200 of these were re-issued at Rs. 5 per share, Rs. 7 paid up and 300 shares were reissued at Rs. 7 per share fully paid. Journalise the transactions to record the forfeiture and reissue of shares. **4**

**OR**

Satyender and Babita Ltd. issued for public subscription 20,000 equity share of Rs. 20 each at premium of Rs. 4 per share payable as under :

On application .....	Rs. 8
On allotment .....	Rs. 10 (including premium)
Ist Final Call .....	Balance Amount.

Applications were received for 30,000 shares. Allotment was made prorata on 24,000 share and balance were rejected. Money over paid on application was utilised towards sum due on allotment.

Shri Manoj who applied for 900 shares failed to pay the allotment and call money. Mrs. Hema to whom 1000 shares were allotted failed to pay the call money. These shares were subsequently forfeited and alter re-issued to Mrs. Anuja as fully paid up for Rs. 22 per share. Journalise. **8**

16. Vishal, Leena and Gaurav are partners in a firm sharing profits and losses in the ratio of 6:5:3 respectively. Their Balance Sheet as at 31st March 2008 is as follows :

<i>Liabilities</i>	<i>Rs.</i>	<i>Assets</i>	<i>Rs.</i>
Capital A.cs		Cash	900
Vishal	19,000	Machine	24000
Leena	16,000	Furniture	3500
Gaurav	<u>8,000</u>	Debtors	12600
Creditors	9,000	Stock	14,000
Outstanding Expenses	3000		
	<u>55,000</u>		<u>55,000</u>

On 1st April 08 they admitted Mr. Rajora into the firm and give him a share of 1/8th in the profits on the following terms :

- (i) That Rajora should bring in Rs. 4,200 as goodwill and Rs. 7,000 as capital.
- (ii) That furniture be depreciated by 12%
- (iii) That stock be depreciated by 10%.
- (iv) That a provision of 5% be created for doubtful debts.
- (v) That the value of machine be brought upto Rs. 31,000.

- (vi) That after making the above adjustments the Capital Accounts of the old partners be adjusted on the basis of the proportion of Rajora's capital *i.e.*, actual cash to be paid off or brought in by the old partners, as the case may be.

Prepare revaluation accounts, partner's Capital accounts and **Balance Sheet** and Cash Account of the new firm.

**OR**

Sachin, Vipin and Bhuri were partners in a firm sharing profits in the proportion of 1/2, 1/3 and 1/6 respectively. The Balance Sheet of the firm on 31st March, 2008 was as follows :

<i>Liabilities</i>	<i>Rs.</i>	<i>Assets</i>	<i>Rs.</i>
Trade Creditors	42,000	Goodwill	1,200
Investment Fluctuation Fund	1,200	Bank	1,150
Employee's Provident Fund	1,200	Debtors	8,000
Workmen's Compensation Fund	2,400	(-) Provision	<u>400</u>
		Stock	7,530
Capital A/c		Investment (MV 3520)	3,000
Sachin	13,600	Patents	2,000
Vipin	6,400	Machinery	1,000
Bhuri	<u>4,200</u>	Advertisement Expenditure	720
	24,200		
	33,200		33,200

Bhuri retired on 1st April 2008 on the following terms :

- (i) Goodwill of the firm was valued at Rs. 6,000.
- (ii) Value of patents was to be reduced by 20% and that of Machinery to 90%.
- (iii) The provision for doubtful debts was to be raised to 6%.
- (iv) Liability on account of provident fund was only Rs. 600 and for Workmen Compensation it was Rs. 1,200.
- (v) Bhuri took over the investment at Market Value.
- (vi) Amount due to Bhuri is to be settled on following basis 50% of Amount to be paid in cash immediately, 50% of the remaining balance is to be paid by way of Bill to be paid after one year. Make necessary accounts and balance sheet, after Bhuri's retirement.

## **PART B**

17. The current Ratio of a Company is 2:1. State giving reason whether the ratio will improve, decline or not change on payment of dividend by the company 1
18. Dividend received by a finance company is classified under which kind of activity while preparing cash flow statement. 1

19. Explain the term cash and cash equivalents. 1

20. From the following information prepare a Comparative Income Statement.

<i>Particulars</i>	<i>2007 (Rs.)</i>	<i>2008 (Rs.)</i>
Sales	4,50,000	6,00,000
Cost of Goods Sold	3,00,000	3,20,000
Administrative Expenses	1,00,000	1,50,000
Income Tax	50%	50%

21. List the major headings on the asset as well as on the liabilities side of the Balance Sheet of a Company as per Schedule VI Part I of the Companies Act, 1956. 3

22. (a) A Company has a loan of Rs, 5,00,000 as part of its capital employed. The interest payable on loan is 15% and the ROI of the company is 25%. The rate of Income tax is 30%. What is the gain to the share holders due to the loan raised by the company? 2

(b) Z Ltd. has a current ratio of 4:1 and liquid ratio 3:1. If its inventory is Rs. 36,000. Find out the value of total Current Assets and total Quick Assets. 2

23. From the following Balance Sheet of Rama Ltd. as on 31.3.06 and 31.3.07 prepare a cash flow statement.

<i>Liabilities</i>	<i>2006</i>	<i>2007</i>	<i>Assets</i>	<i>2006</i>	<i>2007</i>
Equity Share			Cash	8,000	10,000
Capital	2,00,000	2,00,000	Bank	22,000	20,000
Bank Loan	10,000	–	Debtors	10,000	20,000
P&L A/c	50,000	90,000	Stock	25,000	15,000
Creditors	15,000	20,000	Fixed Assets	2,35,000	2,75,000
Outstanding Expenses	5,000	1,000			
Prov. for Taxation	20,000	25,000			
Unclaimed Dividend	–	4,000			
	3,00,000	3,40,000		3,00,000	3,40,000

The net profits for the year after providing Rs. 20,000 for depreciation were Rs. 60,000. During the year, the company declared the equity dividend @ 10%, and paid Rs. 15,000 as income tax.

6

# SOLUTIONS OF PRACTICE PAPER

## PART A

1. Legacy, Specific Donation.
2. No interest on Capital
4. 1:1
6. Rs. 36750
- 7.

### Journal of K Ltd.

Date	Particulars	Dr. Amount (Rs.)	Cr. Amount (Rs.)
	Equity Share Capital A/c <span style="float: right;">Dr.</span>	16,000	
	Share forfeited A/c		10,000
	Equity Share 1st Call A/c		4,000
	Discount on issue of Share A/c		2,000
	(200 equity share forfeited due to non-payment of First Call)		
	Bank A/c <span style="float: right;">Dr.</span>	22,000	
	Equity Share Capital A/c		20,000
	Securities Premium A/c		2,000
	(200 share reissued fully paid)		
	Share forfeited A/c <span style="float: right;">Dr.</span>	10,000	
	Capital Reserve A/c		10,000
	(Share forfeited transferred to Capital Reserve)		

### Journal of K Ltd.

Date	Particulars	Dr. Amount (Rs.)	Cr. Amount (Rs.)
	Machinery A/c <span style="float: right;">Dr.</span>	11,00,000	
	To Amandeep Ltd. A/c		11,00,000
	(Machinery purchased from Amandeep Ltd.)		
	Amandeep Ltd. A/c <span style="float: right;">Dr.</span>	11,00,000	
	To Bills Payable A/c		11,000
	To 12% Debentures		9,90,000
	(Bills payable accepted and 12% debentures issued at par)		

9. Dr. Ravi's Capital Rs. 570  
Cr. Hari's Capital Rs. 10 and Pintoo Gupta's Capital Rs. 560.

$$10. \text{ Nikita's Share of Profit} = 1,50,000 \times \frac{1}{6} \times \frac{73}{365}$$

$$= 5,000$$

**Journal**

Date	Particulars	Dr. Amount (Rs.)	Cr. Amount (Rs.)
	Profit and Loss Suspense A/c Nikita's Capital A/c (Nikita's Share of Profit Credited to her Capital A/c)	Dr. 5,000	5,000
	Divya's Capital A/c Farzana Capital A/c Nikita's Capital A/c (Nikita's Share of Goodwill Credited to her Capital A/c)	Dr. Dr. 3,000 2,000	5,000

11. Four Journal entries of 1 mark each.
12. Surplus Rs. 31,000, Capital Fund 97,000  
Closing Balance Sheet Total Rs. 1,31,000
13. Revaluation loss 42600, Hema's Capital Balance Rs. 1,28,160  
Bank loan Rs. 85,240, Total of Balance Sheet Rs. 2,79,400

**Journal of Archana Ltd.**

Date	Particulars	Dr. Amount (Rs.)	Cr. Amount (Rs.)
	5% Debenture A/c To Discount on issue of 5% Debentures A/c To Debenture holders A/c	Dr. 1,25,000	12,500 1,12,500
	Debenture holders A/c To 12% Debenture A/c To Securities Premium A/c	Dr. 1,12,500	90,000 22,500
<b>OR</b>			
	5% Debenture A/c To Discount on issue of 5% Debentures A/c To 12% Debentures A/c To Securities Premium A/c	Dr. 1,25,000	12,500 90,000 22,500



14. (b)

**Journal**

<i>Date</i>	<i>Particulars</i>		<i>Dr. Amount (Rs.)</i>	<i>Cr. Amount (Rs.)</i>
	Bank A/c	Dr.	90	
	To 10% Debenture Application A/c			90
	10% Debenture Application A/c	Dr.	90	
	Loss on issue of 10% Debenture A/c	Dr.	20	
	To 10% Debenture A/c			100
	To premium on Redemption A/c			10
	Bank A/c	Dr.	110	
	To 12% Debenture Application A/c			110
	12% Debenture Application A/c	Dr.	110	
	To 12% Debenture A/c			100
	To Securities Premium A/c			10

15. (a)

**Journal**

<i>Date</i>	<i>Particulars</i>		<i>Dr. Amount (Rs.)</i>	<i>Cr. Amount (Rs.)</i>
	Share Capital A/c	Dr.	5,600	
	Securities Premium A/c	Dr.	4,000	
	To share allotment A/c			7,200
	To share forfeited A/c			2,400
	(400 share forfeited for non-payment of allotment money)			
	Bank A/c	Dr.	11,200	
	To Share Capital A/c			8,000
	To Securities Premium A/c			3,200
	(Forfeited shares reissued at Rs. 28 each)			
	Share forfeited A/c	Dr.	2,400	
	To Capital reserve A/c			2,400
	(Profit on reissued shares transfer to capital reserve A/c)			

15. (b)

**Journal of Kavita Ltd.**

<i>Date</i>	<i>Particulars</i>		<i>Dr. Amount (Rs.)</i>	<i>Cr. Amount (Rs.)</i>
	Share Capital A/c	Dr.	3,500	
	To Discount on issue of share A/c			500
	To Share First Call A/c			1,000
	To share forfeited A/c			2,000
	(200 shares forfeited for non-payment of 1st Call)			

<i>Date</i>	<i>Particulars</i>		<i>Dr. Amount (Rs.)</i>	<i>Cr. Amount (Rs.)</i>
	Bank A/c	Dr.	1,000	
	Discount on issue of Share A/c	Dr.	200	
	Share forfeited A/c Dr.		200	
	To Share Capital A.c			1,400
	(Forfeited shares reissued)			
	Share forfeited A/c	Dr.	1,200	
	To Capital Reserve A/c			1,200
	(Profit on reissued shares transfer to Capital Reserve A/c)			

**OR**

<i>Date</i>	<i>Particulars</i>		<i>Dr. Amount (Rs.)</i>	<i>Cr. Amount (Rs.)</i>
	Bank A/c	Dr.	2,40,000	
	To Equity Share Application A/c			2,40,000
	Equity Share Application A/c	Dr.	2,40,000	
	To Equity Share Capital A/c			1,60,000
	To Equity Share Allotment A/c			32,000
	To Bank			48,000
	Equity share allotment A/c	Dr.	2,00,000	
	To Equity Share Application A/c			1,20,000
	To Securities Premium			80,000
	Bank A/c	Dr.	1,61,700	
	To Equity Share allotment A/c			1,61,700
	Equity Share First and Final Call A/c	Dr.	1,20,000	
	To Equity Share Capital A/c			1,20,000
	Bank A/c	Dr.	1,09,500	
	To Equity Share First and Final Call A/c			1,09,500
	Equity share Capital A/c	Dr.	35,000	
	Securities Premium A/c	Dr.	3,000	
	To Equity Share allotment A/c			6,300
	To Equity Share first and final Call A/c			10,500
	To Share forfeited A/c			21,200
	Bank A/c	Dr.	28,000	
	Share forfeited A/c	Dr.	7,000	
	To Equity Share A/c			35,000
	Share forfeited A/c	Dr.	14,200	
	To Capital Reserve A/c			14,200

16.

	<i>Rs.</i>
Revaluation Profit . . . . .	4,550
Vishal's Capital Balance . . . . .	21,000
Leena's Capital Balance . . . . .	17,500
Gaurav's Capital Balance . . . . .	10,500
Rajora's Capital Balance . . . . .	7,000
Balance Sheet Total . . . . .	68,000

**OR**

	<i>Rs.</i>
Revaluation Loss . . . . .	360
Sachin's Capital Balance . . . . .	13,060
Vipin's Capital Balance . . . . .	6,040
Balance Sheet Total . . . . .	25,525

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## SOLUTIONS OF PRACTICE PAPER

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### PART B

17. Ratio will increase as both current assets and current liabilities will decrease.

18. Operating Activity.

21.

<i>Major headings on liabilities side</i>	<i>Major heading on Assets Side</i>
1. Share Capital	1. Fixed Assets
2. Reserves and Surplus	2. Investments
3. Secured Loans	3. Current Assets, Loans and Advances
4. Unsecured Loans	(a) Current assets
5. Current Liabilities and Provisions	(b) Loans and advances
(a) Current Liabilities	4. Miscellaneous Expenditure
(b) Provisions	5. P&L A/c (Dr. Balance)

22. (a) Rs. 35,000                      (b) Rs. 1,44,000; Rs. 1,08,000

23. (i) Net cash inflow from operating activities Rs. 86,000.

(ii) Net cash used in Investing Activities Rs. (60,000).

(iii) Net cash used in Financing Activities Rs. (26,000).

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# NOT FOR PROFIT ORGANISATION

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## ANSWERS

### Short Answers Questions

1. (a) Service Motive  
(b) Form *i.e.*, educational, charitable, social and religious society etc.
2. Receipts and Payments A/c  
Income & Expenditure A/c  
Balance Sheet
3. (a) Life Membership Fees (b) Price Fund/Tournament Fund  
(c) Donation for Building etc. (d) Legacy
4. (a) Subscription (b) Sale of old newspaper  
(c) Locker Rent (d) Interest on Investment etc.
5. Receipts and Payment A/c : Real A/c  
Income and Expenditure A/c : Nominal A/c

6.

<i>Items</i>	<i>Income and Expenditure A/c</i>	<i>Balance Sheet</i>
(a) Salaries Paid in advance	Deduct from salaries paid	Assets
(b) Proceeds from Charity show	Income Side (Cr)	–
(c) Sale of an old asset	–	Assets (–)
(d) Addition in Investment	–	Assets (+)
(e) Subscription received in advance during current year	Income side : Subscription received (–)	Liabilities
(f) Life Membership fees	–	Liabilities
(g) Govt. Grants	Income side (Cr.)	–
(h) Sale of Newspaper	Income side (Cr.)	–
(i) Prize fund and Price given during the year	–	Liabilities side Price Fund xxx (–) Price Given (xxx)
(j) Receipts for construction of pool		Liabilities side Swimming Pool Fund : 32000 – Expenses 31400 600





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# CHANGE IN RATIO AND ADMISSION OF A PARTNER

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## ANSWERS

### SHORT QUESTIONS (1 Mark)

10. P : Sacrifice  $\frac{1}{14}$  and Q : gain  $\frac{1}{14}$
14. 1 : 1  
17. 2 : 1  
21. 3 : 1 : 2  
23. 32 : 27 : 25
16. 1 : 2  
18. Sacrificing Ratio  
22. 17 : 7 : 6  
24. 1 : 1

### PRACTICAL QUESTIONS

1. Priya sacrifices and Seeta gains  $\frac{1}{18}$  th share
2. Rs. 3,60,000
3. Rs. 1,62,000
4. Rs. 1,81,500
5. Rs. 9,000
6. Rs. 52,500
3. (i) Rs. 1,12,500                      (ii) Rs. 1,12,500
8. Debit A by Rs. 7,500 and credit B by Rs. 7,500
9. Debit R and credit P by Rs. 10,000
10. Debit A by Rs. 7,500 and B by Rs. 2,500; Credit C by Rs. 10,000. Total of Balance Sheet Rs. 3,00,000.
11. 15 : 10 : 5 : 6
12. 19 : 11 : 10
13. 12 : 6 : 7
14. 6 : 8 : 4 : 2 : 5



15. 8 : 7 : 5
16. 1 : 3
21. Goodwill Rs. 45,000; Sanjay's Capital Rs. 72,000
22. Profit on Revaluation : Rs. 16,000  
Total of Balance Sheet : Rs. 2,52,000
23. Revaluation Profit Rs. 2,000 ; New Ratio 9 : 3 : 8  
Total of Balance Sheet Rs. 49,900.
24. Loss on Revaluation Rs. 36,800  
Capitals A : Rs. 1,45,250; B : Rs. 50,750; C : Rs. 40,000  
Balance Sheet Total : Rs. 2,98,000; New Ratio 4 : 3 : 1
25. Revaluation Profit Rs. 10,000; Capitals P : Rs. 45,000; Q : Rs. 15,000
26. Loss on Revaluation Rs. 11,500  
Capital : X Rs. 41,100; Y Rs. 31,400; Z Rs. 21,000  
Balance Sheet Total Rs. 1,08,500
27. Revaluation Profit : Rs. 7,300; Total of Balance Sheet : Rs. 2,12,300
28. Revaluation Loss Rs. 5,050;  
Capitals : X Rs. 16,000; Y Rs. 24,000; Z Rs. 40,000  
Cash Account : Rs. 47,050  
New Ratio 2 : 3 : 5 : 2  
Balance Sheet Total Rs. 1,44,000
29. Neither Profit nor Loss on Revaluation.  
Capital Accounts : P Rs. 18,000; Q Rs. 22,000; R Rs. 26,000  
S Rs. 44,000  
Cash Balance : Rs. 56,000, Balance Sheet Total Rs. 1,47,950.
30. Capital of each Partner : Rs. 1,00,000  
Z's share of Goodwill : Rs. 10,000  
Sacrificing Ratio : 4 : 1  
Balance of Cash : Rs. 20,000

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# RECONSTITUTION OF PARTNERSHIP FIRM : RETIREMENT OR DEATH OF PARTNER

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## SHORT ANSWER QUESTIONS (1 Mark)

1. 5 : 4
2. 3 : 5
3. 17 : 13
4. L Debited by Rs. 13,000 and O debited by Rs. 11,000 M Credited by Rs. 24,000
5. Old Ratio
7. 3 : 1
8. No
9. Assets side
10. Rs. 400 shown in debit side of Revaluation Account.

## PRACTICAL QUESTIONS

1. (i) 4 : 3 (ii) 5 : 3 (iii) 5 : 4
2. 4 : 3
3. 7 : 3
4. 1 : 1
5. 2 : 3
6. 13 : 11
7. 0 : 1 : 1
8. Gaining Ratio 4 : 1; Profit Sharing Ratio = 32 : 13.
10. R's share of goodwill Rs. 12,000. Gaining Ratio 4 : 1; Debited P's Capital A/c and Q's Capital A/c by Rs. 9,600 and Rs. 2,400 respectively and credited R's Capital A/c Rs. 12,000.
12. N's share of goodwill Rs. 20,000; O is the sole gainer's O's capital A/c debited and N's Capital A/c credited by Rs. 20,000.
16. Debit Y Rs. 10,000 and Credit X and Z Rs. 5,000 each.
17. General Reserve and Profit and Loss Account will be transferred to all the partners in their old ratio.

18. (i) Debit X Rs. 10,000 and Z Rs. 6,000; Credit Y Rs. 16,000  
(ii) New Ratio 17 : 7
20. Revaluation Loss Rs. 150; Amount payable to Z Rs. 5,075;  
Capital Balances : P Rs. 20,825 and Q Rs. 18,800;  
Balance Sheet Rs. 52,250.
21. Revaluation Profit Rs. 3,000; Amount payable to Z Rs. 30,500.
22. Revaluation Loss Rs. 26,150; Capitals : Charu Rs. 31,950 and Chandani Rs. 3,230 (Debit);  
Balance Sheet Rs. 2,98,080
23. Cash withdrawn by X Rs. 2,250 and Additional Capital introduced by Y Rs. 8,250.
24. Revaluation Rs. 9,040; Champa's Loan A/c Rs. 40,214; Capitals : Bharti Rs. 40,118 and Dimple  
Rs. 18,708; Balance Sheet Rs. 1,13,040, Gaining Ratio 13 : 11/
25. Revaluation Profit Rs. 7,200; Capitals : P Rs. 35,000; Q Rs. 21,000 Balance Sheet Rs. 1,10,940.
26. Loss on Revaluation Rs. 840; Capitals : A Rs. 51,580, B Rs. 47,720; C's Loan Account Rs.  
43,900; Balance Sheet Rs. 1,49,560.
29. Goodwill of the firm Rs. 35,200  
Amount payable to B's Executors Rs. 26,920.
30. Amount payable to Sohan's Executor Rs. 15,625.  
I Instalment = Rs. 3,906 + 938 = Rs. 4,844  
II Instalment = Rs. 3,906 + 703 = Rs. 4,609  
III Instalment = Rs. 3,906 + 469 = Rs. 4,375  
IV Instalment = Rs. 3,907 + 234 = Rs. 4,141

## ANSWERS

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# ACCOUNTING FOR SHARE CAPITAL

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### OBJECTIVE TYPE QUESTIONS

1. A company is an artificial person created by law, having separate entity with a perpetual succession and a common seal.
2. Three types :
  - I Public Company
  - II Private Company
  - III Government Company
3. 5% p.a.
4. Private Company
5. Memorandum of Association.
6. 120 days
7. Central Government
8. 6% p.a.
9. 10%
10. Sec. 79
11. Sec. 78
12. Yes, equal to the amount forfeited on those (re-issued) shares.
13. Capital Reserve.
14.
  - (i) Capital Reserve
  - (ii) Share forfeited A/c and added to the subscribed and paid up capital in the major head share capital.
15. Over Subscription.

### THEORY QUESTIONS

- \*16. The company can issue fully paid bonus shares to its members as 1 for every 7 shares held.

## PRACTICAL QUESTIONS

1. Capital Reserve Rs. 200.
2. Capital Reserve Rs. 750.
3. Capital Reserve Rs. 125.
4. Capital Reserve Rs. 1,200.
5. Capital Reserve Rs. 18.
6. Capital Reserve Rs. 2,500.
7. Discount on shares Rs. 2,000.
8.
  - (i) 990 shares
  - (ii) 900 shares
  - (iii) 1100 shares
9. Goodwill A/c / Incorporation cost A/c Dr. 40,000  
To Eq. Share Capital 40,000.
10. Capital Reserve Rs. 20,000 Cash payment Rs. 4,50,000 and 15,000 shares issued.
11. Interest on calls-in-arrears Rs. 125.
12. Interest on calls-in-advance Rs. 187.50 + Rs. 187.50 = Rs. 375.

13.	<b>Share Capital</b>	<i>Rs.</i>
	Authorised Capital	5,00,000
	Issued Capital	3,00,000
	Subscribed	3,00,000
	Called up and Paid up Capital	2,99,700

14.	<b>Share Capital</b>	<i>Rs.</i>
	Authorised Capital	5,00,000
	Issued and Subscribed Capital	5,00,000
	Called up and Paid up Capital	4,99,750
	Add : Share Forfeited	200
	Called up and Paid up Capital	4,99,950
	<b>Reserves and Surplus</b>	
	Capital Reserve	375
	Total	5,00,325

15.	Capital Reserve	Rs. 1200	
16.	Capital Reserve	Rs. 6,000	B/s Total = Rs. 15,04,000
17.	Capital Reserve	Rs. 800	Share Forfeited A/c Rs. 700, B/s total Rs. 2,40,500
18.	Capital Reserve	Rs. 4,000	
19.	Share Forfeited A/c	Rs. 2000	
20.	Capital Reserve	Rs. 2360	
21.	Capital Reserve	Rs. 729	
22.	Capital Reserve	Rs. 600	
23.	Capital Reserve	Rs. 2500	
24.	Capital Reserve	Rs. 720	
25.	Capital Reserve	Rs. 500	
26.	Capital Reserve	Rs. 438	

## ANSWERS

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# ISSUE OF DEBENTURES

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### VERY SHORT ANSWER TYPE QUESTIONS

2. Interest on debentures is a charge against profit.
3. Secured Loans.
4. Bearer Debentures
5. Trustees
6. Person who is beneficiary and holds shares in the same company
8. Capital Reserve
9. Goodwill A/c
12. 9000 debentures
13. Debit to Goodwill A/c.
14. Credit to Capital Reserve A/c
15. Rs. 6,00,000
16. Rs. 2,20,000
17. (a) Debenture Suspense A/c 3,00,000 (b) Discount on issue of debenture Rs. 25,000.
18. Fixed installment Method
19. Yes, it is a security,
20. No, it apply to shares only.
21. Because of Prudence Concept.

### SHORT ANSWER TYPE QUESTIONS (3 - 4 Marks)

2. Amount Received on Allotment Rs. 28,00,00,000 and  
Loss on issue of Debenture Rs. 4,50,00,000
4. (a) No. of Debenture issue
  - (i) 990 debentures
  - (ii) 1,100 debentures
  - (iii) 900 debentures

5. Goodwill Rs. 40,000. No of Debentures issued 3000 Debentures
6. Capital Reserve 20,000, No. of Debentures issued = 3000 debentures
7. Discount on issue of Debenture A/c 25000.
8. Security Premium Rs. 50,000
9. Interest paid to Debenture holders half yearly Rs. 27,000 and Income Tax paid half yearly Rs. 9,000.
11. Capital Reserve : 1,25,000; No. of Debentures issued = 9600 Debentures.
12. Bills Payable A/c Rs. 1,25,000; No. of Debentures issued = 3125 Debentures.
13. (a) No. of Debentures = 4800 Debentures  
 (b) No. of Debentures = 4363, Cash paid Rs. 95, Security Premium = 43630,  
 Purchase Consideration (Price) = 4,36,300 + 43,630 + 95 = Rs. 4,80,025.
14. 1st Year = Rs. 20,000; 2nd Year = 20,000; 3rd Year = 18,000, 4th Year = 14,000; 5th Year = 8,000.
15. 2001 – 1,000; 2002 – 1,548; 2003 – 1,262; 2004 – 976; 2005 – 690; 2006 – 405; 2007 – 119.



## ANSWERS

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# REDEMPTION OF DEBENTURES

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### VERY SHORT ANSWER TYPE QUESTIONS

1. Loss on issue of Debentures Account
2. Capital Reserve A/c
3. General Reserve A/c
4. Capital Reserve A/c
5. Rs. 1,00,000
6. Rs. 30,000
7. No. of Equity Shares 10850.
8. No. of Equity Shares 1,10,000
9. (a) No. of Equity Shares 900.  
(b) No. of Equity Shares 1100
10. 50% of the nominal value of the debentures.
12. No. transfer is required.
13. (i) For cancellation (ii) For Investment

### PRACTICAL QUESTIONS (3 - 6 Marks)

1. Rs. 1,60,000 will be transferred to DRR A/c and the balance of DRR A/c Rs. 5,00,000 will be transferred to General Reserve A/c.
2. 50% of Rs. 1,50,000 *i.e.*, Rs. 75,000 must be transferred to DRR A/c and Rs. 15,000 to Premium on redemption A/c.
3. Amount transferred to DRR A/c Rs. 7,00,000 as per SEBI's Guidelines.
4. Rs. 50,00,000, Loss on issue of debentures 2,50,000.
5. Profit on cancellation Rs. 3,700 transferred to Capital Reserve.
6. Profit on cancellation Rs. 7,000 transferred to Capital Reserve.
8. Profit on cancellation Rs. 3,035 will be transferred to Capital Reserve.
9. Loss on issue of debenture A/c Rs. 90,000

- (a) Premium on Redemption Rs. 30,000, transferred to DRR A/c 3,00,000
  - (b) Transferred to DRR Rs. 3,00,000 before starting Redemption.
10. Gain on cancellation Rs. 4000 + 2800 = 6800 transferred to Capital Reserve A/c.
11. (a) Interest on Debentures (Outsiders) – 7125 and  
Interest on Own Debenture 375 on Dec. 31, 2007.
- (i) Gain on cancellation Rs. 300
  - (ii) Profit on sale of own debentures Rs. 400.
- (b) Gain on Cancellation Rs. 300 on June 30, 2007  
Interest on Debenture Rs. 7,125 on Dec. 31, 2007.
12. (i) No. of equity shares issued 9,600  
(ii) No. of Preference shares issued 42,222 and cash paid amount Rs. 20.
13. (i) No. of equity share issued =  $20,000 \div 100 = 200$  shares  
(ii) No. of preference shares issued 2,000 shares  
(iii) No. of 10% Debenture issued 100 debentures
14. (i) No. of shares issued = 9,400 shares  
(ii) No. of preference share issued = 720 shares  
(iii) No. of equity shares issued = 8,000 shares
15. No. of equity shares issued 88,000 shares.
16. No. of equity shares issued = 5,000, Payment to debentures holders Rs. 1,50,000.
17. Profit Redemption = Rs. 600, Rs. 8,000, Debentures redeemed at face value by drawing at par.
18. No. of equity shares issued 24,000
19. No. of debentures to be issued = 2,400 debentures.
20. No. of equity shares issued = 1,520 equity shares.
21. No. of equity shares issued = 16,000 equity shares.
22. No. of equity shares to be issued = 45,833 shares; cash paid Rs. 3, Discount on issue Rs. 18,333.
23. No. of Preference shares to be issued = 7,752 shares  
No. of Debentures to be issued = 1,530 debentures  
Cash required for redemption = Rs. 1,88,700

24. Profit on cancellation Rs. 4,000. Interest on own debentures Rs. 12,000.

**SHORT ANSWER TYPE QUESTIONS (Answer Theoretical)**

10. (i) Profit on Redemption

(ii) Reduction in Interest Burden

11. Yes, DRR should still be created because Sec. 117(c) of the Companies Act, 1956 does not distinguish among companies and Act is always higher than rules and regulations.

## ANSWERS

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# ACCOUNTING RATIOS ANSWERS

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9. Current ratio 2 : 1.
10. Current Assets Rs. 1,44,000, Quick Assets Rs. 1,08,000 and Current Liabilities Rs. 36,000
11. Liquid Ratio 2 : 1
12. Rs. 3,00,000
13. Current Ratio 2 : 1, Quick Ratio 1.8 : 1
14. (a) Rs. 32,000  
(b) Rs. 1,10,000
15. Opening Stock Rs. 26,785 and Closing Stock Rs. 10,714
16. Rs. 8,48,400
17. (a) 49.76% (b) 2 times  
(c) 0.57 : 1 (d) 4.86 times
18. Stock turnover ratio 4 times
19. (a) (-)29.52%  
(b) 2.5 times  
(c) 80 : 143 or 55.94%
20. Debt Equity Ratio 1.2 : 1 and Current Ratio 1.5 : 1.
21. Current Assets Rs. 96,250.
22. Dividend per share Rs. 55.50.
23. EPS Rs. 2; P/E Ratio Rs. 25
24. Opening debtors Rs. 1,40,000 and Closing debtors Rs. 1,60,000
25. Current Ratio 2.05 : 1, Quick Ratio 1.25 : 1; Debt Equity Ratio : 0.27 : 1
- \*26 Total of Balance Sheet Rs. 17,00,000.
28. Fixed Assets Turnover Ratio : 4 times
29. Current Assets Turnover Ratio : 4 time
30. Working Capital Turnover Ratio 13.7 times.

31.

<i>Ratio</i>	<i>2006</i>	<i>2007</i>
(i) Current Ratio	2 : 1	1.7 : 1
(ii) Quick Ratio	1.1 : 1	1.75 : 1
(iii) Stock Turnover Ratio	5 times	6.67 times
(iv) Working Capital Turnover Ratio	4.29 times	8.04 times
(v) Debtors Turnover Ratio	10 times	16 times
(vi) Net Profit Ratio	12.5%	11.11%
(vii) Gross Profit Ratio	25%	25%
(viii) Operating Ratio	87.5%	88.9%

## ANSWERS

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### CASH FLOW STATEMENT ANSWERS

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10. Plant Purchased Rs. 3,65,000  
Depreciation charged for the year Rs. 1,30,000  
Loss on Sale of Plants Rs. 40,000
11. Rs. 1,74,800
12. (a) Inflow Rs. 7,500  
(b) Outflow Rs. 40,000
13. (i) Cash from Operating Activities Rs. 43,000  
(ii) Cash used in Investing Activities Rs. (26,000)  
(iii) Cash used in Financing Activities Rs. (16,000)
14. (i) Cash inflow from operating activities Rs. 1,00,000  
(ii) Cash used in Investing Activities Rs. (75,000)  
(iii) Cash inflow from Financing Activities Rs. 75,000.
15. (i) Cash inflow from Operating Activities Rs. 55,000.  
(ii) Cash used in Investing Activities Rs. (87,500)  
(iii) Cash inflow from Financing Activities Rs. 20,000.
16. (i) Cash inflow from operating activities Rs. 1,54,500  
(ii) Cash used in investing activities Rs. (1,52,000)  
(iii) Cash used from Financing Activities Rs. 57,500
17. (i) Cash inflow from operating activities Rs. 16,500  
(ii) Cash used in investing activities Rs. (22,000)  
(iii) Cash inflow from financing activities Rs. 6,500

**Note :** If Preference Dividend is taken separately then answer will be Rs. 16,820, Rs. (22,000) and Rs. 6,180 respectively.

18. Net Cash inflow from Operating Activities Rs. 1,90,000  
Net Cash outflow from Investing Activities Rs. (1,20,000)

Net Cash inflow from Financing Activities Rs. 50,000

**[Hint :** (i) Make Stock A/c; (ii) Increase in Goodwill be taken as purchased by issue of share capital)

19. Net Cash Inflow from Operating Activities	Rs.	8,100
Net Cash Outflow from Investing Activities	Rs.	(19,900)
Net Cash inflow from Financing Activities	Rs.	12,800

## QUESTION BANK

# ECONOMICS (Hindi Medium)

### DESIGN OF SAMPLE QUESTION PAPER FOR MARCH, 2009 EXAMINATION

Time : 3 hours

Maximum Marks : 100

The weightage to marks over different dimensions of the question paper shall be as under.

#### A. Weightage to Current/Subject units

S.No.	Content Unit	Mark
<b>Part A : Introductory Micro Economics</b>		
1.	Introduction	4
2.	Consumer Behaviour and Demand	13
3.	Producer Behaviour and Supply	23
4.	Forms of Market and Price Determination	10
5.	Simple applications of Tools of demand and supply curves	
<b>Total</b>		<b>50</b>
<b>Part B : Introductory Macro Economics</b>		
1.	National Income and Related Aggregates	15
2.	Determination of Income and Employment	12
3.	Money and Banking	8
4.	Government Budget and the Economy	8
5.	Balance of payments	7
<b>Total</b>		<b>50</b>
<b>Grand Total</b>		<b>100</b>



## WEIGHTAGE TO FORMS OF QUESTIONS

S.No.	Forms of Questions	Marks for each question	No. question	Total Mark
1.	Very short answer type (VSA)	1	10	10
2.	Short answer type (SAI)	3	10	30
3.	Short answer type (SAII)	4	6	24
4.	Long answer type (LA)	6	6	36
<b>Total</b>			<b>32</b>	<b>100</b>

### C. No. of Sections

The questions paper will have two section A and B.

### D. Scheme of Option

There will be no overall choice. However, there is internal choice in one question of 3 marks and one question of 4 marks and one question of 6 marks in each section.

### E. Weightage to forms of Questions

S.No.	Estimated Difficulty Level of Questions	Percentage
1.	Easy	30%
2.	Average	50%
3.	Difficult	20%

### F. Typology of Questions

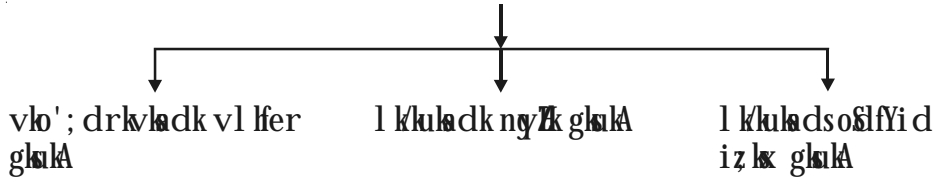
In order to assess different abilities related to the subject, the question paper is likely to include open-ended questions and numerical questions.

यूनिट 1

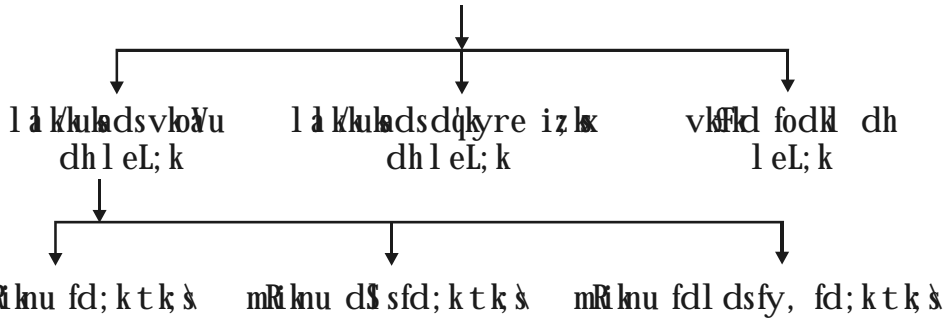
परिचय

स्मरणीय बिन्दु

- वृद्धि-क दस/; ; u dlns' kq kv leach/kx; kg&Q f'V vृद्धि-क, oal ef'V vृद्धि-क Q f'V vृद्धि-क ea vृद्धि-क dh Q fDrxr bdlb; lal st yh vृद्धि l eL; kladk v/; ; u fd; k t krk gA
- वृद्धि l eL; kmicyOk l ffer l kuladsvlo' u dh l eL; kgA vृद्धि l eL; kmRi u gksdseq; dlj.kg&



- l a kuladhny'Zk l svfhi k, l a kuladh i fr mudhe k dh ryukeade gksl sgA
- , d vृद्धि oLFk dh dshz l eL; k &



- vol j ykr&fdl hoLrqdhvol j ykr l svfhi k fdl hoLrqdhog ekkgSft l dkfdl hvU oLrqdh , d vrfjDr bdlbZdkmRi knu djuscdlj.kR, k djukiM'kgA l klu fLFj jgusij t\$ &t\$ sfdl hoLrq dh vf/kd bdlb; ldkmRi knu fd; k t krk gS vU oLrqdh R, k dh t kusokyh ekkeao f) ghr t krh gA
- mRi knu l Hkouk oØ , d vृद्धि oLFk eafn; sgq l a kularFk mRi knu rduld ds vUr xZ nk oLrqdh foFku mRi knu l Hkouk dln' HZk gA
- mRi knu l Hkouk oØ ulpsdh vj <kywkrkgSrFk ey fcthdh vj urlnj gkrk gA
- mRi knu l Hkouk oØ dknk lavj f[k dlo l a kulaeao f) rFk ck lavj f[k dlo l a kulaeadeh dln' HZk gA
- l heR foLFki u nj , d oLrqdh R, kxh t kusokyh bdlb; l arFk vU oLrqdh , d vrfjDr bdlbZdk mRi knu djusdk vuqkr gA

$$MRT = \frac{\Delta y}{\Delta x}$$

एक अंक वाले अति लघु उत्तर वाले प्रश्न

- 1- Q f'V vFZM=k dh ifjHKk nft ; A
- 2- Q f'V vFZM=k v/; ; u dsdbZnsmngj.k nft ; A
- 3- l k kula dh nyZrk dsl nFZevFZM=k dh ifjHKk nft ; A
- \*4- Hjr eacjk xlj dh l eL; k dk v/; ; u Q f'V vFZM=k dsv/; ; u dk fo'k gS; k l ef'V vFZM=k dk dlj.k crlb; A
- 5- l k kula dsvYi iz k dsdbZnsmngj.k nft ; A
- \*6- , d oLrqdh dler fu?Hj.k Q f'V vFZM=k dk fo'k gS; k l ef'V vFZM=k dk dlj.k crlb; A
- 7- l k kula ds fodk dsdbZnsmngj.k nft ; A
- \*8- l wh oL=k m| k dk v/; ; u Q f'V vFZM=k dk fo'k gS; k l ef'V vFZM=k dk dlj.k crlb; A
- 9- mRi ku l Hkouk oØ dk nk havlj f[k dlo D; k n'kZk gS
- 10- mRi ku l Hkouk oØ dsck havlj f[k dlo dk dlj.k crk; A
- 11- mRi ku l Hkouk oØ dk <ky ulps dh vj D; lagrk gS
- 12- Q f'V vFZM=k rFk l ef'V vFZM=k eal EcUk crlb; A
- 13- vFZM=l eL; k mRi tu gmsdk eq; dlj.k D; k gS
- 14- fdl h vFZM=k eap; u dh l eL; k D; lagrh gS
- 15- vol j ykr dh ifjHKk nft ; A
- 16- mRi ku l Hkouk oØ D; k n'kZk gS
- 17- mRi ku l Hkouk oØ dsvthj dlbZfchqD; k n'kZk gS
- 18- mRi ku l Hkouk oØ ey fchqdh vj urkj D; lagrk gS
- 19- l hkr vol j ykr dh ifjHKk nft ; A
- 20- fuFufLFr; leamRi ku l Hkouk oØ dh vNfr dS h ghr gS  
 $\frac{1}{2}$  t c l hkr vol j ykr c<+jgh glA  
 $\frac{1}{4}$  k/2 t c l hkr vol j ykr fLFj glA

- 21- fdl hnsk eack+dh fLFfr eamRi knu l HHouk oØ fdl fn'lk eaf[kl dskk
- 22- nyZrk l sD; k vfhik gS
- 23- vFZl l a kula dh dlbZ, d fo'kk rkb; A
- 24- l lekR foLFki u nj D; k gS bl sd\$ seki k t krgA
- 25- l a kula dh ferQ f; rk l sD; k vfhik gS

लघु उत्तर वाले प्रश्न ( 3 अंक )

- 1- Q f'V vFZM=k fdl izlj l ef'V vFZM=k l sfHu gS dlbZru vUrj fyf[k A
- 2- ct lj vFZM=k fdl izlj dshz fu; ktr vFZ oLFk l sfHu gS
- \*3- mRi knu l HHouk oØ ew fclhqd vj urlaj D; lagrk gS
- 4- mRi knu l HHouk oØ D; k gS dRifud l j.h, oaj kfp=k dsek; e l sl e>lb; A
- 5- , d vFZ oLFk dh dshz l eL; k; rkb; A ; sD; lamRi u gch gS
- 6- vFZl l eL; k l svki D; k l e>rsgA ; g D; lamRi u gch gS
- 7- , d mlgj.k dh l gk rk l sD; k mRi knu fd; k t k \$ uled dshz l eL; k dsl e>lb; A
- 8- fdl dsfy, mRi knu fd; k t k \$ dh l eL; k dsmfpr mlgj.k dh l gk rk l sl e>lb; A
- 9- fdl h vFZ oLFk ea^d\$ smRi knu fd; k t k \$ dh l eL; k dsmmgj.k dh l gk rk l sl e>lb; A
- \*10- l lekR foLFki u nj\* l svki D; k l e>rsgS , d vuq ph } kj k l e>lb; A
- 11- , d mRi knu l HHouk oØ [kfp; svj\$ ml ij fuFufyf[kr fLFfr; l dlsn' H; A
  - 1/2 l a kula dk vYi iz kA
  - 1/4 k/2 l a kula dk iwZ iz kA
  - 1/2 l a kuls dk fodk A

एक अंक वाले प्रश्नों के उत्तर

- 1- Q f'V vFZM=k ( vFZM=k dh og 'kk k gSt kQ fDrxr Lrj ij vFZl l eL; k dk v/; ; u djrh gA
- 2- , d oLrqdh dher dk fuHj.k vj\$ l leV m| k dk v/; ; uA

- 3-  $v_{FZM} = k \cdot f(k, l) \cdot g(S, T) \cdot h(u, v)$ ; ; u  $d_j r_k g_{Sft} l dkl f_{Ukny} Z_k l \dot{a} k_{lulads}$   
iz  $k l$   $sg_{Sft} l l smi HDrkviuhl r_{fV} d_k mR ind viusy Hk dsvl_s l ek viusl lekt d dY; k k d_k$   
 $vf/dre dj l da$
- 4-  $H_j r eacj_k x_{l_j} h d_k v/;$  ; u  $l e f'V v_{FZM} = k d k f'o'k$   $gSD; l_{cd} bl d_k v/;$  ; u  $l E_{i w Z v F_{D}} o_{LFk} ds Lrj$   
 $ij fd; k t k r k g_A$
- 5-  $c_j k x_{l_j} k d_N H_{ce} dk c d_j i M_j g u_A$
- 6- , d  $o_{Lrqdh} dler dk fu/HZ.k Q f'V v_{FZM} = k d k f'o'k$   $gSD; l_{cd} bl d_k v/;$  ; u  $Q fDrxr Lrj ij fd; k$   
 $t k r k g_A$
- 7-  $f d l h n_{sk} e a o k f u d l a d h l \dot{a}; k c < u k r y dsu; s H k M_j l a d h [ H c A$
- 8-  $l w h o L = k m | k dk v/;$  ; u  $Q f'V v_{FZM} = k d k f'o'k$   $gSD; l_{cd} bl d_k v/;$  ; u  $Q fDrxr Lrj ij fd; k$   
 $t k r k g_A$
- 9-  $mR knu l H k o u k o \emptyset dk n_k l a v l_j f [ k d l o l \dot{a} k l u l a e a o f) @ f o d k l n' H Z k g_A$
- 10-  $mR knu l H k o u k o \emptyset dk c_k l a v l_j f [ k d l o l \dot{a} k l u l a e a d e h d l s n' H Z k g_A$
- 11-  $mR knu l H k o u k o \emptyset dk < k y u l p s d h v l_j g l r k g S D; l_{cd} 'y' o_{Lrqd s m R k n u} e a d e h d j d s g h 'x' o_{Lrqd s}$   
 $m R k n u d l s c < k k t k l d r k g_A$
- 12-  $l e f'V Lrj ds f u. Z l a i j Q f'V p j l a d k i Z k o i M r k g S r F k Q f'V Lrj ds f u. Z l a i j l e f'V p j l a d k i Z k o$   
 $i M r k g_A$
- 13-  $v_{FZM} l e L; k m R l u g l s d k e q; d l_j . k l k l u l a d h n y Z k , o a m u d s o s i f y i d i z k g_A$
- 14-  $D; l_{cd} l k l u n y Z k g_A v l_j m u d s o s i f y i d i z k g_A$
- 15-  $vol j y_{kr} l s v f i k k f d l h l k l u d s m l d s v x y s l o Z S B o s i f y i d i z k e a m l d s e w; l s g_A$
- 16-  $mR knu l H k o u k o \emptyset$  , d  $v_{FZM} o_{LFk} e a f n; s g q l \dot{a} k l u l a , o a m R k n u r d u l d d s v l r x Z n l s o L r y l a d s$   
 $m R k n u d h f o f H u l H k o u k l a d l s n' H Z k g_A$
- 17-  $mR knu l H k o u k o \emptyset d s u l p s d b z f c h q l \dot{a} k l u l a d s v y i i z k o v d q k y r d u l d d k i z k d l s n' H Z k g_A$
- 18-  $c < r h l l e k r vol j y_{kr} ds d l_j . k m R knu l H k o u k o \emptyset e w f c h q d h v l_j u r l n j g l r k g_A$
- 19- , d  $o_{Lrqdh} v f r f j D r b d l b Z d k m R knu d j u s i j n w j h o L r q d h b d l b Z l a d k R k ft l n j i j R k fd; k$   
 $t k r k g_A$

$$l_{ekr} vol j y_{kr} = \frac{\Delta y}{\Delta x}$$

- 20-  $\frac{1}{2} t c l_{ekr} vol j y_{kr} c < + j g h g l s r l s m R knu l H k o u k o \emptyset e w f c h q d h v l_j u r l n j g l r k g_A$

- 1/2 ; in l lekr vol j ykr fLFj gSrlsmRl nu l HkoukoØ , d l l h j s k k lavlj <kytegrk gA
- 21- ck+dh fLFfr eamRl nu l HkoukoØ ck lavlj f[kl d xA
- 22- nyZrk l svfhi k , d h fLFfr l sgSft l ea, d l klu dhe k ml dh i fr l svf/ld glrh gA
- 23- v ffd l a klu nyZrk gSft udsoSf yi d iz k gA
- 24- l lekr foLFki u nj , d oLrqdh R kx xbZ bdb; la, oavU oLrqdh, d vfrfjDr bdbZdk mRl nu dk vuqr gA

$$MRT = \frac{\Delta y}{\Delta x}$$

- 25- l a klu dh ferQ f; rk l svfhi k l a klu dsnq i; k dls j k duk gSrlfd mRl nu dk Lrj vf/ldre gls vS vf/ldre ekuoh; vob'; drk vadhl rfv gls l dA

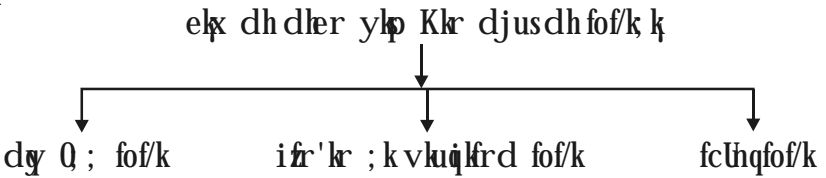
उपभोक्ता व्यवहार तथा मांग

स्मरणीय बिंदु

- मिनीट्रक %og v... , t... g... l... o... l... k... d... mi... d... j... r... k... g...
- मिनीट्रक l... r... y... %; g og f... f... g... s... t... c... o... l... r... q... d... h... l... e... l... e... r... mi... ; k... x... r... k... m... l... d... h... d... l... e... r... d... s... c... j... k... j... g... l... r... h... g...
- l... e... l... e... r... mi... ; k... x... r... k... %... f... d... l... h... o... l... r... q... d... h... , d... v... f... r... f... j... d... r... b... d... h... z... d... k... mi... H... d... j... u... s... i... j... d... y... mi... ; k... x... r... k... e... a... g... l... s... o... k... y... h... '... k... o... f... )... d... l... l... e... l... e... r... mi... ; k... x... r... k... d... g... r... s... g...
- â... k... l... e... k... l... e... l... e... r... mi... ; k... x... r... k... f... u... ; e... %... v... U... c... r... a... i... o... z... r... j... g... u... s... i... j... t... \$... &... t... \$... s... f... d... l... h... o... l... r... q... d... h... v... f... k... d... l... k... d... b... d... h... z... l... a... d... k... mi... H... d... f... d... ; k... t... k... r... k... g... s... o... \$... &... o... \$... s... m... l... d... h... v... f... r... f... j... d... r... b... z... l... b... z... d... s... m... i... H... d... l... s... i... H... r... l... e... l... e... r... mi... ; k... x... r... k... Ø... e... '... k... ?... W... r... h... t... l... r... h... g...
- e... l... x... %... o... l... r... q... d... h... o... g... e... k... k... f... t... l... s... m... i... H... d... r... k... f... d... l... h... f... u... f... '... p... r... d... l... e... r... i... j... [... k... j... m... r... k... g... \$... ; k... [... k... j... m... u... s... d... s... f... y... ,... r... \$... k... j... g... l... r... k... g...
- e... l... x... d... k... f... u... ; e... %... o... l... r... q... d... h... d... l... e... r... r... f... k... e... l... x... b... z... e... k... e... s... f... o... i... j... r... l... e... a... k... n... '... H... z... k... g... \$... f... t... l... e... a... v... U... d... j... d... t... l... e... l... e... d... s... i... H... f... o... r... d... j... r... s... g... a... m... l... g... a... l... f... l... j... e... l... u... k... t... k... r... k... g...
- c... k... t... k... j... e... l... x... %... c... t... k... j... e... l... x... ]... o... l... r... q... d... h... f... o... f... f... u... d... l... e... r... l... a... i... j... f... u... f... '... p... r... l... e... ; e... l... x... c... t... k... j... e... a... l... H... m... i... H... d... r... k... l... a... d... h... e... l... x... d... k... ; k... g...
- e... l... x... Q... y... u... %... f... d... l... h... o... l... r... q... d... h... e... l... x... r... f... k... m... l... s... i... H... f... o... r... d... j... u... s... o... k... y... s... d... j... d... h... a... d... s... Q... y... u... r... e... d... l... e... a... k... d... h... 0... k... ; k... d... j... r... k... g...

$$D_x = F(P, P_Q, Y, T, \dots)$$

- e... l... x... o... Ø... %; g... d... l... e... r... d... s... f... o... f... f... u... l... r... j... l... a... i... j... e... l... x... d... h... e... l... x... l... a... d... s... p... -... k... d... s... #... i... e... a... i... n... f... k... r... d... j... r... k... g...
- e... l... x... d... h... d... l... e... r... y... l... p... %... e... l... x... d... h... d... l... e... r... y... l... p... ]... d... l... e... r... e... a... g... l... s... o... k... y... s... i... f... i... o... r... z... d... s... Q... y... l... o... :... i... e... l... x... d... h... e... l... x... e... a... g... l... s... o... k... y... s... i... f... i... o... r... z... ;... r... e... d... i... f... i... o... r... z... d... h... e... k... i... r... h... g...



- d... y... Q... ; f... o... f... /... k... o... l... r... q... d... h... d... l... e... r... e... a... i... f... i... o... r... z... d... s... d... j... .k... o... l... r... q... i... j... g... l... s... o... k... y... s... 0... ; e... a... i... f... i... o... r... z... d... s... v... k... l... j... i... j... e... l... x... d... h... y... l... p... d... k... e... i... u... d... j... r... h... g...
- i... f... r... '... k... r... ; k... v... k... u... k... f... r... d... f... o... f... /... k... = E<sub>d</sub> = (-)  $\frac{\Delta Q}{\Delta P} \times \frac{P}{Q}$

- $T; k_{efrd} \text{ fof/k Ed} = \frac{e_{k} o_{\emptyset} dk \text{ fupyk Hkx}}{e_{k} o_{\emptyset} dk \text{ fupyk Hkx}}$
- $e_{k} dh dler \text{ ylp dks iHfor djusokysdlj d}$ 
  - (i)  $oLrq dh i\tilde{N}fr$
  - (ii)  $ifrLFki u oLrq dh miyCkrk$
  - (iii)  $oLrq ds fofHku iz kx$
  - (iv)  $miHDrk dh vk$
  - (v)  $miHDrk dh vkr$
  - (vi)  $dler Lrj$
  - (vii)  $l e; \text{ vof/k}$

एक अंक वाले प्रश्न अतिलघु उत्तर वाले प्रश्न

- 1-  $mi; kxrk dh ifjHkKk nft; \Delta$
- 2-  $l lekR mi; kxrk dh ifjHkKk nft; \Delta$
- 3-  $l lekR mi; kxrk Dd fu; e dk vFZcrkb; \Delta$
- 4-  $, d oLrqdh l lekR mi; kxrk 'H' dc glkh$
- 5-  $nsoLrq ds l nHZeami HDrk l rqu dh, d 'krZcrkb; \Delta$
- 6-  $, d oLrq ds l nHZeami HDrk l rqu dh 'krZcrkb; \Delta$
- 7-  $miHDrk l rqu dh ifjHkKk nft; \Delta$
- 8-  $l lekU oLrq ds ifjHkKk r dft, \backslash$
- 9-  $?kV; koLrq fdl sdgrsg$
- <sup>1</sup> 10-  $fdl hoLrq dh fudVre ifrLFki u miyCk gksij ml dh e_{k} dh ylp fdl izlj iHfor glrhgS$
- <sup>1</sup> 11-  $miHDrk dh vk eao f) gksij 'x' oLrq dh e_{k} eadeh vkt krhgS oLrq' fdl hizlj dh oLrqgS$
- <sup>1</sup> 12-  $fdl hoLrq dh dler de; kvf/d gksij ml dh ifrLFki u oLrq dh e_{k} ij D; kiHko iMkrgS$
- 13-  $dkQh dh dler eao f) gksij pk dh e_{k} D; lac<+t krhgS$
- 14-  $, d oLrq dh dler eao f) gksij ml oLrq ij gksokysQ; eao f) gkst krhgS oLrq dh e_{k} ylpnj gS; k c ylpnj \backslash$



- 15- oLrqdhder eae% dehglsij ml ij glsokys0 ; eae% dho f) glrhgS elx dhder ylp D; kglkA  
 16- cktij elx dlsifjHfkr dlft, A  
 17- iwZ; kylvonij elx oØ dk <ky d\$ kglrk gS  
 18- LFkuki u oLrqdk mlgj. k nft ; A  
 19- ijd oLrqdh ifjHfkk nft ; A  
 20- 'x' oLrqdhder eao f) l s; fn 'y' oLrqdh elx c<+t krhgS rls nls oLry l ead; k l EcUk gS  
 21- elx dh dler ylp dh ifjHfkk nft ; A  
 22- elx dh dler ylp l leki r%\_ . HRed D; laglrh gS  
 23- foykl rk dh oLry l adh elx ylp d\$ h glrh gS  
 24- l jy j\$kr elx oØ dse/; fclhqij elx dh ylp D; k glkA  
 25- vk dho f) dk, d l leki oLrqdh elx ij D; ki Hko glrk gS

लघु उत्तर वाले 3/4 अंक वाले प्रश्न

- 1- mlgj. k dh l gk rk l s? Wrh l lekr mi ; kxrk dsfu; e dh Q k; k dlft , A  
 2- l lekr mi ; kxrk vuq ph dh l gk rk l s, d oLrqds l mHZeami HDrk l ryu ds fu/ky. k dh Q k; k dlft , A  
 3- nls oLry l adh flfr eami HDrk ds l ryu fu/ky. k dls l e>lb; A  
 4- rkydk dh l gk rk l s dy mi ; kxrk , oal lekr mi ; kxrk eal EcUk crlb; A  
 5- elx dh dler ylp dsfdgh rhu fu/ky dha dh Q k; k dlft , A  
 6- elx eao f) rFlk elx eafolrj eavlj crlb; A  
 7- elx eao f) %elx oØ dsnk havlj f[k dlo ½ dsfdgh rhu dlj. Hk dh Q k; k dlft , A  
 8- mi HDrk dh vk eafjorZ dk oLrqdh elx ij D; ki Hko iMk gS j\$ kfp=k dsek; e l sl e>lb; A  
 9- , d mi HDrk dselx oØ dsck havlj f[k dlo dsrhu dlj. Hk dh Q k; k dlft , A  
 10- elx eafjorZ rFlk elx dhekk eafjorZ eavlj crlb, A  
 11- ; fn nls fofHu <ky okyselx oØ ijLij , d&nwjs dls dkrsgarls mudsifz PNs fclhqij dls l leka oØ vf/ld ylvonij glkA

12- l leKl , a ?KV; k oLrqdheavUrj crlb; A

13- ulps, d mi HDrkdh, d oLrqdhmi; kxrkvuq fp nhxbZgA oLrqdhder 7 #0 i fr bdlbZgA mi HDrk viuhl UrfV dsvf/kdre djusdsfy, oLrqdhfdruhbdlb; k [ljnxA ; g elusfd oLrqdhmi; kxrk dls; Wy eaQ Dr fd; k t l r k g S v l s 1 ; Wy 3/4 1 #0 viusmUj dh i f V dsfy, dlj.knlft; A

<i>mi Hk % dlb; 1/2</i>	<i>dy mi; kxrk 1/4 fuV 1/2</i>	<i>l leKl mi; kxrk 1/4 fuV 1/2</i>
1	10	10
2	18	8
3	25	7
4	31	6
5	34	3
6	34	0

14- i fr LFi u oLrqdhder eafjorZi dk oLrqdheK ij D; ki Hko i M k g S j s k f p = k dk iz k d j A

15- i j d oLrqdhder eafjorZi dk oLrqdheK ij D; ki Hko i M k g S j s k f p = k dk iz k d j A

16- j s k f p = k d h l g k r k l s m i H D r k d h v k e a f j o r Z i d k l e K u o L r q d h e K i j i M s o k y s i z H k o d h Q k ; k d l f t , A

<sup>1</sup> 17- , d mi HDrk de dler ij oLrqdhvf/kd ek k D; k [ljmrk g S l e > b; A

18- , d oLrqdhder ea 10% deh g l s i j m l d h e k 100 b d l b ; k l s c < d j 120 b d l b ; k g l s t r h g A e k d h d l e r y l p K l r d l f t , A [Ans. 2]

<sup>1</sup> 19- , d mi HDrk 5 #0 i fr bdlbZdhder ij , d oLrqdh 100 bdlb; k [ljmrk g A dler eafjorZi g l s i j o g 140 b d l b ; k [l j m r k g A u b Z d l e r c r l b ; s ; f n o L r q d h e K d h d l e r y l p (-) 2 g A [Ans. 4]

20- fu f u f y f [ k r f l f r ; k e a e k d h d l e r y l p c r l b ; &

1/4 1/2 oLrqdh dler ea o f) g l s i j i f j o j d k d y 0 ; c < + t r k g A

1/4 1/2 oLrqdh dler ea o f) g l s i j i f j o j d k d y 0 ; d e g l s t r k g A

21- fu f u f y f [ k r l p u k l s d y 0 ; f o f / k } j k e k d h d l e r y l p K l r d l f t , A

1/4 1/2

<i>dlr #i 1/2</i>	<i>ekh xbZ ek k</i>
6	100
8	80

1/4k/2

dlar #i/2	elxh xbZ ek-k
10	100
12	80

- 122- ;fn oLrq^d\* dh dler fxj t kusl soLrq^k dh elx (i) c<+t k (ii) ?W t k] rsi R, sl fLFfr easoLrq^d\* vls oLrq^k ds clp D; k l f/k gS dlj.k crlb; A
- 23- ;fn , d oLrqdh dler 5 #0 i fr bdlbZl sc<ej 6 #0 i fr bdlbZgkst krhgSrlsml dh elx 20 bdlbZl s ?Wdj 10 bdlbZgkst krhgS oLrqij gusokys0 ; dh ruyuk dj ; g fu/kr.kdfj; sfd elx ylpnlj gS; k cylpnljA
- 24- t c , d oLrqdh dler 10 #0 i fr bdlbZl s?Wdj 9 #0 i fr bdlbZgkst krhgSrlsml dh elx 9 bdlbZl s c<ej 10 bdlbZgkst krhgS oLrqij gusokys0 ; gh ruyuk dj ds elx dh dler ylp Kr dfj; A
- 25- , d miHDrk 5 #0 i fr bdlbZdh dler ij , d oLrqdh 80 bdlb; k [ljmrk gA eku ylt , fd elx dh dler ylp 1/2 gA fdl dler ij og 64 bdlb; k [ljmxk
- 126- , d oLrqdh elx ^ylpnlj\* gA bl dh dler fxj t krhgS oLrqij fd, dy 0 ; ij bl dkD; kiHo iMk , d l q; Red mlgj.k dh l gk rk l sLi "V dlt , A
- 27- , d oLrqdh dler 8 #0 i fr bdlbZgsvls ml dh elx dh xbZek 600 bdlbZgA bl dh dler 25% de gkst krhgsvls elx dh xbZek 120 bdlbZc<+t krhgS bl dh elx dh dler ylp dkifjdyu dfj.A D; k bl dh elx ylpnlj gA viusmlj dsfy, dlj.k nlt ; A [Ans. .8]

### 6 अंक वाले प्रश्न

- 1- , d oLrqdh elx dh dler ylp eki usdh 0 ; fof/k dk o. lzi dfj; A
- 2- elx dsfu; e dh 0 k]; k dlt , rFlk , d dkWifud rkydk }kj k elx oØ [Hfp, A
- 3- miHDrk dh vk eaglsokysifjorzi dk fuFufyf[kr ij D; kiHo iMk  
 1/4 1/2 ?kV; k oLrq  
 1/4k/2 l k kU oLrq
- 4- elx ylp dh foHru Jf.k k adk o. lzi dfj; A j s Hfp=k dk iz k d j A
- 5- nls v{Hadh Nwsgq ulpsdh vly <kyw, d elx oØ [Hfp, A bl elx oØ ij fclhgyxkdj elx dh ylp eki, \
- 6- j s Hfp=k dh l gk rk l s, d oLrqdh elx ij fuFufyf[kr ds iHo dh 0 k]; k dfj; A

1/2 ifrLFki ü oLrqdh dler ea deh

1/2 miHDrk dh vk ea o f)

7- , d oLrqdheL l fclur oLrqdh dler eafjorZ l sd\$ siHfor glrhg\$ j\$ lfp=hadh l gk rkl s l e>lb; A

8- elx dsfu; e dsieqk viokhadh Q k; k dlft, \

vFlök

fdu ifjflfr; laeaelx oØ dk <ky /kulred glrhg\$

elx dh ylp dsieqk fu/HZdhadh Q k; k dlft, A

अतिलघु उत्तर वाले प्रश्नों के उत्तर (1 अंक वाले प्रश्नों के उत्तर)

1- oLrqhlaeaeuoh, v'lo'; drkvladh l rfV grqik st kusokysxqk dls mi; kxrk dgrsgA

2- fdl hoLrqdh, d vrfjDr bdlbZdk miHk dju l sdy mi; kxrk eagkusokyk 'ly ifjorZ l lekr mi; kxrk dgykrk gA

3- l lekr mi; kxrkDK fu; e; g crkrkgSfd t \$ & t \$ sfdl hoLrqdh l eku bdlb; l adkyxrkj iz k fd; k t krkgSiR, cl vxyh bdlbZl siHr l lekr mi; kxrk de glrh t krh gA

4- t c dy mi; kxrk vf/kdre glrh gA

5- 
$$\frac{MuX}{Px} = \frac{MuY}{PY} = Mum$$

6- 
$$\frac{Mux}{Px} = Mum$$

7- miHDrkl rgy l svfHk, ml flfr l sgSft l ea, d miHDrk viuhnhghZvk rFlk ct kj dler l s vf/kdre l rfV iHr djrk gsv\$ ml eafjorZ dh dlbZi n fuk ugh i lbZt krh gA

8- l leku oLrq l svfHk, ml oLrq l sgSft l ij vk iHko ?kulred v\$ dler iHko \_ .HRed glrk gA

9- ?fV; koLrq l svfHk, ml oLrq l sgSft l ij vk iHko \_ .HRed glrk gA

10- elx ylpnj glrh gA

11- ?fV; koLrq

12- fdl hoLrqdh dler eadeh gusij ifrLFki ü oLrqdheL eadehrFlk dler eao f) gusij elx eao f) glkA

- 13- D; kcd ; snlsuifrlfki u oLrqgA
- 14- cyhpnkj
- 15- yhpnpj
- 16- fdl h fuf'pr dler ij , d fuf'pr l e; eal Hh mi HDrkva }lk exh xbZekk dk ; k ckt kj ek  
dgykrk gA
- 17- 'x' v{k dsl ekurj
- 18- pk vls dkh
- 19- ;sosoLrqagSt k, d l fki z k fd, t kusij ghfdl hekuoh, vto'; drk dhi fr djrhgA
- 20- ifrlfki u oLrqA
- 21- ek dh dler ylp l svfkk fdl hoLrqdhek avkuifrd ifjorZ vls dler avkuifrd ifjorZ  
dsvuikr l sgA
- 22- fdl hoLrqdh dler vls ekhxbZekkesfoyle l fUkglusdsdij .kek dh dler ylp \_ .Red glrhgA
- 23- yhpnpj
- 24- bdbZdsl eku
- 25- ek easo f) gkA



- mRi nu djd dh, d vrfjDr bdbZdkizk djustij dy Hfrd mRi n eat iso f) glrhgSml sl lekr mRi n dgrsgA

$$MP = \frac{dy \text{ mRi n eafjorZi } (\Delta TP)}{djd \text{ (Je) bdbZeafjorZi } (\Delta L)}$$

- ifr bdbZifjorZi kku dsdy Hfrd mRi n dsvs r mRi n dgrsgA

$$AP = \frac{dy \text{ mRi n}}{\text{ifjorZi kku dh bdb; la}}$$

- l kku dsifrQy dh rhu voLFk; glrhgA

igyh voLFk %dy mRi n (TP) c<rhj l sc<rk gA l lekr mRi n (MP) c<rk gvk viusv/kdre ~cnq rd igp tkrk gA

nwjh voLFk %dy mRi n (TP) ?Wrh nj l sc<rk gA l lekr mRi n (MP) ?Wrk tkrk gSyfdu ?kRed jgrk gA

rhl jh voLFk %dy mRi n (TP) ?Wuk 'k' gstkrk gA l lekr mRi n (MP) \_\_. kRed gstkrk gA

- iSkus dsifrQy fu; e dh Hh rhu voLFk; aglrh gA

(i) iSkus ds o/leku ifrQy %bl voLFk ea dy mRi n ea vuqfird o f) | mRi nu ds l kula ea vuqfird o f) l svf/kd glrh gA

(ii) iSkus ds flfj ifrQy %bl voLFk ea dy mRi n ea vkuqfird o f) | mRi nu ds l Hh l kula ea vkuqfird o f) ds l eku glrh gA

(iii) iSkus ea Dh eku ifrQy %bl voLFk ea dy mRi n ea vkuqfird o f) | mRi nu ds l Hh l kula dh vkuqfird o f) l s de glrh gA

- vs r mRi n oØ rFk l lekr mRi n oØ nslamVsU ds vldj (∩) ds glrh gA

- l lekr mRi n ^Hj \* gsl drk gSyfdu vs r mRi n dHh Hh 'Hj' uglagl erkbl fy, vs r mRi n oØ 'X' v{k dls dHh ugha Nwk gA

- iSkus dh cprls (Economies) l svfhi k, mu yHh al sgSt k fdl h QeZ dls mRi nu dk iSkuk c<kus ds QyLo: i iHr glrsgA

- iSkus dh vocprs (Diseconomies) l svfhi k, mu glfu; lal sgSt k fdl h QeZ dls mRi nu dk iSkuk, d l lek %kn'Zl a k %l svks c<kus ds d j. k mRi nu glrh gA

- ifr l svfhi k, olrq dh ml ek l s gSft l s, d QeZ; k foØrk dler ds foHh l rj la ij nh ghZ l e; lof/k ds vlxZ cpus ds fy; srSj glrsgA

- ckt kj i fr l svfHik fdl hoLrqdh mu ekklval sgSft l sl Hh QeZ; k foØrk dler dsfoffHú Lrjlaij fdl hfo'kk l e; lof/k eack kj eacpusdsfy; sr\$ kj gA
- i fr vud ph dler dsfoffHú Lrjlaij i fr dhfoffHú ekklval dkrkydk ds: i eainfkr djrhgA ; g nlsizlj dhgrhgS
  - (i) Q fDrxr i fr vud ph
  - (ii) ckt kj i fr vud ph
- i fr dkfu; e crkrkgSfd vU crkads l eku jgusij i fr ?kukRed : i lsdler l sl EcfUkr grhgSvr% dler eao f) ghsij oLrqdh i fr c<+trhgSv\$ dler eadehghsij oLrqdh i fr de gstkrhgA
- Q fDrxr i fr vud ph, oack kj i fr vud ph dsfp=le; in'kú dksØe'k%Q fDrxr i fr oØ rFlkck kj i fr oØ dgktkrkgA ; snlsizlj dsoØ oLrqdh dler v\$ i fr dhekkdsee; ?kukRed l EcfUkn'kZsgA ; g oØ ?kukRed <ky okysgrsgA
- i fr Qyu oLrqdh i fr , oai fr dsfu/kZd rRb dsee; QyukRed l EcfUkn'kZkSt ksf d fufuldr g%
 
$$S_x = f(P_x, T, N_f, P_f, G_p, E_x.)$$

i fr dsfu/kZd rRb

- (i) oLrq dh dler
- (ii) rduld
- (iii) Qek dh l á; k
- (iv) mRknu vkrhdh dler
- (v) ljdj h ulfr
- (vi) Hfo"; ea dler ifjorZ dh l khouk
- i fr dhekk eaijorZ vU djdadsfLlj jgusij oLrqdh dler eao f) v\$ dehgksdsdj.kgkrk gA bl si fr oØ ij l pyu Hh dgktkrkgS; g nlsizlj dkgrkg&
  - $\frac{1}{2}$  i fr dk foLrkj ; k i fr oØ ij Áij dh v\$ l pj.k
  - $\frac{1}{4}$  i fr dk l alpu ; k i fr oØ ij ulps dh v\$ l pj.k
- i fr eaijorZ dler dsfLlj jgusij vU djdlat \$ srduldhKlu] vkrhdh dler l mRknd dkmís; ] Qek dh l á; kv\$ ljdj h ulfr; eaijorZ hsdslj.kgkrk gA bl si fr oØ dkf[k dlo Hh dgktkrkgS; g nlsizlj dkgrkgA
  - (i) i fr eao f) ; k nbZrjQ f[k dlo



(ii)  $Q = e^{-e} \cdot K^{\alpha} L^{1-\alpha}$

- $\frac{dQ}{dL} = \frac{1}{L} Q$  (constant elasticity of output with respect to labor)

$$\frac{dQ}{dL} = \frac{1}{L} Q$$

- $\frac{dQ}{dK} = \frac{\alpha}{K} Q$  (constant elasticity of output with respect to capital)

$\frac{dQ}{dK} = \frac{\alpha}{K} Q$  (constant elasticity of output with respect to capital)

$\frac{dQ}{dK} = \frac{\alpha}{K} Q$  (constant elasticity of output with respect to capital)

- $Q = e^{-e} \cdot K^{\alpha} L^{1-\alpha}$  (Cobb-Douglas production function)
- $\frac{dQ}{dL} = \frac{1}{L} Q$  (constant elasticity of output with respect to labor)
- $\frac{dQ}{dK} = \frac{\alpha}{K} Q$  (constant elasticity of output with respect to capital)
- $\frac{dQ}{dL} = \frac{1}{L} Q$  (constant elasticity of output with respect to labor)
- $\frac{dQ}{dK} = \frac{\alpha}{K} Q$  (constant elasticity of output with respect to capital)
- $\frac{dQ}{dL} = \frac{1}{L} Q$  (constant elasticity of output with respect to labor)
- $\frac{dQ}{dK} = \frac{\alpha}{K} Q$  (constant elasticity of output with respect to capital)
- $\frac{dQ}{dL} = \frac{1}{L} Q$  (constant elasticity of output with respect to labor)
- $\frac{dQ}{dK} = \frac{\alpha}{K} Q$  (constant elasticity of output with respect to capital)

$\frac{dQ}{dL}$ (TFC)	$\frac{dQ}{dK}$ (LAC)
1- $\frac{dQ}{dL}$ (TFC)	1- $\frac{dQ}{dK}$ (LAC)
2- $\frac{dQ}{dL}$ (TVC)	2- $\frac{dQ}{dK}$ (LMC)
3- $\frac{dQ}{dL}$ (TC)	
4- $\frac{dQ}{dL}$ (AC)	
5- $\frac{dQ}{dL}$ (MC)	
6- $\frac{dQ}{dL}$ (AFC)	
7- $\frac{dQ}{dL}$ (AVC)	

- $\frac{dQ}{dL} = \frac{1}{L} Q$  (constant elasticity of output with respect to labor)
- $\frac{dQ}{dK} = \frac{\alpha}{K} Q$  (constant elasticity of output with respect to capital)

cah ykr rc Hh 'W' ughagrht c mRl nu 'W' gl'k gS

$$TFC = TC - TVC \quad \text{Or} \quad TFC = AFC \times Q$$

- dy ifjorlZykr aasykr agst kmRl nu eafjorZ dsl Fl&l Flk ifjorr gl'rh gA vFlZ mRl nu ds'W' Lrj ij 'W' rFlk mRl nu eao f) dsl Fl&l Flk o f) gl'rh gA

dy ifjorlZykr (TVC) dh x.kuk fuFu izlj dh t'kr h gA

$TVC = TC - TFC \quad ; k$ $TVC = AVC \times Q \quad ; k$ $TVC = \sum MC$
---

- dy ykr | dy cah ykr rFlk dy ifjorlZykr dk ; k gl'rh gA

$TC = TFC + TVC \quad ; k$ $TC = ATC \times Q$
--

- dy ykr oO rFlk dy ifjorlZykr oO , d n'vjs dsl elj gl'rh gA n'k'adscp dh yaor nyh dy cah fl'fj' ykr dsl elu gl'rh gS; fcd dy cah ykr mRl nu dsl Hh Lrj ij l elu j'rh gA
- mRl n ds'W' Lrj ij dy ykr | dy cah ykr dsl elu gl'rh gS; fcd mRl n ds'W' Lrj ij dy ifjorlZykr 'W' gl'rh gA
- mRl knr olrqdhifr bdlbZ cah ykr dsl vls r cah ykr (AFC) dgrsgA

$AFC = \frac{TFC}{Q} \quad \text{or} \quad AFC = ATC - AVC$
---

- vls r ifjorlZykr (AVC) olrqdhifr bdlbZ ifjorlZykr gl'rh gA

$AVC = \frac{TVC}{Q} \quad \text{or} \quad AVC = ATC - AFC$
---

mRl n eao f) gl'isij vls r ifjorlZykr vj'f'k ea?Wrh gS rFlk ch eac<rh gS bl fy, bl dk oO u vldlj dk gl'k gA

- vls r ykr ; k vls r dy ykr olrqdhifr bdlbZ mRl nu ykr gA ; g vls r fl'fj' ykr vls vls r ifjorlZykr dk ; k gl'rh gA

$ATC = AFC + AVC$
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- olrqdh, d v'rfjDr bdlbZ mRl nu d'jusl sdy ykr ; k dy ifjorlZykr eag'isokyho f) dsl l'elr ykr (MC) dgrsgA

$$MC = TVC_n - TVC_{n-1} \quad \text{or} \quad MC = \frac{\Delta TVC}{\Delta Q}$$

- mRn dhfcØhlsiR jf'k dsvke ½ iR ½ dgrsgA

; k

, d Ørk }kj k oLrqij fd; kx; k [pZt smR ind dhvk gS iR dgyrk gA

- dy l iR og jf'k gSt k, d fo'kk le; vof/keamRn dh nh ghZbd bZ adscpusl siR grh gA

$$TR = P \times Q \quad \text{or} \quad TR = \Sigma MR$$

- cphxbZolrqdlsifr bdbZvke dsvke ½ vR vke ½ vR l iR dgrsgA

$$AR = \frac{TR}{Q} = \frac{P \times Q}{Q} = P$$

vR vR l iR olrqdh dler dsl eku grh gA

- olrqdh, d vrfjDr bdbZcpusl dy l iR eaglsolyh'lj of) dsl leR l iR (MR) dgrsgA

$$MR = \frac{\Delta TR}{\Delta Q}$$

- tc dler fLFj jgrhgsvR tc ct kj eaiwZifr; kxrk grh gSrc

(i) vR l iR (AR) vS l leR l iR (MR) mRn dsl H Lrj i j fLFj jgrh gA vS olrqdh dler dsl eku grh gA

(ii) dy l iR (TR) oØ v{k dñz ls xqjus oyh ?kRed <yku oyh j{k grh gA

(iii) dy l iR dler j{k dsulps ds {sQy dscjkj grh gA mRnu ds, d fuf'pr Lrj i jA

- ,df/dlj rfk, df/dlj iR; kxrk ct kj eA TR, AR vS MR dk Q ogj ; k tc iR bdbZ dler de grh gA

(i) AR vS MR oØ ulps dh vS \_ . Red <yku oks grsgA MR oØ AR oØ dsulps jgrkgA

(ii) MR, AR dh rgyuk ea nls xqk nj ls ?kRk gA

(iii) cphxbZbd bZ lea of) dsl fK TR 'lf eac'rk gS fQj vfk dre grk gS vS va eafxjus yxrk gA

- ,d mR ind dkeq; mÍ; vfk dre-yk iR djuk grk gA

- yH vkf d ykr ij l iR dk vfk/d; grk gA

- मरिन्द्र त्त् व/द्रे यिहिर द्ज्कग्स्रिसल ई; १/२ र्गु१/२धल्लिर् एग्लर्कगं वल्लिर् त्त् TR वल्लिर् TC द्क वर्र्ज व/द्रे ० /कुर्द ग्लर्कग्स्रिक् वर्र्जिर् मरिन्नु लस्यिक् एदेह वल्लिर्गं  
मरिन्नु लर्गु धन्स'र्क%
- (i) त्त् द्य लर्िर् (TR) र्लिक् द्य य्क् (TC) द्स्क्ल द्क वर्र्ज ?कुर्द व/द्रे ग्ल्त्क् गं  
१/२'; द 'र्क%
- (ii) मरिन् द्स् लर्ज एािर्ज १/२/२ ; क दे१/२ ल्स् द्य यिक् फ्ज्स् य्क् गं १/२' 'र्क%
- लर्ज ँन्ग%०गं ँन्ग्लर्कग्स्रिक् TR = TC ग्लर्ह गं  
ल्लिर् ँन्गिर् क्कै ल्लिर् द्ले वर्र्जिर् ज्ग्लर्ह गं ल्लिर्; द्ले वल्लिर् य्क् द्कग्स्रिक्, द ?व्द ग्लर्कगं

### एक अंक वाले प्रश्न

- 1- मरिन्नु धिर्जिक् फ्लिक्
- \*2- ल्लिर् व/क द्क ल्लिर् फ्लिक् ल्लिर् मरिन्द्र द्स्िक् द्स्क्न्युग्लत्क् ल्लिर् द्क
- 3- मरिन्नु द्स्<र्ह न्ज ल्लिर् द्स्क्ल्लिर् फ्लिक्
- 4- त्त् इर्जिर् व्क् १/२' एा, द् ब्द्लिर् द्ध ०' ध्त्क् ग्स्रिक् द्य मरिन् फ्ज्क् ग्स्रिक् द्ध ल्लिर्  
मरिन्द्र द्स्क्ल्लिर् द्; क्दग्
- 5- वल्लिर् मरिन् ल्लिर् इर्जिर् द्य मरिन् ध्क्. कुर् द्ध ल्लिर् द्ध ग्स्रिक्
- 6- न्स् इर्जिर् द्स् मरिन्नु क्कै ल्लिर्, ए
- 7- इक् द्ध क्कै ल्लिर् इर्जिर् द्ध, ए
- 8- मरिन्नु क्कै ल्लिर् फ्लिक्
- 9- इर्जिर् द्स् इर्जिर् द्स् क्कै ल्लिर्; ए द्; क्ग्स्रिक् फ्लिक्
- \*10- त्त् इर्जिर् व्क् द्क ल्लिर् मरिन् (MP) ?व्ज्ग्ल्स् द्दु ?कुर्द ग्ल्स् द्य मरिन् (TP) द्ध; क्ल्लिर्  
ग्लर्ह गं
- 11- त्त् वल्लिर् मरिन् (AP) फ्ज् ज्ग्ल्स् ल्लिर् मरिन् एा; क्ल्लिर् ग्ल्क्
- 12- त्त् इर्जिर् द्ध १/२' द्ध ब्द्लिर्; ल्लिर् ल्लिर् ६ ब्द्लिर्; क्दज्स् ल्लिर् १७ ब्द्लिर्; ल्लिर् ल्लिर् १५ ब्द्लिर्; ल्लिर्  
ग्ल्त्क् ग्स्रिक् इर्जिर् द्स्; ए द्स् ल्लिर् ल्लिर् वल्लिर् ग्ल्स् फ्लिक्
- \*13- वल्लिर् इर्जिर् मरिन् (APP) र्लिक् ल्लिर् इर्जिर् मरिन् (MPP) ० ल्लिर् ल्लिर् वल्लिर् द्स् क्ल्लिर् ग्स्रिक्
- 14- द्ध वल्लिर् ल्लिर् द्ध वल्लिर् द्स् ल्लिर् ल्लिर् ल्लिर्. क्ल्लिर्

- 15- , d dlj d ½ klu½dsjkt xkj dsLrj ea, d l snlsbdb; ladhof) ghs l sl lekr mR kn ea20 bdb; lal s  
22 bdb; laof) gkst krhgS rksnwjh bdbZdk vls r mR kn (AP) rFlk dcy mR kn (TP) Kkr dlft, A
- 16- Je foHkt u lsvki D; k l e>rsgk
- 17- iSkusdsifrQy dsfu; e dkfdl voLFk eady mR kn eavkuqfrd of) | vkeleavkuqfrd of) l s  
vf/d glrhgS
- 18- mR knu dsLFj dlj d l sD; k vfhik gS
- 19- mR knu dsdN dlj d l sD; k vfhik gS
- 20- Flkl ij NW (Volume Discount) l sD; k vfhik gS
- 21- TPP dc vf/dre glrk gS
- 22- dcy mR kn eafxjov fdl izlj l lekr mR kn dksiffor djrhgS
- \*23- D; k TPP rFlk APP dHh 'ky vFlk \_ .Hed gls l drsgS
- 24- , d QeZdhifr dksiffor dlft; s
- 25- ifr dsfu; e l sD; k vfhik gS
- 26- Q fDrxr ifr vuh ph lsvki D; k l e>rsgS
- 27- ifr dhxbZek k eafjorZ l sD; k vfhik gS
- 28- , d oLrqdhifr dsnfu/HZ d l sD; k vfhik gS
- 29- ifr eafjorZ dkD; k vFlzgS
- 30- rdudhl dHh d l sD; k vfhik gS
- 31- mR knu 'kd nj eao f) dki fr oØ ij D; kiHko iMkk
- \*32- ; fn , d fdl ku xluk vls ljl lankulaQl yamxkrkgS rks ljl ladsck kj Hko eao f) l sxlusdkifr oØ  
fdl izlj iffor glrk
- 33- , d oLrqdsifr oØ ij ulpsdhv lj pyu fdl dlj.k lsglrgS
- 34- ifr oØ ij Åij dhv lj l p j.kfdl dlj.k lsglrgS
- 35- v{k dshzlsxt j jgsljy jshk ifr oØ dhyp D; k glrhgS
- \*36- ebZ2007 eavir, k'kr clj'k dsdlj.k [kr leaikuHj x; k bl l sHfe dh mR kn drk de glsxbZ Hjr  
ds [kk] Hku mR knu dsifr oØ ij bl dkD; kiHko iMkk

- 37- i fr l alpu l sD; kvfhi k gS
- 38- fdl hvkr dhder eao f) , d QeZdsifr oØ dlsfdl izlj i hfor djrhgS
- 39- dler vf/kd ghsij i fr vf/kd D; ladh tkrhgS
- 40- i fr dhder ylp eki usdkl wcrhb; s
- 41- i fr oØ ?kule d <ky okysD; lagkrsgA
- 42- i fr eal alpu dhLfr eai fr oØ fdl fn'k eaxfr'hy glrk
- \*43- dler dsc<usdsQyLo: i i fr dhxbZek dsc<usdkD; kdgrsgA
- 44- ckt lj dky lsd; krRi; ZgS
- \*45- , d olrqdhder ylp 3 bdlbZgA bl dkD; kvfhi k gS
- 46- i fr dhylp D; kglkht c i fr oØ Y-v{k dsl ekj glrk gS
- 47- fVdkÅ olrqladh i fr dhylp fdl izlj dhglk
- 48- ukloku olrqladh i fr dhylp fdl izlj dhglk
- 49- bdlbZl sde ylpnj i fr oØ culb; s
- 50- ykr l sD; krRi; ZgS
- 51- Li"V ykrsfdlgdgrsgA
- 52- calhykrs; k ijd ykra; kmifj ykrafldgdgrsgA
- 53- vLi"V ykrlal svki D; kl e>rsgA
- 54- dy ifjorZykr (TVC) oØ dk d\$ kvldlj glrk gA
- 55- l lekr ykr l sdy ifjorZykr fdl izlj Kkr dhtkrhgS
- 56- t c l lekr ykr eao f) gsjghgkrhgSrc D; kvl\$ r ykr] l lekr ykr l sde glsl drhgS
- \*57- dy ykr oØ rFk dy ifjorZykr oØ , d nwjsdsl ekj D; lagkrsgA
- \*58- ml vYidkyhu ykr dkule fyf[k t lsmRl nu ds'Hy l rj ij 'Hy uglgkrhgA
- 59- D; kfxjrhghZvl\$ r ykr] l lekr ykr l svf/kd glsl drhgS
- 60- 5 bdlb; ladhvl\$ r ifjorZykr 20 #ngSrFk6 bdlb; ladhdy ifjorZykr 125 #ngSrsl lekr ykr Kkr dlft , A

- 61- l lekr ykr Kkr dlft , t c 5 bdlb; ladhvls r ifjorlZykr 20 #nrFlk8 bdlb; ladhdy ifjorlZykr 400 gA
- 62- t c nwjhbdlbZdhl lekr ykr 40 #nrFlkrhl jhbdlbZdh20 #ngSrlsrhl jhbdlbZdhdy ifjorlZykr vls vls r ykr Kkr dlft , A
- \*63- vls r calhykr oØ 'X' v{k o 'Y' v{k dlsD; laughNwkgS
- 64- dy ifjorlZykr oØ lsfdl izlj l lekr ykr Kkr dh tkrhgS
- 65- nt lZdh nqlk esfdlgh nlsLi"V ykr ladsule fyf[k A
- 66- ifjorlZvuikr dsfu; e dhfdl voLFk eavls r ykr U wre glrhgS
- 67- , d QeZfdl hoLrq'A' dh40 bdlb; ladhkmlnu djrhgSbl Lrj ij vls r ifjorlZykr 30 #ngSvls vls r dy ykr 70 #ngA dy fLFj ykr Kkr dlft , A
- 68- mlknu ds'ly Lrj l so f) djds, d bdlbZglsij dy ykr 60 #nlsc<ej 100 #nglstkrgA , d bdlbZmlknu dh vls r calhykr D; kglkh
- 69- l akfir dh ifjHkk fyf[k A
- 70- vki dy l akfir (TR) dh x.kukfdl izlj djks
- 71- t c dy l akfir vfkdre glrhgSrls l lekr l akfir (MR) D; kglrhgS
- \*72- t c fdl hoLrqdh dler fxjrhgSrls l lekr l akfir fdl nj l sfjrhgS
- 73- t c mlknu dsl Hh Lrj ij fdl hmlkn dh dler fLFj jgrhgSrc dy l akfir oØ dk vldj ds k glrkgs
- \*74- iwlZifr; lkrkdsvarZ dy l akfir oØ dk <yku fLFj D; laglrgS
- \*75- dler jslkrFlk dy l akfir dseè; D; kl ak glrkgs
- 76- 3 bdlb; ladh vls r l akfir 8 #n vls plsh bdlbZdh l lekr l akfir 4 #ngSrls plsh bdlbZdh vls r l akfir Kkr dlft , A
- 77- plj bdlb; ladhdy l akfir 28 #ngA rFlk ilpohbZl bZdhl lekr l akfir 2 #ngA ilpohbdlbZdh vls r l akfir Kkr dlft , A
- 78- t c mlknu dsl Hh Lrj laij dler eadlZifjorZ ughlrgkgsSrc vls r l akfir o l lekr l akfir dseè; D; kl ak glrkgs
- 79- fdl hmlkn dh foØheA bdlbZl so f) glslj 2 ndlbZglstkusij vls r l akfir 10 #nl sfjrdj 9 #n jg tkrhgA nwjhbdlbZdhl lekr l akfir Kkr dlft , A

- 80- t c dy l a k r e a o f) , d f l f j n j l s g l r h g s r l s b l d k l l e k r l a k r i j D; k i f l k o i m e k g s
- 81- m r i k n d d s l r y u \* l s v k i d k D; k r k r i ; Z g s
- 82- m r i k n d d s l r y u \* d s n l s ' k r z f y f [ k A
- 83- m r i k n d d s v f / k d r e y k k l s v k i D; k l e > r s g s
- 84- l e l r j c n q D; k g l k k g s
- \*85- v f / k d r e y k k d h f l f r e a i j d ' k r z D; k g s d y y k r o d y l a k r d s l m h z e a c r l b , A
- \*86- m r i k n d d s l r y u \* d h v l o ' ; d ' k r z D; k g s
- \*87- l l e k u y k k l s v k i D; k l e > r s g s

### 3/4 अंकों वाले प्रश्न

- 1- l l e k r m r i k n u e a i f j o r z d s Q y L o # i d y m r i k n u d k Q o g j f d l i z l j d k g l k k g s
- \*2- f u f u r k y d k d s v k l j i j v l s r m r i k n r f k l l e k r m r i k n d s Q o g j d k o . l i d l f t ,

ifjorZ'ky dj d	1	2	3	4	5	6	7
vls r mri k n	20	25	30	30	27	25	22
l l e k r m r i k n	20	30	40	30	20	10	4

- \*3- l k l u 1/2 d j d 1/2 d s l l e k r i f r Q y f d l d j . k o / l e k u i f r Q y l s D k l e k u i f r Q y e a c n y t k r s g s
- 4- d j d d s o / l e k u i f r Q y d s y k v g l s d s d j . k a d h l q i e a Q k ; k d l f t , A
- 5- d j d d s \_ . k r e d i f r Q y D; l a y k v g l r s g s
- 6- , d l l e k u m r i k n d f d l v o l f k e a m r i k n u d l s t j h j [ l k k v l s D; l a
- 7- i s k u s d s o / l e k u i f r Q y d h Q k ; k x . k u r e d m l g j . k } j k d l f t , A
- \*8- , d o l r q d k m r i k n u n l s v k r l a J e ( L ) r f k i w h ( K ) d h l g k r k l s f d ; k t k j g k g a
- bu v k r l a d s f o f l u l a k n ' l z s g q , d r k y d k d k f u e l z k d l f t , t l s
- (i) i s k u s d s o / l e k u i f r Q y
- (ii) i s k u s d s f l f j i f r Q y r f k
- (iii) i s k u s d s D k l e k u i f r Q y d l s i n f l r d j r h g l a



- 9- iSkusdso/ku ifrQy dsykwglusokysdjdadh Q k; k dlft , A
- 10- Dkl eku ifrQy D; kwykwglrsgSfyf[k A
- \*11- mRi knu dsLrj rFk mRi knu dsiSkuseavaj Li"V dlft , A
- 12- Je fohkt u lsD; kvfhi k gS ; sfdl izlj djd dsifrQy dsiHfor djrgs
- 13- iSkusdhcprs(Economies) fdl izlj iSkusdsifrQy dsiHfor djrhgS
- 14- iwr dsfu; e dh l fkr Q k; k fp=k dh l gk rkl sdlft ; s
- 15- oLrqdhiwr dsplj fu/hzdladh l ph culb; s
- 16- iwr dh dler ylp ekiusdhT; kerh fof/k crlb; s¼d l jy jsh iwr oØ dh l fkr ead
- 17- , d oLrqdh ct lj & iwr ifjHk k nft ; s ct lj iwr dsfdlg hanks fu/hzdladls Hh crlb; s
- 18- , d oLrqdh iwr eafjorZ\* vS iwr dhekk eafjorZ\* eadHn dlft ; s
- 19- , d oLrqoØ dsnbZvlj f[k dusdsh djdadh l fkr Q k; k dlft ; s
- 20- iwr dh dler ylp dhifjHk k nft ; s iwr'kr fof/kl siwr dh ylp dkeku dS sfd; k t krkgS
- 21- iwr oØ dsclb±vlj f[k dusdsdbZrhu dlj.k crlb; s
- 22- rduldhifjorZhadk oLrqdhiwr ij D; kiHko iMk
- \*23- ;fn nsiwr oØ , d nwjdsdW jsglarhsfdl dh ylp ifrpNau cnqij vf/kd gkh
- \*24- bdbZdj yxkusls, d QeZdk iwr oØ fdl izlj iHfor gkrkgS
- \*25- ct lj eaQeZdh l q; keao f) ct lj iwr oØ dsfdl izlj iHfor djrhgS
- 26- iwr dsl apu\* , oa iwr eadeh ead; kvaj gS
- 27- fdl hvkr dh dler eao f) , d QeZdsiwr oØ dsfdl izlj iHfor djrhgS
- 28- iwr dh ylp ij le; rD ¼of/k½dk D; kiHko iMk gS
- 29- fufuldr dh fp=kl fgr l fkr Q k; k dlft ; s
- ¼d½ bdbZls vf/kd ylpnj iwr
- ¼k½ bdbZls de ylpnj iwr
- 30- , d oLrqdh dler 10 #ñ iwr bdbZgSvS ml dhiwr dhekk 1200 bdbZgS; fn bl dh dler c<ej 12 #ñ iwr bdbZgSt krhgS rls bl dhiwr 25% c<+t krhgS bl dhiwr dh ylp Kkr dlft ; s
- ¼nlj & Es = 1.25½

31- , d nlsQelsokysck kj dksylft ; A fuFu rfydk eadlye SS<sub>1</sub> rFlk dlye SS<sub>2</sub> Øe' kQe&1 rFlk Qe&2 dsifr l kj.f.k ladsn'WZsgA ckt kj ifr l kj.h dk ifjdyu dlft ; s

dlar	$\frac{1}{2}dyl\frac{1}{2}SS_1$	$\frac{1}{2}dyl\frac{1}{2}SS_2$
1	2	0
2	3	.5
3	4	1
4	5	1.5
5	6	2
6	7	2.5

32- ; fn olrqdh dlar 8 #ñ ifr bdlbZgSrlsfoØrkviuholrqdh 1200 bdlb; k cpusdlr\$ kj gSt c dlar c<dj 10 #ñ gSt k rhgSrlsog 1500 bdlb; k cpusdlr\$ kj gA foØrk dh ifr dh ylp D; k gS  $\frac{1}{2}m\frac{1}{2}j$  & 1 bdlbZylpnkj ifr $\frac{1}{2}$

33- , d olrqdh ifr dh dlar ylp 5 gA 10 #ñ ifr bdlbZdlar ij bl dh ifr ekk fdruh gkch Kkr dlft ; A  $\frac{1}{2}m\frac{1}{2}j$  &  $\Delta Q = 300 (600 - 300) 300$  ; fuV dlar eadeh dsl Flk ifr Hh de gkch $\frac{1}{2}$

34- dy flFj ykr rFlk dy ifjorlZykr eavaj fyf[k A

35- fp=k dh l gk rk l s vl\$ r dy ykr (ATC) vl\$ rifjorlZykr (AVC) vl\$ l lalar ykr (MC) dseè; l cak n'WZ, A

36- dy ykr rFlk dy calhykr dkvrj D; kn'WZkgS mRlnu eao f) l sdy ykr eao f) D; lsgl rhgS fp=k dh l gk rk l sl e>lb, A

37- mRlnu ds'WZ Lrj ij dy ykr dh iÑfr D; k gk rhgS viusm $\frac{1}{2}j$  dk dlj.k Hh nft , A D; k vl\$ r calhykr oØ 'X' v{k ; k 'Y' v{k dls Nwk gS ; fn ugharls D; la

\*38- vl\$ r calhykr oØ ijloy; dlj D; lagl rk gS

39- vYidkyhu l lalar ykr dhvo/kj.k dh Q k; k dlft , A D; k calhykr l lalar ykr dsiHhfor djrhgS

\*40- dy ifjorlZykr oØ vlj Haeamry rFlk ckn eavory <ky okyk D; lagl rk gS

41- x.kulred mngj.k dh l gk rk l s dy ykr rFlk l lalar ykr dsl cak dk o. W dlft , A

42- vYidkyhu l lalar ykr oØ 'U' vclj dk D; lagl rk gS

43- vl\$ r calhykr dhfo'WZrk ladh l qli eao k; k dlft , A t c l lalar ykr ?WrhgSD; kml l e; vl\$ r ykr c<l drhgS

44- vl\$ r ifjorlZykr oØ vl\$ vl\$ r dy ykr oØ , d nwjsdsl eli vkrsgfydu , d nwjsdksugla dW r; o. W dlft , A

- 45- mRl kn dsfdl Lrj ij dy ifjorlZykr 'W gk h  
 mRl knu dsvuqlyre Lrj dk D; kvFLZgS  
 ifrQy dsfu; e dsfdl voLFk eal lekr ykr ?Wsh
- \*46- fuFu fLFkr; leady l ákfr eafdl izlj ifjorŹ gk st c&  
 ¼l½ l lekr l ákfr fxj jgh gk yfdu ?kukRed glA  
 ¼k½ l lekr l ákfr 'W gkA  
 ½½ l lekr l ákfr \_ .kRed glA
- \*47- t c dy l ákfr oØ ey ˘cnql sgrkgyh ?kukRed <yku okykgkrgS rsrc vls r l ákfr oØ dkvklj  
 dS k gk k rkydk o j k k fp=k } j k l e > b, A
- 48- l lekr l ákfr ead; k ifjorŹ gk st c&  
 (i) dy l ákfr c<rh nj l s c<rh glA  
 (ii) dy l ákfr ?Wuk 'k gk t rh glA  
 (iii) dy l ákfr vf/kdre gk h glA
- 49- l lekr l ákfr D; kgS mRl kn dsl Hh Lrj laij dler dsfLFj jgusij l lekr l ákfr o vls r l ákfr ea  
 D; k l a k g k r k g A
- 50- t c vf/kd fcØhdjusdsfy, dler ?WuhimrhgSrc l lekr l ákfr dy l ákfr dsfdl izlj izhfor  
 djrhgS
- 51- dy l ákfr (TR), vls r l ákfr (AR) rFlk l lekr l ákfr (MR) dks in flr djusokyh, d , l h d k i f u d  
 rkydk dk fuelZk dlft , ft leae k o i fr dh 'kDr; k } j k l r y u a d l e r d k f u / H Z . k 10 # ñ g l A
- 52- mRl kn d dsl rgyu dk D; kvFLZgS mRl kn d dsl rgyu dh vto'; d o i j d 'k r k d k m y s k d l f t , A
- 53- nhxbZrkydk } j k k l e r d l f t ,  
 ¼l½ mRl kn d l rgyu ij mRl kn d dk Lrj  
 ¼k½ mRl kn d Lrj dk l e Lrj ˘cnq  
 ½½ gku in flr djrk mRl kn u dk Lrj

mRl kn	0	1	2	3	4	5	6	7	8	9	10
dy ykr (TC)	5	15	22	27	31	38	49	63	80	101	123
dy l ákfr (TR)	0	10	20	30	40	50	60	70	80	90	100

\*54- mRi kn dkvf/kdre ykk Lrj Kkr dlft ,

mRi kn	1	2	3	4	5
vS r l i kR (AR)	10	9	8	7	6
vS r ykr (AC)	10	7	6	6	7

\*55- fuFu vuq fp } jk mRi kn d dsl r yu Lrj dS Kkr dlft , rFk crkb, fd mRi knu ds Lrj ij QeZl kku ykk iRr dj jghgA

mRi kn	0	1	2	3	4	5	6	7
dler	11	10	9	8	7	6	5	4
l lekr ykr (MC)	&	3	2	3	4	5	10	13
dy cAh ykr (TFC)	3	3	3	3	3	3	3	3

56- vS r ifjorZykr rFk l lekr ykr dh x. luk dlft , A

mRi kn	0	1	2	3
dy ykr (TC)	40	50	60	70

57- , d QeZmRi knu dh 10 bdb; l d k mRi knu dj jghgSmRi knu ds bl Lrj ij vS r ifjorZykr 18 #nrFk vS r dy ykr 20 #ngSrls dy ykr] dy cAh ykr vS dy ifjorZykr Kkr dlft , A

58- fuFu rkydk dS ijk dlft , A

mRi kn	1	2	3	4	5
vS r l i kR	10	&	8	&	&
l lekr l i kR	10	8	&	0	&
dy l i kR	10	&	&	&	20

### अभ्यास प्रश्न

i zu dy mRi kn rFk l lekr mRi kn Kkr dlft , A

Je dh bZl bZ	1	2	3	4	5	6
vS r mRi kn	2	3	4	4-25	3	3-5

izu fuFu l kfj. h dks ijk dlft ,

v\$ r mR kn 0 & & 22 & & 20

l lekr mR kn & & 22 & & 17 &

dy mR kn 0 20 & & 88 & &

izu fuFu l kfj. h dks ijk djrsgq i\$ kusdsifrQy dh foFhuu voLFk; sn'W; A

<i>vkrs</i>	<i>dy mR kn</i>
16 K + 8 L	10
20 K + 10 L	12
24 K + 12 L	14
28 K + 14 L	16

izu dy fLFj ykr Kkr dlft , A

mR kn 1 2 3 4

v\$ r fLFj ykr 12 6 4 3

izu fuEY rkydk dks ijk dlft ,

<i>mR kn</i>	<i>v\$ r iforZ</i>	<i>dy ykr</i>	<i>l lekr ykr</i>
1	40	160	&
2	30	&	&
3	40	&	&
4	62	&	&

### 6 अंकों वाले प्रश्न

- \*1- vYidkyhu mR knu Qyu rFk n?Zkyhu mR knu Qyu eavvj Li"V dlft , A
- 2- i\$ku dso/ku ifrQy rFk Dk eku ifrQy D; kykwgrsga o.ki dlft , A
- 3- t c , d oLrqds mR kn d dsfy, l Hh vkrs h/ku 1/2eal eku vuqkr eao f) dh tkrhgSrks dy mR knu ij bl dsD; k l mfor iHo iMrgax. k l Red mngj. k dh l gk rkl sl e>lb, A
- 4- l kku ds?WrsifrQy v\$ i\$ kusds?WrsifrQy eamngj. k dh l gk rkl svvj Li"V dlft , A

- 5- t c døy , d vkr ½d½eao f) dht k rhgSrFlk' kkvkr fLFj jgrsgSrc mRln ij D; kiHh o iMk gS o. lñ dlft , A
- 6- fuFu rkydkeai frQy dsfu; e dlsigpularFlkml dhfofHh voLFkvladln' Hh, A rFlkfu; e dh0 k; k Hh dlft , A

<i>ifjorZdljd</i>	<i>djy mRln</i>
1	4
2	12
3	32
4	68
5	102
6	112
7	112
8	108

- 7- i fr dh dler ylp dk D; k vFZgS ge bl sd\$ seki rsgS
- 8- ck kj i fr dls iHfor djusokysdlj dladh 0 k; k dlft ; s
- 9- i fr vu h ph , oafp=k dh l gk rkl si fr dsfu; e dh 0 k; k dlft ; s
- 10- i fr eao f) , oadeh dsdlj dladh 0 k; k dlft ; s
- 11- i fr eaifjorZi , oai fr dhekk eaifjorZi eavaj Li"V dlft ; s
- 12- i fr oØ dsf[kl dlo o i fr oØ ij l p.j.k dlsfp=k dh l gk rkl sLi"V dlft ; s
- 13- mu dlj dladh 0 k; k dlft ; st si fr dh ylp dls iHfor djrsgS
- \*14- i fr dh ylp Kkr djusdhT; kfe rd fof/k dk o. lñ dlft ; s
- 15- i fr dh dler ylp l sD; kvfHk k gA i fr'kr fof/k } kjk vki fdl izkj i fr dh ylp Kkr dj l drsgA
- 16- fuFu fyf[kr eaHh dlft ; s
- ½d½ iwZ; k ylpnkj i fr o iwZ; k cylpnkj i fr
- ¼k½ bdbZls vf/kd ylpnkj i fr o bdbZls de ylpnkj i fr
- 17- mRln d l ryu l sD; kvfHk k gS l q; Red mngj.k dh l gk rkl smRln d l ryu dh 'krs l e>lb; A

- 18- , dlf/ldlj hifr; kxrkeady vke vj dy ykr dhl gk rkl smRi nd l ayu dh vo/hj. k dlsLi "V dft , A
- 19- nlfZkyhu vkr r ykr oØ 'U' vldj dkD; lglrk gS foopu dft , A

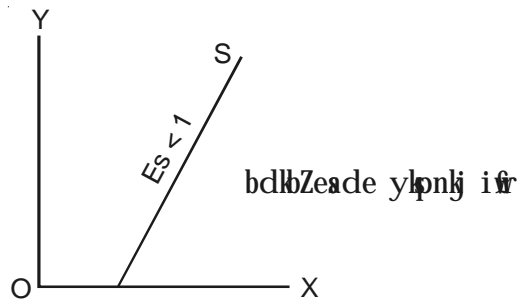
### 1 अंक वाले प्रश्नों के उत्तर

- 1- vkr ladsfuxZla mRi n<sup>1/2</sup> eai forZi dls mRi nu dgrsgSft l dk elnzl eV; glrk gS
- 2- vYi dky
- 3- Je foHkt u rFlk dlj dladsee; vPNk l eØ; A
- 4- l lekr mRi ndr k\_ .Red gSt krh gS
- 5- TP = AP × ifjorZ dldj d <sup>1/2</sup>e<sup>1/2</sup>
- 6- <sup>1/2</sup>d<sup>1/2</sup> vYi of/k mRi nu Qyu <sup>1/2</sup>ifjorZ vuikr dk fu; e<sup>1/2</sup>  
<sup>1/2</sup>k<sup>1/2</sup> nlfZf/k mRi nu Qyu <sup>1/2</sup>skus dls ifr Qy<sup>1/2</sup>
- 7- iSkus dh cprs ferQ ; rk<sup>1/2</sup> dsy k gsrsgft lga, d QeZ mRi nu ds iSkuseao f) djusij ikr djrhgS
- 8- mRi nu Qyu Hkrd vkr l ad fuxZ l dschp Qyu Red l aak dlsLi "V djr k gS
- 9- ifjorZ vuikr dk fu; e mRi n dsØ ogj dko. Zi djr k gSt c oLrqd mRi nu eai z Ør , d vkr <sup>1/2</sup>dlj d<sup>1/2</sup> eai forZi fd; k t krk gSt cfd vU vkr l ad l fLij j [k t krk gS
- 10- TP ?Wrh nj l sc <rk gS
- 11- MP Hh fxjrk gSy fdu r t xfr l sfjrk gS
- 12- rhl jh voLFk dls\_ .Red ifr Qy dh voLFk dgrsgS
- 13- mYVs 'U' ds vldj oky k
- 14- dlj d vkra & Hfe] Je] i w h m/leh  
xj dlj d vkra & di M /kxk l h; k vkn
- 15- TP = Σ MP                      AP = TP/Q  
= 20 + 22                      = 42/2  
= 42 bdlb; ka                      = 21 bdlb; ka
- 16- fdl h dk Z dls foHktu i Ø; k l a eack W dj ml sfoHktu dschp mudh #fp o ; k r k l ad svuq lj forfjr djuk Je foHkt u dgylrk gS

- 17- iSkusoso/ku ifrQy ½Ee voLFH½
- 18- mRi nu dsosdij d ft UgsvYi lof/k eai fjo fr r ughafd; k t k l drk gA
- 19- dñ dj d ft UgsvYi lof/k eavk kuh l sifjo fr r fd; k t k l dsifjo rZdj d ¼ klu½dgrsgA
- 20- cM ekk ea, d l k d Ppk eky vln dh [ljm ij mRi nd dsfeyusokyhNW ghrh gA
- 21- t c l lekr mRi n 'W gkrk gA
- 22- l lekr mRi n \_ .Red gst krk gA
- 23- ugh ; sdHh 'W ughagrsgA
- 24- i fr l s vñ k olrqdh ml ekk l s g\$ ft l s , d QeZ; k foØrk dler ds foññu Lrjñ ij nh gbZ l e; lof/k ds vñ xZ cpusdsfy; sr\$ kj gA
- 25- i fr dkfu; e crkrk g\$ fd vñ crñ dsl eku jgusij i fr ?kRed#i l sdler l sl EcfUkr ghrh gSvr% dler eao f) gñsij olrqdhi fr dhekk c<+t r h g\$ vñ dler eadeh gñsij olrqdhi fr dhekk de gst krh gA
- 26- Q ð r x r i fr vuñ ph dler ds foññu Lrjñ ij , d mRi n dhi fr dh foññu ekk vadks rfydk ds: i eain fkr d jr h gA
- 27- i fr dhekk eai fjo rñ vñ dj dñ ds fl Eñ jgusij dler eai fjo rñ ds dj .k gkrk gA vr% dler eadeh ds dj .k i fr dkl ð pu , oadler eao f) ds dj .k i fr dk foLrj gkrk gA
- 28- (i) olrqdh dler  
(ii) mRi nu & rduld
- 29- i fr eai fjo rñ dler ds fl Eñ jgusij vñ dj dñ s s rduldh Klu] vkrñ dh dler ð mRi nd dkmís; ] Qeñ dh l ð; kvñ l jdkj h ulfr; ð eai fjo rñ ds dj .k gkrk gA
- 30- y\$ VW dk i fr oØ nb±vñ f[k d t k xA
- 31- i fr oØ cb±vñ f[k d t k xA
- 32- xñ us dk i fr oØ cb±vñ f[k d t k xA
- 33- dler eadeh ds dj .kA
- 34- dler eao f) ds dj .kA
- 35- bdkbZ dscjkj ylpñj i fr A
- 36- Hkj r ds [k] ð u mRi nu dk i fr oØ cb±vñ f[k d t k xA



- 37- oLrqdh dler eadeh dsdlj.k i fr eaglsolyh deh dsi fr dkl alpu dgrsgA
- 38- i fr oØ ck lavlj f[kl d tk xA
- 39- QeLdsLVW dseV, eao f) dsdlj.k rFk ck lj eavk hrt hl syHk mBlusdsdlj.kA
- 40- i fr dh dler ylp  $\frac{1}{3}$   $\frac{\text{i fr ea\% ifjor\text{z}}}{\text{dler ea\% ifjor\text{z}}}$  vFkZ  $E_s = \frac{\Delta q}{\Delta P} \times \frac{P}{q}$
- 41- i fr oØ ?kured <ky okysbl fy; sgrsgA; k d oLrqdh dler vj i fr eai R {k?kured l ak grk gA
- 42- i fr oØ ij ulpsdh vj l p j.kA
- 43- i fr dk foLrjA
- 44- ck lj vof/k l svfHk ml vof/k l sglft leamR ind dsl Hh vkr fLFj gls dsdlj.k i fr iwZ; k cylnkj grh gA
- 45- bdlbZl svf/kd ylnkj i frA
- 46- iwZ; k cylnkjA
- 47- ylnkj
- 48- cylnkj
- 49-



- 50- ykr Li"V rFk vLi"V ykrladk; k grh gA
- 51- osHarku t kmR ind }jk ck; vkr adlsiz k djustij mudsLofe; k adsf, t k rsgA
- 52- mR knu ds gj Lrj ij fLFj jgrh gA bl scak fLFj 1/2 ykr Hh dgrsgA
- 53- vLi"V ykr smR ind }jk mR knu eai z k fd, x, fut hl k kuladh dler grh gA
- 54- dy ifjorZ ykr oØ vj k eavory rFk ch eamly grk gA
- 55-  $TVC = \sum MC$
- 56- gk

- 57- TC rFlk TVC dh yEcor njuh TFC dscjkj grhgA t k i R, d Lrj ij fLFj jgrhgA
- 58- TC vL TFC
- 59- gk
- 60- MC = 25 #ñ
- 61- MC = 100 #ñ
- 62- TVC = 60 rFlk AVC = 20
- 63- D; kcd TFC dHh Hh 'W ughgrhgA
- 64-  $MC = TVC_n - TVC_{n-1}$  or  $MC = \frac{\Delta TVC}{\Delta Q}$
- 65- jhy] cVu] /kx] nqlu dkfdjk k vkn
- 66- nwjh voLFA
- 67- 2000 #ñ
- 68- 40 #ñ
- 69- mR kn dh foØ h si Hr enk dsl i Hr dgrsgA
- 70- TR = dler × cphxbzbdlb; ka
- 71- MR 'W glak
- 72- AR l snksxqlh nj ij
- 73- TR oØ ?kured <yku okykljy jll grk gA
- 74- D; kcd mR knu dsl Hh Lrj k ij dler fLFj jgrhgA
- 75- dy l i Hr dler jll k dsulpsds {slQy dscjkj grhgA
- 76- 28 #ñ
- 77- 6 #ñ
- 78- AR vL MR nks dler dsl eku grsg rFlk fLFj jgrsgA
- 79- 8 #ñ
- 80- MR gj l e; fLFj jgrhgA

- 81-  $\frac{dR}{dt} = \frac{d}{dt} (R) = \frac{d}{dt} (PQ) = P \frac{dQ}{dt} + Q \frac{dP}{dt}$  TR o TC dlsvarj vf/kdre gkrk gA vls vfrfjDr mRknu l sykk eadeh vkrh gA
- 82- nls 'krZbl izlkj g&
- (i)  $\frac{dQ}{dt} = \frac{d}{dt} (Q) = \frac{d}{dt} (PQ) = P \frac{dQ}{dt} + Q \frac{dP}{dt}$  (TR) o  $\frac{dC}{dt} = \frac{d}{dt} (C) = \frac{d}{dt} (PQ) = P \frac{dQ}{dt} + Q \frac{dP}{dt}$  (TC) dk vrj vf/kdre gkrk gA
- (ii) vfrfjDr mRknu l sykk ?Wrk gA
- 83- vf/kdre ykk l srkr; ZTR vls TC dk vf/kdre ?lukred varj gkrk gA
- 84- og  $\frac{dQ}{dt} = \frac{d}{dt} (Q) = \frac{d}{dt} (PQ) = P \frac{dQ}{dt} + Q \frac{dP}{dt}$  TR = TC gkrk gA
- 85- ijd 'krZ%vf/kd mRknu l smRknd dk ykk ?Wrk gA
- 86- vlo'; d 'krZ%TR vls TC dk vf/kdre varjA
- 87- l leU ykk %t c TR = TC gsvls m| k eaubZQeZdsvkxeu rFkijkuhQeZeo-gxZu dhio fuku ibZ tkA

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## बाजार के प्रमुख रूप पूर्ण प्रतियोगिता में कीमत निर्धारण

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Lej. H; fclhq

- iwZi fr; kxrk%iwZi fr; kxrk lsvfHk k ckt lj dsml lo: i lsgSft l eacgr l sfoØrk viuhle: i oLrqlads, d l eku dler ij fcukfdl hi fr; kxrk ds, i sØrkvladscprsgft Ugack lj dk iwZKku glrk gA
- , dk/kdj hi fr; kxrk%; g ckt lj dhog voLFk gSft l eaQekdhvf/kd l q; kgrhgsvl l Hh QesdM i fr; khokroj.keaviuh, d&nwj sl sffu oLrqlads, i sØrkvladscprsgft Ugack lj dk viwZKku glrk gA
- , dk/kdj ckt lj %; g ckt lj dk og : i gSft l eaLrqdk vdyk mR ind ; k foØrk glrk gA oLrqdh fudVre LFkUki tu oLrqdk vHko ik k t krk gA
- iwZi fr; kxrkeadler fLFj jgusdsdj.k.vl r o l lea l i kfr l eku jgrsgaij. Her%budsoØ ox v{k dsl eaj glrsgA
- iwZi fr; kxrkeadler fu/HZ.km| k Ørk&foØrkvladcl eg<sup>1/2</sup> lj kfd; k t krkgSt lsf elx , oai fr dh 'kDr; lal si Hfor glrk gA dlbZHh Q iDrxr QeZ; k mi HDrk oLrqdh dler ; k i fr dls i Hfor ughadj i krA
- , dk/kdj hi fr; kxrkeai fr ij fu; akkds vHko dsdj.k.l Hh QeZ, d&nwj sdh dler dls; ku eaj [kdj viuh oLrqdh dler fu/HZr djrh gA
- , dk/kdj hi fr; kxrkeoLrqdhelx bdbZl svf/kd ylpnj glsdsdj.k.elx oØ vR, r l jy <ky oky glrk gA
- , dk/kdj ckt lj eaLrqdhi fr ij iwZfu; akkgl sdsdj.k.foØrkLo; aelx dhyp dsvklj ij viuh oLrqdh dler r; djrk gA
- , dk/kdj ckt lj eaQekdsfuchk i nsk ij i frck dsdj.k.QeZdlsnflZly eaHh vil leki yHk i fr glrsgA
- , dk/kdj ckt lj eaLrqdhelx bdbZl sde ylpnj glrhgA vr%elx oØ dk <ky vR, r rloz glrk gA
- oLrqdhi fr bdbZdler fLFj ukjgusdsdj.k, dk/kdj ckt lj eavls r o l lea l i kfr oØ \_ . Herd <ky oky glrsgA

ct kj dsieqk: iadsryukRed y{kk

<i>iwZ i fr; kxrk</i>	<i>, dW/dljh i fr; kxrk</i>	<i>, dW/dlj ct kj</i>
• Ørk&foØrkvla dh cMh l á; k	• Qe& dh cMh l á; k	• vdyk foØrk
• le: i oLrqa	• oLrq foHn	• fudVre LFHkiú oLrq dk vHó
• dler fLFjrk	• xykW i fr; kxrk	• QeZ ds fucZk inók ij ifrc&k
• ct kj dk iwZ Klu	• ct kj dk viwZ Klu	• dler foHn dh l Hók
• i fr; kxrk dk vHó	• foØ; o foKliu ykra	• i fr ij iwZ fu; akk
• m k }jk dler fu/Hj.k	• l kula dh iwZ xfr'hyrk	• i fr; kxrk dk vHó

एक अंक वाले प्रश्न

- 1- ct kj l sD; k vfhik gS
- 2- fdl i fr; kxrk eaQeZdk e& oØ oX v{k dsl elj g&k gA
- \*3- QeZdk oLrqdh i fr ij iwZfu; akk fdl i fr; kxrk eaik kt rk gA
- 4- iwZi fr; kxrk eavls r o l elr l Efr oØ l eku D; log&sgA
- 5- le: i mRkn l sD; k vfhik gS
- 6- iwZi fr; kxrk eadler fdl izlj fu/Hj r g&h gS
- 7- oLrqfoHn l sD; k vfhik gS
- 8- iwZo , dW/dljh i fr; kxrk eadli l h fo' k&k al eku g&h gA
- \*9- , dW/dljh i fr; kxrk eavls r l Efr o e& oØ dsclp D; k l ecUk g&k gA
- 10- , dW/dlj ct kj dsifHfr dft , A
- \*11- e& dhylp ds vkhj ij iwZi fr; kxrk o , dW/dlj ct kj eavlj dft , A
- 12- fdl ct kj eaQeZo m|k dsclp vlj ugl&gA
- 13- nRZly eaHn vil k& yHk fdl i fr; kxrk eaQeZdsi fr g&sgA
- 14- dler foHn l sD; k vfhik gSbl dh l Hók fdl ct kj eal Hó g&h gS
- \*15- dler foHn dhulfr dh l Qyrke& dhylp ij fdl izlj fuHj djr gA
- 16- iwZi fr; kxrk eact kj dkiwZKlu fdl izlj dler ds fLFj cuk j [rk gA
- 17- Qe& dh cMh l á; k , dW/dljh i fr; kxrk eadler fu/Hj.k eaD; k H&edk fuH&h gS
- 18- fdl i fr; kxrk eaQe& ds fucZk inók ij ifrc&k g&k gS

- 19- , d QeZdler Loldkj d fdl i fr; kxrkeaghrhgS
- \*20- elx dhylp , dk/kdj ct kj eadler fu/hj. kd hLorark dksfdl izlkj fu; k djrhgS
- \*21- , dk/kdj ct kj eal lea l i fr oØ dk < ky \_ . kEd D; laghrk gS
- 22- QeZdk dler rFk i fr ij iwZfu; akkfdl djd ij fu/hj, djrk gS
- \*23- , dk/kdj h i fr; kxrkeal rgyu Lrj ij dler vj l lea yrk ead; kl akghrk gS
- 24- l rgyu dler dksif h i fr dlft, \
- 25- l rgyu ekkl sD; kvfhi k gS
- 26- elx vk/lD; l sD; kvfhi k gS
- 27- i fr vk/lD; dh fLFfr dc t le yrhgS
- \*28- ; fn ipfyr dler l rgyu dler l sde gsrkhrhgS rks Qe dhl d; kij D; ki hlo i Mk k
- \*29- ; fn elx iwZ; kypnj gsrk i fr eadeh dkl E; dler ij D; ki hlo i Mk k
- 30- elx oØ dsnb vj f[k dusdkl rgyu dler ij D; ki hlo i Mk k; fn i fr oØ OX v{k dsl elj gl
- \*31- fdl fLFfr eaelx eao f) ghsij doy l rgyu dler eafjor h ghrk gS l rgyu ekk vi hfor jgrhgS
- \*32- vYidky eagfu dh fLFfr ea h QeZm R knu ca D; laughadjrla
- 33- ; fn elx dhryukea i fr eavf/ld o f) ghrhgS rks l rgyu dler ij D; ki hlo i Mk k
- 34- fdl fLFfr eaelx ds fLFj jgusij i fr eao f) dsclot w l rgyu dler vi hfor jgxh
- \*35- ct kj dly eaelx eadeh ghsdkl rgyu dler ij D; ki hlo i Mk k
- 36- elx rFk i fr nslaea, d l Eko f) ghsij fdl fLFfr eal rgyu dler vi hfor jgrhgS
- 37- ; fn ipfyr dler l rgyu dler l svf/ld gsrk ckt kj ea Qe dhl d; kij bl dk D; ki hlo i Mk k
- 38- U wre dler l sD; kvfhi k gS

### 3-4 अंक वाले प्रश्न

- 1- elx , oai fr dh 'kDr; h iwZi fr; kxrkeadler fu/hj. kead; k hfe dck fu h r hgS
- 2- iwZi fr; kxh QeZdler fu/hj d ughacfyd dler Loldkj d ghrhgS Q k; k dlft, A
- \*3- dler fu/hj. kd hLorark ij fuFu dk D; ki hlo i Mk k gS

$\frac{1}{4} \frac{1}{2}$  Qe dhl d; k

$\frac{1}{4} \frac{1}{2}$  elx dh ylp

- \*4- iwZ<sub>o</sub> , d<sub>k</sub>/k<sub>d</sub>lj h i<sub>r</sub>; k<sub>r</sub>h r<sub>Fk</sub> , d<sub>k</sub>/k<sub>d</sub>lj c<sub>t</sub> l<sub>j</sub> eafu<sub>Fu</sub> v<sub>k</sub>l<sub>j</sub> ij v<sub>r</sub>j d<sub>l</sub>f<sub>t</sub> , A  
 $\frac{1}{4}$ l $\frac{1}{2}$  e<sub>k</sub> dh y<sub>l</sub>p  
 $\frac{1}{4}$ k $\frac{1}{2}$  d<sub>l</sub>e<sub>r</sub> ij fu; a<sub>k</sub>k  
 $\frac{1}{4}$ l $\frac{1}{2}$  v<sub>k</sub> r v<sub>k</sub>e o $\emptyset$
- \*5- , d<sub>k</sub>/k<sub>d</sub>lj h i<sub>r</sub>; k<sub>r</sub>r<sub>k</sub> eafu<sub>Fu</sub> dh 0 k<sub>j</sub>; k d<sub>l</sub>f<sub>t</sub> , A  
 $\frac{1}{4}$ l $\frac{1}{2}$  d<sub>l</sub>e<sub>r</sub> fu/k<sub>d</sub>.k  
 $\frac{1}{4}$ k $\frac{1}{2}$  i<sub>r</sub> ij fu; =<sub>k</sub>k  
 $\frac{1}{4}$ l $\frac{1}{2}$  e<sub>k</sub> dh y<sub>l</sub>p
- 6- , d<sub>k</sub>/k<sub>d</sub>lj c<sub>t</sub> l<sub>j</sub> dh f<sub>d</sub>U<sub>h</sub>ar<sub>h</sub> fo' k<sub>r</sub>k<sub>v</sub>l<sub>a</sub>d<sub>k</sub>o. k<sub>d</sub> d<sub>l</sub>f<sub>t</sub> , \
- 7- , d<sub>k</sub>/k<sub>d</sub>lj r<sub>Fk</sub> , d<sub>k</sub>/k<sub>d</sub>lj h i<sub>r</sub>; k<sub>r</sub>r<sub>k</sub> dh n<sub>s</sub>l e<sub>k</sub> r<sub>Fk</sub> n<sub>s</sub>v<sub>l</sub> e<sub>k</sub> fo' k<sub>r</sub>k<sub>v</sub> a<sub>f</sub>y<sub>f</sub>[<sub>k</sub> A
- \*8- fud<sub>V</sub>re L<sub>F</sub>k<sub>i</sub> l<sub>u</sub> oL<sub>r</sub>q<sub>d</sub>h<sub>m</sub>i<sub>y</sub> c<sub>r</sub>k<sub>f</sub>d<sub>l</sub> i<sub>r</sub>; k<sub>r</sub>r<sub>k</sub> e<sub>a</sub>i<sub>b</sub>z<sub>t</sub> k<sub>r</sub>h<sub>g</sub>S; g d<sub>l</sub>e<sub>r</sub> ij D; k<sub>i</sub> k<sub>o</sub> M<sub>y</sub>r<sub>h</sub>g<sub>S</sub>
- 9- Qe<sub>k</sub>s<sub>d</sub>f<sub>u</sub>c<sub>k</sub>z<sub>i</sub>n<sub>s</sub>k<sub>d</sub>s<sub>d</sub>l<sub>j</sub>.k<sub>f</sub>d<sub>l</sub> i<sub>r</sub>z<sub>l</sub>j , d<sub>k</sub>/k<sub>d</sub>lj h i<sub>r</sub>; k<sub>r</sub>r<sub>k</sub> e<sub>a</sub>n<sub>h</sub>?z<sub>l</sub>y e<sub>a</sub>Qe<sub>Z</sub>d<sub>s</sub>v<sub>l</sub> k<sub>h</sub>l<sub>j</sub> y<sub>h</sub>k<sub>l</sub> k<sub>h</sub>l<sub>j</sub> y<sub>h</sub>k<sub>l</sub> e<sub>a</sub>c<sub>n</sub>y t<sub>r</sub>s<sub>g</sub>S
- \*10- v<sub>i</sub>d<sub>k</sub>y e<sub>a</sub>l<sub>r</sub>y<sub>u</sub> d<sub>l</sub>e<sub>r</sub> d<sub>s</sub>f<sub>u</sub>/k<sub>d</sub>.k e<sub>a</sub>i<sub>r</sub> dh v<sub>i</sub>s<sub>k</sub> e<sub>k</sub> dh h<sub>e</sub>d<sub>k</sub> v<sub>f</sub>/k<sub>d</sub> D; l<sub>a</sub>g<sub>r</sub>h<sub>g</sub>S
- 11- l<sub>r</sub>y<sub>u</sub> d<sub>l</sub>e<sub>r</sub> d<sub>s</sub>f<sub>u</sub>/k<sub>d</sub>.k dh f<sub>p</sub>=k<sub>l</sub> f<sub>g</sub>r 0 k<sub>j</sub>; k d<sub>l</sub>f<sub>t</sub> , \
- \*12- f<sub>d</sub>u f<sub>l</sub>F<sub>r</sub>; k<sub>e</sub>a<sub>i</sub> i<sub>r</sub> e<sub>a</sub>g<sub>h</sub>s<sub>o</sub>l<sub>y</sub>k<sub>i</sub>f<sub>j</sub>o<sub>r</sub>z<sub>i</sub> fl Q<sub>Z</sub>l<sub>r</sub>y<sub>u</sub> d<sub>l</sub>e<sub>r</sub> ij i<sub>h</sub>o M<sub>y</sub>r<sub>k</sub>g<sub>S</sub>l<sub>r</sub>y<sub>u</sub> e<sub>k</sub>k<sub>v</sub>i<sub>h</sub>o<sub>r</sub> j<sub>g</sub>r<sub>h</sub>g<sub>S</sub>f<sub>p</sub>=k<sub>l</sub> f<sub>g</sub>r l e> b<sub>Z</sub>\
- 13- fu<sub>Fu</sub> f<sub>l</sub>F<sub>r</sub>; k<sub>a</sub>d<sub>k</sub>l<sub>r</sub>y<sub>u</sub> d<sub>l</sub>e<sub>r</sub> ij D; k<sub>i</sub> k<sub>o</sub> i<sub>M</sub>k<sub>A</sub>  
 $\frac{1}{4}$ l $\frac{1}{2}$  e<sub>k</sub> e<sub>a</sub> d<sub>e</sub> d<sub>e</sub>h i<sub>r</sub> e<sub>a</sub> v<sub>f</sub>/k<sub>d</sub> d<sub>e</sub>h<sub>A</sub>  
 $\frac{1}{4}$ k $\frac{1}{2}$  e<sub>k</sub> e<sub>a</sub> d<sub>e</sub>h t<sub>c</sub> i<sub>r</sub> i<sub>w</sub>Z; k y<sub>l</sub>p<sub>n</sub>l<sub>j</sub> g<sub>h</sub>s  
 $\frac{1}{4}$ l $\frac{1}{2}$  i<sub>r</sub> o $\emptyset$  e<sub>a</sub> c<sub>b</sub>=v<sub>l</sub>j f<sub>[</sub>k<sub>l</sub> d<sub>o</sub> t<sub>c</sub>f<sub>d</sub> e<sub>k</sub> i<sub>w</sub>Z; k y<sub>l</sub>p<sub>n</sub>l<sub>j</sub> g<sub>h</sub>A
- \*14- mu f<sub>l</sub>F<sub>r</sub>; k<sub>a</sub>d<sub>h</sub>f<sub>p</sub>=k<sub>l</sub> f<sub>g</sub>r 0 k<sub>j</sub>; k<sub>d</sub>j<sub>a</sub>t<sub>c</sub> e<sub>k</sub> r<sub>Fk</sub> i<sub>r</sub> e<sub>a</sub>, d<sub>l</sub> k<sub>r</sub>k<sub>i</sub>f<sub>j</sub>o<sub>r</sub>z<sub>i</sub> g<sub>h</sub>s<sub>i</sub>j H<sub>h</sub>l<sub>r</sub>y<sub>u</sub> d<sub>l</sub>e<sub>r</sub> f<sub>l</sub>F<sub>j</sub> j<sub>g</sub>r<sub>h</sub>g<sub>S</sub>
- 15- v<sub>k</sub>/k<sub>d</sub>; e<sub>k</sub> d<sub>s</sub>f<sub>p</sub>=k<sub>l</sub> dh l<sub>g</sub>k<sub>r</sub>l<sub>s</sub>l e> b<sub>o</sub> ; g f<sub>l</sub>F<sub>r</sub> d<sub>c</sub> t<sub>l</sub>e<sub>y</sub>r<sub>h</sub>g<sub>S</sub>
- 16- c<sub>t</sub> l<sub>j</sub> d<sub>l</sub>e<sub>r</sub> r<sub>Fk</sub> l<sub>r</sub>y<sub>u</sub> d<sub>l</sub>e<sub>r</sub> d<sub>s</sub>l<sub>e</sub>U<sub>k</sub> dh 0 k<sub>j</sub>; k d<sub>l</sub>f<sub>t</sub> , A
- 17- i<sub>r</sub> v<sub>k</sub>/k<sub>d</sub>; l<sub>s</sub>D; k<sub>v</sub>f<sub>h</sub>i<sub>k</sub> g<sub>S</sub>; g c<sub>t</sub> l<sub>j</sub> e<sub>a</sub>Qe<sub>k</sub>s<sub>d</sub>i<sub>n</sub>s<sub>k</sub> i<sub>j</sub> D; k<sub>i</sub> k<sub>o</sub> M<sub>y</sub>r<sub>h</sub>g<sub>S</sub>

## 6 अंक वाले प्रश्न

- 1- iwZifr; kxkrFk, dk/dkj ckt kj eavls r o l l ekr l i kfr o Oadh ryuk dlft, A
- 2- , dk/dkj hifr; kxko , dk/dkj ckt kj eavvj dlft, \
- 3- iwZifr; kxrk ckt kj dhieqk fo' kxk vadk mYs k dlft, A
- 4- , dk/dkj hifr; kxrk dhieqk fo' kxk vadk Q k; k dlft, A
- \*5- ; fn , d oLrqdhnghZdler ij ek vk/D; gA D; k; g l ryu dler gS ; fn ugharkl ryu dler dS s fu/Wjr gkxh
- 6- ek rFkifr ea, d l Fk deh dkl ryu dler ij D; ki Hko iMk j f p=hadh l gk rkl sl e>lb; A
- 7- ifr eafjorZi dkl ryu dler ij D; ki Hko iMk ; fn &  
 $\frac{1}{2}$  ek iwZ; k cy p n kj gA  
 $\frac{1}{4}$  ek iwZ; k y p n kj gA
- 8- ifr vk/D; dh fLFfr eapfyr dler dsl ryu dler D; laughaekutkl drk crkb, fd bl fLFfr eai q%l ryu dler fdl izlj fu/Wjr gkxh
- \*9- mu fLFfr; hadsfp=k dhl gk rkl sl e>lb; stc ek rFkifr nslaea, d l Fk ifjorZi ghsij l ryu dler c<t krh gA
- 10- ek rFkifr ea, d l Fk of) dkl ryu dler ij D; ki Hko iMk gS fp=hadh l gk rkl sl e>lb; A
- \*11- ifr ds fLFj jgusij ek easo f) dkl E; dler ij i Hko fp=k dhl gk rkl sl i"V dlft, A
- 12- iwZrFk, dk/dkj hifr; kxrk dh nsl eku rFk nsl fHu fo' kxk vadk Q k; k dlft, A

## एक अंक वाले प्रश्नों के उत्तर

- 1- ckt kj l svfhi k , d h Q oLFk l sgSft l ea, d oLrqdsOrk&foOrk oLrqdsØ; &foØ; grq, d&nwjsds l adZejgrsgA
- 2- iwZifr; kxkea
- 3- , dk/dkj ckt kj ea
- 4- ifr bdlbZdler fLFj jgusdsdj.k
- 5- tc l Hh Qels) jk mR l fnr oLrq, d nwjsdhi wZLFkuki lu glavFkZ jx] : i] vldj] otu iSdx vkn dsvkHj ij l eku gsrksmgal e: i mR kn dgk tkrk gA



- 6- iwZi fr; kxrk eadler m| k }jk k e k , oai fr dh 'kDr; kads v k k ij fu/ k r dh t k r h g A
- 7- t c , d LoHo okyhoLrqajx : i| v k d j | ot u | m t l bu i S dx v k n eaeleyh v r j d s d j . k , d n w j s l s f H u g l r h g A
- 8- ¼ d ½ Qe k d k f u c k i n s k o c f g x z u  
¼ k ½ l k l u l a dh iwZ xfr' h y r k
- 9- n l s l a \_ . k R e d < k y o k y s g l r s g A
- 10- c k l j d k o g : i f t l e a o L r q d k v d y k m R l n d ; k f o r k g l r k g A o L r q d h f u d V r e L F H u k i u o L r q d k v k k o i k t k r k g A
- 11- iwZi fr; kxrk & iwZ; k y l p n j  
, d k / k d j & b d l b Z l s d e y l p n j
- 12- , d k / k d j c k l j e a
- 13- , d k / k d j c k l j e a
- 14- d l e r f o H a f o Ø ; dh , i h u l f r g s f t l d s v a r x z f o r k , d g h L o H o o k y h o L r q k a d s f o f H u Ø r k v l a d s v y x & v y x d l e r l a i j c p r k g A
- 15- f t l m i H O r k d s f y , o L r q d h e k c y l p n j g S , d k / k d j h m l s o L r q A p h d l e r i j c p x k b l d s f o i j r f t l Ø r k d s f y , e k y l p n j g S , d k / k d j h m l d s f y , o L r q d h d l e r r y u l e d : i l s d e f u / k r d j x k A
- 16- iwZi fr; kxrk e a ; f n d l b Z Q e Z m | k } j k f u / k r d l e r l s v f / k d d l e r r ; d j r h g S r l s c k l j d k i w Z K l u g l s d s d j . k m i H O r k o L r q d s v l u Q e k l s [ k j m u s y x x A
- 17- Qe k d h v f / k d l q ; k d s d j . k d l e r f u / k r . k d h i w Z L o r a k l e k r g l s t k r h g S f t l l s i R s l Q e Z v i u h o L r q d h d l e r v l u Q e k d h d l e r l s d s e ; k u e a j [ k d j f u / k r d j r h g A
- 18- , d k / k d j c k l j e a
- 19- iwZi fr; kxrk e a
- 20- , d k / k d j h i f r ; kxrk e a Q e Z d h o L r q d h e k | b d l b Z l s v f / k d y l p n j g l s d s d j . k d l e r e a d h x b Z e l e y h l h o f ) e k d s r y u l e d : i e a v f / k d d e d j l d r h g A
- 21- o L r q d h v f / k d / k d e k k c p u s i j i f r b d l b Z d l e r ? W r h p y h t k r h g S f t l l s , d k / k d j c k l j e a l e k r l a k r o Ø d k < k y \_ . k R e d g l s t k r k g A
- 22- Qe k d h l q ; k i j
- 23- f o i j r l e c U k g l r k g A

- 24- ft l dler ij oLrqdhe~~k~~ rFlk i~~fr~~ l eku gl~~rhg~~A
- 25- oLrqdhog e~~k~~ft l sl ~~ryu~~ dler ij [l jhko c~~p~~t k~~r~~kgS
- 26- e~~k~~ v~~f~~/l~~d~~; , d hfl~~fr~~ gSft l eaoLrqdhe~~k~~ ml dhi~~fr~~ l svf/l~~d~~ gl~~rhg~~A
- 27- t c oLrqdhi~~p~~fy~~r~~ dler l ~~ryu~~ dler l svf/l~~d~~ gl~~s~~t k~~A~~
- 28- Qe~~k~~sdhl d~~;~~ k de gl~~s~~t k~~x~~hA
- 29- l ~~k~~E; dler i~~v~~z~~r~~ jg~~x~~hA
- 30- l ~~ryu~~ dler c<+t k~~x~~hA
- 31- t c i~~fr~~ i~~v~~z~~r~~; kcy~~l~~pn~~k~~j gl~~A~~
- 32- D; l~~d~~ QeZd~~s~~dy ifjorl~~Z~~ykrai~~fr~~ gl~~rh~~jgrh~~g~~A
- 33- ;fn e~~k~~ dhryukeavf/l~~d~~ o f) gl~~rh~~gSrl~~s~~l ~~ryu~~ dler ?W t~~rh~~g~~A~~
- 34- e~~k~~ dsil~~fr~~ jgusij i~~fr~~ eao f) dscotw l ~~ryu~~ dler vi~~fr~~for jg~~x~~h;fn e~~k~~ i~~v~~z~~r~~; ky~~l~~pn~~k~~j gl~~A~~
- 35- ct~~k~~j dky e~~k~~ dehgsij l ~~ryu~~ dler de gl~~s~~t k~~x~~hA
- 36- e~~k~~ rFlk i~~fr~~ n~~s~~lea, d l eku o f) dhfl~~fr~~ eal ~~ryu~~ dler vi~~fr~~for jg~~x~~hA
- 37- ;fn i~~p~~fy~~r~~ dler l ~~ryu~~ dler l svf/l~~d~~ gSrl~~s~~ct~~k~~j eaQe~~k~~sdhl d~~;~~ k c<+t k~~x~~hA
- 38- U~~w~~re e~~v~~; og dler gSt~~k~~ljd~~k~~ }~~k~~kr; dh~~t~~rhg~~A~~ rfd m~~r~~lnd~~l~~ad~~s~~mudsm~~r~~l~~n~~u dkm~~f~~r e~~v~~; i~~fr~~ gl~~s~~l d~~A~~

## मांग और पूर्ति वक्रों के उपकरणों का सरल अनुप्रयोग

Lej. Ht cnq

- oØadsele; e l s, i spjadkvè; ; u fd; kt krkgSt ksijLij J .Red ; k?ukRed : i l sl af/r gkrsgA
- pj nksizlj dsgrsg& Lorakpj vls vkr Jr pjA
- l klij.kr; k Lorakpj adk OY v{kij rFk vkr Jr pj adks OX v{kij fu: fir fd; kt krkgA
- oØ cuksle; OY rFk OX v{kij l q; Red rF; adkin' lzi fu: iu½, d mpr vuikr eagh djuk plfg, A
- ft u l adksel[kd rdk} jkl e>uk dfBu gkrk gsmgaoØa} jkl jyrkl sl e>kt kl drkg rFk oØadki kko efr" d ij yfcsle; rd jgrkgA
- vFZM=keaelx rFk i fr oØadki z k eq; : i l sfu fu rF; ladsiz r qdj.k dsfy, fd; kt krkg&
  - ¼½ elx o i fr l aah rF; ladsiz r qdj.k grA
  - ¼½ fofhu vkr d fØ; k lads eè; l rgyu lFkr djus ea
  - ¼½ elx i fr eagls okys ifjor z l adk fofhu lFkr; l eal rgyu o ckt lj dler ij i Musokys izho ds in' lzi grA
  - ¼½ elx rFk i fr dh ylp dh fofhu Jf.k lads fp=le; in' lzi grA
  - ¼½ elx vkr d; o i fr vkr d; dh lFkr; l eal wre o mpre dler ds fu/kr.k dh Q k; kgrA
- Q ogfjd t hou ea h oØadk eglob de ughagSt \$ selx oØ } jkl ljdij mpre dler l helb vls Rj wre dler l helb dk fu/kr.k djrh gA
- ljdij elx rFk i fr dh ylp dsve; ; u lsdjadk fu/kr.k djrh gA
- elx o i fr oØ dj dh nj eagls okyho f) ; k dehdso l r y l adhelx i fr ij i Musokys izho l adh Q k; k eal gk d gkrsgA
- elx rFk i fr oØ fofhu l rgyu l adh l jy Q k; k djrsg&
  - ¼½ C kt nj l enk dh elx o i fr ½
  - ¼½ et njh dh nj ¼ e dh elx o i fr ½
  - ¼½ dlj d l adh dler fu/kr.k
  - ¼½ fons h fofue; nj dk fu/kr.k
  - ¼½ yxku ds fu/kr.k grq
  - ¼½ mi HDrk dh cprA
  - ¼½ dj fu/kr.k ea

राष्ट्रीय आय एवं समबन्धित समाहार

Lej.Ht cnq

- pØh iølg %vFØ oLFk esfofHÜ {slladschp vKfFd iLijLifjd varjfuHrkibZt krhgSt kvk dspØh iølg dlt è nrhgA vk vL\$ mRi kn dkpØh iølg ; g Li "V djrkgSfd vFØ oLFk dsfofHÜ {sllaea elnzl vk ; kolrvla o l okvladkiølg pØh : i eagkrk gA
- f}{sllh elMy %f}{sllh vFØ oLFk esifjøj{sll}kjkinzku fd, x, mRi knu dljdladkiølg mRi kn d {sll dh vLj rFk mRi knr olrvla, oal okvladkiølg mRi kn d {sll sifjøj {sll dh vLj gkrk gA
- mRi knu %mRi knu , d ekuoh izkl gSftlls, sHsd %Lrqa½; k vHsd %ok %zinFLk dk fuelZk gkrk gSft ueaeuoh vlo'; drk dh i r dh mi; kxrk gsvL\$ ft udkfuf'pr elnzl eW; glA
- i vkr olrqa%; sosvfire olrqa gät smRi knu ds mRi knr dlj d gät \$ s & e'ku] vL\$ kj vlnA
- eè; orlZolrqa%; sosoLrqa gft udh iq%fcØh dh tkl drhg\$; siR {k: i l sekuoh vlo'; drk dls ijk ugladjrhcfYd vfire olrvla ds mRi knu eaiz k dh tkrhgA
- vfire olrqa%mu olrvla ds vfire olrvla dh Jsh eaj [k tkrkgSt siR {k: i l sekuoh vlo'; drk dls ijk djrhgavL\$ mRi knu ifl lek dls ijk dj tkrhgA budhiq%fcØh llo uglagrlA vfire olrvla dk eW; jkVh vk; ea'kfeY fd; k tkrk gA
- of) r eW; %eW; of) ½% fdl h mRi knu bdlbZ ds fuf'pr le; eafd, x, mRi knu dseW; rFk izDr vaoZL%è; orlZmi Hk dseW; dk varj of) r eW; dgykrk gA
- mRi knu dkeW; %, d mRi knu bdlbZ}ijk, d yLk o"ZeamRi knr l HhoLrvla, oal okvladk ckt kj eW; mRi knu dkeW; dgykrk gA
- nlgjhx.kuk%jkVh vk; dk vdyu djrsl e; t c fdl hen dkeW; , d lsvf/d clj 'kfeY dj fy; k tk rlsbl snlgjhx.kuk dgk tkrk gA bl l eL; k dsl ekku grqnlsmik viukuspfg, &

½½ vfire mRi kn fof/k dk iz k

½½ of) r eW; fof/k %eW; of) fof/kA

- nsh; dlj d vk %mRi knu dlj dladsLofe; l}ijk, d yLk o"Zeansh; l lek ds varxZ mRi knu dk k eaviuh dlj d l ok ai knu dj ds v r dhxbZvk dk; k nsh; dlj d vk ; k dlj d ykr ij fuoy nsh; mRi kn dgykrk gA bl eafufu enladls 'kfeY fd; k tkrk g&

½½ deZkj; l dk ifJfed

¼k½ iþkyu vf/kkk

½½ Lofu; ktrla dh fefJr vk A

- jkVh vk %; g , d ysk o"Zea, d nsk dsl leki fuokl ; lads i hr gisokyh dkd vk dk ; k grhgA
- okrfod vk %bl sllkj dleraij jkVh vk Hdgk t rkgA ; g fdl hnsk dsl leki fuokl ; la}kj , d o"ZeamR knr vire oLrqa, oal okvadsllkj eW; ldk ; k grkgA bl dhx.kuk dsfy, , d ysk o"Zdsvire mR kn dsvk kj o"Zdh dlerlal sxqk fd; k t rkgA
- elnd ; kipfyr dleraij jkVh vk %; g , d nsk dsl leki fuokl ; la}kj, d ysk o"ZeamR knr fd, x, vire mR kn dk ipfyr eW; grkgA bl dhx.kuk dsfy, orZku o"Zdsvire mR kn dsvorZku o"Zdh dlerlal sxqk fd; k t rkgA
- futh vk %; g , d ysk o"Zea futh {lek dsl Hh l lral si hr gisokyh dkd vk rFk jkVh \_ .k ij C kt o ljdkj rFk 'kk fo'o l si hr orZku gLrlaj. haddk ; k grhgA
- jkVh vk vlyu dhvk fof/k%; g jkVh vk ekiu dh, d hfof/kgSft l eamR knu dsvfuok Zdkj d la }kj mR knu dk keainik dkd l okvadsifRy : i eavfr etnyll yxku] C kt rFk yHk dsl t l t rkgA bl dsfufu ?Wd gA

¼d½ deþkj; la dk ifjJfed

¼k½ iþkyu vf/kkk ¼ E fuk o m|eo fr l s vk ½

½½ Lofu; rra dh fefJr vk

¼k½ fonsla l s 'kj dkd vk A

- jkVh vk vlyu dh 0 ; fof/k%bl fof/keajkVh vk dk vuoku yklusdsfy, , d fofuk o"Zea ckt kj dler ij l dy nsh mR kn ij fd, x, vire 0 ; dseki kt rkgA vFhZ , d o"Zea vire miHk o fuoskij fd, x, vire 0 ; dsl t l l e j jkVh vk dk vuoku yxk kt rkgA
- vkfkd l lek%; g ljdkj }kj izkl r og Hskfyd ifj l lekSft l ea 0 fdr oLrqa i whdk Lorak i ng grkgA ; g fufu vk kj ij r; dh t rkgA
  - (i) jkt usrd] l enh rFk golbZ l leka
  - (ii) fonsla eaf l fr nwlod ] ok.kt; nwlod l sud ifr "Bku] jkt uk; d Hou vln] , d s gh foHk t ls fonsla ljdkj la }kj l ipfyr gA fdrq ?kj ywvkfkd l lek ea flFr gS mlgA N l e j A
  - (iii) t gkt rFk ok qku t ls nls nska ds clp vkil h l gefr l s pyk tk jgs gA
- fuokl h %fdl hnsk dkl leki fuokl h ml 0 fdr ; k l lFk dsekuk t rkgSft l dsvkfkd fgr ml hnsk dh vkfkd l lek eadsfr ghaft l eaog jgrkgA

jKVh vk dk eku  
 ct kj dler ij l dy nsh, mRn (GDP mp)

vk fof/k ls	Q; fof/k ls	of r eW; fof/k@mRn fof/k
1- deplj; la dk iljJfed %etnyh oru \$ l lelt d l j{lk ea l o& ; k dha dk ; lanku \$ l ok fuo fr iaku½	futh vfire miHk Q;	
2- ipkyu vf/kkk %yxku@fdjk k \$ G kt \$ yHk \$ jk VVh½	l loZ fud vfire miHk Q;	mRn ku dk eW; %cOh \$ LVW ifjorZ½ & vroZIZ miHk  OR
3- lofu; ltr rha dh fefJr vk	fucy fu; l; %u; l; & vk k½	mRn dk eW; %Hfed \$ f}fr; d \$
4- fuoy viE {k dj %viE {k dj vuqku½	l dy nsh; iwh fuelZk % dy nsh; vpy iwh fuelZk \$ fuoy LVW %fire LVW & i jHd LVW½	r rh d {lek½ & e/; orIZ miHk %Hfed \$ f}rh d \$ r rh d {lek½
5- flFj ifl a fuk la dk vo{k .k		
ct kj dler ij & fuoy viE {k dj	l dy & eW; akl	nsh; mRn \$ fuoy fonskh dljd vk
dljd ykr ij \$ fuoy viE {k dj	fuoy \$ eW; akl	jKVh mRn & fuoy fonskh dljd vk
ct kj dler ij	l dy	nsh; mRn

• futh vk

- 1- futh {lek dls nsh; mRn lsvk %dljd ykr ij fuoy nsh; mRn & ljdkh izkl fud  
foHkha dh l e fuk o m|eo fr ls vk & x\$ foHkxh; m|ela dh cpr½
- 2- \$ fuoy fonskh dljd vk
- 3- \$ jKVh \_ .k ij G kt
- 4- \$ ljdkj ls 'lq pkywglrlrj.k
- 5- \$ 'kk fo'o ls 'lq orZku glrlrj.k

• Q Drd vk

- 1- futh vk & fuxe dj & fuxfer cpr
- 2- Q Drd izkF; vk \$ Q Drrx iE {k dj \$ ljdkj dh fof/k iMlr; la

• Q Drd izkF; vk

- 1- Q Drd vk & Q Drrx iE {k dj & ljdkj dh fof/k iMlr; la

2- Q fDrxr vfire miHk \$ Q fDrxr cpra

- fut h vk ] Q fDrd vk o izk; vk dh jkVt vk l sx.luk

*jkVt vk*

& ljdkj izk fud foHk dh l afk o m|eo fk l s vk

& x\$ foHk m|ela dh cpra

\$ jkVt \_ .k ij C k

\$ ljdkj l s ipkfy@pkwglrj.k

\$ 'k fo'o l s pkwvraj.k

*fut h vk*

& fut h fuxfer dj fuxedj] dauh yk dj<sup>1/2</sup>

& fut h fuxfer ctr fadauh cpr] vforfjr yk<sup>1/2</sup>

*Q fDrd vk*

& Q fDrd iR {k dj fjojk }jk fn, x, iR {k dj<sup>1/2</sup>

& ljdkj dh fofok iR; k

*Q fDrd izk; vk*

- Q fDrd izk; vk l sjkVt vk ] fut ho Q fDrd vk dh x.luk

*Q fDrd izk; vk*

\$ Q fDrxr iR {k dj

\$ ljdkj dh fofok iR; ka

*Q fDrd vk*

\$ fuxe dj

\$ fuxfer cpr

*fut h vk*

\$ ljdkj iR fud foHk dh vk

\$ x\$ foHk m|ela dh cpra

- & jkVh \_ .k ij C kt
- & ljdkj lsihr pkywLrlrj.k
- & 'kk fo'o l s pkywLrlrj.k

jkVh vk

- jkVh izk; vk
  - 1/2 l dy jkVh izk; vk %jkVh vk \$ fuoy viR {k dj \$ fLFj iwh dk vo{k .k \$ 'kk fo'o lsihr pkywfuoy gLrlrj.k 1/4kk fo'o lsihr pkywvraj.k & 'kk fo'o dks fn, x, pkywLrlrj.k/2
  - 1/4k/2 l dy jkVh izk; vk 3/4 ct kj dler ij l dy nsh; mRln \$ fuoy fonslh dljd vk \$ 'kk fo'o lsihr fuoy pkywLrlrj.k
- fuoy jkVh izk; vk 3/4 jkVh vk \$ fuoy viR {k dj \$ 'kk fo'o lsihr fuoy pkywLrlrj.k
- eW of) %fcØh \$ LVW eafjorZ \$ vroz hmiHk dkeW; A

1 अंक वाले प्रश्न

- 1- l efV vFZHL-k dks ifjHk'kr dlft , A
- 2- l efV vkfkd vè; u dsnks mngj.k nft , A
- \*3- eW of) r fof/k dk izk fdl izkj ngjh x.kuk dh l eL; k dk l eku djrk gS
- 4- fuoy fu; k l sD; k vfHk k gS
- 5- vroz hmiHk dh mngj.k l fgr ifjHk'kr fyf[k A
- 6- vk ds ng ea{kj.k l sD; k vfHk k gS
- 7- mngj.k dh l gk rkl svk ds ng ea{kj.k dk vFZl e>lb, A
- 7- vforfjr yHk l sD; k vfHk k gS
- 9- pkywLrlrj.k dks ifjHk'kr dlft , A
- 10- okRfod ifrQ fDr vk l sD; k vfHk k gS
- 11- ipfyr dler ij jkVh vk rFk okRfod vk eaD; k varj gS
- \*12- fuoy nsh; mRln (NDP) rFk fuoy jkVh mRln fdl fLFfr eal eku gkA
- 13- gLrlrj.k dks jkVh vk ea'kfey D; laughafd; k t krk



- 14- l dy nsh, mRkn l sD; k vffik gS
- 15- fuFu eal sLVK rFk iolg dksigplfu, &  
 $\frac{1}{2}$  jKVh l E fuk  
 $\frac{1}{4}$  jKVh vk
- 16- pOh, iolg l sD; k vffik gS
- 17- jKVh izk; vk dksifHkr dlft, A
- 18- l dy vpy iwh fuelZk l sD; k vffik gS
- 19- LFbZi wh dsvo{k dk vffizyf[k A
- \*20- dler Lrj eaglsolyhof) dk jKVh vk dh x.luk ij D; kiHo iMk gS
- 21- mRkn dsew, l sD; k vffik gS
- 22- jKVh vk yfkd dh D; k mi; kxrk gS
- 23- bLrqee; orZgsvFlok vfre ; g ml dsizk ij fuH, djrk gS mlgj.k l sl e>lb; A
- 24- fuFu oLrv eal seè; orZrFk iwhkr oLrv adls Jsk) dlft, &  
 $\frac{1}{2}$  e'ku  
 $\frac{1}{4}$  dpk eky  
 $\frac{1}{2}$  bau o 'kDr dh [kir  
 $\frac{1}{4}$  midj.k
- 25- ipkyu vf/kk l sD; k vffik gS
- 26- fdl hnsk dk l leku fuok h fdl sekut krk gS
- \*27- Lomi Hk dsfy, mRknr l okvlal sD; k vffik gS bUgajKVh vk ea'lfey D; laughafd; k t krk
- \*28- jKVh vk dc nsh, vk dscjkj glrh gS
- 29- mRkn ds Hkrd : i dsdlbZnlsxqk fyf[k A
- 30- vffid l lek l sD; k vffik gS
- 31- fonskal s'ku l ku vk l sD; k vffik gS
- 32- fonskaefuok h deifu; la dh 'ku ifr/Hjr vk l sD; k vffik gS

### 3-4 अंक वाले प्रश्न

- 1- नश्लि द्जिद व्क धवो/ह्ज.क द्कLi"V द्दित , A
- 2- फोन्सल sfuoy द्जिद व्क l sD; k vfhik gS bl dsizqk?Wdladh Q k; k dft , A
- \*3- न्गjh x.kuk l sD; k vfhik gS bl l eL; k l sfdl izlj cpk tkl drkgA
- 4- द्जिद व्क o gLrlrj.k vk; eaD; k fHUr k agA
- 5- देडिज; लदसिज Jfed l sD; k vfhik gS
- 6- Q ; fof/k dsvu d j jKVh vk; dseki u eaj [h t kusokyh l lo/Hfu; लदक mYs k dft , A
- 7- फुफु द्क jKVh vk; eaD; ल' ह्फेय ughafd; k t k r k &  
 $\frac{1}{2}$  igkuh oLry la dh fcØh l s vk  
 $\frac{1}{4}$  k  $\frac{1}{2}$  foU h i w h l s vk  
 $\frac{1}{2}$  gLrlrj.k vk A
- 7- eè; orlzo vfre oLry l adscp varj dft , A
- 9- oLry lao l okv laeaD; k varj gS
- 10- futh vfre mi Hk Q ; ds?Wdladh Q k; k dft , A
- 11- f} {leth vFØ oLFk eavk dspØh inlg dsl e>lb, A
- \*12- futh vk; dlsifj Hk'kr dft , A ; g jKVh vk; l sfdl izlj fHu glrh gS
- 13- mRln fof/k dsvu d j jKVh vk; dseki u eaj [h t kusokyh l lo/Hfu; lafyf [k A
- 14- ckt j dler ij l dy nsh mRln o ckt j dler ij fuoy jKVh mRln eaD; k varj gS
- 15- vkh d l lek dh vo/hj. k dh Q k; k dft , \ bl ds vrxZ fdu enladk ' hfe y fd; k t k r k gS
- 16- l leU fuok h l sD; k vfhik gS bueal sfdl s Hjr dk l leU fuok h euk t k t k xA  
 $\frac{1}{2}$  glk d k ea dk Z djus N% e g ds fy, x, Hjr h MDVj  
 $\frac{1}{4}$  k  $\frac{1}{2}$  Hjr ea fi Nys rhu o"Z l s vè; u dj jgk ulbZ hfj; lbZ Nlek  
 $\frac{1}{2}$  Hjr ea bykt djus vk cte j us kyh ukxfj dA
- 17- l dy jKVh iz h; vk; l sD; k vfhik gS; g jKVh vk; l sfdl izlj fHu gA
- 18- ipfyr dler laij jKVh vk; rFk l Fj dler laij jKVh vk; l sD; k vfhik gS ipfyr dler laij jKVh vk; dsoLrfod jKVh vk; eaifjofrr fdl izlj fd; k t k r k gA
- 19- l dy nsh mRln dlsifj Hk'kr djrsgq bl dh fo' k k k afyf [k A

- 20- i p f y r o i a l k r g L r l a r j . h a d l s i f j H k ' k r d j r s g q b u d s c l p v a r j d l f t , A
- 21- L o m i H k d s f y , m R l n u l s D ; k v f i k k g S D ; k b l d s f u f u H k s d l s j K V h v k e a ' h f e y f d ; k t k x k v F l o k u g l a
- $\frac{1}{4}$   $\frac{1}{2}$  o L r v l a d k L o m i H k g r q m R l n u       $\frac{1}{4}$   $\frac{1}{2}$  l o k v l a d k L o m i H k g r q m R l n u
- $\frac{1}{4}$   $\frac{1}{2}$  f l F k j i f j l E i f u k l a d k L o y s k m R l n u A

### 6 अंक वाले प्रश्न

- 1- v k f o f / k d s v u d l j j K V h v k d s e k i u d h i f 0 ; k d l s L i " V d l f t , A
- 2- v k f o f / k d s v u d l j j K V h v k d s v l a y u d h l k o / k u ; l a d k o . h i d l f t , A
- 3- j K V h v k d k v l a y u o f r e w ; m R l n f o f / k / 2 f o f / k } l j k f d l i z l j f d ; k t k r k g S
- 4- Q ; f o f / k d s v u d l j j K V h v k d k e k i u f d l i z l j f d ; k t k r k g S f o L r l j i w z l f y f [ k A
- 5- v i r e m i H k Q ; l s D ; k v f i k k g S b l d s ? W d l a d h Q k ; k d l f t , A
- 6- i p k y u v f / k k d l s i f j H k ' k r d j r s g q b l d s ? W d l a d h Q k ; k d l f t , A
- \*7- f u f u d l s j K V h v k e a D ; l a ' h f e y u g l a f d ; k t k r k &
- $\frac{1}{4}$   $\frac{1}{2}$  y l w j h e a t l r h x b z b z l e d h j k ' k
- $\frac{1}{4}$   $\frac{1}{2}$  L o m i H k g r q m R l k n r l o k a
- $\frac{1}{4}$   $\frac{1}{2}$  f c 0 h d j
- $\frac{1}{4}$   $\frac{1}{2}$  f p f d R l k l o k v l a d s l p k y u g r q f o n s l a l s i h r v u n k u A
- \*8- f u f u d l s j K V h v k e a ' h f e y f d ; k t k x k v F l o k u g l a d l j . k l f g r f y f [ k &
- $\frac{1}{4}$   $\frac{1}{2}$  l k o z f u d \_ . h a i j C k t
- $\frac{1}{4}$   $\frac{1}{2}$  e R q l j
- $\frac{1}{4}$   $\frac{1}{2}$  ' l s j l a d s e w ; e a o f )
- $\frac{1}{4}$   $\frac{1}{2}$  ? l j s y w d a u h d s u , ' l s l z d k 0 ; A
- \*9- f u f u d l s ? l j s y w d l j d v k e a ' h f e y D ; l a u g l a f d ; k t k r k t c f d j K V h v k e a ' h f e y f d ; k t k r k g &
- $\frac{1}{4}$   $\frac{1}{2}$  , d H j r h f u o k l h } l j k g l a d l a e a f l F k r d a u h l s y H k
- $\frac{1}{4}$   $\frac{1}{2}$  Y l a h l h n w o k l l s H j r h l a d l s i h r o r u

½ Hjr rh, LVY cñl dh , d cñp }kj k gWSM ea vñr yHk

¾ , d Hjr rh, dls teZ nwlkl l s iHr fdjk k

\*10- fuñu dkeW, jkVñ vk, ea 'ñey D; lauglafd; k t k k dlj .kl fgr fyf[k &

¼½ , d fons' h cñl }kj k gñj kñ ea fñk 'k k l s vñr yHk

¼¾ , d vfuokl h Hjr rh, }kj k Hjr ea fñk vius ifjolj dls Ht k x; k /lu

½ Hjr rh, nwlkl ea dle djus okys Ýh h h dls fn; k x; k oru

¾ , d vfuokl h MñWj dk oru tñ Hjr rh, vñrky ea dle dj jgk gñ

\*11- fuñu enñdñsjkVñ vk, ea D; ñ 'ñey fd; k t k k gñ

¼½ Q k k j d cñl l s iHr G k t tñ fnYh ea fñk gñ

¼¾ , d Hjr rh, dls iñdñrkuh nwlkl ea dle djus ij iHr oru

½ fons' k ñ }kj k Hjr rh, cñk j ea iñ {k [kj mñj h

¾ teZ , ; jybñ ea dñ ñr Hjr rh, ik yV dk oru A

12- fuñu dkeW, jkVñ vk, 'ñey gñk vñok ughadñ .kl fgr fyf[k A

¼½ fdjk k

1- x gñk }kj k fn; k x; k edlu dk fdjk k

2- mññdñ }kj k QñVñ fo ñMk ds fdjk dk Hñrku

¼¾ ; kñ Q ;

1- ; kñ }kj k fn; k x; k jy dk ; kñ Q ;

2- QeZ }kj k jyos dls eky HñM dk Hñrku

13- jkVñ vk, dkvlñyu djrsl e; fuñu enñdñkfdl fof/kdsvñxZ vè; ; u fd; k t k xñ budkeW, 'ñey fd; k t k xñ vñok ughadñ .kl fgr fyf[k A

¼½ , d QeZ }kj k pñM , dñmWñ dls nh xbZ Qñ

¼¾ Nkñ }kj k fd; k x; k Qñ dk Hñrku

½ l j dñj h fñlñl j h ea eñr fñdñ k l fñ/k

¾ QeZ l s deñj h dls iHr fu'ñd fñdñ k l fñ/ñ

\*14- fuñu dkeW, jkVñ vk, eal fñeyr fd; k t k xñ vñok ughardñ l fgr l e>ñ, A

- 1- l j d l j } k j k L V W y b Z i j f d ; k x ; k Q ;
- 2- ? k j y w Q e Z d s u , ' l s j l a d k Ø ;
- 3- v f u o k h H k j r h l a } k j k v i u s i f j o j d l s H t k x ; k / u
- 4- y l M y h ; k u k d s v r x Z l j d l j } k j k c f y d k d s e k r k f i r k d l s n h x b Z j k ' l a

### 1 अंक वाले प्रश्नों के उत्तर

- 1- v F Z M = k d h o g ' k k f t l e a l E i w z v F M o l F k l s t y h v k f d l e L ; k v l a d k v e ; ; u f d ; k t k r k g S l e f V v F Z M = k d g r s g A
- 2- l e f V v k f d v e ; u d s n l s n m l g j . k g S & i w z j k x l j j k V h v k v l n A
- 3- o j r e W ; f o f / k d s v r x Z e e ; o r l Z m i H k d k e W ; l F k l F k ? W k k t k r k g A
- 4- f u ; l Z r F k v k k r d k v a j f u o y f u ; l Z d g y k r k g A
- 5- , d m R l n d } k j k o L r y l a o l o k v l a d s m R l n u g r q e e ; o r l Z o L r y l a i j f d ; k x ; k Q ; A
- 6- { j . k o s v k f d p j g a t l s v k d s i n l g i j \_ . k R e d i H k o N M r s g A
- 7- H j . k m u v k f d p j l a d l s d g k t k r k g S t l s v k r F k o L r y l a d s i n l g e a o f ) d j r s g a t S s & f u o s k o f u ; l Z A
- 8- v f o r f j r y l k d s y l k d k o g H k e k u t k r k g S t l s v k l j ; l a e a f o r f j r u g l a f d ; k t k r k A
- 9- p l y w L r l a j . k o s g L r l a j . k g a t l s H k r k u d r l Z d h o r Z k u v k e a l s i H r d r l Z d h o r Z k u v k e a ' l f e y f d ; s t l r s g A
- 10- o k r f o d j k V h v k d k o g H k t l s v l s r : i l s i R s l Q f D r d l s i H r g l r k g A
- 11- o k r f o d j k V h v k o r Z k u o ' l Z e a d l e r e a v l u s o k y s m r j & p < l o d s i H k o l s e d r g l r h g S t c f d e l n z l ; k i p f y r d l e r l a i j j k V h v k i j b l i f j o r Z d k i H k o i M r k g A
- 12- f u o y f o n s l h d j d v k ' l y g l r h g A m l f l F r e a f u o y n s l t m R l n r F k f u o y j k V h m R l n l e k u g l r s g A
- 13- g L r l a j . k a d l s j k V h v k e a b l f y , ' l f e y u g l a f d ; k t k r k D ; l a d b u l s u b Z v k d k l t u u g l a g l r k v l s u k g h o L r y l a o l o v l a d s i n l g e a d l s Z o f ) g l r h g A
- 14- , d n s k d h n s l t l l e k e a , d y s k o ' l Z e a m R l n r l H v f i r e o L r y l a o l o k v l a d s c k l j e W ; d k ; l a
- 15- 1/2 L V W 1/2 k i n l g
- 16- v k d k p O h i n l g ; g L i ' V d j r k g S f d v F M o l F k d s f o f i H u { l a e a l n z l v k ; k o L r y l a o l o k v l a d k i n l g p O h : i e a g l r k g A

- 17- ; g , d y[ko"Zeafdl hnsk dsl lekU fuokl ; lsdsl Hhl kral siHr og vk gSft l sosviuhbPNkud lj miHk djusrFk cpr ds: i eal jfkr j [kusdsfy, Lorak glrsgA
- 18- l dy iwh fuelZk , d y[ko"Zeaiwh dsLVWV eaglsokyh o f) gSft l eafLFj iwh dk vo{k 'Hfey glrk gA
- 19- , d y[ko"ZeamR lnu i f0; keayxrkj izDr gksdsdlj.kviNfrd dlj.kal sflFj iwh dseW, ea vkusokyh deh dlsflFj iwh dk vo{k dgrsgA
- 20- dler Lrj eaglsokyh o f) dsQyLo: i elnzl jkVh vk c<+t krhgA
- 21- mR lnu dseW, l svfHk k , d y[ko"ZeaQeZ} jkd hxbZfc0hrFkLVWV dseW, eagq ifjorZ dst M l sgA
- 22- jkVh vk y[halu , d y[ko"Zea jkVh vk ea'Hfey dh t kusokyh vkfkd enadls igpkus rFk mudk ; knku eki useal gk d glrh gA
- 23- ; g dFlu l R gSfd iz k djusdsmis; ij eè; orlzo vfre oLrvk adkoxlZj.kfuHj, djrk gA t \$ sphuh miHDrk dsfy, vfre oLrqgSt cfd dsl dk mR lnu djusokyh dauh } jk [ljmh xbZphuh eè; orlzo oLrgA
- 24- iwhkr & e'lu] midj.k  
eè; orlZ& dPpk eky] bAu o 'kDr dh [k rA
- 25- i pkyu vf/kkk l afk dsLofeR o m|e'hyrk l sglusokyh vk gA ; g eq; r%yxku@fdjk k C kt] jk YVh rFk yHk dk ; k glrh gA
- 26- fdl hnsk dkl lekU fuokl hml Q fDr ; kl LFk dsekuk t rkgSft l dsvkfkd fgr ml hnsk l st YsgA
- 27- , l h l sk aft udk mR lnu budsmR lnd } jk fut h v0'; drk vadh i fr dsfy, fd; k t rkgS uk fd ckt lj eafc0hgrqmlgaLomiHk dsfy, mR lnr l sk adgk t rkgSbudseW, dk vkdyu d fBu glrk gS bl fy, blga jkVh vk eauglat Mkt rA
- 28- jkVh vk ml fLFfr eanskh vk dsl eku glrh gSt c fuoy fonskh dljd vk 'Hj glA
- 29- ¼½ budk l xg fd; k t k l drk gS  
¼k½ budk glrk j.k l Mo glrk gA
- 30- vkfkd l lek l svfHk k fdl hnsk dhljdlj } jk izkfl r ml Hklyd l lek l sgSft l ea0 fDr] oLrq rFk iwh dk i0lg fuelZk : i l sglrk gA
- 31- nsk dsl lekU fuokl ; la} jk 'kk fo'o dsl klu l sk ainu djdsvfr dhxbZvk eal s'kk fo'o dsl , l sgh l klu l sk vadk fd; kx; k Harku ?Wkusij fonskal sfuoy dljd vk iHr glrh gA

- 32- fonslh eadk, Zr nshl, dEi fu; ladhifr/Hfjr vk 1/2 forfjr yHk/vL\$ nskeafonslh dEi fu; ladhifr/Hfjr vk dk vrjA

### HINTS FOR 6 MARKS QUESTIONS

- 1- 1/4 1/2 yWjheat hrhxbZzle dhjfk gLrkrj.kvk ghsdsdlj.kjKVh vk ea'Wfey ughadt krlA  
 1/4 1/2 Lomi Hkx grq mRi knr l skvla ds eW; dk mfpr vlalyu dBU glrk gA vr% budk eW; jKVh vk ea'Wfey ugha fd; k t krlA  
 1/4 1/2 fpdfR k l skvla ds l pkyu grq fonslh l sihr vupku pkywLrkrj.k gS bl fy, bUga'Wfey ugha fd; k t krlA  
 1/4 1/2 fcOh dj eek dj dk vfuok ZHkrku gSt cfd jKVh vk dh x.kuk l klu ykr ij dh tkrh gA
- 2- 1/4 1/2 l koZ fud \_ .haij G; k jKVh vk ea'Wfey ugha fd; k t krlD; lid ; g l jdlj }kjky; kx; k \_ .k mi Hkx dk kgrqfy; kx; k \_ .k ekuk t krl gSuk fd mRi kndh \_ .A  
 1/4 1/2 e R; qj dls'Wfey bl fy, ugha fd; k t krlD; lid ; g l jdlj dls fn; kx; k vfuok ZHkrku gA  
 1/4 1/2 's jla ds eW; ea of) , d i wkr yHk gS bl fy, bl s jKVh vk ea ugha t krlA  
 1/4 1/2 ?jy wQeZ ds u, 's jla dh [l j m l s o L r y l a o l s k v l a ds i n g e a d l b Z o f) u g h a g l r k A ; g f o f k i w h d k g L r k r j . k e e k g A
- 3- 1/4 1/2 D; lid ; g yHk Hkr dh nshl l lek l sclj vfr fd; kx; k gA  
 1/4 1/2 D; lid Yla H h nwokl Yla dh nshl l lek dk Hkx gS bl dk l pkyu Yla H h l jdlj }kjky fd; k t k jgk gA  
 1/4 1/2 bl cil }kjky vfr ; g yHk Hkr dh nshl l lek ea vfr ugha fd; kx; k gA  
 1/4 1/2 teZ nwokl l sihr fdjk k'Wfey ugha glrk D; lid bl nwokl dk l pkyu teZ l jdlj }kjky fd; k t k jgk gS bl fy, ; g nshl l lek dk Hkx ugha gA
- 4- 1/4 1/2 D; lid ; g yHk, d fonslh l l k }kjky vfr fd; kx; k gA jKVh vk dk vlalyu djrsl e; bl s fons'k l d l s m | e o f r d s Q y L o : i n k u d h x b Z v k e k u d j f o n s l h l s v f r d j d v k e a l s ? W k k t k r k g A  
 1/4 1/2 D; lid ; g gLrkrj.k vk gA  
 1/4 1/2 D; lid ; g fons'k l d l s m u d h l s k v l a d s i z l x d s c n y s f d ; k x ; k H k r k u g A v r % b l s f u o y f o n s l h d j d v k d s v l a y u g r q ? W k k t k r k g A

- $\frac{1}{4}k\frac{1}{2}$  D;  $k\bar{c}d$  jkVh vk eafI QZl kEU fuokI ;  $h\bar{a}$  }jkvfr dhxbZvk dls 'lfey fd; k t k rkgA
- 5-  $\frac{1}{4}d\frac{1}{2}$  D;  $k\bar{c}d$  ; g Hkjrh I kEU fuokI h }jkvfr djd vk gA
- $\frac{1}{4}k\frac{1}{2}$  D;  $k\bar{c}d$  ; g fonf'k  $h\bar{a}$  dls nhxbZdjd I  $ok\bar{v}h\bar{a}$   $\frac{1}{4}e\frac{1}{2}$  lsvfr vk gA vr%blsjkVh vk ds vlyu eafuoy fonsh djd vk eaf t  $k\bar{m}k$  t k xA
- $\frac{1}{2}k\frac{1}{2}$  ; g fcOh dk , d Hkx gS ft l s vi  $\bar{R}$  {k : i l s fu;  $\bar{L}$  l s g h s okyh vk eluk t k r k gA
- $\frac{1}{4}k\frac{1}{2}$  D;  $k\bar{c}d$  ; g fonf'k  $h\bar{a}$  dls inku dhxbZdjd I  $ok\bar{v}h\bar{a}$  lsvfr vk gS v  $\bar{H}\bar{L}$  ; g fuoy fonsh djd vk dk Hkx gA
- 6-  $\frac{1}{4}d\frac{1}{2}$  (i) x gLFk }jkfn; kx; kfdjk k vfre mi Hkx Q ; dk Hkx gS vr%bl dkeW; jkVh vk eaf 'lfey glkA
- (ii) QSVh fcYMk dkfdjk k mRi ind dk eè; orZmi Hkx gS vr%; g jkVh vk eaf l fefyr ugha glkA
- $\frac{1}{4}k\frac{1}{2}$  (i) ;  $k\bar{k}$  Q ; x gLFk dk vfre mi Hkx Q ; gS vr%bl s 'lfey fd; k t k xA
- (ii) eky  $\bar{H}\bar{M}k$  QeZ dk xS I kku vkxr Q ; gS vr%; g 'lfey ugha glk
- 7-  $\frac{1}{4}d\frac{1}{2}$  ; g QeZdk eè; orZmi Hkx gS bl dk vè; ; u mRi ln fof/k ds vrxZ fd; k t k xk ; g jkVh vk eaf 'lfey ugha glkA
- $\frac{1}{4}k\frac{1}{2}$  ; g vfre mi Hkx Q ; dk Hkx gS bl dk Q ; fof/k ds vuq kj jkVh vk dh x.luk djrs I e; t  $k\bar{m}k$  t k xA
- $\frac{1}{2}k\frac{1}{2}$  ; g Ijdljh vfre mi Hkx Q ; dk Hkx gS bl s Q ; fof/k ds vrxZ jkVh vk eaf 'lfey fd; k t k xA
- $\frac{1}{4}k\frac{1}{2}$  ; g deZkj;  $h\bar{a}$  ds ikjJfed dk Hkx gS vr%vk fof/k ds vuq kj jkVh vk ds eki u eaf bl s 'lfey fd; k t k xA
- 8-  $\frac{1}{4}d\frac{1}{2}$  ; g I loZ fud vfre mi Hkx Q ; dk Hkx gS vr%jkVh vk eaf 'lfey fd; k t k xA
- $\frac{1}{4}k\frac{1}{2}$  ; g foUh iwh dh [kjm gS vr%jkVh vk eaf 'lfey ugha glkA
- $\frac{1}{2}k\frac{1}{2}$  ; g gLrlrj.k vk gS vr%jkVh vk eaf 'lfey ugha glkA
- $\frac{1}{4}k\frac{1}{2}$  ; g gLrlrj.k vk gS vr%jkVh vk eaf 'lfey ugha glkA



## अभ्यास के लिए संख्यात्मक प्रश्न

iz1- fuFu rF; ladh l gk rk l sA rFk B dk o) r eW; Kkr dlft , &

- |                                |        |
|--------------------------------|--------|
| (i) A }jk dPph l lexh dk vk kr | 900    |
| (ii) QeZ B dh fcØh             | 6]000  |
| (iii) A }jk QeZ B l s Ø;       | 600    |
| (iv) A }jk mi HDrk l dls fcØh  | 3]000  |
| (v) Qe± B dk fu; k             | 900    |
| (vi) QeZ A }jk QeZ B dls ½cØ½  | 4]200  |
| (vii) QeZ A dk fu; k           | 1]800  |
| (viii) QeZ A dk vire LVW       | 900    |
| (ix) QeZ B dk 'k LVW           | 1&600½ |
| (x) QeZ A dk ijald LVW         | 150    |

mÜj A dheW; o f) ¾	8,250
B dheW; o f) ¾	750

iz2- Kkr dlft , fuoy jkVh iz k; vk

- |                                     |        |
|-------------------------------------|--------|
| (i) jkVh vk                         | 1,800  |
| (ii) feJr vk                        | 300    |
| (iii) fuoy fonsh dj d vk            | 1&150½ |
| (iv) viR {k dj                      | 450    |
| (v) eW; âkl                         | 240    |
| (vi) 'kk fo'o l s iHr fuoy gLrlkj.k | 600    |

mÜj 2,850

iz3- fuFu vldMdh l gk rk l sKkr dlft , &

- ½d½ mR knu dk eW;
- ½k½ dj d ykr ij fuoy o) r eW; (NVAFC)

(i) nsh foØh	1,200
(ii) Lomi Hk ds fy, mR hnr oLrqa	800
(iii) fu; k	400
(iv) vfre LVW	700
(v) vjhd LVW	400
(vi) dPph l lexh dk vU Qek l s Ø;	600
(vii) bAu o 'kDr dh [k r	200
(viii) IyW , oa e'kujh dh [k m	400
(ix) vhd l gk rk	80
(x) fuoy viR {k dj	240
(xi) vo{k .k eV, âk ½	160
(xii) dPps eky dk vk kr	300

mUj ¼1½2700 ¼1½1200

& IyW , oa e'kujh dh [k m i vkr 0 ; gSuk fd e/; orZ mi Hk 0 ; A

& Lomi Hk ds fy, oLrv la dk mR knu Hh fcØh dk , d Hk gA

iz4- ct kj dler ij fuoy of r ey; Kkr dlft , &

(i) mR knu dk eV;	
1- iHfed {sk	1750
2- f}rh d {sk	500
3- r rh d {sk	400
(ii) fLFj i v h ds eV; ea vo{k .k	200
(iii) v roZ mi Hk dk eV;	
1- iHfed {sk	600
2- f}rh d {sk	450
3- r rh d {sk	300

	(iv) fuoy viðsk dj	150
	(v) íbúð o f}rh d {sk dk vk kr	300
múlj	1,100	
iz5-	ldy jkVh izk; vk, Kr dlft, &	
	(i) málku dk eV;	40]000
	(ii) dpph lexh dk vk kr	15]000
	(iii) báu o 'kDr dh [kr	2500
	(iv) flfj íwh ds eV; ea vo{k .k	3]000
	(v) viðsk dj	3]500
	(vi) fonskals fuoy dj d vk	1]000
	(vii) 'kk fo'o ls ikr ípfyr gLra.j.k	4]000
	(viii) 'kk fo'o dls inku fd, x, gLra.j.k	2]000
	(ix) vupku	1]00
múlj	25]500	
iz6-	Kr dlft, fuoy jkVh izk; vk	
	(i) dj d ykr ij ldy nsh vk	10]000
	(ii) viðsk dj	1]000
	(iii) vupku	1]250
	(iv) vo{k .k ½, ák ½	500
	(v) fonskals ikr fuoy dj d vk	1,400
	(vi) 'kk fo'o ls ikr fuoy var.j.k	1,500
múlj	12]150	
iz7-	Kr dlft, fuoy jkVh izk; vk	
	(i) jkVh vk	1,800
	(ii) feJr vk	300

(iii) fuoy fonslh dljd vk	150½
(iv) viR {k dj	450
(v) eW, âkl	240
(vi) 'k fo'o l s i k r fuoy gLrj.k	600

mÛj 2,850

iz- Kkr dlft ,

¼d½ fuoy jkVt izR; vk

¼k½ dljd ykr ij l dy nsh mRkn

(i) fut h vfre miHk Q ;	1,400
(ii) l kZ fud vfre miHk Q ;	600
(iii) fuoy fu; R	200
(iv) fuoy nsh vpy iwh fuelZk	400
(v) 'k LVW	300
(vi) i j fkd LVW	100
(vii) fuoy viR {k dj	160
(viii) vo{k .k eW, âkl ½	240
(ix) fuoy fonslh dljd vk	100½
(x) 'k fo'o l s i k r fuoy v r j .k	200

mÛj ¼d½3000 ¼k½2980

iz- deZlj; hdk i f j fed Kkr dlft , &

(i) yHk	2]000
(ii) dljd ykr ij fuoy nsh mRkn	16]000
(iii) C kt	1]600
(iv) fLFj iwh ds eW, ea vo{k	3]200
(v) fefJr vk	6]000

	(vi) viR {k dj	1,200
	(vii) ljdjh l gk rk	400
	(viii) fdjk k	2,400
mUj	4]000	
iz10-	fuFu vhlMadhl gk rkl sfcØlB Kkr dlft, A	
	(i) e/; orZ mi Hk	1,800
	(ii) 'lq viR {k dj	500
	(iii) vfrd LVW	2]000
	(iv) ijkhd LVW	1]000
	(v) cktj dler ij l dy eW, of)	10]000
	(vi) flFkj iwh dk miHk	600
mUj	10]800	
iz11-	fuFu vhlMadhl gk rkl sipkyu vf/kkk Kkr dlft, A	
	(i) l klu ykr ij l dy jkVt, mRln	8]000
	(ii) Lofu; kft rks dh fefJr vk	1200
	(iii) fonskhl s fuoy dkd vk	1&200½
	(iv) etnyh , oa oru	2]000
	(v) deZjh }jk l kft d l j{lk ea vanku	1]000
	(vi) vpy iwh ds eW, ea deh	600
	(vii) fuoy viR {k dj	400
mUj	4]000	
iz12-	fuFu vhlMal sdeZj; ldk iljJfed Kkr dlft, A	
	(i) l klu ykr ij l dy ?ljswmRln	5]000
	(ii) yxlu	200
	(iii) yHk	400
	(iv) l fi fuk o m eo fuk l s vk	1,500

(v) 'kq viR {k dj	300
(vi) vpy iwh dk vo{k .k	200
(vii) Lofu; rrla dh feJR vk	1]000
mUkj 2,300	

### 6 अंक वाले संख्यात्मक प्रश्न

iz13- Kkr dlft ,

¼½ mRln fof/k ls jkVh vk

¼½ vk fof/k ls dkjd ykr ij l dy jkVh mrih

(i) ctkj dler ij fuoy mRlnu dk eW;	
iRfed {sk	15]000
f}rh d {sk	8]000
r rh d {sk	6]000
(ii) LFRZ iwh dk vo{k	1]000
(iii) mRln dj	1]700
(iv) fcØh dj	1]300
(v) ljdkjh l gk rk	1]500
(vi) eè; orlZ miRk dk eW;	
iRfed {sk	6]000
f}rh d {sk	4]000
r rh d {sk	2]000
(vii) l Efk o m e o fk l s vk	4]000
(viii) Lofu; lrla dh feJR vk	6]500
(ix) deZkj; la dk ikjJfed	5]000
(x) l kft d l jfk ea ekydla dk ; knku	2]000
(xi) fonsla l s fuoy dkjd vk	¼2,000½

mŪj ¼d½ 13|500

¼k½ 14|500

iz14- fuŷu vk dMdh l gk rkl sKkr dlft , &

¼d½ fut h vk

¼k½ Q Drd iz k; vk

- |                                    |        |
|------------------------------------|--------|
| (i) fut h {sk dks nsh, mRkn l s vk | 16 000 |
| (ii) fonsh l s fuoy dljd vk        | 1,400  |
| (iii) ljdkj l s pkywglrj.k         | 800    |
| (iv) 'sk fo'o l s ipfyr glrj.k     | 2,400  |
| (v) jkVh _ .k ij G kt              | 600    |
| (vi) ifjokla }kj k fn, x, iR {k dj | 500    |
| (vii) ljdkj dh fofo/k ikr; la      | 300    |
| (viii) fut h fuxfer dj             | 700    |
| (ix) fuxfer cpr                    | 500    |

mŪj & ¼d½ 21,200

¼k½ 19,200

iz15- jkVh vk Kkr dlft , vk rFk Q ; fofo/k l &

- |  |        |
|--|--------|
| (i) l skuo fr iaku                               | 1 000  |
| (ii) et nyh , oa oru                             | 13 000 |
| (iii) l kft d l j {k ea ekfydla dk vaku          | 2 800  |
| (iv) l E fŷk o v   eo fr l s vk                  | 3 000  |
| (v) Lofu; ktr la dh feJr vk                      | 5 000  |
| (vi) o ) koLFk iaku                              | 1 400  |
| (vii) fut h vfre miHk Q ;                        | 6 000  |
| (viii) ljdkj }kj k deplj; la ds ikjJfed dk Hkrku | 6 000  |

(ix) l j d l j } k j k f o n s h a l s x s f v d k Å o l r y l a d h i R { k [ l j m	36]00
(x) n s k t c k l j e a l j d l j } k j k o l r y l a o l o k v l a d k ' l j Ø;	2400
(xi) f o n s h a l s f u o y d l j d v k	<del>1</del> 800½
(xii) l d y n s k t i w h f u e l z k	12]000
(xiii) f u o y n s k t i w h f u e l z k	6]000
(xiv) f u o y v i R { k d j	1200
(xv) f u o y f u ; R	2]000

m l j 24]000

*l a l r* & l j d l j h v r e m i H k Q ; <sup>3</sup>/<sub>4</sub> viii, ix, x.

iz16- K l r d l f t , &

~~1~~½ f u t h v k

~~1~~½ d l j d y k r i j l d y j k v t m R k n

(i) Q f D r x r m i H k Q ;	4]800
(ii) Q f D r x r c p r	6]000
(iii) f u x e d j	1]200
(iv) x g L F l a } k j k i n U k i R { k d j	3]000
(v) d a u h { k d h c p r	2]400
(vi) ' k k f o ' o l s o r z k u g L r k r j . k	1]800
(vii) l j d l j d l s l a f l k o m   e o f l k l s v k	9]000
(viii) f u o y v i R { k d j	4]200
(ix) v o { k f l F l j i w h e a	6]000
(x) j k v t _ . k i j C k t	3]000
(xi) f o n s h a l s f u o y d l j d v k	<del>1</del> 1,500½
(xii) l j d l j l s i p f y r g L r k r j . k	2]100

m l j A = 60,600 B <sup>3</sup>/<sub>4</sub> 68,700



iz17- vk rFlk Q ; fof/k dh l gk rkl sl dy nšlh mRln ct kj dler ij Kkr dlft , &

- (i) ifjokjla dk vfire miHkx Q ; 3]250
- (ii) ifjokjla dh l ok ea yxh x\$ ykHdijh l lFlkva dk vfire miHkx Q ; 750
- (iii) etnyh oru 4]500
- (iv) ipkyu vf/kk 1]000
- (v) feJr vk 2]500
- (vi) 'kq viR {k dj 750
- (vii) eW, âkl 1,250
- (viii) fuoy Q ol kf; d fLFj fuošk 2]000
- (ix) fuoy x g fueZk fuošk 600
- (x) fuoy ljdijh fuošk 400
- (xi) HkMj fuošk 1]000
- (xii) fonšha l s fuoy dljd vk 500
- (xiii) l koZ fud vfire miHkx Q ; 1]000
- (xiv) fuoy fu; k 1]000

mŪj 10]000

iz17- Kkr dlft , fut h vk rFlk Q Őrd iz k; vk

- (i) dljd ykxr ij l dy jkVh mRln 1,200
- (ii) fonšha l s fuoy dljd vk 1]80½
- (iii) ljdijh izkl fud foHkxla dh l E fŪk o m|e l s vk 360
- (iv) fLFj iwh dk vo{k 130
- (v) x\$ foHkxh m|ela dh cpra 70
- (vi) jkVh \_ .k ij C kt 90
- (vii) ljdij l s orZku varj.k 180
- (viii) fut h fuxfer dj 120
- (ix) dāuh {sk dh cpr 90
- (x) Q fDrxr iR {k dj 50
- (xi) ljdij dh fof/k iŋ fr; k 30

mŪj ¼d½ 910

¼k½ 310

## आय और रोजगार का निर्धारण

- , d v $\text{F}\text{L}\text{O}$  LFk eaolrv $\text{L}\text{A}\text{O}$  l skvladhdy elx dsl exzelx (AD) dgrsgA
- l exzelx dseq; ?Wd fuft mi Hkx elx] fuft fuoskelx] l jdljhmihkx 0 ; rFkfuoy fu; k: ghrsgA nls {lsk okyh v $\text{F}\text{L}\text{O}$  oLFk eaAD = C + I
- , d v $\text{F}\text{L}\text{O}$  oLFk eaolrv $\text{L}\text{A}\text{O}$  l svladhdy i $\text{F}\text{r}$  l exzi $\text{F}\text{r}$  (AS) dgykrhgSl exzi $\text{F}\text{r}$  dsel $\text{F}\text{r}$ z l e $\text{W}$ ; dls ghjkVh mRln ; kjkVh vk dgrsgA v $\text{F}\text{L}\text{Z}$  jkVh vk l n $\text{S}$  l exzi $\text{F}\text{r}$  dsl eku ghrhgA
- jkVh vk dk cMk Hkx mi Hkx ij [lpZgrkgsV $\text{S}$  'l $\text{S}$  cpr dgykrkgA vr%jkVh vk ; kl exzi $\text{F}\text{r}$  mi Hkx o cpr dk ; k: ghrhgA

$$AS = C + S$$

- vk dsl k: Lrj dkfu/hz. l ml fclhqij gkrkgSt glal exzelx] l exzi $\text{F}\text{r}$  dscjkj ghrhgA ; k cpr fuosk dscjkj ghrhgA v $\text{F}\text{L}\text{Z}$  I = S
- ; g v $\text{L}$ ' ; d ughgSfd vk dkl k: Lrj l n $\text{S}$  iwZjkt xj Lrj ij g $\text{S}$ ; g iwZjkt xj Lrj l sde v $\text{F}\text{L}\text{Z}$  vYi jkt xj l r $\text{Y}\text{U}$  Hh g $\text{S}$  l drk gA
- iwZjkt xj] v $\text{F}\text{L}\text{O}$  oLFk dhog fLF $\text{r}$  gSt l eai $\text{R}$  d ; k: , oal {e 0 fdr t ketnyh dhip $\text{F}\text{Y}$  r nj ij dk Zdjusdk bPN $\text{Q}$  gSml sjkt xj dk vol j mi yCk gA
- iwZjkt xj l r $\text{Y}\text{U}$  v $\text{F}\text{L}\text{O}$  oLFk dhog voLFk gSt g $\text{S}$  iwZjkt xj Lrj ij AD = AS gkrkgA
- vu $\text{F}\text{N}\text{D}$  cjk xj h v $\text{F}\text{L}\text{O}$  oLFk dh , d h fLF $\text{r}$  gSt g $\text{S}$  dk ZdjusdsbPN $\text{Q}$  o ; k: 0 fdr ip $\text{F}\text{Y}$  r et nyh nj ij dk Zdjuk plgrsgSy $\text{F}\text{D}$  u m $\text{G}$  s dk Zug $\text{L}$  feyr $\text{L}$
- Lo $\text{F}\text{N}\text{D}$  cjk xj h v $\text{F}\text{L}\text{O}$  oLFk dh , d h fLF $\text{r}$  gSt c ; k: 0 fdr ip $\text{F}\text{Y}$  r et nyh dh nj ij dk Zdjusdk bPN $\text{Q}$  ughg $\text{L}$
- vYi jkt xj og fLF $\text{r}$  ghrhgSt g $\text{S}$  iwZjkt xj Lrj ij AD < AS gkrkgA
- mi Hkx (C) vk dsLrj ij fu $\text{H}$  gkrkgA t $\text{S}$  t $\text{S}$  svk dsLrj eao f) ghrhgSo $\text{S}$  sgh mi Hkx ealho f) ghrhgSy $\text{F}\text{D}$  u mi Hkx eag $\text{L}$  sokyho f) dh nj vk eag $\text{L}$  sokyho f) dh nj l sde ghrhgA
- mi Hkx Qyu] vk (Y) v $\text{S}$  mi Hkx (C) dsclp Qyuk $\text{R}$  d l ak dsn'k $\text{Z}$  k gA C = f(Y)
- mi Hkx Qyu  $\frac{1}{2}$  mi Hkx i $\text{O}$  f $\text{U}$  k n $\text{S}$  i $\text{Z}$  lj dh ghrhgA  
 $\frac{1}{2}$  v $\text{S}$  r mi Hkx i $\text{O}$  f $\text{U}$  k (APC)  
 $\frac{1}{4}$  l $\text{L}$  k mi Hkx i $\text{O}$  f $\text{U}$  k (MPC)

- vk rFlk mi Hk dsvuqr dsvls r mi Hk i n fuk dgrsgA

$$APC = \frac{C}{Y}$$

- vk eafjorzi ( $\Delta Y$ ) dscdj.k mi Hk eafjorzi ( $\Delta C$ ) dsvuqr dsl lkr mi Hk i n fuk dgrsgA

$$MPC = \frac{\Delta C}{\Delta Y}$$

- dgy cpr (s) rFlk dgy vk (y) dk vuqr] vls r cpr i n fuk dgykrhgA

$$APC = \frac{S}{Y}$$

- vk eafjorzi ( $\Delta Y$ ) ds QyLo: i cpr eafjorzi ( $\Delta S$ ) dsvuqr dsl lkr cpr i n fuk (MPS) dgrsgA

- APC rFlk APS dk; k l n s , d grk gA vFlz  $APC + APS = 1$

- MPC rFlk MPS dk; k dh l n s , d grk gA vFlz  $MPC + MPS = 1$

- fuosk xql (K) vk eafjorzi ( $\Delta Y$ ) rFlk fuosk eafjorzi ( $\Delta I$ ) dk vuqr]rd eki gA

$$K = \frac{\Delta Y}{\Delta I}$$

- t c lezeka (AD) iwZjk xj l rj ij lezifr (AS) l svf/kd gsk rlsml svR f/kd ek dgrsgA

- lQlfr varjy] oLrfod lezeka vs iwZjk xj l rgy dscuk j [kusdsfy, v'o'; d lezeka dscp dk varj grk gA ; g lezeka dsvf/kd; dkeki gA

- t c lezeka (AD) iwZjk xj okyh lezifr (AS) l sde grhgsm l svHoh ek dgrsgA

- voLQlfrd varjy] oLrfod lezeka iwZjk xj l rgy dscuk aj [kusdsfy, v'o'; d lezeka l s ft ruh de grhgSdgykrk gA ; g lezeka eadeh dkeki gA

- ljdj dsvk & 0 ; ulfr dskt dskh, ulfr dgrsgA

- nsk dsdsh, cl dhepk o l k k fu; ak l cal ulfr dskh ulfr dgrsgA

### IMPORTANT FORMULAE

$$AD = C + I$$

$$AS = C + S$$

$$APC = C/Y$$

$$MPC = \Delta C/\Delta Y$$

$$APS = S/Y$$

$$MPS = \Delta S/\Delta Y$$

$$APC + APS = 1$$

$$MPC + MPS = 1$$

$$APC = I - APS$$

$$MPS = I - MPC$$

$$K = \frac{\Delta Y}{\Delta I} \quad \text{or} \quad \frac{I}{MPS} \quad \text{or} \quad \frac{I}{I - MPC}$$

$$\Delta Y = K \Delta I$$

$$\text{or} \quad \Delta Y = \frac{I}{MPS} \cdot \Delta I$$

• I lekr mi Hk in fr

- 1- vk eayxrkj of) gks ij I lekr mi Hk in fr ?Wrh pyh tkrh gA
- 2- I lekr mi Hk in fr 'W' l s, d ds cp jgrh gA
- 3- I lekr mi Hk in fr o xqld ea?kred I cUk gkrk gA

1 अंक वाले प्रश्न

- 1- I exzeka dh ifjHkk fyf[k A
- 2- I exzi fr dks ifjHkk'kr dlft, A
- 3- iwZjkt xkj l rgyu dk vHZcrb; A
- 4- vYi %iwZjkt xkj l rgyu dk D; kvHZgS
- 5- fuufyf[kr dh ifjHkk nft, &
  - 1/2 , SPNd cjk xkj h
  - 1/2 vuSPNd cjk xkj h
  - 1/2 cpr
  - 1/2 mi Hk A
- 6- cpr Qyu l sD; kvfHk gS
- 7- mi Hk Qyu dks Li"V dlft, A
- 8- fuoskxqld dc vu r gsl drk gS
- 9- yH&vyHk cnql svki D; kl e>rgA
- 10- I lekr mi Hk in fuk dkl lekr cpr in fuk l sD; kl ckr gS
- 11- vS r cpr in fuk r fkr vS r mi Hk in fuk eaD; kl ckr gA

- <sup>12-</sup> mi Hk Qyu oØ fdl fLFfr eal jy jsh glrk gS  
<sup>13-</sup> ;fn vS r cpr iØ fdk eW; 'W glsrsvS r mi Hk iØ fdk eW; Kkr dlft , A  
<sup>14-</sup> ;fn vk q30|000 #ñ gsvS cpr 9,000 #ñ rsvS r cpr iØ fdk Kkr dlft , A  
<sup>15-</sup> l lekr cpr iØ fdk dc 'W glrh gS  
<sup>16-</sup> ;fn l lekr mi Hk iØ fdk 0-75 glsrsl lekr cpr iØ fdk D; k glkh  
<sup>17-</sup> ;fn izk; vk 1000 #ñ rFk mi Hk Q ; 700 #ñ vS vk c<dj ;fn 1500 #ñ vS mi Hk Q ; 1200 #ñ glstk rsl lekr cpr iØ fdk Kkr dlft , A  
<sup>18-</sup> l lekr mi Hk iØ fdk fdl izlj xqld lsl afkr gA  
<sup>19-</sup> fuosk xqld l sD; k vfhk gS  
<sup>20-</sup> fuosk xqld dh x.luk fdl izlj dh tkrh gS l vk fyf[k A  
<sup>21-</sup> l lekr mi Hk iØ fdk vkf/kdre eW; D; k glsl drk gS vS dcA  
<sup>22-</sup> fuosk xqld dk l lekr mi Hk iØ fdk rFk l lekr cpr iØ fdk lsl afk fyf[k A  
<sup>23-</sup> ,d vFQ oLFk eavHkoh ek dh fLFfr dc mRü glrh gS  
<sup>24-</sup> D; k vS r cpr iØ fdk eW; \_ .Red glsl drk gS  
<sup>25-</sup> xqld dk vkf/kd l svf/kd eW; D; k glsl drk gS  
<sup>26-</sup> t c l lekr cpr iØ fdk eW; 'W glrk gS rlxqld dk eW; D; k glrk gS  
<sup>27-</sup> l exzeka ds dks l s?Wd gS mudsule crkb; A  
<sup>28-</sup> vk eafujaj of) dk vS r mi Hk iØ fdk ij D; kiHo iMrk gS

### 3-4 अंक वाले प्रश्न

- <sup>29-</sup> l exzeka ds?Wd l dk l fkr o.ki dlft , A  
<sup>30-</sup> l exzifr ds?Wd l dk ule fy[kdj l fkr o.ki dlft , A  
<sup>31-</sup> iWZjk xkj l rgyu dk D; k vFZgS jshf=k dh l gk rk l sl e>lb; A  
<sup>32-</sup> viWZjk xkj dh fLFfr eal rgyu dh vo/hj .lk dls jshf=k } jk l e>lb; A  
<sup>33-</sup> l exzifr oØ 45° dsk ij D; kacuk kt krk gS  
<sup>\*34-</sup> mi Hk Qyu oØ dh l gk rk l scpr Qyu oØ Kkr dlft , A

- 35- cpr rFk vk dsijLifjd l aak dlsfp=k dh l gk rkl sLi"V dlft , A
- <sup>1</sup>36- vls r mi Hk in fkrFk vls r cpr in fkd sijLij l aak dlsn'W, rFk crlb; sfd dc vls r mi Hk in fkl vls r cpr in fkl svf/lcd gsl drhgS
- 37- vR k/lcd elx dk mR kn jkt xlj rFk dler ij D; ki Hko iMk gS fp=k dh l gk rkl sn[Hb; A
- 38- fuosk xqcd dk vFZfyf[k rFk crlb; sfd fdl izlj l helr mi Hk in fkl fuosk xqcd dls iHfor djrhgS
- 39- mi Hk Qyu dh Q k; k dlft , A
- 40- , d dkifud mi Hk Qyu rfydk dh l gk rkl smi Hk oØ culbzsrFk ml ij yHkvyHk cnqcls n'W, A
- 41- l helr mi Hk in fkrFk l helr cpr in fkd se/; D; kl aak gS o. W dlft , A
- 42- jf Hfp=k dh l gk rkl svlQlfr varjky dk o. W dlft , A
- 43- t c izlstr cpr] izlstr fuoskl svf/lcd ghrhgSrls jKVh vk rFk jkt xlj ij D; ki Hko iMk gS
- 44- , l hLFfr esjkt xlj o jKVh vk fdl izlj iHfor gkht c izlstr cpr] izlstr fuoskl sde gklt
- 45- olrfod fuosk rFk olrfod cpr vls izlstr fuosk rFk izlstr cpr fdlgadgrsgS o. W dlft , A
- 46- vkfkd enhfdl sdgrsgS ; g iwZjkt xlj Lrj dlsfdl rjg iHfor djrhgS
- 47- csl nj eaifjorZ fdl izlj vHoho vfrjcd elx dlsfu; f-lr djrk gS
- 47- isjr fuosk rFk Lok Uk fuosk dscp varj Li"V dlft , A
- \*49- fuosk dh l helr dk Zdqyrk dls jf Hfp=k } jkl e>lb, A
- 50- , d vFZ oLFk ea fuoskeanl djM #ñ dho f) gksij vk ea50 djM #ñ dho f) ghrhgS xqcd dk eW; Kkr dlft , A
- 51- , d vFZ oLFk eavk dk Lrj 200 djM #- gsvls l helr mi Hk in fkl 0-75 gS fuoske a200 djM #ñ o f) gksij vk eady o f) Kkr dlft , A
- 52- , d vFZ oLFk ea fuoske a1000 djM #ñ o f) gksij vk ea o f) 5000 djM #ñ gS ; fn l helr mi Hk in fkl 0-7 gSrls xqcd dk eW; rFk cpr eaghsokysifjorZ dk eW; Kkr dlft , A
- 53- vR k/lcd elx dlsfu; f-lr djusdsrhu jkt dskh mik fyf[k A
- \*54- <sup>1</sup>; fn cpr (S) = -40 + 0.25Y rFk fuosk (I) = 60 #i, gSrlsvk dkl W; Lrj Kkr dlft , A mñ 1/400 #i 1/2
- 55- fufu mi Hk Qyu dh l gk rkl sMPS Kkr dlft , &

$$C = 100 + .8Y$$

- 56- mi  $\Delta$  rFlk fuošk ds;  $\Delta$  (C + I) dh vo/hj.k } jk vk; dsl  $\Delta$ ; Lrj fu/hj.k dlsj{  $\Delta$ -k } jk l e > lb;  $\Delta$
- 57- mRl nu dsl rgyu Lrj ij fu;  $\Delta$  r cpr fu;  $\Delta$  r fuošk dscj kj glrk gA l  $\Delta$ ; Red mlgj.k dh l gk rk l sLi "V" dlft, A
- 57- LQlfr varjky l svki D; k l e > rsgA j{  $\Delta$ -k } jk l e > lb;  $\Delta$
- 59- ; fn, d Q fDr dh iz  $\Delta$ ; vk ea100 #ñ dho f) ghsij cpr 30 #ñ l sc < dj 60 #ñ glst krhgA MPC rFlk MPS Klr dlft, A

Ans. MPC = .7

MPS = .3

### 6 अंक वाले संख्यात्मक प्रश्न

- 60- l exzel  $\Delta$  rFlk l exzi  $\Delta$  (AD o AS) } jk vk; dsl  $\Delta$ ; Lrj dk fu/hj.k fdl izlj glrk gSo.  $\Delta$  dlft, A
- 61- vk; dsl  $\Delta$ ; Lrj dk fu/hj.k cpr rFlk fuošk (S & I) } jk fdl izlj glrk gA o.  $\Delta$  dlft, A
- 62- D; k vk; dk l  $\Delta$ ; Lrj] viwZ jk xj dh fLFfr eaHh gls l drk gS j{  $\Delta$ -k dh l gk rk l sl e > lb, A
- 63- voLQlfrd varjky dh vo/hj.k dlsj{  $\Delta$ -k dh l gk rk l sLi "V" dlft, A bl dk mRl nu rFlk dler Lrj ij D; ki  $\Delta$  iMk gS
- 64- l  $\Delta$ ; Lrj ij iz  $\Delta$  r cpr] iz  $\Delta$  r fuošk dscj kj D; lagl h plfg, l j{  $\Delta$ -k dh l gk rk l so.  $\Delta$  dlft, A
- 65- fuoške ao f) | fdl izlj, d v  $\Delta$  oLFk dsvk; ds Lrj dlsi  $\Delta$  for dj rh gS mlgj.k } jk l sLi "V" dlft, A
- 66- vf/ke  $\Delta$  l svki D; k l e > rsgA vR, f/ld el  $\Delta$  dk jk xj] jkVh vk; rFlk mRl nu ij D; ki  $\Delta$  glrk gS o.  $\Delta$  dlft, A
- 67- elnz ulfr  $\Delta$  jdlj dh dsek  $\Delta$  rFlk xql  $\Delta$  mik fdl izlj vR, f/ld el  $\Delta$  ij fu; akk dj rsgA foLrj l sfyf[k A
- 68- vYi jk xj l rgyu dh fLFfr dlsj{  $\Delta$ -k } jk l e > lb, rFlk crlb, fd fdl izlj vrfjDr fuošk [pZ i wZ jk xj dsl  $\Delta$ ; Lrj rd igpuseal gk rk dj rk gS
- 69- jk dskh, ulfr l sD; k vfi k gS ; g fdl izlj vR, f/ld el  $\Delta$  dls fu;  $\Delta$  r dj useal gk d glrk gS
- 70- t c fu;  $\Delta$  r  $\Delta$  r  $\Delta$  r fuošk fu;  $\Delta$  r cpr l svf/ld glrk gS r sml dk vk; rFlk jk xj ij D; ki  $\Delta$  iMk gS j{  $\Delta$ -k } jk l e > lb;  $\Delta$
- 71- t c (AD < AS) l exzel  $\Delta$  l exzi  $\Delta$  l svf/ld glrk gS r sml fLFfr dlsj{  $\Delta$ -k } jk l e > lb, A
- 72- j{  $\Delta$ -k dh l gk rk l sml fLFfr dko.  $\Delta$  dlft, t c (AS > AD) l exzi  $\Delta$  l exzel  $\Delta$  l svf/ld glrk gA
- 73- fuošk xql dh i  $\Delta$ ; k dls mlgj.k dh l gk rk l sl e > lb;  $\Delta$
- 74- fuošk dh l el  $\Delta$  dkyrk (MEI) vo/hj.k dls  $\Delta$ -k dh l gk rk l sl e > lb;  $\Delta$

75- LQlfr varjky rFlk voLQlfr varjky eafp=k dh l gk rkl svarj Li"V dlft , A

76- j{ kfp=k dh l gk rkl sLQlfr varjky dk vFlZl e>lb; srFlk bl snjv djusdsjkt d{k'k mik Hh crlb; A

1 अंक वाले प्रश्नों के उत्तर

- 1- , d vFlZl oLFlk ea, d fuf'pr l e; ij] vk ds, d fuf'pr Lrj ij] l Hh {lsh} kjkvire oLrqlarFlk l skvla dh dy ek dsl exzel dgrsgA
- 2- , d vFlZl oLFlk ea oLrqlarFlk l skvladh mFlfnr dy ek dsl exzifr dgrsgA
- 3- t c dy ek] iwZjkt xkj okyh dy ifr dscjkj ghrhg\$ml fLlfr dsiwZjkt xkj l rqu dgrsgA
- 4- t c dy ek] iwZjkt xkj okyh ifr l sde g\$ ml sviwZjkt xkj l rqu dgrsgA
- 5-  $\frac{1}{4}$  ; g cjt xj hdkog Lo: i gSft l eae tnyh dh ipfyr njlaj jkt xj ds vol j miyCk ghsij Hh dlbZJfed viuh bPNk l scjt xj ghrh gA  
 $\frac{1}{4}$  t c etnyh dh ipfyr njlaj dk Zdjus dh bPNk {lerk o ; k rk ghs ds clot w jkt xj ds vol j u ghs ds dlj.k dlbZJfed cjt xj ghrk gA  
 $\frac{1}{4}$  cpr % vk dk og Hk t k mi Hk ugha fd; k t k rA  
 $\frac{1}{4}$  mi Hk % vk dk og Hk t k ekuoh, bPNk ladh ifr grqoLrqla o l skvla ds mi Hk ij Q ; fd; k t k r gA
- 6- vk v\$ cpr ds QyulRed l ak dls cpr Qyu dgrsgA
- 7- vk v\$ mi Hk ds clp QyulRed l ak dls mi Hk Qyu dgrsgA
- 8- t c MPS = 0 vFlk MPC = 1 rc xqld  $\infty$
- 9- t c vk v\$ mi Hk cjkj ghrsg v\$ cpr 'Hr ghrhg\$ml sy Hk vylk cnq dgrsgA
- 10- MPC rFlk MPS eafoi jlr l ak ghrk gSrFlk MPC , oamPS dk ; k bdlbZdscjkj ghrk gA

$$\frac{\Delta Y}{\Delta Y} = \frac{\Delta C}{\Delta Y} + \frac{\Delta S}{\Delta Y}$$

$$1 = MPC + MPS$$

$$MPC = 1 - MPS$$

$$MPS = 1 - MPC$$

11- APC rFlk APS dk ; k bdlbZdscjkj ghrk gA

$$Y = C + S$$



$$\frac{Y}{Y} = \frac{C}{Y} + \frac{S}{Y}$$

$$1 = APC + APS$$

$$APC = 1 - APS$$

$$APS = 1 - APC$$

vflz APC rflk APS esfoijlr l azk glrk gA

12- tc l lekr miHk io flk flFj glrh gA

13- vls r miHk io flk  $\frac{3}{4}$  1

14- vls r cpr io flk  $\frac{3}{4}$  -3 APC  $\frac{3}{4}$  -7

15- l lekr miHk io flk 1 gSrl l lekr cpr io flk  $\frac{3}{4}$  0

16- l lekr cpr io flk  $\frac{3}{4}$  0-25

17- MPS = 0

18- l lekr miHk io flk vls xqcd eair {k/kulred l azk glrk gA

19- fuoskxqcd ; g ekirkgsfd fuoskeaglsokysifjorZ dsQyLo: i vk esdrusxqk ifjorZ glrk gA

20- 
$$K = \frac{1}{MPS} \quad \text{or} \quad K = \frac{1}{1 - MPC}$$

$$K = \frac{\Delta Y}{\Delta I}$$

21- l lekr miHk io flk dkvf/kdre eW, ,d gsl drk gA tc MPS 'Hj gla

22- xqcd vls l lekr miHk io flk eair {k/kulred l azk glrk gA

xqcd vls l lekr cpr io flk esfoijlr l azk glrk gA

23- tc dy ek] iwZjk xj oyh dy i fr lsde glrh gS rc vHoh ek dh flFkr mR u glrh gA

24- gl ; s\_ .Red gsl drk gS tc miHk 0 ;] vk lsvf/kd glrk gA

25- xqcd vf/kd lsvf/kd vur gsl drk gA

26- Multiplier =  $\infty$  xqcd dk eW, vur glrk gA

27- l exzelx ds?Wd %

$\frac{1}{4}$   $\frac{1}{2}$  fut vfre mi Hk elk

$\frac{1}{4}$   $\frac{1}{2}$  fut h fuošk elk

$\frac{1}{4}$   $\frac{1}{2}$  oLrvla vls l skvldh ljdkj }lk elk

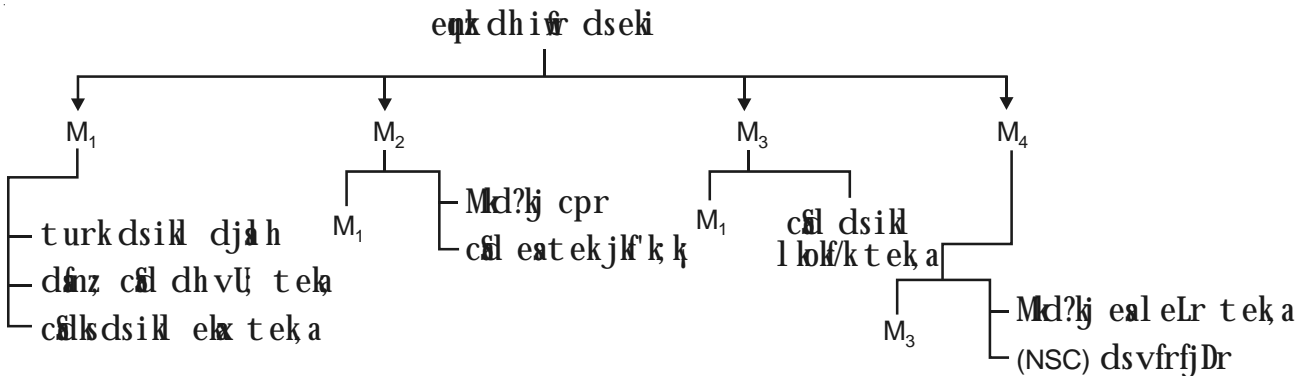
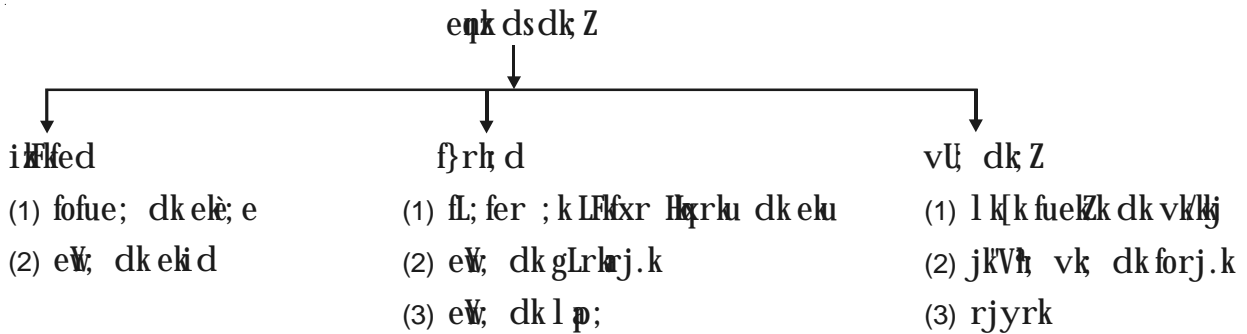
$\frac{1}{4}$   $\frac{1}{2}$  'lj fu; EA

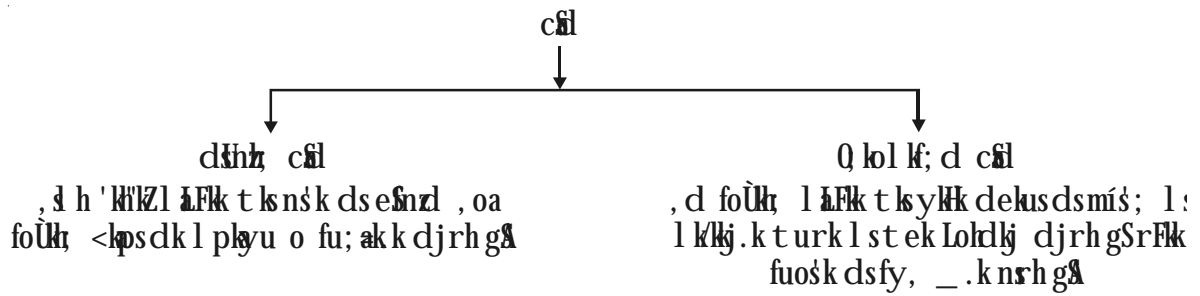
28- vk eafujaj of) dsQyLo: i vls r mi Hk iø fük?WusyxrhgA

मुद्रा तथा बैंकिंग

Lej.Hr fclhq

- enq %enk dls, i hoLrqds: i eafjHf'kr fd; ktkl drkgSt ksfofue; dsek; e ds: i eaLoldk Zgls vls bl dsl kfk ght lsew; eki u , oal p; dk dk ZHh djrhglsrFk Hhoh Harku dsekud ds: i eaHh dk ZdjA
- oLrqfofue; izkyh%; g fofue; dh, i kizkyhgSft l esolrvladk vlnku&izku l ksl i lu fd, t krs gA enq dk vfo"dlj galsl siwZ; ghipyu eaHhA
- enq dhifr %lsvfHik , d nskdhturkdsik l e; ds, d fuf'pr fcaqij dy enq dhekk l sgA
- Q ki kj d cil dk vHZ%Q ki kj d cil og l kfk gSt ksenkrFkl k'keaQ ki kj d jrhgA Q ki kj d cil C.k izku djusdsmis; l sturklstek; Loldkj djrsgA
- dshz cil %, d nskdhcdx o foU izkyheal olp l kfk gSt l nsk dselnzl , oacdx <lpdk l pkyul fu; akk funZku , oafu; eu djrhgA
- enq i r dsiHfor djusokysdljd %dshz cil dhefnz ulfr] of.k.k; ciladh l k'k fuelZk {lerk, oa ulfr ljdj dhjkt dshz ulfr] lekt dhilaxhA





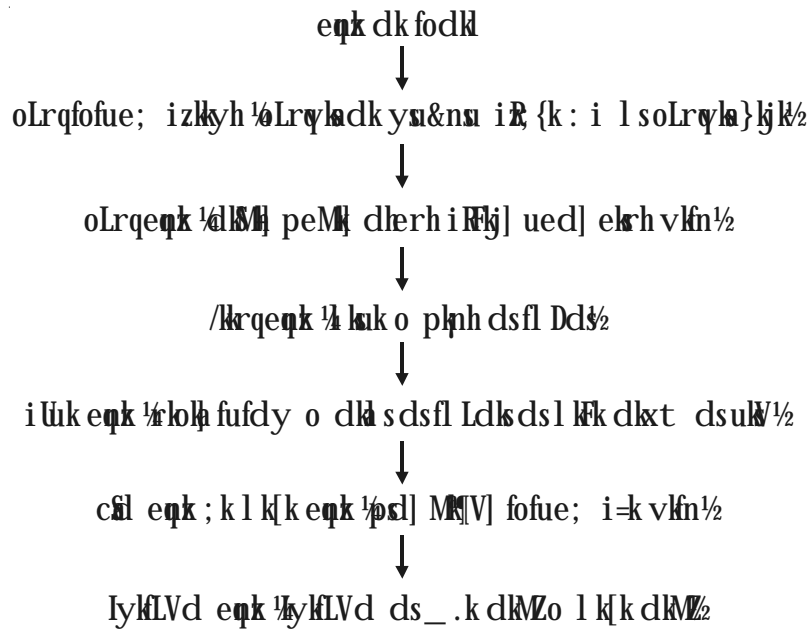
### बैंकों के कार्य

#### dāhā cāi dsdk Z

- 1- enq t kjh djuk
- 2- l k'k dk fu; Ūkk djuk
- 3- l j dj dk cāij
- 4- cāi adk cāij
- 5- vāre \_ .knrk
- 6- fons h enq d k'k adk l j'kd

#### Q ki k'j d cāi dsdk Z

- 
1. tek Lohdj djuk  
 1/2 cpr [krk  
 1/4 k'2plyw [krk  
 1/2 LFk h t ek [krk  
 1/2 vkr'Z tek [krk
  2. \_ .k inku djuk  
 1/2 ek \_ .k  
 1/4 k'2udn l k'k  
 1/2 vf/k fod'Z  
 1/2 fofue; fcy l adh dV'sh
  3. , t d h dk Z  
 1/2 ku gLrk'rj.k  
 1/4 k'2i fr H'r; k dk Ø; &foØ;  
 1/2 V'L'ho iz'kd  
 1/2 x'gd l adsnk; B'adk H'rku  
 o i'r; k dk , df=k'j.k



### 1 अंक वाले प्रश्न

- 1- oLrqfoue; izklyh l svki D; k l e>rsgk
- 2- oLrqfoue; izklyh dh nls dfe; kafyf[k A
- 3- vf/k fod"Zfdl sdgrsgS
- 4- enk dh ifjHkkk fyf[k A
- 5- enk i fr dkD; k vFLZgS
- 6- enk ds nls i Fked dk ladsule fyf[k A
- 7- enk i fr dls i Hkor djusokysfdlgh nls dlj dladls fyf[k A
- 8- l k[k fuelZk l sD; k rkr; ZgS
- 9- l k[k xqld l sD; k vfhik gS
- 10- l k[k dh jk kux l svki D; k l e>rsgk
- 11- vkhfid ; q esed; : i #i l sdxth enk dk ipyu D; lagsjgk gA
- 12- dshz cfl ds nls dk Zfyf[k A
- 13- Q kol k; d cilladsnls, t a h dk Zcrhb, A
- 14- udn fuf/kvuqr (CRR) D; k gkrkgS

- 15- oSlfud rjyrkvuqkr (SLR) l sD; krRi; ZgS
- 16- \_ .k dh l hkr vlo'; drk l sD; k vfHik gS
- 17- cfil dhekr tek l svki D; kl e>rsgS
- 18- dshz cfil }jkl kfkfu; Hkk dsnsed; mik D; kgS
- 19- vkt dy i=kenk dk mi; kr vl fp/hkt ud D; laglsjgk gS
- 20- /krqenk l sD; k vfHik gS
- 21- fjt oZcfil dsn fVdskl sm, dsrhu ?Wd dks&dks l sgS
- 22- l Hh foUti l LFk acfil ugh glrh dlj .k fyf[k A
- 23- cfil nj eao f) dkenk vki fr ij D; kiHko iMrkgS

### 3-4 अंक वाले प्रश्न

- 1- oLrqofue; izkyhfdl sdgrsgabl dh fdugh nsl eL; kladko. H dlft , A
- 2- Q lol kf; d cfil dsrhu , t h dk kdko. H dlft , A
- 3- dshz cfil rFk Q lol kf; d cfil seansvarj fyf[k A
- 4- ^eW; dh bdbZ ds#i eanek dsdk Zdh Q k; k dlft , A
- 5- fdl izlj enknsgsl ak dsvHko dh l eL; k dkl ekku djrhgS
- 6- ^eW; l p; ^ ds#i eanek dsdk Zdko. H dlft , A
- 7- Q lol kf; d cfil dsfdugh rhu izlj dst ek [krh dsule fyf[k rFk iR, sl dh, d fo'krk Hh fyf[k A
- 8- ^[hysck lj dh iR; k a D; kgS l k k dh miyCrk ij budk D; kiHko iMrkgS
- 9- Q lol kf; d cfil dsnsdk kdko. H dlft , A
- 10- ^vire \_ .lnrk^ ds#i eadshz cfil dsdk Zdko. H dlft , A
- 11- ^oSlfud rjyrkvuqkr^ (SLR) D; kgS SLR dh nj eao f) dkl kfk fuelZkij D; kiHko iMrkgS fyf[k A
- 12- SLR rFk CRR eavrj Li"V dlft , A
- 13- cfil enk; kl kkenk vlfud l e; eanek dkl cl sieqk #i gS o. H dlft , A
- 14- enk dsfodkl dkl ali eao. H dlft , A
- 15- enk i fr dseki m, rFk m, dse/; vrj Li"V dlft , A

- 16- 't ek Lohldj djuk\* Q lol k; d cñls dkeq; dk Zgš o. ñ dft , A
- 17- 'ljdlj dk cñlj\* ds#i eadññ cñl dsdk Zdsfyf[k A
- 18- enp ds'fofue; dkek; e\* rFk LFkr Harku dkeki d\* dk kdko. ñ dft , A
- 10- dññ cñl cñls dkcñl rFki; Zškd glrk gSo. ñ dft , A
- 20- enp dsfdlgh plj dk ñ dlsfyf[k A
- 21- dññ cñl dsdk k^enp t jh djuk rFk 'l k[k dk fu; Uk\* dko. ñ dft , A
- 22- Hjr eaHjrh, fjt oZcñl (RBI) }jk viubZxbZenp iwr dsfofey eki kdko. ñ dft , A
- 23- oLrqfofue; izklyhdhl eL; kvlackl ekku enp }jkfdl izlj fd; kx; kgSfdlghnlsdko. ñ dft , A

### 1 अंक वाले प्रश्नों के उत्तर

- 1- ;g fofue; dh, ð hizklyhgSft l eaoLrylck vñku&inlu djdsl ñsl Eñl fd, t krgA
- 2- (i) vlo'; drkvladsnlgj sl a k dk vñlo  
(ii) eV; eki u eadBulbZ
- 3- bl dsvarxz [krk/hjd fyf[kr l e>šdsdvkly ij Q klfjd cñl ds[krseat ekjlf'kl svf/ld /ku fudkyus dhvuefr iwr dj yrkgA
- 4- , ð hoLrqt kfofue; dsek; e ds#i eaLohdk Zgš l Fkght kseV; eki u , oaeV; l pa dkd; ZñdjrhgA
- 5- enp iwr lsvkk fdl h, d fn, gq l e; ea, d vñl oLFk eat urkdsikl enp dh dy ekkl sgA
- 6- (i) fofue; dkek; e  
(ii) eV; dk eki d
- 7- (i) dññ cñl dheññ ulfr  
(ii) ol. k; cñls dh l k[k fueZk {lerk , o ulfr
- 8- l k[k fueZk l srñ; Zcñls dheñ t ekvladsfoLrj dh 'kDr l sgA
- 9- l k[k xqkd ; g eki rk gSfd fu{ñ ladsfdruk xqk l k[k dk fueZk fd; k t k l drk gA
- 10- l k[k dhjk kux , ð hQ oLFk gSft l dsvarxz dññ cñl Q lol k; d cñl dsdñ fuf'pr mís; ñ dsfy, l k[k l tu dhvf/ldre l lek; dj nrkgA
- 11- vñld fodkl eao f) dsdlj. k vñld yu&ns dh ek earlozxleho f) ghZft l dsdlj. k dkxt henp dk ipyu c<+x; k

- 12- (i)  $en_k t_{kjh} djuk$   
(ii)  $l_{k|k} dk fu; U_{kk} djuk$
- 13-  $xgdladh bPNk; k i_{k|k} ij$   
(i)  $p_{sl} xg.k djuk r_{fk} mudk H_{rku} djuk$   
(ii)  $'ls_j o c_{k|k} dk Q_{kt}, d=k djuk$
- 14-  $i_{k|k} sl Q_{k|k} jd c_{il} d_{kvi} usikl tekj_{k|k}'k l_{dk}, d fuf'pr vu_{k|k}r (%) d_{k|k} c_{il} dsikl d_{k|k} u_{k|k} tek$   
 $djuk g_{k|k} r_{k|k} g_{sft} l_{sudn} d_{k|k} vu_{k|k}r dgrsg_{k|k}$
- 15-  $Q_{k|k} k_{j|k} d c_{il} s_{k|k} d_{kvi} u_{k|k} h_{k|k} dy l_{k|k} f_{k|k} dk, d fuf'pr i_{k|k} r_{k|k} r_{jy} \#i ea; k_{i_{k|k}} r_{k|k}; l_{k|k} ds\#i e_{aj} [l_{k|k} i_{k|k} r_{k|k}$   
 $g_{sft} l_{s_{k|k}} d_{k|k} r_{jy} r_{k|k} vu_{k|k}r dgrsg_{k|k}$
- 16-  $Q_{k|k} k_{j|k} d c_{il} \} k_{i_{k|k}} r_{k|k} r_{k|k} dh tekur ij fn, x, \_ .k r_{k|k} i_{k|k} r_{k|k} dsol r_{k|k} fod e_{k|k}; d_{k|k} s_{k|k} r_{k|k} dk \_ .k dh$   
 $l_{k|k} l_{k|k} v_{k|k}o'; drk dgk t_{k|k} r_{k|k} g_{k|k}$
- 17-  $e_{k|k} tek, l_{k|k} h tek ag_{k|k} s_{k|k} ft u_{k|k} dk vl_{k|k} g_{k|k}. k p_{k|k} dh l_{k|k} g_{k|k} r_{k|k} l_{k|k} s_{k|k} d; k t_{k|k} k l_{k|k} drk g_{k|k}$
- 18-  $n_{k|k} s_{k|k} eq; ox_{k|k} l_{k|k} j_{k|k}. k$   
(i)  $i_{k|k} f_{k|k} e_{k|k} r_{k|k} ed l_{k|k} k_{k|k} fu; U_{k|k} k$   
(ii)  $x_{k|k} q_{k|k} r_{k|k} ed l_{k|k} k_{k|k} fu; U_{k|k} k$
- 19-  $v_{k|k} f_{k|k} d_{k|k} y_{k|k} n_{k|k} s_{k|k} e_{k|k} a_{k|k} o_{k|k} f) ds_{k|k} dl_{k|k} j_{k|k}. k i_{k|k} = k_{k|k} en_{k|k} vl_{k|k} f_{k|k} / k_{k|k} t_{k|k} ud g_{k|k} l_{k|k} s_{k|k} y_{k|k} x_{k|k} h_{k|k} D; k_{k|k} id bl ds_{k|k} f_{k|k} x_{k|k} u_{k|k} s_{k|k} e_{k|k} a_{k|k} v_{k|k} / k_{k|k} d l_{k|k} e; o$   
 $l_{k|k} g_{k|k} f_{k|k} r_{k|k} H_{k|k} M_{k|k} j_{k|k} ds_{k|k} f_{k|k}, v_{k|k} f_{k|k} / k_{k|k} d t_{k|k} x_{k|k} g_{k|k} h_{k|k} v_{k|k} o'; drk g_{k|k} l_{k|k} h_{k|k} g_{k|k}$
- 20-  $l_{k|k} e; ds_{k|k} l_{k|k} f_{k|k} k_{k|k} l_{k|k} f_{k|k} o_{k|k} l_{k|k} r_{k|k} q_{k|k} en_{k|k} ds_{k|k} l_{k|k} f_{k|k} u_{k|k} ij l_{k|k} s_{k|k} o_{k|k} p_{k|k} l_{k|k} h_{k|k} ds_{k|k} f_{k|k} l_{k|k} D_{k|k} ds_{k|k} f_{k|k} o_{k|k} f_{k|k} u_{k|k}; d_{k|k} s_{k|k} e_{k|k}; e ds\#i e_{k|k} a_{k|k} z_{k|k} k_{k|k} g_{k|k} l_{k|k} s_{k|k} y_{k|k} x_{k|k}$   
 $ft l_{k|k} s_{k|k} / k_{k|k} r_{k|k} q_{k|k} en_{k|k} dk u_{k|k} l_{k|k} e_{k|k} fn; k_{k|k} x_{k|k}; k_{k|k}$
- 21-  $M_1 = C + DD + OD$   
 $C = t_{k|k} u_{k|k} r_{k|k} ds_{k|k} i_{k|k} k_{k|k} d_{k|k} j_{k|k} h$   
 $DD = c_{k|k} i_{k|k} l_{k|k} s_{k|k} ds_{k|k} i_{k|k} k_{k|k} e_{k|k} k_{k|k} tek_{k|k} a$   
 $OD = R_{k|k} B_{k|k} I_{k|k} ds_{k|k} i_{k|k} k_{k|k} v_{k|k} l_{k|k} tek$
- 22-  $D; k_{k|k} id l_{k|k} H_{k|k} fo_{k|k} U_{k|k} l_{k|k} l_{k|k} f_{k|k} k_{k|k} ac_{k|k} i_{k|k} l_{k|k} s_{k|k} dh r_{k|k} j_{k|k} g t_{k|k} u_{k|k} r_{k|k} d_{k|k} s_{k|k} v_{k|k} i_{k|k} u_{k|k} s [k_{k|k} r_{k|k} l_{k|k} l_{k|k} sp_{k|k} l_{k|k} \} k_{k|k} j_{k|k} k_{k|k} / k_{k|k} u_{k|k} j_{k|k} k_{k|k} f_{k|k} u_{k|k} d_{k|k} y_{k|k} u_{k|k} s l_{k|k} f_{k|k} p_{k|k} / k_{k|k} i_{k|k} n_{k|k} u_{k|k}$   
 $u_{k|k} g_{k|k} h_{k|k} d_{k|k} j_{k|k} r_{k|k} h_{k|k} c_{k|k} i_{k|k} l_{k|k} s_{k|k} dh; g_{k|k} eq; fo' k_{k|k} r_{k|k} k_{k|k} g_{k|k}$
- 23-  $c_{k|k} i_{k|k} l_{k|k} nj e_{k|k} a_{k|k} o_{k|k} f) l_{k|k} s_{k|k} en_{k|k} k_{k|k} v_{k|k} i_{k|k} r_{k|k} ? k_{k|k} r_{k|k} h_{k|k} g_{k|k}$



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बजट

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Lej.Hr fclhq

ctV % ; g vkleh foUk o"Zdsfy, ljdkj dh vuqfur iHr; la, oavueqfur Q ; laclk foUk foj.k gA

- Hjr easyUk o"Z1 viy l s31 epZgrk gA

- ctV dseq; mÍs;

- 1- l l kula dk iqurj.k

- 2- vk o /ku dk iq% cVoljk

- 3- vkfld flFjrk

- 4- l kZ fud m| xla dk ixUk

- ctV ds?Wd

$\frac{1}{2}$  jkt Lo ctV

$\frac{1}{2}$  iwh ctV

- jkt Lo ctV ljdkj dh jkt Lo iHr; la rFk jkt Lo Q ; laclk foj.k gA

- iwh ctV ljdkj dh iwhkr iHr; la rFk iwhkr Q ; laclk foj.k gA

- jkt Lo iHr; k

- 1- ;s ljdkj dh ifl E fUk la dls de ugla djrla

- 2- ;s ljdkj ds nk; Rla ea o f) ugla djrla

- jkt Lo Q ;

- 1- ;s ljdkj dh ifl E fUk ls ea o f) ugla djrs

- 2- ;s ljdkj ds nk; Rla ea dWZ deh ugla djrs

- iwhkr iHr; k

- 1- ;s ljdkj dh ifl E fUk ls dls de dj nrh gA

- 2- ;s ljdkj ds nk; Rla ea o f) djrh gA

- $i^{\vee}kr\ 0$  ;
  - 1- ;s ljdkj dh ifl E fÜk la ea o f) djrs gS
  - 2- ;s ljdkj ds nkf; R la ea deh djrs gS
- $jkt\ Lo\ ?Wk\ %t\ c\ ljdkj\ ds\ dy\ jkt\ Lo\ 0$  ; | ml dh dy jkt Lo iÜk; la svf/kd gl
- $jkt\ Lo\ /Wk\ %dy\ jkt\ Lo\ 0$  ; > dy jkt Lo iÜk; k
- $jkt\ Lo\ ?W\ ds\ i\ ?k$ 
  - 1- ;g ljdkj dh Hkoh nsnkf; la ea o f) djrk gS
  - 2- ;g ljdkj ds vulo'; d 0 ; la dh t kudljh nrk gS
  - 3- ;g dj dh nj la ea o f) dls iÜk fgr djrk gS
- $jkt\ d\ ?k\ /Wk\ %t\ c\ ljdkj\ ds\ dy\ ct\ V\ 0$  ; | ljdkj dh mWkj N Wkj dy jkt Lo iÜr; la svf/kd gl

### 1 अंक वाले प्रश्न

- 1-  $ct\ V\ d\ s\ i\ f\ H\ k\ r\ d\ f$ ; A
- 2-  $ct\ V\ d\ s\ m\ i\ s$ ;  $cr\ b$ ; A
- 3-  $jkt\ Lo\ ct\ V\ d\ s\ n\ s\ e\ q$ ;  $?W\ d\ cr\ b$ ; A
- 4-  $l\ j\ d\ j\ d\ h\ jkt\ Lo\ i\ Ü\ r$ ; la sD; k v f i k gS
- 5-  $d\ j\ i\ Ü\ r$ ; la d s n s m m l g j . k n l f t ; A
- 6-  $d\ j\ i\ Ü\ r$ ; k i  $v\ k\ r\ i\ Ü\ r$ ; k D; la u g h a d g y r h
- 7-  $f\ o\ f\ u\ o\ s\ k\ i\ v\ k\ r\ i\ Ü\ r$ ; k g S; k j k t L o i Ü r ; k d j . k c r b ; A
- 8-  $jkt\ Lo\ 0$  ;  $r\ f\ k\ i\ v\ k\ r\ 0$  ;  $d\ k$  ,  $d\ \&$  ,  $d\ m m l g j . k n l f t$  ; A
- \*9-  $jkt\ Lo\ 0$  ;  $d\ k\ e\ q$  ;  $m\ i\ s$  ;  $D$  ;  $k\ g\ S$
- 10-  $d\ j\ f\ d\ l\ s\ d\ g\ r\ a\ g\ S$
- 11-  $i\ R$  ;  $\{k\ r\ f\ k\ v\ i\ R$  ;  $\{k\ d\ j\ la\ d\ s\ i\ f\ H\ k\ r\ d\ f$ ; A
- 12-  $?W\ s\ d\ s\ c\ t\ V\ d\ s\ d\ l\ b\ z\ n\ s\ n\ i\ ?k\ f\ y\ f\ [k\ A$
- \*13-  $l\ d\ y\ ?k\ s\ y\ m\ i\ l\ n\ d\ l\ s\ f\ d\ l\ l\ e\ k\ r\ d\ jkt\ d\ ?k\ ?W\ k\ y\ l\ f\ g\ r\ e\ a\ l\ j\ f\ k\ e\ k\ t\ k\ r\ k\ g\ S$
- 14-  $l\ a\ f\ y\ r\ ct\ V\ l\ s\ v\ k\ i\ D$  ;  $k\ l\ e\ > r\ s\ g\ S$

- 15- vfrjcl ctV ¼pr dk ct V½dlsifjHk'kr dfj; A
- \*16- ljdkjhctV eaiHked ?Wk4,400 djM-#ñgA 0 kt dsHprku ds: i eajkt Lo 0; 400 djM-#ñgA jkt dskh ?WkD; k gsk
- \*17- ljdkjhctV eajkt Lo ?Wk50,000 djM-#ñ vls m/kj 75,000 #ñ djM-gA jkt dskh ?WkD; k gS
- 18- 'W iHked ?Wkl sD; k vfHk k gS
- 19- , d ljdkjhctV ea0 kt Hprku 8,000 djM-#ñgsvls iHked ?Wk10,000 djM-#ñgA jkt dskh ?Wks dh x.luk dfj; A
- 20- eqk dk iz kj l sD; k vfHk k gS
- 21- dj , d jkt Lo iHkr D; lsgS
- 22- ctV iHkr; lal sD; k vfHk k gS
- \*23- ljdkj , d hiHkr; laij D; lafulH djrh gS ft ul snsnkfj; k c<rh gS; k ifj l Eifuk laeadeh vkrh gS

### 3-4 अंक वाले लघु उत्तर वाले प्रश्न

- 1- ljdkj dksctV dhvlo'; drkD; lagrh gS
- 2- ljdkjhctV dseq; mis; dls&dls lsgS Li"V dfj; A
- 3- ljdkjihkr; ladseq; L-Hr dls&dls lsgS Li"V dfj; A
- 4- ift xr iHkr; k jkt Lo iHkr; lal sfdl izlj fHu gS
- 5- jkt Lo ?Wks, oajkt dskh ?Wseal EcUk crlb; A
- 6- ljdkjh 0; l sD; k vfHk k gS bl sfdrus Hk laeoxlHr fd; kx; k gS pWZdh l gk rk l sl e>lb; A
- 7- ; k uk 0; rEk x\$ ; k uk 0; eavUrj crlb; A
- 8- jkt Lo 0; l sD; k vfHk k gS mlgj.k l fgr fyf[k A
- 9- jkt Lo 0; rEk i vkr 0; eamlgj.k l fgr vUrj crlb; A
- 10- fodkl Red rEk x\$ fodkl Red 0; eavUrj mlgj.k dh l gk rk l sdfj; A
- 11- ctV ?Wsdlsfdl izlj ijk fd; k t k k gS
- 12- jkt Lo ?WkD; k gS bl dsD; k izHo iMrgS
- 13- jkt dskh ?WkD; k gS bl snjv djusdsmik crlb; A
- 14- jkt dskh ?WsdlsU wre D; laj [luk plfg; A bl dsizHo Li"V dfj; A

- 15- efnzd izlj lsd; kvfhi k gS bl dsvfno oLFk ij D; kiHko iMrgS
- 16- iR {krFk viR {kdjlaevluj crlb; A
- 17- ljdkjh Q; dlsfufyf[kr eaolZir djusdkD; kvkHj gS  
 $\frac{1}{2}$  jkt Lo Q; vS i vkr Q;  
 $\frac{1}{4}$  k/2 ; k uk Q; vS ; k usij Q;
- 18- dlj.k crkrsgq fufufyf[kr dlsjkt Lo iM; larFk i vkr iM; laeolZir dfj; A  
 $\frac{1}{2}$  \_ . ha dh ol yh  
 $\frac{1}{4}$  k/2 fuxe dj  
 $\frac{1}{2}$  ljdkj }kj fd; s x; s fuosk ij yHak  
 $\frac{1}{4}$  k/2 l loZ fud {sk ds m|e dh fcØh
- 19- dlj.k crkrsgq fufufyf[kr dlsjkt Lo Q; rFk i vkr Q; eaolZir dfj; A  
 $\frac{1}{2}$  vkFkd l gk rk  
 $\frac{1}{4}$  k/2 jkt; ljdkj dls nh xbZ xHv  $\frac{1}{2}$  vkFkd l gk rk/2  
 $\frac{1}{2}$  \_ . ha dh vnk xh  
 $\frac{1}{4}$  k/2 Ldy Hou dk fuelZk

### दीर्घ उत्तर वाले प्रश्न

- 1- vUj crlb; A  
 $\frac{1}{2}$  jkt dlsH ?Hvk , oa jkt Lo ?Hvk  
 $\frac{1}{4}$  k/2 fodkl Red Q; rFk xS fodkl Red Q;
- 2- jkt dlsH ?HvkD; kgS bl dhforQ oLFkfdl izlj dht krhgS bl l smR tu gksokyhl eL; k; dls&dls l hgS
- 3- jkt Lo iM; kvS i vkr iM; lal sd; kvfhi k gS budseq; Jkr D; k gS
- 4- ljdkjh ctV dseq; mis; D; kgS vno oLFk ij ctV dsiHols dh Q k; k dfj; A
- 5- lrfyr rFk vl rfyer ctV eavluj crlb; A D; kl rfyer ctV ljdkj dh, d miyfckgS

## 1 अंक वाले प्रश्नों के उत्तर

- 1- ,d foùh o"Zeal jcdj dh vuøkfur vk ,oa0 ; dkenokj foj.kljcdjhctV dgykrkgA
- 2- ctV dseq; mís; &
  - (i) l à kluls dk iq vloYu
  - (ii) vk ,oal Eifùk dk iq forj.k
  - (iii) vkfùd flFjrk
  - (iv) l loZ fud m| xla dk izUk
- 3- jkt Lo ctV dseq; ?Wd fuñufyf[kr g&
  - (i) jkt Lo iñr; k
  - (ii) jkt Lo 0 ;
- 4- jkt Lo iñr; k osiñr; k gñft ul řu
  - (i) u rls ljcdj dh nsnkj; k mRi ù glrh gA
  - (ii) u ifl Eifùk ea deh vkrh gA
- 5- vk dj vñ fuxe dj
- 6- dj iñr; k iñr; kughSD; ñd bul sukrsl jcdj dhnsnkjhmRi ù glrhgsvñ ughaijfl Eifùk la eadehglrhgA
- 7- fofuoškiñr iñr iñr gSD; ñd bl lsljcdj dhifl Eifr eadeh vkrh gA
- 8- jkt Lo 0 ; & 0 kt dk Hqrku  
iñr 0 ; & turkds\_ .k
- 9- jkt Lo 0 ; dkeq; mís; l kft d ,oavkùd dY; kk eao f) rFk fodk dsmís; dh iñr gA
- 10- dj , d dkuhvfuok ZHqrku gñft udcnysfdl hl ok; kknz yñk dhiñ {kvk kughdht kl drhA
- 11- iñ {kdj osdj gñft Ugafoofrr ughafd; kt kl drhA bl dj dkiñ {k ,oavfñre Hñ , d gh0 fDr ij iMk gA  
viñ {kdj&t c dj Hqrku djusdhft Fenjh , d 0 fDr ij iMhgSijUrqdj dk Hñ nwjs0 fDr ij iMk gA bl sviñ {kdj dgrsgA
- 12- ?WsdctV dsnknk&(i) pyu eaenk dsinlg eao f) (ii) enk dseW; eadehA

- 13- l dy ?ljsymRln dk 5% A
- 14- ljdkj dkog ct V ft l ealjdkj dhvuelkur iR; kvuelkur 0 ; dsl eku gl l rfy r ct V dgyrk gA
- 15- ljdkj dkog ct V ft l ealjdkj dhvuelkur iR; kljdkj dsvuelkur de l svf/ld gl vfrjcl ; k cpr dk ct V dgyrk gA
- 16- jkt dskr ?Wk ¼ iRfed ?Wk + 0 kt Harku ¼ 4,400 + 400  
= 4,800 djM/#ñ
- 17- 75,000 djM/#ñ
- 18- 'W ?Wslsvfhi k iwZ\_.kij 0 kt dhvnk xh dsfy, vls \_.kyusdsfy, ljdkj dhfoo'krA
- 19- 18,000 djM/#ñ
- 20- epk dsiz kj lsvfhi k ?Wsdhl lekrd u; sul/ NkiukA
- 21- dj iR jkt Lo iR gSD; kd bl l su rsljdkj dhnsnkjhc<rhvls u ghljdkj dhifjleUkeadeh vkrh gA
- 22- , d ys'ko'Zealjdkj dksfohu Jkrl sfeyusokyhvuelkur elnzl iR; k; kljdkjhiR; kdgykrh gA ; g jkt Lo iR; kvls iplr iR; ldk; k gA
- 23- tc ljdkj dhplywk dy 0 ; dsfy, i; R ughgchrsljdkj , d hiR; laij fulZ djrhgSft l l s ljdkj dhnsnkj; k c<+t krh gA



- enkvf/leW; u rc gkrkgSt c nsh; enkdhbdb; seafonshepdkhdler de gskt k svfWZ nsh; dja h dh dler eafonshepdk ds #i eao f) A
- l rgy uE; fofue; nj dkfu/WZ.kml Lrj ij gskt gk fonshepdk fofue; dsfy; sekv vS fonshepdk fofue; dh i fr cjkj gskt k A
- uE; fofue; nj dsxqk

- (i) fonshepdk la ds Hvj dh vlo'; drk ugha
- (ii) l a kula dk l oke vlo'u
- (iii) Q ki kj vS i p h ds vlokeu ea vkus okyh #dloVla dks nyv djuk
- (iv) Hkrku l rgy [krs ea Lor%l ek kt u

uE; fofue; nj dsnlk

- (i) l êskt h dks c<ok
- (ii) Hfo"; xleh fofue; nj ea vR f/d vLFjrk
- (iii) vUrjW/h Q ki kj vS fuosk dks grlR kgr djuk

fLFj fofue; nj dsxqk

- (i) vUrjW/h Q ki kj ,oa i R lgu
- (ii) l efVxr ulfr; la ea l eó; LFRir djuk

fLFj fofue; nj dsnlk

- (i) vUrjW/h fuf/k ds LVW dh vlo'; drk
- (ii) t k [le i p h dks fu#R kgr djuk
- (iii) vrjW/h ct kj ea i p h ds vlokeu dks l lfer djuk
- (iv) Hkrku l rgy ea Lor%l ek kt u dk vHo

- vnk xh; kHkrku l rgy eafdl h, d nskdsfuokl ; kvS 'kko'o dschp oLryal okvkvS ifjl áfUk la dh y&nsu dkokld foj.knt ZgkrkgA Hkrku l rgy dsnlseq; [krsgrsgA
- (i) plyw[krk
- (ii) i p h [krk

- plyw[krseaoLryal dsvk k&fu; k l okvkvS vaj.k vnk fx; ladsfoj.knt Zfd; st krsgrA



- i p h [ h r h e a i f j l a f u k l a t s e n k l v k d ] c a k i = k v k n d s l H h i z l j d s v t r j k v h Ø ; & f o Ø ; d k f o o j . k g l r k g s
- d l b z n s l f t l d s p k w [ h r s e a ? k k g l r k g s m l s v i u h i f j l a f u k c p d j ; k f o n s h a l s \_ . k y c l j m l d e h d s f y ; s f D r d h Q o l F k d j u h i M r h g s b l i z l j f d l h H h p k y w [ h r s d s ? k s d s f u o y i p k r i n g l s f o k i l k r d j u k v o ' ; d g l r k g s

### 1 अंक वाले प्रश्न

- 1- f o n s h f o f u e ; d l s i f j H h ' k r d l f t ; s
- 2- f o n s h f o f u e ; n j l s D ; k v f i k k g s
- 3- f o n s h f o f u e ; c k t k j l s v k i D ; k l e > r s g s
- 4- f l F j f o f u e ; n j l s D ; k v f i k k g s
- 5- u E ; 1 / 2 p h y l 1 / 2 f o f u e ; n j d l s i f j H h ' k r d l f t ; s
- 6- u E ; f o f u e ; n j d k l r y u f d l L r j i j f u / k r g l r k g s
- \*7- f d l h v F l o l F k d h v k f d f l F j r k d h l p u k d k J k r D ; k g s
- \*8- m u ' k D ; l a d s u l e c r l b ; s t l s u E ; f o f u e ; n j d l s f u / k r d j r h g s
- 9- u E ; f o f u e ; n j d s n l s x q l a d l s c r l b ; s
- 10- f l F j f o f u e ; n j d s n l s n l s l a d l s f y f [ k s
- 11- f o n s h f o f u e ; d s e k o Ø d k v k d j d s k g l r k g s
- <sup>1</sup>12- e n k d s v f / e w ; u l s v k i D ; k l e > r s g s
- 13- e n k d s v o e w ; u d l s i f j H h ' k r d l f t ; s
- 14- e n k d s e w ; D k l s v k i D ; k l e > r s g s
- 15- f o n s h f o f u e ; n j e a i f j o r z ' k y r k d k d l b z , d d j . k c r l b ; s
- 16- f o n s h f o f u e ; c k t k j d s n l s i e q k d k z c r l b ; s
- 17- f o n s h e n k d s i f r o Ø d h c u l o v c r l b ; s
- <sup>1</sup>18- f o n s h e n k d k e k o Ø \_ . k r e d < k y o k y k D ; l a g l r k g s
- <sup>1</sup>19- f o n s h f o f u e ; n j e a o f g l s i j f o n s h e n k d h i f r D ; l a c < r h g s
- <sup>1</sup>20- f o f u e ; n j v f / k d g l s t k u s i j f o n s h e n k d h e k d e D ; l a g l s t k r h g s

- 121- fofue; nj vf/kd gkst kusij fu;  $\frac{1}{2}$  ij D; ki  $\frac{1}{2}$  i  $\frac{1}{2}$  k
- 22- l êskt h dsfy; s fonsh fofue; dh elæ l sD; k vffik gS
- 23- i  $\frac{1}{2}$  k fdl sdgrsgS
- 124- fu  $\frac{1}{2}$  dr fofue; nj eaifjor  $\frac{1}{2}$  D; kin  $\frac{1}{2}$  kr djrkgs  $\$4 = \text{€} 1$  fofue; nj l s  $\$2 = \text{€} 1$  fofue; nj gkst kus  
ija
- 25- Q ki kj 'kk ea 300 dj  $\frac{1}{2}$  #ñ dk  $\frac{1}{2}$  gS fu;  $\frac{1}{2}$  dk e  $\frac{1}{2}$ ; 500 dj  $\frac{1}{2}$  #ñ gS vk kr dk e  $\frac{1}{2}$ ; fdruk gS
- 26- Q ki kj 'kk ea 5,000 dj  $\frac{1}{2}$  #ñ dk  $\frac{1}{2}$  gS vk kr dk e  $\frac{1}{2}$ ; 1,000 dj  $\frac{1}{2}$  #ñ gS fu;  $\frac{1}{2}$  dk e  $\frac{1}{2}$ ; fdruk gS
- 27- Q ki kj 'kk ea  $\frac{1}{2}$  dk g  $\frac{1}{2}$  k gS
- 28- d  $\frac{1}{2}$  l h n s ena Q ki kj 'kk dk fu  $\frac{1}{2}$  k dj rsgS
- 29- Q ki kj l ryu  $\frac{1}{4}$   $\frac{1}{2}$  [kr s dk D; k v  $\frac{1}{2}$  gS
- 30- H  $\frac{1}{2}$  rku l ryu  $\frac{1}{4}$   $\frac{1}{2}$  [kr s dk D; k v  $\frac{1}{2}$  gS
- 31- , d n  $\frac{1}{2}$  dk Q ki kj 'kk 100 dj  $\frac{1}{2}$  #ñ gS v  $\frac{1}{2}$  oLry l adsvk kr dk e  $\frac{1}{2}$ ; 175 dj  $\frac{1}{2}$  #ñ gS oLry l adsvk kr dk e  $\frac{1}{2}$ ; Kkr dlft ; s
- 32- Q ki kj l ryu ea  $\frac{1}{2}$  dh  $\frac{1}{2}$  fr dc g  $\frac{1}{2}$  h gS
- 33- Q ki kj [kr seavf/k  $\frac{1}{2}$  fr  $\frac{1}{2}$  dc g  $\frac{1}{2}$  k
- 34- H  $\frac{1}{2}$  rku l ryu [kr se an ' ; en l ad s 'kk d  $\frac{1}{2}$  D; k dgk t  $\frac{1}{2}$  k gS
- 35- H  $\frac{1}{2}$  rku l ryu  $\frac{1}{4}$   $\frac{1}{2}$  [kr ea D; k fn [k k t  $\frac{1}{2}$  k gS
- 36- H  $\frac{1}{2}$  rku l ryu dk v  $\frac{1}{2}$  crlb; s
- 37- Q ki kj 'kk [kr sea ' h fey dh t kus o k y h en l ad s ule crlb; s
- 38- H  $\frac{1}{2}$  rku l ryu [kr s ds i  $\frac{1}{2}$  kr [kr s dh n s ena crlb; s
- 39- oLry l adsvk;  $\frac{1}{2}$  v  $\frac{1}{2}$  oLry l adsvk kr d se  $\frac{1}{2}$ ; ea v  $\frac{1}{2}$  j d  $\frac{1}{2}$  D; k dgrsgS
- 40- n ' ; en l svki D; k l e > rsgS
- 41- n ' ; en l ad s n s m n g j . k n lft ; s
- 42- vn ' ; en fdl sdgrsgS
- 43- vn ' ; en l ad s d b z n s m n g j . k fyf [k s
- 44- H  $\frac{1}{2}$  rku l ryu ds i e q k n s [kr l ad s ule crlb; s

- 45- , d i {h} v r j . k f d l s d g r s g S
- 46- , d i {h} v r j . k d s d l b Z n k m n l g j . k n l f t ; S
- 47- L o k U k ; k L o i f j r l @ o g j f d l s d g r s g S
- 48- l e k k t r l @ o g j d k D ; k v f l z g S
- 49- H x r k u l r y u d s p l y w [ h r s l s D ; k v f l i k g S
- 50- H x r k u l r y u d s i w h [ h r s l s v k i D ; k l e > r s g S

3-4 अंकों वाले प्रश्न

- 51- f o n s h f o f u e ; n j D ; k g S m n l g j . k d h l g k r k l s l e > l b ; A
- \*52- f o n s h f o f u e ; , o a f o n s h f o f u e ; n j e a v t r j L i " V d l f t ; S
- 53- f o n s h f o f u e ; c k t j f d l s d g r s g S b l d s i e q k d k k d s l e > l b ; A
- 54- f l f j f o f u e ; n j i z k y h d s x q l k d s l e > l b ; A
- 55- f l f j f o f u e ; n j i z k y h d s n k l k d s f y f [ k A
- 56- u E f o f u e ; n j d s i e q k x q l k d s f y f [ k A
- 57- u E f o f u e ; n j d s i e q k n k l k d s f y f [ k A
- 58- f o n s h e n k d h e k d s i e q k l h r s d h Q k ; k d l f t ; S
- 59- f o n s h f o f u e ; d h i v r d s i e q k l h r s d h Q k ; k d l f t ; S
- 60- u E f o f u e ; n j f u / h z . k d h Q k ; k f p = k d h l g k r k l s d l f t ; S
- <sup>1</sup>61- m n l g j . k n r s g s f o n s h e n k d h d l e r c < u s v l s m l d h i v r d s c l p l a k l e > l b ; S
- 62- f o n s h f o f u e ; n j f d l s d g r s g S y l k f o n s h f o f u e ; d h b P N k D ; l a d j r s g S r h u d j . k c r l b ; S
- <sup>1</sup>63- f o n s h f o f u e ; n j l a e o f r F k d e h d k f u l u i j D ; k i h l o i M k k  
 $\frac{1}{4} \frac{1}{2}$  f o n s h e n k d h e k  
 $\frac{1}{4} \frac{1}{2}$  f o n s h e n k d h i v r
- 64- l e s k t h d s f y ; s f o n s h f o f u e ; d h e k l s D ; k v f l i k g S m n l g j . k d h l g k r k l s l e > l b ; A
- 65- f o n s h f o f u e ; n j d h i f j H k k n l f t ; S f o n s h e n k d h d l e r d e g l s l s b l d h e k D ; l a c < r h g S
- 66- f o n s h f o f u e ; n j A p h g l s i j f o n s h f o f u e ; d h e k d e D ; l a g l s t k r h g S

- 67- fonslh fofue; nj eafjorzi dk vk kr ij iMasokysiHlo dko. H dlft ; s
- 168- fonslh fofue; nj eao f) vls deh dkfu; H ij Oe' %D; ki Hlo iMk
- 69- Harku l aryu fdl sdgrsga Harku l aryu dhfo' kkrk vadlscrh; s
- 70- Harku l aryu dsitvkr , oapkyw[ krseavaj Li"V dlft , \
- 71- Harku l aryu dsplyw[ krsds?Wdladh Q k]; k dlft ; s
- 72- Harku l aryu dsitvkr [ krsds?Wdladh Q k]; k dlft ; s
- 73- Harku l aryu ea?Wsdhi fr fdu l krlsdht krhgS
- 74- vuqly Q kilj 'kk , oairdy Q kilj 'kk eavaj Li"V dlft ; s
- 75- D; k Harku l aryu l ns jgrk gS Q k]; k dlft ; s
- 76- Harku l aryu eavl aryu dsD; kdlj.kgS
- 77- Lok Uk , oal ek ktr l @ ogkj eavaj Li"V dlft ; s
- 78- n ' ; vls vn ' ; enlal sD; kvfHik gS vn ' ; enladsnksmngj.knlft ; s

### 6 अंकों वाले दीर्घ उत्तरीय प्रश्न

- 79- fLFj fofue; nj vls uE; fofue; nj eavaj Li"V dlft ; s
- 80- fonslh fofue; , oafonslh fofue; nj l sD; kvfHik gS mngj.kdhl gk rkl sfonslh fofue; nj dh Q k]; k dlft ; s
- 81- uE; fofue; nj fdl sdgrsga uE; fofue; dkfu/ H . kfdl izlj gkrk gS
- 82- uE; fofue; nj izkyh dsxqk&nksla dh Q k]; k dlft ; s
- 83- fLFj fofue; nj fdl sdgrsga fLFj fofue; nj izkyh dsxqk&nksla dh Q k]; k dlft ; s
- 84- fonslh fofue; nj eafjorzi dk vk kr&fu; H ij iMasokysiHlo dko. H dlft ; s
- 185- Harku l aryu Q kilj l aryu l svf/ld Q ki d gS Q k]; k dlft ; s
- 86- Harku l aryu [ krlads'plyw oaitvkr [ krlsdsl 3Wdladh Q k]; k dlft ; s
- 187- fdl h Hh vH? oLFk eapkyw[ krsea?Wk [ krjsdh?W h gS Q k]; k dlft ; s

### एक अंक वाले प्रश्नों के उत्तर

- 1- og ele; e ft l ds} jkl Hh nskvki l eays&nsu djrsga

- 2- , d nšk dh enk dk vÜ nšhadh enk laeifjorž dheki dksfonslh fofue; nj dgk t k r k gA
- 3- fonslh fofue; ckt kj og ckt kj gSt gkj kVh enk vadk , d nšj s dsfy; s0 ki kj g r k gA
- 4- nš; knš l svf/ld nšhadh djšl ; la dschp dh fofue; nj ft l dk fu/š. kdš Lrj ij fu; r dj fn; kgS vÜ 'knš eafdl hnskdhl j dš } kj kvf/ldkj d : i l svi uhenk dh fofue; nj dk fu/š. kflšj fofue; nj dgyk r k gA
- 5- dšh, cšl ds gLr{li dsfcuk fonslh ckt kj eak vš i š dh 'kDr; la } kj fu/š r fofue; nj uš fofue; nj dgyk r h gA
- 6- t gk fonslh fofue; dsfy; selx vš i š cjkj gšt k r h gA
- 7- fonslh fofue; nj
- 8- fonslh fofue; dh elx , oafonslh fofue; dh i š ra
- 9- (i) fonslh enk ds Hšj j [ kus dh vö' ; drk ugha  
(ii) l š k kula dk l öšle vöš u
- 10- (i) cgš vf/ld v š j š h fuf/k dh vö' ; drkA  
(ii) v š j š h ckt kj ea i š h ds vöš xeu dš fu#š k r gA
- 11- fonslh fofue; dh elx oØ dk v dšj \_ . kšed <ky ošy k g r k gA
- 12- fonslh enk ds: i eafonslh enk ds eš; eao f) l š gA
- 13- v š /ldkj d dk ž h ž ds ek; e l svf/ldkj d fofue; nj la ds v š xž nšh, djš h dh dler eadeh dš voeš, u dgrš gA
- 14- fonslh enk ds: i eanšk dh djš h dh dler eadehA ; g fofue; nj la eao f) ds vuq i g r h gA
- 15- fofue; nj eaifjorž 'šyrk ds dšj . k gš % l puk i š k x dh dk fodk ; k l êk fØ; k v la dk c < uk ; k v š j š h ckt kj dk fodk A
- 16- gLr š j . k dk ž l k k dk ž
- 17- fonslh enk ds i š oØ dš cukoV ulps l š š j dh v š ? k š ed g r h gA
- 18- D; š d fonslh enk dh elx vš fofue; nj eafojš r l š k i k t k r k gA
- 19- fu; š vf/ld gš s D; š d fons' k la ds fy; s nšh, oLr q a r y u š ed : i l s l Lr h y x š h bl fy; s fonslh fofue; nj eao f) gš s i j fonslh enk dh i š c < š hA
- 20- t c fofue; nj š ph gš h r š v k k r de fd; st k š hA
- 21- fu; š vf/ld gšt k š hA

- 22- fonsh fofue; dh ek enkdsew; eao f) l sihr l hfor ykk dsfy; sdht krhgA
- 23- fonsh fofue; nj eaghsokysifjorzi dst k[le lscpusdsfy; sfo'kkizahadsiwzk dgrsgA
- 24- Myj iM dhryukeaet cw glsx; kvU 'KhaeaMyj dsew; eao f) glsxbA
- 25- vk kr dkew;  $\frac{3}{4}$  800 djM-#ñ  
 500 fu; k  $\frac{1}{2}$  \$ 300  $\frac{1}{2}$   $\frac{1}{2}$   $\frac{3}{4}$  800 djM-#ñ
- 26- fu; k dkew;  $\frac{3}{4}$  4,000 djM-#ñ  
 9,000  $\frac{1}{2}$  vk kr  $\frac{1}{2}$  & 5,000  $\frac{1}{2}$   $\frac{1}{2}$   $\frac{3}{4}$  4,000 djM-#ñ
- 27- ; fn dy fu; k dkew; vk kr dsew; l sde glrk gA
- 28- n ' ; enadk vk kr & fu; k  
 n ' ; enat \$ sxg]p]loy] puh] di MvknA
- 29- n ' ; enadsfu; k ew; v\$ vk kr ew; dsvlrj dsk kij 'kk; k0 kij l ryu dgrsgA
- 30- Harku 'kk  $\frac{1}{2}$  ryu  $\frac{1}{2}$  [krkfuf' pr vof/kv k foz foñ; o'Zesfdl hnsk ds 'kk fo' o dsl eLr vkfd l kka  
 dk nfoi fo'V izkyh eays [k t k k glrk gA
- 31- Q kij 'kk  $\frac{3}{4}$  fu; k dkew; & vk kr dkew;  
 100  $\frac{3}{4}$  175 & vk kr dkew;  
 vk kr dkew;  $\frac{3}{4}$  175 & 100  $\frac{3}{4}$  75 djM-#ñ
- 32- t c , d l e; lof/keansk dsn ' ; vk kr adkew; n ' ; fu; k adsew; l svf/kd glst krk gA
- 33- t c fu; k dhxbzn ' ; enadkew; vk kr dhxbzn ' ; enadsew; l svf/kd glkA
- 34- Q kij 'kA
- 35- nhghzvof/kea, d nsk ds 'kk fo' o l sl eLr vkfd yu&nsi dk G jk Harku 'kk eafn [k t k k gA
- 36- Harku l ryu eafdl h , d nsk ds fuokl ; kv\$ 'kk fo' o dschp oLryh l sk kv\$ ifj l afk; adh  
 yu&nsi dk foj.k nt Zglrk gA
- 37- n ' ; enat \$ sdi M t w LdWj] i vhy vkn dk vk kr o fu; kA
- 38- (i) fonsh fuosk  
 (ii) \_ .k
- 39 Q kij l ryu

- 40- osHfrd oLrqaft udk, d y{kk o"Zeavk kr&fu; lz fd; kt krkg\$ n ' ; enadgykrhgA
- 41- n ' ; enat \$s?kMj pkyv] iVhy vlnA
- 42- , d y{kk o"Zeasl ok aft udk vk kr&fu; lz fd; kt krkgSvn ' ; enadgykrhgA
- 43- t gkt jkuh cdx] cleh i; Zu vln vn ' ; enadsmngj.k gA
- 44- ¼½ plyw[krk  
¼½ iwh [krk
- 45- ;s, i hi kr; lagkrhgat kfdl hnsk dsfuokl ; ladsfu'kyd i kr gkrhgsvls mudscnyseamgaHfo"; ; k  
orZku eadlvznk xhugladjuh iMhA
- 46- vfuokl ; la}kjki'kr /ku] migj o vuokuA
- 47- varjKVh vkrfd l @ ogj t c ykk dsmis; l sloruk: i l sl jdkj ds}kjfd; kt krkgSrls, i sl @ ogj  
dlsLok ur ; kLoisjr dgrsgA
- 48- l ek ktr l @ ogj l svfi k mu Q ogj lal sgSft udk mis; Harku 'kk eal ekurkyukgA
- 49- Harku l ryu dkplyw[krkog [krkgSft l ean ' ; o vn ' ; enadkvk kr&fu; lz rfk, d i {kr varj. ka  
dk y{kk t k j [k t krk gA
- 50- iwh [krkaifj l afuk lat \$ senh LVW] cali =kvln l Hh izlj dsvurjKVh Ø; &foØ; l adkfooj.kgkrk  
gA

QUESTION PAPER SET I

अर्थशास्त्र

fu/र le; % 3 ?kVs

vf/kdre val % 100

l le/ funZk

- (i) nksa [Msdsl Hh izu vfuok ZgA
- (ii) iR, sl izu dsfu/र val ml dsl keusfn, x, gA
- (iii) izu l q; k1 ls5 vj 17 ls21 vfr y?Rj Red izu gftudkiR, sl izu , d&, d val dkgSbudkmUj doy , d oD; eagh visR gA
- (iv) izu l q; k6 ls10 rFk 22 ls26 rd y?Rj Red izu gft ueaiR, sl dsfy, ru&ru val fu/र gA iR, sl dkmUj l le/ r%60 'knard l ffer jguk plg, A
- (v) izu l q; k11 ls13 vj 27 ls29 Hh y?Rj Red izu gft ueaiR, sl dsfy, plj&plj val fu/र gA iR, sl dkmUj l le/ r%70 'knard l ffer jguk plg, A
- (vi) izu l q; k14 ls16 vj 30 ls32 Q k; Red izu gft ueaiR, sl dsfy, 6&6 val fu/र gA iR, sl dkmUj l le/ r%100 'knard l ffer jguk plg, A
- (vii) mUj l Rr rFk rF; Red gusplg, rFk Aj nhxbZl lek eagh; Fk Mo fn, t kusplg, A

खण्ड 'अ'

- 1- l kula dhny r k lsvki D; k l e > ragA
- 2- ctkj elx dhifj Rk nft, A
- 3- l jy jsh, elx oO dsee; cnqij elx dh dler ylp dshgk
- 4- fdl izlj dhifr; kxrkeaoLrqdhe bdbZl svfkd ylpnj ghrhG
- 5- 75° dskolyki r oO tsvk dHzlxtj jgkgl ml ij i r dh ylp D; kglk
- 6- dy l iR r %ke %eAD; kifjorZ gft l l sfd&
  - (i) l le/ l iR ?W tkA
  - (ii) l le/ l iR fFj jgA



7-  $\frac{1}{2}$  mi ;  $\frac{1}{2}$  rkr rFlk l lekr mi ;  $\frac{1}{2}$  rkr eaD; kl  $\frac{1}{2}$  gS l e>lb, A

8- fuFu rkydk dls ijk dlft , A

mRknu dh bdlb; la	vR r ifjorZ ykr	dy ykr	l lekr ykr
1	20	80	-
2	15	-	-
3	20	-	-

; k

fuFu fyf[kr vud ph dls ijk dlft , A

mRknu % bdlb %	dy ifjorZ ykr % #i %	vR r ifjorZ ykr % #i %	l lekr ykr % #i %
1	-	12	-
2	20	-	-
-	-	10	-

9- mRknu l  $\frac{1}{2}$  rkr oØ dk <ky \_ .  $\frac{1}{2}$  rkr D;  $\frac{1}{2}$  rkr gS fp=k } jk l e>lb, A

10- fuFu vkr  $\frac{1}{2}$  rkr i wZ vS , dk / dk j h i r ;  $\frac{1}{2}$  rkr ea vr j cr lb, &

(i) oLrq dh fdLe

(ii) dler & fu /  $\frac{1}{2}$  rkr . k

(iii) Ø rkr / a o fo Ø rkr / a dh l  $\frac{1}{2}$  ; k

11- , d mi  $\frac{1}{2}$  rkr , d oLrq dh 3 #ñ i r bdlb Zij 40 bdlb; la [  $\frac{1}{2}$  rkr gS t c oLrq dh dler c < dj 4 #ñ i r bdlb Z g t k h g S r k s o g 120 #ñ Q ; d j r k g S d y Q ; fo / k } j k e k dh dler y p dk i f j d y u dlft , A

12- , d mi  $\frac{1}{2}$  rkr dh vk ea i f j o r Z v k s l s m l d s } j k dh x b z o L r q d h e k i j D ; k i  $\frac{1}{2}$  rkr i m k

vFlok

fdl h oLrq dh e k dh y p d s f u /  $\frac{1}{2}$  rkr d h Q k ; k dlft , A

13- l lekr ykr oØ vR r ifjorZ ykr oØ rFlk vR l dy ykr oØ dls mudsU wre  $\frac{1}{2}$  rkr nqij dW r k g S fp=k } j k l e>lb, A

14- dk j d  $\frac{1}{2}$  rkr k u  $\frac{1}{2}$  rkr d s i r Q y fu ; e dh Q k ; k dlft , A

15- i r ea i f j o r Z r F k i r dh e k k ea i f j o r Z dk v r j fp=k dh l g k r k l s l e>lb, A

vFlok

ifr oØ dsf[kl dlo dsfdlghapkj dljdladh Q k; k dlft, \

- 16- mu fLFfr; ladsfp=kdhlgk rkl sl e>lb, tc oLrqdheka rFki fr ea, d l Fkifjorzi ghusl sl rgyu dler c<+t krh gA

### खण्ड 'ब'

- 17- fuoskxqlcd dk U wre vls vf/kdre eW; D; k gsl drk gS
- 18- vuSPNd cjk xkjhl svki D; k l e>rsgS
- 19- dshz cil udn fuf/kvuqr dsfdl fLFfr eade djrk gA
- 20- \_\_.k dh l lekr vob'; drkl sD; kvfhi k gS
- 21- jkt dshz ?WV/B dlsifjHfr dlft, A
- 22- 'Q k lj 'ks l sD; kvfhi k gS bl ea'Wey dht kusolyhn'; vls vn'; enladsnl&nlsmlgj.knlft, A
- 23- ljdjh ctV dsfdlgh rhu mis; ladh o. W dlft, A
- 24- ok. k; csls dsrhu, t a h dk Zcrkb, A

; k

cil nj l sD; kvfhi k gS ; g l k l & l tu dsfdl izlj iHfor djrk gA

- 25- fofue; dsek; e : i eaen k fdl izlj ngj sl a k dsvHo dh l eL; k dk l ekku djrh gA mlgj.k l fgr l e>lb, A
- 26- fufufyf[kr vldMal sct kj eW; ij fucy oLkr eW; 1/2eW; o f) 1/2dlsifjdfyr dlft, &

~~1/2jM/ #1/2~~

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(i) eW; Dkl	5
(ii) fcØh	100
(iii) vj fhd LVkd	20
(iv) e/; orlzi Hk	70
(v) mR knu 'Rkd	10
(vi) LVkd ea ifjorzi	1&1/2 10

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- 27- cpr o fuosk vo/kj.k dh l gk rkl svk o jkt xj l rgyu dh Q k; k dlft, A

; k

voIQlfr varjly dh Q k; k fp=k dh l gk rk l s dlft , A

28- fuFufyf[kr eavaj Li"V dlft ,

(i) ; k uk Q ; rFk x\$ ; k uk Q ;

(ii) fodkl Red rFk x\$ fodkl Red Q ;

29- fonsh fofue; nj eao f) dk vk kr&fu; k ij iMasokysiHo dk v/; ; u dlft , A

30- fuFu vladMadhl gk rk l s(i) fut h vk rFk (ii) Q Drd iz k; vk Kkr dlft , A

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(i) fut h {sk dls iHr dljd ykr ij fuoy nsh mRkn	8,000
(ii) fonsh l s fuoy dljd vk	700
(iii) ljdj l s pkywglrkrj.k	400
(iv) 'kk fo'o l s ipfyr glrkrj.k	1,200
(v) jkVh _ .k ij G k	300
(vi) ifjokj }jk fn, x, i k {k dj	250
(vii) ljdj dh fofu/k iHr; k	150
(viii) fut h fuxfer dj	350
(ix) fuxfer cpr	250

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31- vf/ek dh vo/kj .k fp=k }jk l e>lb, A bl snjv djus ds dbZns jk dsh, mik fyf[k A

; k

vHoh ek dh vo/kj .k fp=k }jk l e>lb, A ml snjv djus ds dbZns elnzl mik crlb, A

32- fuFu dkeW; jkVh vk ea' Hfey D; laughafd; k t krk dlj .k l fgr fyf[k &

(i) ,d fonsh cil }jk gsjkcn ea fLFr 'kk l s vfr yHA

(ii) ,d vfuokl h HjrH }jk Hjr ea fLFr vius ifjokj dls H k x; k /kuA

(iii) HjrH nwlod ea dle djus okys ,d vejrdh ukfjd dls fn; k x; k oruA

(iv) ,d vfuokl h MDVj dk oru t s HjrH vLirky ea dle dj jgk gA

## MARKING SCHEME

### SET 1

- 1- I kluadh nyZrk lsvfHk, ml fLfr lsgSft l eafdl h l klu dh elx ml dh i fr lsvf/kd glrh gA  
 ½fjHk'k grq1 ufcj ½
- 2- ct kj elx oLrqdh foHh dlerhij fuf'pr le; each kj eal Hh mi HDrkvladh elx dk; kx glrh gA  
 ½fjHk'k grq1 ufcj ½
- 3- bdbZdscjkj ylnkj 1 ufcj
- 4- , dk/kdjh i fr; kxrk 1 ufcj
- 5- bdbZdscjkj ylnkj 1 ufcj
- 6- (i) dy l E i fr ea?Wrh nj l so f) glA (1½ × 2)  
 (ii) dy l E i fr ea fLij nj l so f) glA
- 7- (i) TU eao f) glsij MU ?Wrh gA (1 × 3)  
 (ii) ft l fclhij ij TU vf/kdre glrh gS ogk MU 'Wj glrh gA  
 (iii) TU ea deh glsij MU \_ .Red gls t k h gA

8-

	TQ	AVC	TC	MC
1	20	80	20	
2	15	90	10	
3	20	120	30	(½ × 6)

	TQ	TVC	AVC	MC
1	12	12	12	
2	20	10	8	
3	30	10	10	(½ × 6)

- 9- I kluadh l ferrk dsdjk .k, d oLrqdh bdbZ, kdsvf/kd mR kfr djustij nwjh oLrqdh bdbZ, kd k R k djuk i M'k gA (1 + 3)

10-

<u>vaj dk vkhj</u>	<u>iwZ i fr; kxrk</u>	<u>, dk/kdjh i fr; kxrk</u>
1. oLrq dh fdle	l e: i	oLrq foHh
2. dler fuHh.k	m k }jk elx o i fr dh 'kDr; la ds vkhj ij	vU Qek dh dler ds vkhj ij
3. Ørk foØrkvladh l q; k	cgq vf/kd	vf/kd (1½ × 6)

11-

<i>dlar</i>	<i>elx</i>	<i>dy 0:</i>
3	40	120
4	30	120 (1½ × 2)

dlar c<usij Hh dy 0; vijofrr jgrk gSvr%elx bdbZdscjkj yknlj gA

- 12- ?WV; koLrqij vk i Hko \_ .Red glkmi HDrkdhvk c<usij ?WV; koLrqdhelx de gsk k xhrFlk vk eadehglsisij ?WV; koLrvadhelx eao f) glkA (2 × 2)

l leU oLrq%l leU oLrqij vk i Hko /uRed glkvFlZ vk c<usij l leU oLrvadhelx eao f) glkhvS vk eadehglsisij l leU oLrvadhelx ?W tk xA

vFlk

- 1- oLrq dh iNfr (½ × 4) for point
  - 2- mi HDrk gh : fp ; k i Hfedrk (½ × 4) for explain
  - 3- LFkuki U oLrq dh mi yCkrk
  - 4- oLrq ds oSlyid iz kx
  - 5- oLrq ij [kpZ fd; k t kus oLk vk dk Hkx
- 13- l lekr ykr] vS r ykr o vS r ifjorZykr dks mudsU wre fclhqij dWrh gA fp=k dh l gk rk l s Q k; k dft , A (2 Marks for Curve, 2 for Explanation)
- 14- t c mRknd vYidky eal Hh l klu dks fLFj j [kdj fdl h , d ifjorZl klu dh bdbZ la dks yxkrj c<kdj mRknu djrkgS rls mRknu eafu fu ifjorZi vkrsgA
- (i) TPP c<rh nj l s c<rk gS MPP Hh c<rk gA
  - (ii) TPP ?Wrh nj l s c<rk gS MPP ?Wus yxrk gA fdUrq /uRed glrk gA
  - (iii) ft l fclhqij TPP vfk dre glrk gS ogla MPP 'W gk t krk gA
  - (iv) TPP ?Wus yxrk gS vS MPP \_ .Red gls t krk gA

(1 Mark for Explanation of Law, 2 Marks for Table, 3 Marks for each Stage)

15-

<i>ifr dh elkk ea ifjorZ</i>	<i>ifr ea ifjorZ</i>
1. oLrq dh viuh dlar ea ifjorZ ds dlj.k ifr dh elkk ea gls oLk ifjorZ	1. vU dlj dA ea ifjorZ gls ds dlj.k ifr ea gls oLk ifjorZ
2. bl fLFfr ea vU dljd vijofrr jgrs gA	2. bl fLFfr ea dlar fLFj jgrh gA

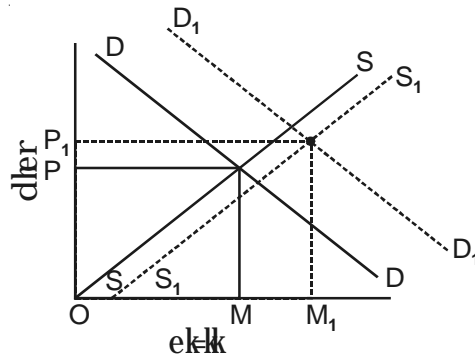
3. málnd iðr oð ij Áij ;k ulps dh vlj l p.j.k d jrk gá
4. bl flflr ea iðr dk fu;e ykwgk gá
5. bl s iðr oð ij l p.j.k ds ule l s t luk t k k gá
6. fp=k

3. málnd dk iðr oð nlah ;k clah dh vlj fl d t k k gá
4. bl flflr ea iðr dk fu;e ykwugh gá
5. bl s iðr oð dk l p.j.k ds ule l s t luk t k k gá
6. fp=k

(1 × 6 = 6)

vflók

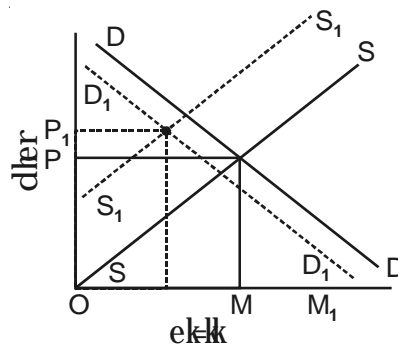
1. oLrqdh dler
  2. rdukl eaifjorzi [½ mark each for mentioning the points only = 2]
  3. ljdij dh dj ulfr
  4. vkrh dh dler eaifjorzi
  5. QeZdsmis;
  6. Hfo"; eadler ifjorzi dh vk k [1 mark each for explanation of each points = 4]
- 16- (i) tc ek ea iðr dh ryuk ea vf/kl of) g h gá



[1 mark for condition; 2 marks of diagram with brief explanations]

- (ii) tc iðr ea ek dh ryuk ea vf/kl deh g h gá

[1 mark for condition 2 marks of Diagram with brief explanation]



## PART B

- 17- , d rFlk vuŀr 1
- 18- et njh dh i pŀfyr nj ij dk Zdjusdh bZnk o ; k rkgusij Hh jk xkj dsvolj dk vHh oA 1
- 19- (i) enqk volQlfr dh fLFfr ea 1  
 (ii) enqk viŀ kj dh fLFfr ea [For any one condition]
- 20- iŀrHfr dki pŀfyr ckt kj eŀ; rFlk ml dsvk kj ij Q kiljd cŀl }kj k Lohŀr \_ .k dk vŀjA 1
- 21- t c ljd kj dsct V Q ; ljd kj dh m/kj NMej ct V iŀr; l svf/ld gkrsgŀbl sjk dŀŀh ?Hsds ule l st kukt k rk gŀ 1
- 22- oLrŀadsokŀd fu; k rFlk vk kr dk vŀj Q kilj 'ŀk dgykrk gŀ [1 Mark for correct meaning]  
 n ' ; enŀadsmŀg.j.k%(i) diMk (ii) gŀjst olgjrA [Two example = 2]
- 23- (i) l ŀ k l u ŀ d k i q % forj .k  
 (ii) vŀŀd fLFjr k  
 (iii) l ŀ k l u ŀ d k i q % v k ŀ u  
 (iv) l k ŀ fud m | e ŀ d k i ŀ k 1 × 3 = 3 [1 mark with brief explanation for each point]
- 24- (i) foŀŀu enŀadk , d = k dj .k  
 (ii) iŀrHfr; l dh fcŀh rFlk [kj m  
 (iii) fonŀh enqk dk Ø ; foØ;  
 (iv) VŀVh rFlk iŀk 1 × 3 = 3

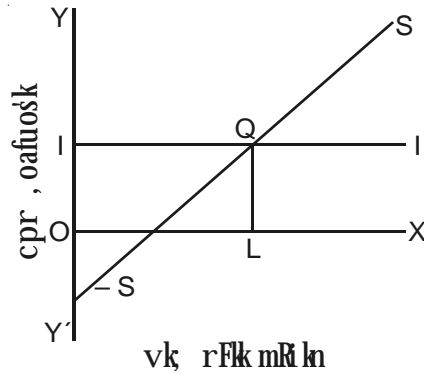
### vFlok

ŀ kt dhog ŀ wre nj ft l ij dŀh cŀl Q kiljd cŀl dŀs \_ .k dh l p/k inku djrkgŀ cŀl nj ea o f) l sŀ kt nj eao f) gŀrhgŀ ifj .ker% \_ .k dh eŀ eadeh vŀrhgsvŀ ; in dŀh cŀl }kj k cŀl nj eadeh dh t k rhgŀrŀsŀ kt nj de gŀsls \_ .k dh eŀ eao f) gŀst k xŀA

[Effect on credit creation = 2]

- 25- eŀ; dseki u dh bdbZds : i eaenqk eal ozkŀrk o fo'ol uŀ rk gŀs ds dlj .k ; g fofue ; dh l Hh dfBulbZŀadksnjv djdsbl sl ŀo cukrhgŀdfYir mŀg.j .A 3
- 26- ckt kj eŀ; ij fuoy oŀ r eŀ; = 100 + (-10) - 70 - 5 = 15 djM : i ; s 3

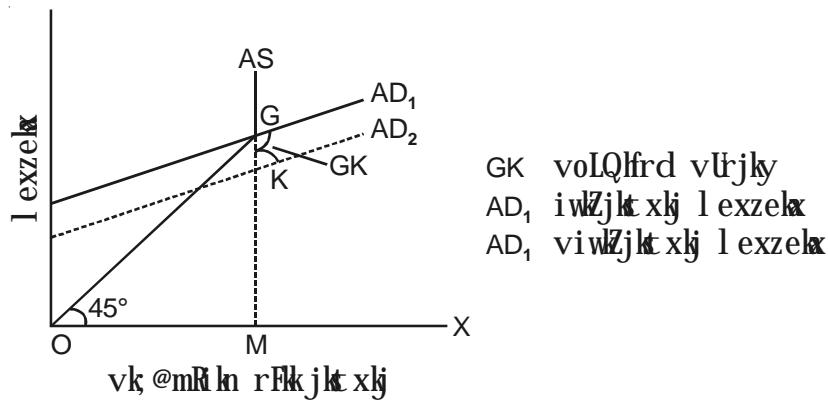
- 27- dēt h u fopj/kjk dsvuē kj jkVh vk o jk xkj dsl rju Lrj ij iē k'kr cpr rFk iē k'kr fuošk , d&nwjsdscjkj gkrs gā t \$ kfd fuē jē kfp=k l sLi"V gā [For correct meaning = 2]



fp=k dsvuē kj OL Lrj ij jkVh vk dkl rju dkfu/ēz. kglrk gSt gk iē k'kr cpr iē k'kr fuošk dsl eku gā

vFlok

fdl hvFē oLFk eai wZjk xkj l rju dhLFfr dscuk sj [kusdsfy, ft ruh l exzelē dh vō'; drk gk h gS; fn l exzelē ml l sde gk rēsbu nē s dsvū rj dēsvoLQfr vū rjky dgrs gā t \$ kulpsfp=k } kj k fn [k k x; k gā [For meaning = 1]



fp=ke AD<sub>1</sub> i wZjk xkj Lrj dsfy, l exzelē oē rFk AD<sub>2</sub> vi wZjk xkj Lrj ij ik kt kusykelē oē gā nē s dsvū rj GK dscjkj gSt s voLQfrd vū rjky dē n' kZk gā

- 28- (i) ; k uk Q; ml Q; dē dgrs gSt s l j d kj } kj k ; k uk) fodkl dk ēē ij fd; k t k rk gSt s s l plbZ ds fy, ugjlē ds fuelZk ij fd; k x; k Q; A t cfd x\$ ; k uk Q; , d , s k Q; gSt s nē s ds ; k uk) fodkl dk ēē ds v/hu ugha fd; k t k rk A t \$ s hōē i h mē lē dh l gk rFē Z Q; A [2 marks for explanation]
- (ii) fodkl Q; og Q; gSt s nē s ds vōē d fodkl ds fy, fd; k t k rk gS vē t s vFē oLFk eai Lrjē , oal s kē ds iōg eai ē {k : i l s o f} d j r k gā t \$ s % l kō Z fud {ē k ds m | e l ds foLrj ij fd; k t kus o y k Q; A bl ds foijr x\$ fodkl ēē d Q; l s v h i k ml Q;



Is the following statement correct? Explain. The aggregate demand curve is downward sloping because of the inverse relationship between the price level and the quantity of output demanded.

[2 marks for explanation]

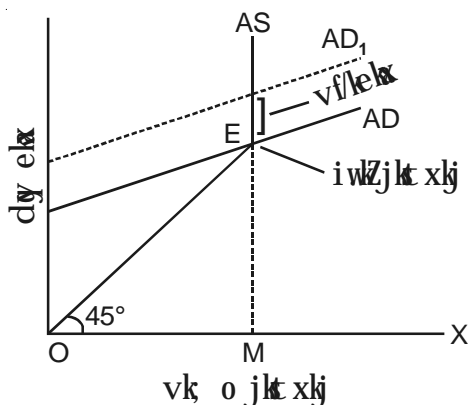
29- (i) Explain the inverse relationship between the price level and the quantity of output demanded. 2

(ii) Explain the inverse relationship between the price level and the quantity of output demanded. 2

30- (i)  $Y = 8,000 + 700 + 400 + 1200 + 300 = 10,600$  3

(ii)  $Y = 10,600 - (350 + 250 + 250 + 150) = 9,600$  3

31- Explain the inverse relationship between the price level and the quantity of output demanded. [for meaning = 1]



[For correct diagram with brief explanation = 3]

(i) Explain the inverse relationship between the price level and the quantity of output demanded.

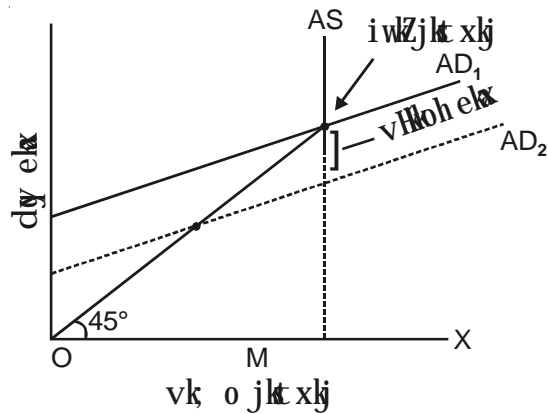
(ii) Explain the inverse relationship between the price level and the quantity of output demanded.

(iii) Explain the inverse relationship between the price level and the quantity of output demanded.

[1 mark for each point  $1 \times 2 = 2$ ]

Explain

Explain the inverse relationship between the price level and the quantity of output demanded. [For meaning = 1]



[For correct diagram with brief explanation = 3]

elnd mik

(i) cfl nj ea deh

(ii) i r H r ; l d k Ø;

(iii) o s l u d r j y r k v u i k r ea deh

[any two measures  $1 \times 2 = 2$ ]

32- 1/2 D; k d ; g y k k f o n s h l i f k } j k v f r f d ; k x ; k g a v r % b l s f o n s k l a d l s m | e o f r d s Q y l o : i i n k u d h x b z v k e l u d j f o n s l a l s v f r d l j d v k e a l s ? k k t k r k g a

1/2 D; k d ; g g l r k j . k v k g a

1/2 D; k d ; g f o n s k l a d l s m u d h l o k l a d s i z k d s c n y s f d ; k x ; k H r k u g s v r % b l s f o n s h d l j d v k e a l s ? k k t k r k g a

1/2 D; k d j k v h v k e a f l Q Z l l e k u f u o k l ; l } j k v f r d h x b z v k d l s ' H f e y f d ; k t k r k g a

[1½ for correct answer with reason]  $1\frac{1}{2} \times 4 = 6$

## SET II

### I leku funzk

- (i) nlsu [Mads] Hh izu vfuok ZgA
- (ii) iE, sl izu dsfu/ur val ml dsl leusfn, x, gA
- (iii) izu l q; k1 l s5 vls 17 l s22 vfr y?lj Red izu gft udk iE, sl izu , d&, d val dk gA
- (iv) izu l q; k6 l s10 rFk 22 l s26 rd y?lj Red izu gft ueai E, sl dsfy, rhu&rhu val fu/ur ga iE, sl dk mlj l leku r%60 'khard l fer jguk plg, A
- (v) izu l q; k11 l s13 vls 27 l s29 Hh y?lj Red izu gft ueai E, sl dsfy, plj&plj val fu/ur ga iE, sl dk mlj l leku r%70 'khard l fer jguk plg, A
- (vi) izu l q; k14 l s16 vls 30 l s32 Q k; Red izu gft ueai E, sl dsfy, N%N%val fu/ur ga iE, sl dk mlj l leku r%100 'khard l fer jguk plg, A
- (vii) mlj l rFk rFk; Red gks plg, rFk Aj nh xbZl lek eagh; Fk mo fn, t kus plg, A

### खण्ड 'अ'

1. l lekr foLFki u nj l svki D; k l e>rsgA 1
2. , d oLrqds?kV; k oLrqdc dgk t r k gA 1
3. ; fn fdl h oLrqdh LFki u oLrqct kj eami yCk gsr's ml dh ek dh dler ylp d\$ h gk h 1
4. fdl h vkr dh dler eao f) dk QeZdsi fr oØ ij D; ki k ho i M k gS 1
5. fdl izlj dsct kj dh ^oLrqfoHs\* , d fo' k r k gS 1
6. fuFu fLFkr; laal ryu dler ij D; ki k ho i M k 3  
 $\frac{1}{2}$  tc ek ea vf/kd vls i fr ea de of) gls  
 $\frac{1}{2}$  i fr ea deh gls vls ek bdbZ ds cj kj ylp kj gls vls ek vijofrr jgA
7. ml knu l Hhouk oØ ey fclhqdh vls urh nj D; lagl k gS fp=k l fgr Q k; k dlft , A 3
8. , d oLrqds l Euk eami HDrk l ryu dh Q k; k dlft , A 3
9. , dk/kdjh i fr; ksrk ct kj eal lekr l i k r vls r l E k r l sde D; lagl k gS Li"V dlft ; A

vflok

fdl h QeZdsfy, mRi knu&clh fclhQD; k gS jS Hfp=k dh l gk rkl sLi "V dlft , A

10. ;fn nwjhbdbZdh AFC 40 # gsrksAVC rFlk AC Kkr dlft , A

<i>I lekR ykr %</i>	80	60	52	48
<i>mRi knu ykr %</i>	1	2	3	4

11. 50 # iFr bdbZdler ij , d oLrqdheLk dheLk 1,000 bdbZk gA t c bl dh dler 10% de gSt krh gS rseLk dheLk 1,080 gSt krh gA ek dh dler ylp fudkfy, A D; kbl dheLk ylonk gS viusmLj dsfy, dlj.k nft , A

12. fdl h oLrqdh dler eafjorZ dk l fclUkr oLrqdheLk ij D; ki Hlo iMrk gA  
vFlok

dlr ds fLFj jgusij fdu ifj fLFkr; heami HDrk oLrqdh vf/kd ekL [kjmrk gA

13. dy HDr mRi n rkydk dh l gk rkl sl klu dsc<rsifr Qy dh Q k; k dlft , A

14. ,d oLrqdhnghZdler ij ekL vf/kD; gA D; k; g l rgyu dler gS ;fn ugharksl rgyu dler dS s fudkfy r gLk

15. iFr esof) rFlk iFr eadeh ds rhu&rhu dlj dladh Q k; k dlft , A  
vFlok

mu dlj dladh Q k; k dlft , t siFr dh ylp dsi Hfor djrsgA

16. l q; Red mngj. h adk izLk djds "iSkus ds iFr Qy" le>h, A dlj.k nft , A

### खण्ड 'ब'

17. I lekR mi Hk in fuk dk vf/kdre eV; fdruk gL drk gS

18. , sNd cjt xLj h dLs ifj Hkr dlft , A

19. I eLdj.k dLs ijk dlft , &

$$M_1 =$$

20. udn fuf/k vuqkr l sD; k vfhk k gS

21. jkt dLsh ?kV k dLs ifj Hkr dlft , A

22. [kysct kj dh iF0; kvl} jk dshz csl l k k dh mi yCkrk dLs dL sfu; fkr djrk gS

vFlok

ok. k; c f l a d k t e k ; l o l d l j d j u s d k d k ; l e > l b , A

23. e n k d k l f f x r h a r k u l a d k e u \* d k ; l e > l b , A 3
24. h a r k u l a r y u d s p k y w l k r s o i p h [ k r s d h r h u & r h u e n l a d s u l e f y f [ k A 3
25. j k t d k l k i ? w s d s v f l o l f k i j i m u s o k y s r h u v k f l d i h o l a d h o k ; k d l f t , A
26. f u f u f y f [ k r v l d m a l s ' f u t h v k d k i f j d y u d l f t , &

*djM #ñ*

(i) j k V h _ . k i j C k t	30
(ii) c k l j e w ; i j l d y j k V h m r l k n	400
(iii) l j d l j l s p k y w l r l a j . k	20
(iv) f u o y v i k { k d j	40
(v) ' l k f o ' o l s f u o y p k y w l r l a j . k	(- ) 10
(vi) l j d l j d l s i h r d l j d y k r i j f u c y n s l k i m r l k n	50
(vii) v p y 1/2 l f j 1/2 i p h d k v o { k 1/2 m i h k 1/2	70
27. ? w s d s c t V d s n k y k r f k n l s g l u ; k f y f [ k A	4
28. f o n s h f o f u e ; n j e a d e h d k v k k r o f u ; k i j i m u s o k y s i h o d k o . k i d l f t , A	4
29. d y e k o d y i r d h l g k r k l s v k o j k x l j l a r y u d h o k ; k d l f t ,	
v f l o k	
L Q f r v a j k y d h o k ; k f p = k d h l g k r k l s d l f t , A	4
30. v h o h e k d h v o l f k d h f p = k d h l g k r k l s o k ; k d l f t , A b l s n j v d j u s d s n k e l n z l m i k l a d h o k ; k d l f t , A	
v f l o k	
j s l f p = k d h l g k r k l s v f l o l f k e a e k v l / l d ; d h l e l ; k d h o k ; k d l f t , A b l s b l d d j u s e a c l n j d h h e d k l e > l b , A	
31. K k r d l f t , &	
1/2 m r l k n f o f / k l s j k V h v k	
1/2 v k f o f / k l s d l j d y k r i j l d y j k V h m r l k n	
(i) c k l j d l e r i j f u o y m r l k n u d k e w ;	

	i f f e d { k	15,000	d j M # ñ
	f } r h d { k	8,000	
	r r h d { k	6,000	
(ii)	L F k h i t h d k v o { k	1,000	
(iii)	m R k n d j	1,700	
(iv)	f c Ø h d j	1,300	
(v)	l j d l j h l g k r k	1,500	
(vi)	e / ; o r l z m i H k d k e v ;		
	i f f e d { k	6,000	
	f } r h d { k	4,000	
	r r h d { k	2,000	
(vii)	l E i f ù k , o a m   e o f ù k l s v k	4,000	
(viii)	L o f u ; k t r h d h f e f J r v k	6,500	
(ix)	d e z l j ; k d k i l f j f e d	5,000	
(x)	l k e f t d l j { k e a e l f y d l a d k ; k n k u	2,000	
(xi)	f o n s h a l s f u o y d l j d v k	(-)	2,000

32. fu f u e n l a d s j k V h v k e a D ; l a ' h f e y f d ; k t k r k g S &

6

$\frac{1}{4} \frac{1}{2}$  Q k i k j d c a l l s i h r C k t t s f n Y h e a f l F r g A

$\frac{1}{4} \frac{1}{2}$  , d H j r h d s i k d l r k u h n w o k d s d e d j u s i j i h r o r u A

$\frac{1}{4} \frac{1}{2}$  f o n s ' k l a } k j k H j r h c k l j d s i R { k [ k j m j h A

$\frac{1}{4} \frac{1}{2}$  t e z l ; ; j y b t e a d k z r H j r h i k y V d k o r u A

## QUESTION BANK

# ECONOMICS

### DESIGN OF SAMPLE QUESTION PAPER FOR MARCH, 2009 EXAMINATION

Time : 3 hours

Maximum Marks : 100

The weightage to marks over different dimensions of the question paper shall be as under.

#### A. Weightage to Current/Subject units

S.No.	Content Unit	Mark
<b>Part A : Introductory Micro Economics</b>		
1.	Introduction	4
2.	Consumer Behaviour and Demand	13
3.	Producer Behaviour and Supply	23
4.	Forms of Market and Price Determination	10
5.	Simple applications of Tools of demand and supply curves	
<b>Total</b>		<b>50</b>
<b>Part B : Introductory Macro Economics</b>		
1.	National Income and Related Aggregates	15
2.	Determination of Income and Employment	12
3.	Money and Banking	8
4.	Government Budget and the Economy	8
5.	Balance of payments	7
<b>Total</b>		<b>50</b>
<b>Grand Total</b>		<b>100</b>

## WEIGHTAGE TO FORMS OF QUESTIONS

S.No.	Forms of Questions	Marks for each question	No. question	Total Mark
1.	Very short answer type (VSA)	1	10	10
2.	Short answer type (SAI)	3	10	30
3.	Short answer type (SAII)	4	6	24
4.	Long answer type (LA)	6	6	36
<b>Total</b>			<b>32</b>	<b>100</b>

### C. No. of Sections

The questions paper will have two section A and B.

### D. Scheme of Option

There will be no overall choice. However, there is internal choice in one question of 3 marks and one question of 4 marks and one question of 6 marks in each section.

### E. Weightage to forms of Questions

S.No.	Estimated Difficulty Level of Questions	Percentage
1.	Easy	30%
2.	Average	50%
3.	Difficult	20%

### F. Typology of Questions

In order to assess different abilities related to the subject, the question paper is likely to include open-ended questions and numerical questions.



## Unit 1

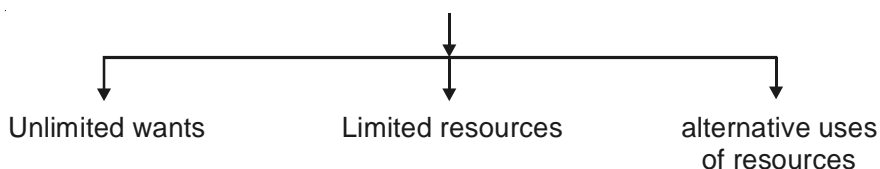
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# INTRODUCTION

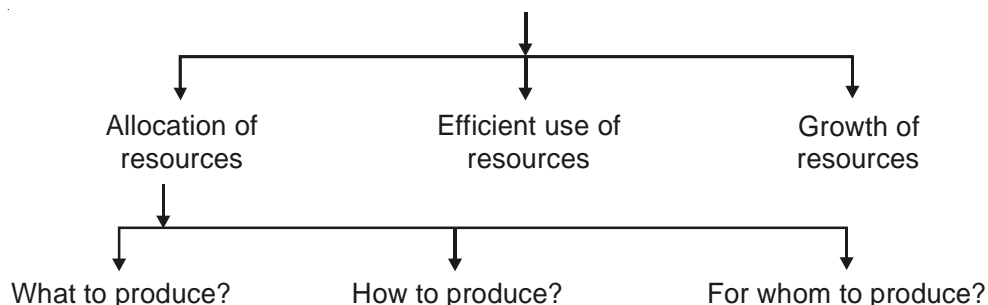
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### POINTS TO REMEMBER

- Study of Economics is divided into two branches Micro Economics and Macro Economics.  
Micro economics is that branch of economics in which economic problems are studied at individual level.
- Economic problem is the problem of allocation of limited resources available in the economy.
- Causes of economic problems are :



- Scarcity refers to the situation in which supply of resources is less than their demand.
- Central problems of an economy are :



- Opportunity cost is defined as the value of the benefit that is forgone by choosing one alternative rather than the other.
- Production possibility curve (PPC) shows different combinations of a set of two goods which can be produced with given resources and production technology.
- Production possibility curve slopes downward and is concave to the point of origin.
- Right ward shift of PPC indicates increase in resources and leftward shift indicates decrease in resources.
- Marginal rate of transformation (MRT) is the ratio of one good sacrificed to produce one more unit of the other good.  $MRT = \frac{\Delta Y}{\Delta X}$

## VERY SHORT ANSWER TYPE QUESTIONS – 1 MARK

1. Define Micro economics.
2. Give two examples of micro economic studies.
3. Define economics in terms of scarcity.
- \*4. Study of the problem of unemployment in India is the subject matter of macroeconomics or macro economics? Give reason.
5. Give two examples of under utilisation of resources.
- \*6. Price determination of a commodity is the subject matter of micro economics or macro-economics? Give reason.
7. Give two examples of growth of resources.
- \*8. Study of textile industry is the subject matter of Micro-economics or Macro-economics? Give reason?
9. What does right ward shift of PPC show?
10. State reason of left ward shift of PPC.
11. Why does PPC slope downward?
12. State relation between Micro and Macro economics.
13. What is main cause of economic problem?
14. Why does the problem of choice arise in an economy?
15. Define opportunity cost.
16. What does PPC show?
17. What does any point below PPC show?
18. Why is PPC concave to the point of origin?
19. Define marginal opportunity cost?
20. What will be the shape of PPC under these situation?
  - (a) When marginal opportunity cost is increasing.
  - (b) When marginal opportunity cost is constant.
21. In case of floods, in which direction will PPC shift?
22. Define scarcity.
23. State any one features of economic resources.
24. Define marginal rate of transformation. How it can be measured.
25. What is meant by economising of resources?

### SHORT ANSWER TYPE QUESTIONS – 3 MARKS

1. How is Micro-economics different from Macro-economics? Write any three differences.
2. How does market economy differ from centrally planned economy?
- \*3. Why does PPC concave to its origin?
4. Define production possibility curve. Draw a production possibility curve with the help of a hypothetical table.
5. State the central problems of an economy. Why do they arise?
6. What is meant by economic problem? Why does it arise?
7. Explain the central problem of 'What to produce' with an example.
8. Explain the central problem of 'For whom to produce' with an example.
9. Explain the central problem of 'How to produce' with an example.
- \*10. What do you mean by marginal rate of transformation. Explain with the help of a schedule.
11. Draw a production possibility curve and show the following situations on it.
  - (a) Under-utilisation of resources.
  - (b) Fuller-utilisation of resources.
  - (c) Growth of resources.

### ANSWERS OF VERY SHORT TYPE QUESTIONS

1. Micro economics is that branch of economics which studies economic problem or economic issues at individual level.
2.
  - (i) Determination of price of a commodity.
  - (ii) Study of cement industry.
3. Economics is a science of human behaviour concerned with the allocation of scarce means in such a manner that consumers can maximise their satisfaction, producers can maximise their profit and the society can maximise its social welfare.
4. Study of the problem of unemployment in India is the subject matter of macro-economics because it is studied at the level of the economy as a whole.
5. Unemployment, unused land.
6. It is the subject matter of micro economics because it is studied at individual level.
7.
  - (i) Increase in number of scientists in a country.
  - (ii) Discovery of new oil-reserves in a country.

8. It is the subject matter of micro economics since it is studied at individual level.
9. Right ward shift of PPC shows increase in resources or growth of resources.
10. Leftward shift of PPC shows decrease in resources.
11. Production possibility curve slopes downwards because production of 'X' commodity can be increased only by decreasing the production of 'Y' commodity.
12. Micro variables have their impact on macro level decisions and macro variables have their impact on micro-level decisions.
13. Main cause of economic problem is the scarcity of resources and their alternative uses.
14. Because resources are scarce and they have alternative uses.
15. Opportunity cost is the value of the benefit that is forgone by choosing one alternative rather than the other.
16. Production possibility curve shows different production possibilities of a set of two goods under given resources and production technology in a country.
17. Any point below PPC shows under utilisation of resources and use of inefficient technology.
18. PPC is concave to the point of origin because of increasing marginal opportunity cost.
19. Marginal opportunity cost is the rate of sacrifice of one good for producing one additional unit of other good.
20.
  - (i) When marginal opportunity cost increases, PPC will be concave to the point of origin.
  - (ii) If marginal opportunity cost is constant, PPC will be straight line (Downward sloping).
21. PPC will shift leftward.
22. Scarcity refers to a situation in which demand for a factor is more than its supply.
23. Resources are scarce and they have alternative uses.
24. Marginal rate of transformation is the ratio of units of one good sacrificed to produce one more unit of the other good.

$$MRT = \frac{\Delta Y}{\Delta X}$$

25. Economising of resources means to avoid misuse of resources so that the level of production may be maximum and maximum wants may be satisfied.

## Unit - 2

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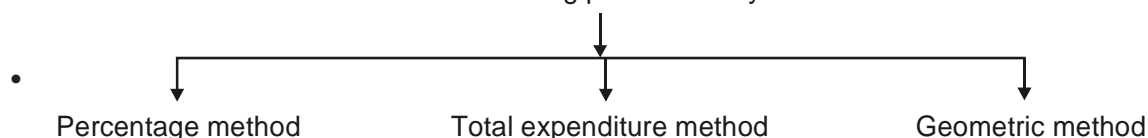
# CONSUMER'S BEHAVIOUR AND THEORY OF DEMAND

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### POINTS TO REMEMBER

- **Consumer** : The economic agent who consumes final goods and services.
- **consumer's Equilibrium** : The situation in which marginal utility of a good is equal to its price.
- **Marginal Utility** : Net increase in total utility when additional unit of a good is consumed, is called marginal utility.
- Law of diminishing marginal utility states that as more and more standard units of a commodity are continuously consumed, marginal utility derived from every additional unit must decline while other factors remain constant.
- Demand is that quantity of a good which a consumer is ready to buy at a given price and a given time.
- The law of demand states that other things remaining constant, quantity demanded of a good rises with a fall in price and diminishes when price increases.
- Market demand is the sum total demand of a commodity by all the consumers in the market at different prices.
- Demand function is the functional relation between the demand of a commodity and its determinants.  $D_x = f(P_x, P_o, Y, T \text{ etc.})$ .
- Demand curve is a graphic representation of quantities demanded of a commodity at different prices.
- Price Elasticity of demand measures the degree of responsiveness of demand to change in price of the commodity.

#### Methods of measuring price elasticity of demand



- Percentage method or proportionate method =  $E_d = \frac{\Delta Q}{\Delta P} \times \frac{P}{Q}$
- Total expenditure method measures price elasticity of demand on the basis of change in total expenditure incurred on the commodity by a household as result of change in its price.

- Geometric method :

$$\text{Elasticity of demand (at a point)} = \frac{\text{Lower segment of demand curve from the point}}{\text{Upper segment of demand curve from the point}}$$

- Determinants of price elasticity of demand :
  - (i) Nature of the commodity.
  - (ii) Availability of substitutes.
  - (iii) Different uses of commodity.
  - (iv) Consumer's income.
  - (v) Habit of the consumer.
  - (vi) Price level.
  - (vii) Time period.

### VERY SHORT ANSWER TYPE QUESTIONS

1. Define utility.
2. Define marginal utility.
3. State the law of diminishing marginal utility.
4. When will marginal utility of a commodity be zero?
5. Give any one condition of consumer's equilibrium if he buys two commodity.
6. Give the condition of consumer's equilibrium if he buys a single commodity.
7. Define consumers equilibrium.
8. Define a normal good.
9. Define an inferior good.
- \*10. How is the price elasticity of demand of a commodity affected with the availability of substitute good?
- \*11. If the quantity demanded of a commodity 'X' decreases as the household's income increases what type of good is 'X'?
- \*12. What happens to the demand for a substitute good of a commodity when the price of the commodity (i) falls and (ii) rises.
13. Why does demand for tea increases when price of coffee increases.
14. A rise in the price of a good results in an increase in the expenditure on it. Is its demand elastic or inelastic?

- \*15. As the price of a product decreases by 6% total expenditure on it rises up by 3%. What can you say about its price elasticity?
- 16. Define market demand.
- 17. What is the shape of demand curve of perfectly elastic demand?
- 18. Give an example of substitute goods.
- 19. Define complementary good.
- 20. Demand for good 'Y' increases with the increase in price of good 'X'. How are these goods related?
- 21. Define price elasticity of demand.
- \*22. Why is price elasticity of demand generally negative?
- 23. What is the type of price elasticity of luxury goods?
- 24. What is the price elasticity of demand at a point given in the middle of a straight line demand curve?
- 25. How is the demand of a normal good affected when consumer's income increases?

### **SHORT ANSWER TYPE QUESTIONS 3 – 4 MARKS**

- 1. Explain the law of diminishing marginal utility with an example.
- 2. Explain consumer's equilibrium with utility schedule if he buys a single commodity.
- 3. Explain consumer's equilibrium when he buys two commodities.
- 4. With the help of a schedule explain the relation between total utility and marginal utility.
- 5. Explain any three determinants of price elasticity of demand.
- 6. Explain the difference between increase in demand and extension of demand.
- 7. Explain any three causes of increase in demand (right ward shift of demand curve) of a commodity.
- 8. Explain with the help of a diagram the effect of change in consumer's income on the demand of a commodity.
- 9. Explain any three causes of left ward shift of demand curve (decrease in demand) of a commodity.
- \*10. Distinguish between change in demand and change in quantity demanded of a commodity.
- \*11. If two demand curves of different slopes intersect each other at a point, which of two demand curve will be more elastic at the point of intersection. Explain.
- 12. Distinguish between normal goods and inferior goods.

13. Given below is the utility schedule of a commodity – X for a consumer. The price of the commodity is Rs. 7 per unit. How many units should he buy to maximise his satisfaction. Assume that total utility is expressed in units and 1 unit = Re. 1. Give reason for your answer.

<i>Consumption (Units)</i>	<i>Total Utility (Units)</i>	<i>Marginal utility</i>
1	10	10
2	18	8
3	25	7
4	31	6
5	34	3
6	34	0

14. Explain with the help of a diagram the effect of change in the price of substitute good on the demand of a commodity.
15. Explain with the help of a diagram the effect of change in the price of complementary good on the demand of a commodity.
16. Explain with the help of a diagram the effect on the demand of a normal good when consumer's income changes.
- \*17. Why does a consumer buy more of a good when its price falls? Explain.
18. When price of a commodity falls by 10%, its demand increases from 100 units to 120 units. Calculate price elasticity of demand.
- \*19. A consumer buys 100 units of a commodity when its price is Rs. 5 per unit. He purchases 140 units of it when its price changes. Find out new price if the elasticity of demand is  $(-)$  2.
20. State price elasticity of demand in the following situations :
- When total expenditure of a household increases with the increase in price of the commodity.
  - When total expenditure of a household decreases with the increase in price of the commodity.
21. Find out price elasticity of demand from the following information by total expenditure method.
- |     |                    |                          |
|-----|--------------------|--------------------------|
| (a) | <i>Price (Rs.)</i> | <i>Quantity demanded</i> |
|     | 6                  | 100                      |
|     | 8                  | 80                       |
| (b) | <i>Price (Rs.)</i> | <i>Quantity Demanded</i> |
|     | 10                 | 100                      |
|     | 12                 | 80                       |
- \*22. If demand for a commodity 'Y' (i) increases (ii) decreases with the fall in price of commodity 'X', what is the relation between good 'X' and 'Y'.



23. Demand for a commodity decreases from 20 units to 10 units when its price increases from Rs. 5 per unit to Rs. 6 per unit. Find out price elasticity of demand by comparing expenditure incurred on it.
24. When price of commodity falls from Rs. 10 per unit to Rs. 9 per unit, demand for it increases from 9 units to 10 units. Find out price elasticity of demand by comparing expenditure incurred on it.
25. A consumer buys 80 units of a commodity when its price is Rs. 5 per unit. At what price will he buy 64 units if its price elasticity of demand is (-) 2.
- \*26. Price elasticity of demand for a commodity is elastic. What will be the effect on its expenditure when its price falls. Give a numerical example.
27. Price of a commodity is Rs. 8 per unit and its demand is 600 units. Quantity demanded of it increases by 120 units when its price falls but 25%. Find out its price elasticity of demand. State it is elastic or inelastic demand?  
[Ans. :  $E_d = 0.8$   $E_d$  is inelastic]

### LONG QUESTIONS – 6 MARKS

1. Explain the total expenditure method of measuring price elasticity of demand.
2. Explain the law of demand with the help of a hypothetical schedule and diagram.
3. Explain the effect of change in consumer's income on the demand of the following goods.
  - (i) Inferior good
  - (ii) Normal good
4. Explain with the help of suitable diagrams various degrees of price elasticity of demand.
5. Draw a straight line downward sloping demand curve touching both the axes. Mark different points on it to measure different types of price elasticity of demand.
6. Explain the effect of the following changes on the demand of commodity. Use diagram.
  - (i) Decrease in the price of substitute good.
  - (ii) Increase in consumer's income.
7. How is the demand of a commodity affected by the change in the price of related goods? Explain with the help of diagram.
8. Explain the exceptions to the law of demand.

Or

Explain the situations in which demand curve is positively slope.

## ANSWERS OF VERY SHORT ANSWER TYPE QUESTIONS

1. Utility is the quality of goods of satisfying human wants.
2. Marginal utility is the net change in total utility when an additional unit of a commodity is consumed.  $Mu = TU_n - TU_{n-1}$ .
3. Law of diminishing marginal utility states that as more and more standard units of a commodity are consumed continuously marginal utility must decline.
4. When total utility is maximum.
5.  $\frac{MUX}{P_x} = \frac{MUY}{P_y} = MU_m$
6.  $\frac{MUX}{P_x} = MU_m$
7. Consumer's equilibrium refers to a situations in which a consumer gets maximum satisfaction from his given income and market price and there is no tendency to change.
8. Normal goods have negative price effect and positive income effect.
9. Inferior goods have negative income effect.
10. Elastic demand.
11. Inferior good.
12. Demand for substitute good decreases when the price of the commodity decreases and increases with the increase in price of the commodity.
13. Because both the goods are substitutes.
14. Inelastic.
15. Elastic.
16. Market demand is the sum total demand of all the consumers in the market at a particular time at a given price.
17. Parallel to 'X' axis.
18. Tea and coffee.
19. Complementary goods are those goods which are consumed jointly to satisfy human wants.
20. Substitute goods.
21. Price elasticity of demand is the ratio between percentage change in quantity demanded to the percentage change in price of a commodity.

22. Elasticity of demand is generally negative due to inverse relations between the price of a commodity and the quantity demanded.
23. Elastic.
24. Unitary elastic.
25. Demand will increase.

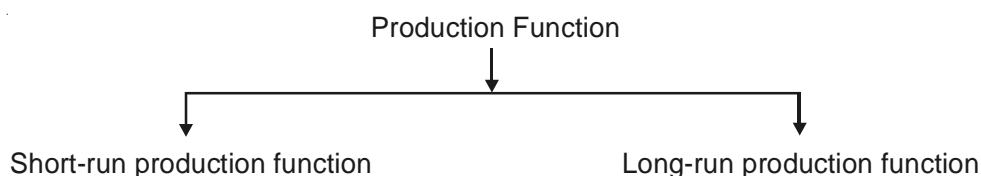
## Unit - 3

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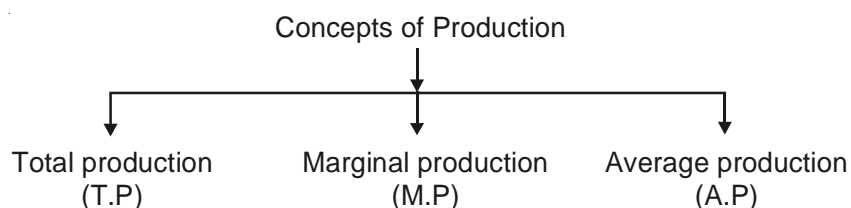
# CONCEPT OF PRODUCTION AND SUPPLY

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- Production is transformation of input into output. It includes not only physical but also production of non-physical goods (services).
- Production function is the functional relationship between physical input and output of a firm. Mathematically it can be expressed as  $\rightarrow O_x = f \{i_1, i_2 \dots i_n\}$  i.e. output of good 'X' is the function of number of inputs ( $i_1, i_2 \dots i_n$ ).
- Production function can be categorised as
  - (a) Short-run production function.
  - (b) Long-run production function.



- Short run production function explain the behaviour of output when one input is varied and other inputs used in production of a good are kept fixed. It is also called as returns to a factor.
- Long run production function explain the behaviour of output when all inputs used in production are changed simultaneously and in the same proportion. It is also called as returns to scale.
- Short period refers to a times period in which increase in supply of a good is possible but up to a given capacity because fixed factors of production do not change.
- Long run refers to a time period in which increase in supply of a good is possible to any extent depending upon availability of input because all factors of production can increase or decrease.



- Total product refers to the total quantity of goods and services produced by a firm with the given input during a specified period of time.

$$TP = AP \times L$$

$$TP = \Sigma MP$$

- Marginal product is addition in total product resulting from employing additional unit of variable input (Labour).

$$MP = \frac{\text{Change in total product } (\Delta TP)}{\text{Change in labor } (\Delta L)}$$

- Average product is the per unit output of variable factor (labour) employed.

$$AP = \frac{TP}{\text{Variable input}}$$

- Returns to a factor has been categorised in three phases.

*First Phase* : So long as marginal product rises, total product increases at increasing rate and marginal product reaches to its maximum point.

*Second Phase* : Marginal product starts falling but remains positive, total product rises at diminishing rate.

*Third Phase* : When marginal product becomes negative, total product starts falling.

- Returns to scale has also been classified in three stages :

*Increasing returns to scale* : In this stage, proportionate increase in total product is more than proportionate increase in all the factor inputs.

*Constant returns to scale* : Proportionate increase in total product is the same as proportionate increase in all the factor inputs.

*Dimishing returns to scale* : When proportionate increase in total product is less than proportionate increase in all factor inputs.

- Average product and marginal product both are inversely 'U' shaped.
- Marginal product can be zero but average product can never be zero therefore, never touches 'X'-axis.
- Economies of scale refer to advantages which a firm enjoys when it expands its scale of production.
- Diseconomies of scale refers to disadvantages that a firm has to face when it grows beyond optimum capacity of inputs.
- Supply refers to the amount of the commodity that a firm or seller is willing to offer to sell in a given period of time at various prices.
- Market supply is total quantity of a commodity that all the producers are willing to sell at a given price during a period of time.
- Supply schedule is a tabular form showing various quantities of a commodity which a firm is ready to sell at different prices during a given period of time. It is of two types.
  - (i) Individual supply schedule.
  - (ii) Market supply schedule.

- Law of supply states that assuming other things remaining constant, supply is positively related to its price *i.e.* when price of a commodity rises, its supply also rises and when price of the commodity falls, supply also falls.
- Individual supply curve and market supply curve are graphic presentation of individual supply schedule and market supply schedule. Both the curve indicate positive relationship between price of a commodity and its quantity supplied. Both curves are positively sloped.
- Supply function refers to functional relationship between supply and determinants of supply. Mathematically it can be represented as

$$S_x = F (P_x, T, N_f, P_f, G_p, \text{future exp.})$$

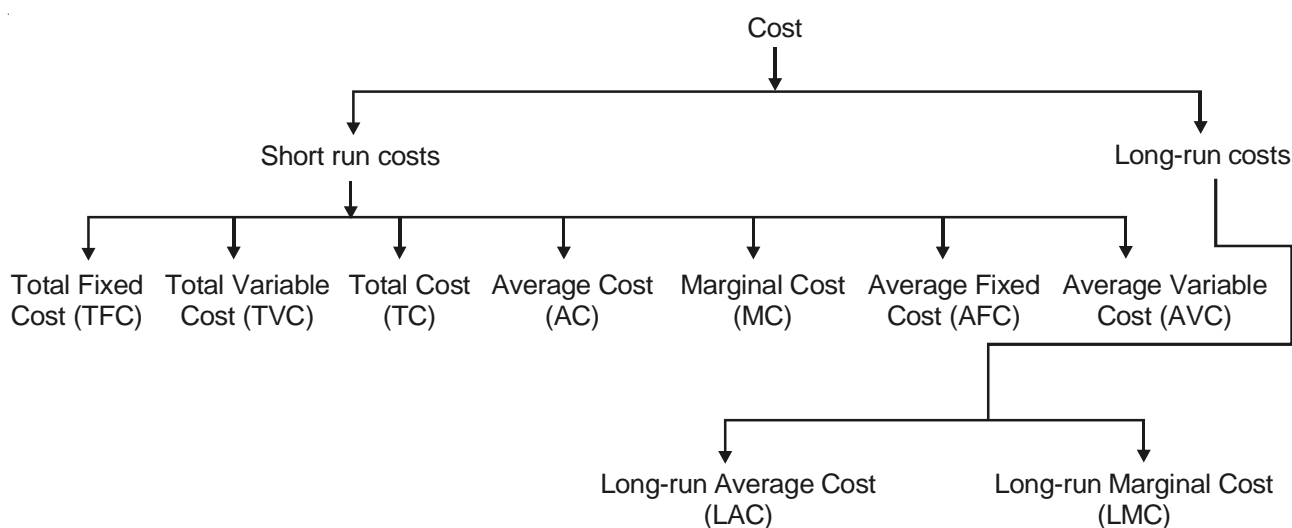
Determinants of supply

- (i) Price of commodity.
  - (ii) Technique
  - (iii) Number of firms.
  - (iv) Price of factors of production.
  - (v) Government policy.
  - (vi) Future expectation in change in price.
- Change in quantity supplied refers to increase or decrease in quantity supplied of a commodity due to rise or fall in price of the commodity, other things remaining constant. It is known as movement along a supply curve. It is of two types :
    - (i) Extension of supply or upward movement along a supply curve.
    - (ii) Contraction of supply or downward movement along a supply curve.
  - Change in supply refers to increase or decrease in supply of a commodity due to change in factors, other than price like technology, price of inputs, goal of producer, number of firms and Govt. policies. It is known as shift in supply curve. It is of two types :
    - (i) rightward shift or increase in supply.
    - (ii) leftward shift or decrease in supply.
  - The price elasticity of supply of a good measures the degree of responsiveness of quantity supplied to change in the price of the good.

$$\text{Price elasticity of supply (E}_s\text{)} = \frac{\text{Percentage change in quantity supplied}}{\text{Percentage change in price}}$$

- If the tangent to the supply curve passes through the point of origin,  $e_s$  at that point is equal to unity; If the tangent intersects the x – axis,  $e_s$  at that point is less than unity; and if tangent intersects the Y – axis,  $e_s$  at that point is greater than unity.
- **Cost** : Sum of direct (explicit cost) and indirect expenditure (implicit cost ) is treated as cost.

- **Economic Cost** : Sum of explicit, implicit cost and normal profits is called economic cost.
- Explicit cost is the expense incurred by the producer for payments for goods and factor services owned by others. This is an accounting cost.
- Implicit cost is the cost of self owned resources of producer.
- Normal profit is the minimum profit which a producer must get in the long run to continue to produce the given good.
- Based on time period, cost can be categorised as



- Total fixed cost remains constant at all levels of output, therefore, total fixed cost curve is parallel to 'X'-axis. Fixed costs are incurred even when output is zero.

$$\boxed{\text{TFC} = \text{TC} - \text{TVC} \quad \text{or} \quad \text{TFC} = \text{AFC} \times \text{Q}}$$

- Total variable cost is the cost which vary with the quantity of output produced. It is zero at zero level of output and increases with increase in output. It is also cumulative sum of marginal cost.

$$\boxed{\begin{array}{l} \text{TVC} = \text{TC} - \text{TFC} \quad \text{or} \quad \text{AVC} \times \text{Q} \\ \text{TVC} = \sum \text{MC} \end{array}}$$

- Total cost is the sum of total fixed cost and total variable cost.

$$\boxed{\text{TC} = \text{TFC} + \text{TVC} \quad \text{or} \quad \text{TC} = \text{ATC} \times \text{Q}}$$

- Total cost curve and total variable cost curves are parallel to each other. The vertical distance between these two is total fixed cost because total fixed cost is constant at all levels of output.
- At zero level of output, total cost is equal to total fixed cost because at zero level of output total variable cost is zero.
- Average fixed cost is per unit total fixed cost of producing a good.

$$\boxed{\text{AFC} = \text{TFC} / \text{Q.} \quad \text{or} \quad \text{AFC} = \text{ATC} - \text{AVC.}}$$

Average fixed cost curve is rectangular hyperbola. It is so because rectangles formed at all points of the curve is same.

- Average variable cost is per unit of total variable cost.

$$\boxed{\text{AVC} = \text{TVC} / \text{Q.} \quad \text{or} \quad \text{AVC} = \text{ATC} - \text{AFC.}}$$

With increase in output it falls in the beginning and then rises. Therefore, it is 'U' shaped.

- Average cost or average total cost is per unit of total cost. It is also the sum of average fixed cost and average variable cost.

$$\boxed{\text{ATC} = \text{AFC} + \text{AVC}}$$

- Marginal cost is the net addition to total cost or total variable cost of producing one additional unit of output.

$$\boxed{\text{MC} = \text{TVC}_n - \text{TVC}_{n-1} \quad \text{or} \quad \text{MC} = \frac{\Delta \text{TVC}}{\Delta \text{Q}}.}$$

- Revenue is the money receipts from sale of product or in other words, the expenditure on a good by the buyer which is received by a producer is called revenue.
- Total revenue is the total receipts from sale of given units of a commodity over a particular period of time. It can be calculated as

$$\boxed{\text{TR} = \text{Price} \times \text{Q} \quad \text{or} \quad \text{TR} = \sum \text{MR}}$$

- Average revenue is per unit revenue or price

$$\boxed{\text{AR} = \frac{\text{TR}}{\text{Q}} = \frac{\text{P} \times \text{Q}}{\text{Q}} = \text{Price}}$$

Hence average revenue equals price.

- Marginal revenue is the net addition to total revenue with one additional unit of output sold.

$$\boxed{\text{MR} = \Delta \text{TR} / \Delta \text{Q}}$$

- When price remains constant or there is perfect competition in the market then :
  - (i) Average revenue and marginal revenue remains constant at all levels of output and are equal to price.
  - (ii) Total revenue curve is a straight positively sloping line from the origin.
  - (iii) Total revenue is also equal to the area under price line for a given level of output.
- Behaviour of total revenue, average revenue and marginal revenue when per unit price falls or there is monopoly or monopolistic competition in the market :



- (i) Average revenue and marginal revenue curves both slopes downwards and MR curve lies below AR curve.
  - (ii) Marginal revenue falls twice the rate of average revenue.
  - (iii) Total revenue curve initially increases, then reaches maximum and finally falls with increase in output sold.
- Objective of the producer is to earn maximum profits.
  - Profit is excess of revenue over economic cost.
  - Producer is in equilibrium when he earns maximum profits *i.e.* total revenue exceeds total cost by maximum amount and profit falls as more output is produced.
  - Two conditions of producers equilibrium are :
    - (a) Total revenue exceeds total cost by maximum amount (necessary condition).
    - (b) Profit falls as more output is produced. (Supplementary condition).
  - Break even point is the point at which total revenue is equal to total cost *i.e.*  $TR = TC$ .  
It is the point where firm gets normal profits. Normal profit is the part of economic cost.

### 1 MARK QUESTIONS

1. Define production.
- \*2. Name the period in which scale of production cannot be altered.
3. State two causes of increase in total product at increasing rate.
4. As the variable input (Labor) is increased by one unit, total output falls. What would you say about marginal productivity of labour.
5. How total product is derived from average product.
6. Name two types of production function.
7. Define economies of scale.
8. Define production function.
9. State the law of variable proportions.
- \*10. What happens to total output when marginal product of variable input is decreasing, but is positive.
11. When average product is falling what will be the relation between average and marginal product.
12. Name the phase when variable factor (labour) increases from 5 units to 6 units and total output varies from 18 to 15 units.
13. What is the general shape of average and marginal physical product curve.

14. Give two examples of factor inputs and non factor inputs used in production process.
15. With increase in level of employment of a factor from one to two units, marginal product increases from 20 to 22 units. Find out average product and total product of 2nd unit.
16. What do you mean by division of labour?
17. In which stage of 'law of returns to scale', proportionate increase in total product is more than proportionate increase in inputs.
18. What do you mean by fixed factors of production?
19. Why some of the factors are called variable factors of production?
20. What are volume discounts?
21. When is total product maximum?
22. How does fall in total product affect marginal product?
- \*23. Can total product and average product become zero or negative?
24. Define supply of a firm?
25. What is meant by law of supply?
26. What do you mean by Individual supply schedule?
27. What is meant by change in quantity supplied?
28. Name two determinants of supply of a commodity?
29. What is meant by change in supply?
30. Due to improvement of technology, marginal cost of production of lap-top has gone down. How will it affect the supply curve of lap-top?
31. What effect does an increase in production tax have on supply curve?
- \*32. If a farmer grows sugarcane and mustard, how will an increase in price of mustard affect supply curve of sugarcane?
33. What causes a downward movement along a supply curve of a commodity?
34. What causes an upward movement along a supply curve of a commodity?
35. What is the price elasticity associated with a straight line supply curve passing through the origin?
- \*36. Because of unexpected rain in month of may 2008, water covers a lot of fields. This reduces productivity of land. How will it affect supply curve of food grains production in India?
37. What is meant by contraction of supply?
38. What effect does an increase in input price have on supply curve of the commodity using that input?

39. Why does the quantity supplied increase with a rise in price?
40. State formula of measuring price elasticity of supply?
41. Why is the supply upward sloping?
- \*42. To which direction supply curve moves in case of contraction of supply?
43. What term is used when more quantity is supplied with rise in price?
- \*44. What is meant by market period?
45. Elasticity of supply of a good is 3. What does it mean?
46. What will be elasticity of supply when supply curve is parallel to Y axis?
- \*47. What will be the elasticity of supply in case of durable good?
48. What will be the elasticity of supply in case of perishable good?
49. Draw a supply curve with elasticity of supply is less than one?
50. What is meant by cost?
51. Define explicit cost.
52. What is supplementary or overhead cost.
53. Define implicit cost.
54. What is the shape of total variable cost curve?
55. How total variable cost is derived from marginal cost?
56. Can average cost be less than marginal cost when marginal cost is rising?
- \*57. Why total cost curve and total variable cost curve are parallel to each other?
- \*58. Name the short run cost which will not be zero at zero level of output.
59. Can average cost be more than marginal cost when average cost is falling'.
60. Calculate – marginal cost when average variable cost of 5 units is Rs. 20 and total variable cost of 6 units is Rs. 125.
61. Calculate marginal cost – when average variable cost of 5 units is Rs. 20 and total variable cost of 8 units is Rs. 400.
62. When marginal cost of second unit is Rs. 40 and MC of third unit is Rs. 20. Calculate total variable cost and average cost of 3rd unit.
- \*63. Why average fixed cost curve does not touch X-axis or Y-axis.
64. How can you derive marginal cost from total variable cost curve.
65. Give two examples of explicit cost of a tailoring shop.

- \*66. In which stage of law of variable proportions, average cost will be minimum.
67. A firm produces 40 units of good 'A'. At this level average variable cost is Rs. 30 and average total cost is Rs. 80 Calculate total fixed cost.
68. With increase in output from zero to one, total cost increases from. Rs. 60 to Rs. 100. Find out average fixed cost at unit one.
69. Define revenue.
70. How will you estimate total revenue?
71. What will be marginal revenue when total revenue is maximum?
- \*H72. At what rate marginal revenue falls, when price of a good falls?
73. When price of the product remains constant at all levels of output, what will be the shape of total revenue curve?
- \*H74. Why total revenue has constant slope under perfect competition?
- \*H75. What is the relationship between price line and total revenue?
76. Average revenue of three units is Rs. 8 and marginal revenue of 4th unit is Rs. 4. Find out average revenue of 4th unit.
77. Total revenue of 4 units is Rs. 28 and marginal revenue of 5th unit is Rs. 2. Calculate average revenue of 5th unit.
78. What is the relationship between average revenue and marginal revenue when price does not change at all levels of output?
79. With increase in sales from one unit to two units, average revenue falls from Rs. 10 to Rs. 9. Find out marginal revenue of 2nd unit.
80. What will be the effect on marginal revenue, when total revenue increases at constant rate?
81. What do you mean by producer's equilibrium?
82. State two conditions of producer's equilibrium.
83. What do you mean by profit maximisation of producer?
84. What is break-even point?
- \*H85. State the supplementary condition of profit maximisation in terms of total cost and total revenue.
- \*86. What is the necessary condition of producer's equilibrium?
- \*87. What do you mean by normal profits?

### 3 – 4 MARKS QUESTIONS

1. How does total product behave with change in marginal product?

\*H2. From the given data explain the behaviour of average and marginal product.

Variable factor	1	2	3	4	5	6	7
Average product	20	25	30	30	28	25	22
Marginal Product	20	30	40	30	20	10	4

\*H3. What causes the marginal returns of a factor to vary from increasing return to diminishing return.

4. Briefly explain the causes of increasing returns to a factor.
5. Why do negative returns to a factor operate?
6. In which phase a rational producer would like to operate and why?
7. With the help of numerical example-explain increasing returns to scale.

\*H8. A good is produced with the help of only two inputs *i.e.* 'L' and 'K'. Prepare a schedule of different combination of these inputs showing.

- (i) Increasing returns to scale.
- (ii) Diminishing returns to scale.
- (iii) Constant returns to scale.

9. Explain causes of increasing returns to scale.
10. Why do diminishing returns to scale operate?

\*H11. Distinguish between level of production and scale of production.

12. What do you mean by division of labour? How do they effect returns to a factor?
13. How do economies of scale affect returns to scale?
14. Explain briefly law of supply with the help of diagram.
15. List four determinants of supply of a commodity.
16. State the geometric method of measuring price elasticity of supply. (In case of a straight line supply curve).
17. Define market supply of a Good. State any two determinants of market supply.
18. Distinguish between 'change in supply' and 'change in quantity supplied' of a commodity.
19. Explain briefly two causes of a rightward shift of supply curve.
20. Define price elasticity of supply. How is it measured by percentage method?
21. State any three causes of leftward shift of supply curve.
22. Explain the effect of technological changes on supply of a product.

\*23. If two supply curves intersect, which one does have higher price elasticity at the point of intersection?

- \*24. How does the imposition of a unit tax affect the supply of a firm?
- \*25. How does an increase in the number of firms in a market affect the market supply?
26. Distinguish between contraction of supply and decrease in supply.
27. How does an increase in the price of inputs affect the supply curve of a firm?
28. How does time period affect elasticity of supply?
29. Explain briefly with the help of diagram
- (i) More than unit elastic supply.
- (ii) Less than unit elastic supply.
30. The price of a commodity is Rs. 10 per unit and its quantity supplied is 1200 units. If its price rises to Rs. 12 per unit, its quantity supplied rises by 25% calculate its price elasticity of supply.  
[Ans. :  $E_s = 1.25$ ]
31. Consider a market with two firms. In the following table column labelled as  $SS_1$  and  $SS_2$  are the supply schedules of firm 1 and firm 2 respectively. Compute the market supply schedule.

<i>Price (Rs.)</i>	<i><math>SS_1</math> (Kg)</i>	<i><math>SS_2</math> (Kg)</i>
1	2	0
2	3	.5
3	4	1
4	5	1.5
5	6	2
6	7	2.5

32. If price of a commodity is Rs. 8. per unit, seller is ready to sell 1200 units of commodity. When its price rises to Rs. 10 per unit, now seller is ready to sell 1500 units of commodity. Calculate its price elasticity of supply.  
[Ans. : Unit elastic supply]
33. The price elasticity of supply of a commodity is 5. At a price of Rs. 10 per unit, Its quantity supplied is 600 units. Calculate quantity supplied at a price of Rs. 9 per unit.  
[Ans. :  $\Delta Q = 300$  Quantity supplied 600 – 300 = 300 units (supply will fall with fall in price)]
34. Distinguish between total fixed cost and total variable cost.
35. Explain diagrammatically the relationship between average total cost, average variable cost and marginal cost.
36. What does the difference between total cost and total fixed cost represent? Why total cost goes on increasing with increase in output? Show it with the help of diagram.

37. What is the nature of total cost at zero level of production? Give reasons for your answer. Can average fixed cost curve touch X-axis or Y-axis, why?
- \*H38. Why average fixed cost curve is rectangular hyperbola?
39. Explain the concept of short run marginal cost does fixed cost affect marginal cost.
- \*H40. Why total variable cost curve is convex in the beginning and concave later with increase in output.
41. Explain the relationship between total cost and marginal cost with the help of numerical example.
42. Why short run marginal cost curve is 'U' shaped?
43. Briefly explain features of average fixed cost. Can average cost increase when marginal cost is decreasing.
44. Why average variable cost curve and average total cost curve come closer but do not intersect each other. Explain.
45. Why is average cost curve in short run 'U' shaped?
- \*46. What charges should take place in total revenue so that
- (a) marginal revenue is positive but falling;
  - (b) marginal revenue is zero;
  - (c) marginal revenue is negative.
- H\*47. What would be the shape of average revenue curve when total revenue is positively sloped straight line passing through origin. Explain with the help of schedule and diagram.
48. What changes will take place in marginal revenue when
- (a) Total revenue increases at increasing rate.
  - (b) Total revenue starts falling.
  - (c) Total revenue is maximum.
49. What is marginal revenue and how is it related to average revenue when price remains constant at all levels of output.
50. How do change in marginal revenue affect total revenue, when more can be sold by lowering the price.
51. Prepare imaginary schedule showing total revenue average revenue and marginal revenue such that equilibrium price determined by demand and supply is Rs. 10.
52. Explain meaning of producers equilibrium. Also explain necessary and supplementary conditions of producer's equilibrium.
- \*53. From the given data find out
- (a) Producers equilibrium level of output.

(b) Break even point level of output.

(c) Output level showing losses.

Output	0	1	2	3	4	5	6	7	8	9	10
TC	5	15	22	27	31	38	49	63	50	101	123
TR	0	10	20	30	40	50	60	70	80	90	100

\*54. Find out level of output yielding maximum profit.

Output	1	2	3	4	5
AR	10	9	8	7	6
AC	10	7	6	6	7

\*55. Find out producer's equilibrium level of output and output level where firm earn's normal profit.

Output	0	1	2	3	4	5	6	7
Price	11	10	9	8	7	6	5	4
MC	–	3	2	3	4	5	10	13
TFC	3	3	3	3	3	3	3	3

56. Calculate average variable cost and marginal cost.

Unit	0	1	2	3
TC	40	50	60	70

57. A firm is producing 10 units. At this level of output, average variable cost is Rs. 18 and average total cost is Rs. 20. Find out total cost, total fixed cost, total variable cost.

\*58. Complete the following table

Output	1	2	3	4	5
Average Revenue	10	–	8	–	–
Marginal Revenue	10	8	–	0	–
Total Revenue	10	–	–	–	20

## NUMERICALS FOR PRACTICE

59. Find out total product and marginal product

Units of labour	1	2	3	4	5	6
AP	2	3	4	4.25	3	3.5



60. Complete the following table.

AP	0	–	–	22	–	–	20
MP	–	–	22	–	–	17	–
TP	0	20	–	–	88	–	–

61. Complete the table showing phases of returns to scale.

<i>Input</i>	<i>Total Product</i>
16 K + 8 L	10
20 K + 10 L	12
24 K + 12 L	14
28 K + 14 L	16

62. Complete the following table

<i>Output</i>	<i>Average Variable cost</i>	<i>Total cost</i>	<i>Marginal cost</i>
1	40	160	–
2	30	–	–
3	40	–	–
4	62	–	–

### 6 MARKS QUESTIONS

- \*1. Distinguish between short-run and long-run production function.
2. Why does increasing returns to scale and diminishing returns to scale operate.
3. When all the inputs used in production of a good are increased in same proportion what are its possible effects on total product. Explain using numericals examples.
4. Explain with the help of suitable example, the difference between diminishing returns to scale and Diminishing returns to factors.
5. Explain the effect on output when only one input is increased and all other input are held constant.
6. Identify and explain the law represented in the table giving below. Also identify its various stages.

<i>Variable Factor</i>	<i>Total Product</i>
1	4
2	12
3	32
4	68
5	102
6	112
7	112
8	108

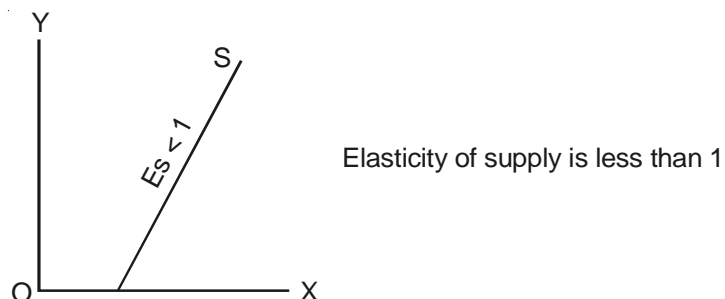
7. What does the price elasticity of supply mean? How do we measure it?
8. Explain factors determining market supply?
9. Explain law of supply with the help of supply schedule and diagram?
10. Explain the factors leading to increase in supply and decrease in supply?
11. Distinguish between change in supply and change in quantity supplied?
12. Explain movement along a supply curve and shifts in supply curve with the help of diagram?
13. Explain factors affecting elasticity of supply?
- \*14. Explain geometric method of measuring elasticity of supply in case of straight line supply curve?
15. What is meant by price elasticity of supply. How can you measure elasticity of supply by percentage method?
16. Distinguish between the followings :
  - (i) perfectly elastic supply and perfectly inelastic supply.
  - (ii) More than unit elastic supply and less than unit elastic supply.
17. What is meant by producer's equilibrium? Explain the conditions of achieving it with the help of numerical example.
18. Explain producer's equilibrium with the help of total revenue and total cost approach under imperfect market.
19. Why is LAC curve 'U' shaped? Explain.

### **ANSWERS OF ONE MARK QUESTIONS**

1. Production is transformation of input into output which has money value.
2. Short period.
3. Division of labour and better coordination between factors.
4. Marginal product becomes negative.
5.  $TP = AP \times \text{variable input (labour)}$
6.
  - (a) Short-run production function (Law of variable proportions).
  - (b) Long run production function (returns to scale).
7. Economics of scale refer to advantages which a firm enjoys when it expands scale of production.
8. Production function is the functional relationship between physical input and output of a firm.
9. Law of variable proportions explain the behaviour of output when one input is varied and other inputs used in production of a good are kept fixed.



30. Supply curve of Lap-top will shift rightwards.
31. Supply curve will shift leftwards.
32. Supply curve will shift leftwards.
33. Due to decrease in price.
34. Due to increase in price.
35. Unit elastic supply.
36. Supply curve of food grains will shift to the left.
37. Contraction of supply refers to fall in supply due to fall in price of the Good.
38. Supply curve will shift leftwards.
39. Due to increase in price of stock of firms and to encash market boom.
40. Elasticity of supply =  $\frac{\% \text{ Change in supply}}{\% \text{ Change in price}}$  or  $E_s = \frac{\Delta q}{\Delta p} \times \frac{p}{q}$
41. Because price of commodity and supply are positively related.
42. Downward movement along supply curve.
43. Extension of supply.
44. Market period is very short period in which factors of production can not be changed and supply is perfectly Inelastic.
45.  $E_s$  is greater than one.
46. Perfectly Inelastic.
47. Elastic.
48. Inelastic
- 49.



50. Cost is the sum of explicit and implicit cost.
51. Explicit cost is the actual expense incurred by the producer for outside payment for hiring inputs.

52. It remains constant at all levels. It is also called as fixed cost.
53. Implicit cost is the cost of self owned resources of producer.
54. Total variable cost is upward sloping. It is concave in the beginning and convex later.
55.  $TVC = \sum MC$ .
56. Yes.
57. Vertical distance between TC and TVC is TFC which remains constant throughout.
58. TC and TFC.
59. Yes.
60.  $MC = \text{Rs. } 25$ .
61.  $MC = \text{Rs. } 100$
62.  $TVC = \text{Rs. } 60$      $AVC = \text{Rs. } 20$
63. Because TFC is never zero.
64.  $MC = TVC_n - TVC_{n-1}$  or  $\Delta TVC/\Delta Q$ .
65. Thread, cloth, buttons.
66. Second stage.
67.  $\text{Rs. } 2,000$
68.  $\text{Rs. } 40$ .
69. Revenue is money receipts from sale of product.
70.  $TR = \text{Price} \times \text{quantity sold}$ .
71. Marginal revenue will be zero.
72. Twice the rate of average revenue.
73. Total revenue curve will be positively sloped straight line.
74. Because price remains constant at all levels of output.
75. Total revenue is the area under price lines.
76.  $\text{Rs. } 28$ .
77.  $\text{Rs. } 6$ .
78. Average revenue and marginal revenue both are equal to price and remain constant.
79.  $\text{Rs. } 8$ .
80. Marginal revenue remains constant throughout.

81. Producer's equilibrium means when producer earns maximum profit *i.e.* TR exceeds TC by maximum amounts and profit falls as more output is produced.
82. Two conditions one
- (i) Total revenue exceeds total cash by maximum amount.
  - (ii) Profit falls as more output is produced.
83. Profit maximization means TR exceeds TC by maximum.
84. The point at which  $TR = TC$ .
85. Supplementary condition → Profit falls as more output is produced.
86. Necessary condition is TR exceed TC by maximum.
87. Normal profit → when  $TR = TC$  and there is no tendency for any firm to enter or leave the industry.

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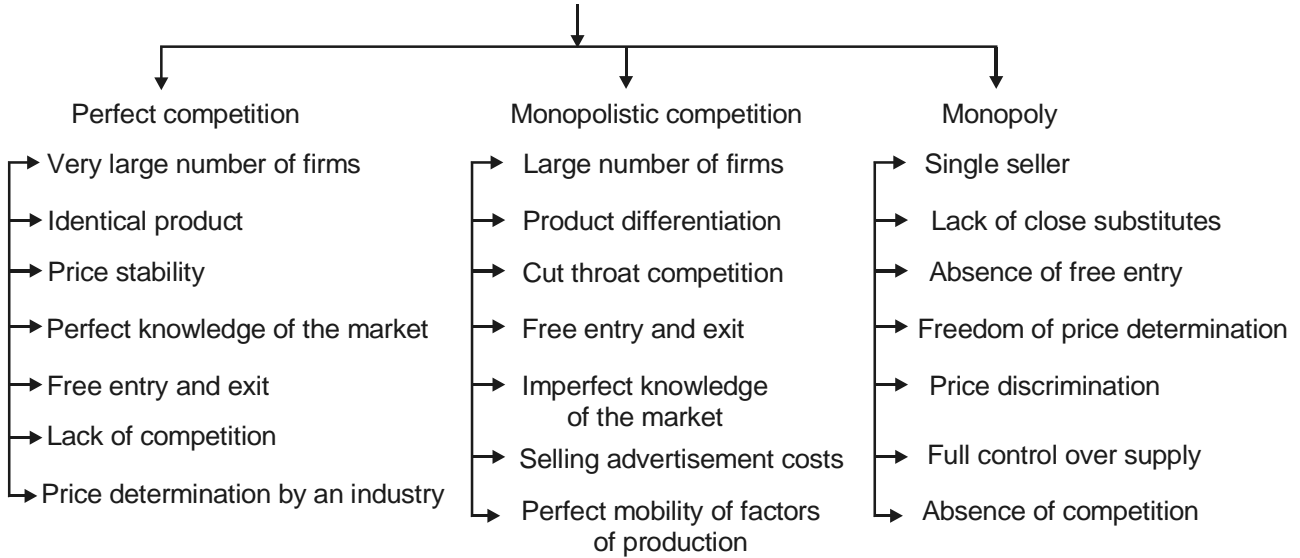
## FORMS OF MARKET

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### KEY POINTS

- **Perfect Competition** is that type of market in which there are very large number of sellers, sell homogenous goods at constant price without any competition to consumers who have perfect knowledge about the market.
- Monopolistic completion is that type of market in which there are large number of firms, sell differentiated product to the consumers who have imperfect knowledge about the product and there is tough competition between firms.
- Monopoly is that type of market where there is single seller, selling a product which does not have close substitutes.
- Under perfect compelition, price remains constant therefore, average and marginal revenue curves also remains constant and parallel to OX-axis.
- Under perfect competition price is determined by an industry (a group of producers and consumers) with the forces of demand and supply. No individual firm or buyer can influence the price or supply of the product.
- Under monopolistic compelition due to lack of control over supply each firm determines the price of their product, keeping in view the price level set by other firms.
- Under monopolistic competition elasticity of demand for the product is greater than one therefore, demand curve (AR curve) has flatter slope.
- Under monopoly, monopolist himself determines price of the product according to the elasticity of demand as he has full contol over the supply of the product.
- Under monopoly, due to absence of free entry and exit, firm earn abnormal profit in the long run.
- Under monopoly elasticity of demand for the good is less than one therefore demand curve has steeper slope.
- Under monopoly, average revenue and marginal revenue has negative slope as per unit price does not remain constant.

### Comparative Features of Various Forms of Market



### VERY SHORT ANSWER TYPE QUESTIONS [1 – MARK]

1. What do you mean by market?
2. Under which competitive market, firms demand curve is parallel to ox-axis?
- \*3. Under which competitive market, firm has full control over supply of the product.
4. Why average and marginal revenue curves are same under perfect competition?
5. What do you mean by homogenous product?
6. How is price determined under perfect competition?
7. What do you mean by product differentiation?
8. What is the common feature shared by perfect and monopolistic competition?
- \*9. What is the relation between average curve and demand curves under monopolistic competition.
10. Define monopoly market.
- \*11. Distinguish between monopoly and perfect competition on the basis of elasticity of demand.
12. Under which market there is no difference between firm and industry.
13. Under which competitive market firm can earn abnormal profits in the long run.
14. What do you mean by price discrimination? Under which market is this possible?
- \*15. How is the success of price discrimination policy depends on elasticity of demand.
16. How the perfect knowledge keeps the price level constant under perfect competition?
- \*17. What is the role of large number of firms in price determination under perfect competition?



18. Under which competition, entry of new firms into the industry is prohibited?
19. Under which competition firm is a price taker?
- \*20. How does, elasticity of demand control the freedom of determination of price in monopoly market.
- \*21. Why marginal revenue curve has negative slope under monopoly.
22. On which factor, depends the perfect control on price and supply of a firm.
- \*23. What is the relationship between price and marginal cost under monopolistic competition at the equilibrium level.
24. Define equilibrium price.
25. What do you mean by equilibrium quantity.
26. What do you mean by excess demand.
27. When does the situation of excess supply arise?
- \*28. What will be impact on number of firms when market price is less than equilibrium price?
- \*29. If demand is perfectly elastic, what will be the impact of decrease in supply on the equilibrium price.
30. When supply curve is parallel to OY-axis what will be the impact of rightward shift of demand curve on the equilibrium price.
- \*31. Under which situation, equilibrium price changes but equilibrium quantity remains unaffected, due to increase in demand.
- \*32. Why does the firm not stop production even during the situation of losses in short period.
33. What will be the effect on equilibrium price when increase in demand is more than increase in supply.
34. Under which situation equilibrium price remains unaffected when supply increases but demand remains unchanged.
- \*35. What will be impact of fall in demand on equilibrium price under market period?
36. Under what situation does the equilibrium price remains unaffected when there is simultaneous increase in demand and supply.
37. When market price is more than the equilibrium price, what will be its impact on number of firms.
38. What do you mean by minimum price ceiling.

### **SHORT ANSWER TYPE QUESTIONS (3 – 4 MARKS QUESTIONS)**

1. What role do forces of demand and supply play in price determination under perfect competition?
2. "Firm is a price taker and not price maker under perfect competition." Explain.

- \*3. What is the effect of the following on the freedom of price determination.
- (a) Number of firms
  - (b) Elasticity of demand.
- \*4. Explain the difference among perfect competition, monopolistic competition and monopoly on the basis of followings.
- (a) Elasticity of demand.
  - (b) Control over price.
  - (c) Average revenue curve.
- \*5. Explain the following features of monopolistic competition
- (a) Price determination.
  - (b) Control over supply.
  - (c) Elasticity of demand.
6. Explain any three features of monopoly market.
7. State two similarities and two differences of monopoly and monopolistic competition.
- \*8. In which competition the availability of close substitutes is present? How does it affect the price.
9. How do normal profit change into abnormal profits in the long run under monopolistic competition due to free entry of firm.
- \*10. Why is the role of demand more significant than supply in price determination in short-period.
11. Explain the determination of equilibrium price with the help of diagram.
- \*12. In what circumstances change in supply affect equilibrium price only and not equilibrium quantity. Explain with the help of diagram.
13. What will be the effect of the following situations on equilibrium price
- (a) Decrease in supply is more than decrease in demand.
  - (b) Decrease in demand when supply is perfectly elastic.
  - (c) Leftward shift in supply curve when demand is perfectly elastic.
- \*14. Explain the situations using diagram where there is simultaneous change in demand and supply but equilibrium price remains constant.
15. Explain the concept of excess demand. When does this situation arise. Explain with the help of diagram.
16. Explain the relation between market price and equilibrium price.
17. What do you mean by excess supply. How does it affect the entry of firms in a market.

### LONG ANSWER TYPE QUESTIONS (6 MARKS EACH)

1. Compare average and marginal revenue curves under perfect competition and monopoly market.
2. Differentiate between monopoly and monopolistic competition.
3. Explain main features of perfect competition.
4. Explain main features of monopolistic competition.
- \*5. If there is excess demand at a given price – Is it equilibrium price? If not, how will the equilibrium price be determined?
6. What will be the effect of simultaneous decrease in demand and supply on equilibrium price. Explain with the help of diagram.
7. What will be the effect on equilibrium price due to change in supply if
  - (a) demand is perfectly elastic.
  - (b) demand is perfectly inelastic.
8. Why is market price, not considered as equilibrium price in the situation of excess supply. State how will the equilibrium price be determined.
- \*9. Explain 'equilibrium price increases due to simultaneous change in demand and supply'. Use diagram.
10. Using diagram explain the effect of simultaneous increase in demand and supply on equilibrium price.
- \*11. Explain with the help of diagram the effect of increase in demand, on the equilibrium price keeping supply constant.
12. Explain two similar and two different features of perfect and monopolistic competition.

### ANSWERS OF 1 MARK QUESTIONS

1. Market is a system where buyers and seller of a product come in contact with each other for sale and purchase of the product.
2. Perfect competition.
3. Under monopoly.
4. Because per unit price remains constant.
5. When the product, produced by all the firms are perfect substitutes of each other *i.e.* colour, shape, packing etc. are same, are called homogeneous products.
6. Price is determined by an industry by the forces of demand and supply.
7. When similar product differ from each other minutely in terms of colour, shape, weight, design, packing etc. then it is called product differentiation.

8. (a) Free entry and exit of firms.  
(b) Perfect mobility of factors.
9. Both AR and MR curves have negative slope.
10. It is a market in which there is single seller, selling a product which does not have close substitutes.
11. Perfect competition – Perfectly elastic  
Monopoly – Less than unit elastic.
12. Monopoly market.
13. Monopoly market.
14. Price discrimination is a policy under which a seller sells a similar product at different prices to different buyers.
15. Monopolist will sell the good at higher price to that consumer for whom elasticity of demand of a good is inelastic, whereas he will sell the good at lower price to that consumer for whom elasticity of demand of a good is elastic.
16. If any firm determines the price more than the price determined by an industry, consumers will start purchasing from other firms due to perfect knowledge.
17. Due to large number of firms, there is no freedom to determine the price. Therefore, each firm determines the price, keeping in view the price determined by other firms.
18. Monopoly market.
19. Perfect completion.
20. Under monopolistic competition, demand for a good is elastic, therefore, due to slight increase in price, fall in demand will comparatively be more.
21. Under monopoly average revenue and marginal revenue have negative slope because more can be sold by lowering the price.
22. Number of firms.
23. There is inverse relationship.
24. It is the price at which demand = supply.
25. That quantity of a good which can be purchased and sold at equilibrium price.
26. Excess demand is that situation when demand for a good is more than supply of a good.
27. When market price is more than the equilibrium price.
28. Number of firms will reduce.
29. Equilibrium price will remain unchanged.

30. Equilibrium price will increase.
31. When supply is perfectly inelastic.
32. Because the firm is able to recover total variable cost.
33. When increase in supply is more than increase in demand, equilibrium price will fall.
34. When demand is perfectly inelastic.
35. During market period, equilibrium price will fall due to decrease in demand.
36. Equilibrium price remains unaffected. When proportionate increase in demand is equal to proportionate increase in supply.
37. Number of firms will increase, if market price is more than equilibrium price.
38. Minimum price ceiling is that price which is determined by Govt, so that producer must get the reasonable price of the product.

## Unit 5

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# SIMPLE APPLICATIONS OF TOOLS OF DEMAND AND SUPPLY CURVES

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### KEY POINTS

- With the help of curves, these variables can be studied, which represent positive or negative relation.
- Variables are of two types :
  - (a) dependent variables
  - (b) independent variables.
- Generally, independent variables are represented on OY-axis, whereas dependent variables are represented on OX-axis.
- While plotting curves, values on OX-axis or on OY-axis should be according to reasonable proportion.
- Relationship between variables can be understood easily through curves because their effect is long lasting on our minds.
- In economics demand and supply curves are used to express following :
  - (a) Data relating to demand and supply.
  - (b) To determine equilibrium in various economic activities.
  - (c) To show the effect of change in demand and supply on equilibrium and market price.
  - (d) for graphic representation of different categories of elasticity of demand and supply.
  - (e) Determination of floor price and price ceiling in situation of excess demand and excess supply.
- In practical life also curves are important. Govt. determines maximum and minimum price ceiling with the help of demand and supply.
- Govt. determines tax rate in accordance with elasticity of demand and supply.
- Demand and supply curves are helpful to explain the impact of change in rate of taxes on demand and supply.
- Demand and supply curves explain equilibrium under following situations :
  - (a) Rate of interest (Demand for money and supply).

- (b) Wage rate (demand for labour and supply of labour).
- (c) Price determination of factors of production.
- (d) Determination of foreign exchange rate.
- (e) Determination of rent.
- (f) Saving of consumer.

## Unit 6

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# NATIONAL INCOME AND RELATED CONCEPTS

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### KEY POINTS

- **Circular Flow** : In an economy there is economic interdependence between various sectors, which generates circular flow. Circular flow of income and production refers to circular movement of goods and services or income.
- **Two-Sector Model** : In two sector economy. Household sector supply factor services to production sector and production sector supply goods and services towards household sector.
- **Production** : Production is a human effort with which goods and services can be produced which has utility to fulfill human wants and has fixed money value.
- **Capital Goods** : Those final goods which help in production e.g. machines, tools etc.
- **Intermediate Goods** : are those goods which are meant for further production or for resale in the same year. These goods do not fulfill needs of mankind directly.
- **Final Goods** : are those goods which are used either for final consumption or for investment. These goods fulfill the needs of mankind directly and cross the production boundary.
- **Value Added** : It is the difference between value of output of a firm and value of inputs bought from other firms during a particular period of time.
- **Value of Output** : Market value of all the goods and services produced by an enterprise during an accounting year is called value of output.
- **Double Counting** : Counting the value of a commodity more than once while estimating national income is called double-counting. There are two ways to solve this problem.
  1. By taking the value of only final goods.
  2. By taking value added.
- **Domestic Income** : It is the factor income accruing to owners of factors of production for supplying factor service within domestic territory during an accounting year. Classification of factor payments can be :
  - (a) Compensation Of Employees (COE).
  - (b) Operating Surplus (OS)
  - (c) Mixed income of self employed.
- **National Income** : It is total factor income accruing to normal residents of country in an accounting year.



- **Real Income** : It is also called as N.I. at constant prices. It is the money value of all final goods and services valued at constant prices produced by normal residents of a country over a particular period of time. During an accounting year, it can be calculated by multiplying, final output of current year by prices of constant year.
- **N.I. at Current Price** : It is money value of all final goods and services valued at current prices produced by normal residents of a country over a particular period of time. It can be calculated by multiplying final output of current year by prices of current year.
- **Private Income** : It is the total factor income and transfer incomes received from all sources by private sector within or outside the country.
- **Income Method of Calculating N.I.** : It is the sum of factor income earned in the form of wages and salaries, rent, interest and profit by factors of production for the services rendered.
- Its components are :
  - (a) Compensation of employees.
  - (b) Operating surplus (income from property and entrepreneurship).
  - (c) Mixed income of self employed.
  - (d) Net factor income from abroad.
- Expenditure method of measuring N.I. : According to expenditure method, N.I. is final expenditure on gross domestic product at market price ( $GDP_{MP}$ ) during an accounting year.
- Economic territory is the geographical territory administered by a Govt. within which persons, goods and capital circulates freely. It includes following :
  - (a) Political frontier, territorial water.
  - (b) Embassies, military establishments, consulates of the country located abroad.
  - (c) Ships and aircrafts operated between two countries.
- **Normal Resident of a Country** : is a person or an institution who ordinarily resides in a country and whose centre of economic interest lies in that country.

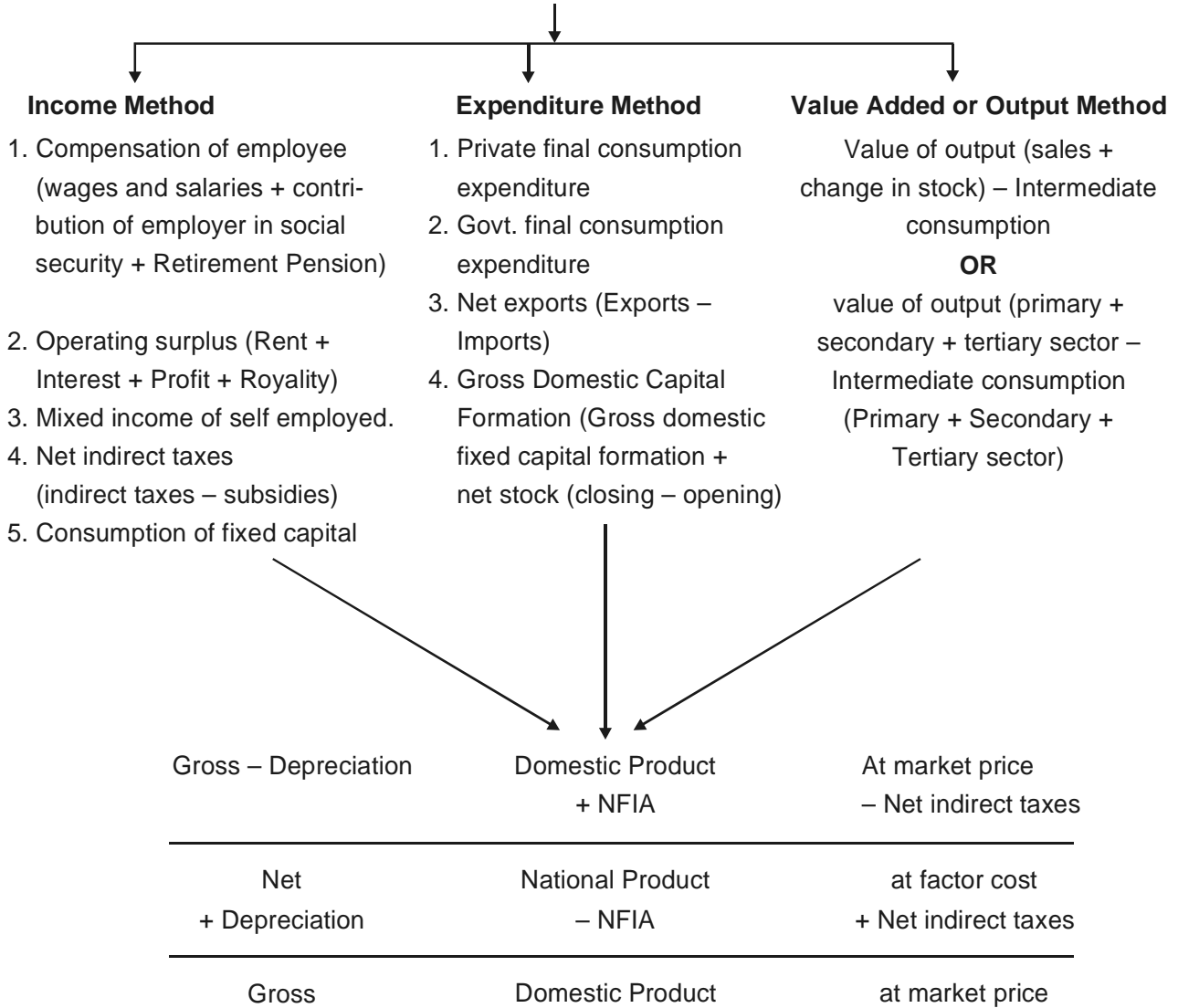
### Private Income

1. Income accruing from domestic product accruing to private sector ( $NDP_{FC}$  – Income from property and entrepreneurship to Govt. administrative deptt–savings of non departmental enterprises).
  - + Net factor income from abroad.
  - + National debt-interest.
  - + Net current transfers from Govt.
  - + Net Current transfers from rest of the world.

### Personal Income

Private income – corporate tax – savings of private corporate sector.

**Gross Domestic Product at Market Price (GDP mp)**



Or Personal disposable income + direct (personal) taxes + miscellaneous receipts of Govt.

### Personal Disposable Income

Personal Income – direct (personal) taxes

– miscellaneous receipts of Govt.

Or Personal consumption expenditure + personal savings.

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Calculation of Pvt. income, personal income and disposable personal income from N.I.

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N.I.– Income from property and entrepreneurship to Govt. administrative deptt.

– Savings of non-departmental enterprises.

+ National debt interest.

+ Current transfers from Govt.

+ Current transfers from rest of the world.

---

= Private income

– Corporate tax

– Savings of private corporate sectors.

---

= Personal income

– Direct (personal taxes).

– Miscellaneous receipts of Govt.

---

= Personal disposable income.

---

Calculation of national income, private income, personal income from personal disposable income.

Personal disposable income.

+ Direct (personal) taxes.

+ Miscellaneous receipts of Govt.

---

= Personal income

+ Corporate tax.

+ Savings of private corporate sector.

---

= Private income

+ Income from property and entrepreneurship to Govt. administrative deptt.

---

- + Savings of non departmental enterprises.
- Interest on National Debts
- Current transfer from govt.
- Net current transfers from abroad.

---

= National Income

### **National Disposable Income**

- (a) Gross National Disposable Income : N.I. + Net indirect taxes + consumption of fixed capital + net current transfer from rest of the world (current transfer from rest of the world – current transfers to rest of the world).
- (b) Gross national disposable income = Gross domestic product at market price + Net factor income from abroad + Net current transfers from rest of the world.

Net national disposable income = N.I. + Net indirect taxes + net current transfers from rest of the world.

Value added = sales + change in stock – intermediate consumption.

### **VERY SHORT ANSWER QUESTIONS (1 MARK QUESTION)**

1. Define macro economics.
2. Give two examples of macro economics.
- \*3. How value added method solves the problem of double counting.
4. What do you mean by net exports.
5. Define intermediate consumption with the help of an example.
6. What do you mean by 'leakage' in income flow.
7. State the meaning of 'injection' with the help of an example.
8. What do you mean by undistributed profit.
9. Define current transfers?
10. What you mean by real per capital income.
11. Distinguish between national income at current prices and real income.
- \*12. Under which situation  $NDP = NNP$ .
13. Why transfers are not included in N.I.
14. What do you mean by G.D.P.I.

15. Identify the term as stock or flow
  - (a) National assets.
  - (b) National income.
16. What do mean by circular flow?
17. Define national disposable income?
18. What is meant by gross fixed capital formation.
19. State the meaning of consumption of fixed capital.
- \*20. What is the impact of rise in price on calculation of N.I.
21. What do you mean by value of output.
22. What is importance of N.I. accounting.
23. A good is intermediate or final basically depends on the use of the product – explain with the help of an example.
24. Categories the following items in intermediate or capital goods :
  - (i) machines
  - (ii) raw material
  - (iii) consumption of power and fuel;
  - (iv) instruments.
25. What do you mean by operating surplus.
26. Who is considered as normal resident of a country.
- H\*27. What is meant by production of services for self consumption. Why are these not included in N.I.
- \*28. Under what situation national income is equal to domestic income.
29. Write two merits of physical form of production.
30. What do you mean by economic territory.
31. What do you mean by net factor income received from abroad.
32. What do you mean by net retained income of resident companies abroad?

### **SHORT ANSWER TYPE QUESTIONS (3 – 4 MARKS)**

1. Explain the concept of domestic factor income.
2. What do you mean by net factor income from abroad? Explain its main components.

3. What is meant by double counting? How this problem can be avoided.
4. What is the difference b/w factor income and transfer income?
5. What is meant by compensation of employees?
6. Explain the precautions that should be taken while estimating national income by expenditure method.
7. Why are the followings not included in national income?
  - (a) Income from sale of old good.
  - (b) Income from financial capital.
  - (c) Transfer income.
8. Differentiate between intermediate and final goods.
9. What is the difference between goods and services?
10. Explain the components of private final consumption expenditure.
11. Explain circular flow of income in two sector model economy.
12. Define private income. How does it differ from national income?
13. State precautions that should be kept in mind while estimating national income by product method.
14. Differentiate between gross domestic product at market price and net national product at market price.
15. Explain the concept of economic territory. State the items included in it.
16. What is meant by a normal resident? State which of the followings are treated as normal resident of India.
  - (a) Indian doctor who has gone to Hong Kong for six months to work there.
  - (b) Nigerian student who is studying in India for the last three years.
  - (c) A citizen of Nepal who has come to India for treatment.
17. What is meant by Gross National disposable income? How does it differ from national income?
18. What is meant by national income at current prices and national income at constant prices? How is national income at current prices converted into national income at constant prices.
19. Define gross domestic product and state its features.
20. Define current and capital transfers and differentiate between them.
21. What is meant by production for self consumption? State whether the following components of it will be included in national income or not.

- (a) Production for self consumption of goods.
- (b) Production for self consumption of services.
- (c) Self account production for fixed assets.

### 6 MARKS QUESTIONS

1. Explain the steps of measuring national income by income method.
2. Explain the precaution to be taken while calculating N.I. by income method
3. How is N.I. calculated by production method or value added method.
4. How is N.I. calculated by expenditure method. Explain.
5. What do you mean by final consumption expenditure. Explain its components.
6. Define operating surplus. Explain its components.
- \*7. Why following items are not included in N.I.
  - (a) Prizes won in lottery.
  - (b) Services produced for self-consumption.
  - (c) Sales tax.
  - (d) Subsidies from abroad for medical services.
- \*8. Whether following items are to be included in N.I. or not. Give reasons.
  - (a) National debt interest.
  - (b) Death duty.
  - (c) Increase in prices of shares.
  - (d) Purchase of new shares of domestic company.
- \*9. Why are following items not included in domestic income whereas they are included in N.I.
  - (a) Profit received by a normal resident of India from a company situated at Hong Kong.
  - (b) Salaries received by Indian from French embassy.
  - (c) Profit earned by S.B.I. from its branch situated in Holland.
  - (d) Rent received by India from German embassy.
- \*10. Why does the value of following not included in N.I. give reason.
  - (a) Profit earned by a foreign bank from its branch situated in Hyderabad.
  - (b) Remittance sent by non-resident Indian to his family residing in India.
  - (c) Salary paid to a French resident working in Indian embassy.

- (d) Salary paid to a non-resident working in Indian hospital.
- \*11. Why are following items included in N.I.
- Interest received from a commercial bank situated at Delhi.
  - Salary received by an Indian working in Pakistani embassy.
  - Direct purchase by foreigners from Indian markets.
  - Salary of Indian pilot working in German airlines.
12. Following items are to be included in N.I. or not. Give reasons.
- Rent of a house paid by a household.
    - Rent of factory building paid by producer.
  - Travelling expenditure.
    - Travelling expenditure (train-fare) paid by a passenger.
    - Payment of goods-fare to railway by a firm.
- \*13. Under which method following items are to be considered while calculating N.I. Give reasons that value of following is to be included or not.
- Fees paid by a firm to a chartered accountant
  - Fees paid by a student.
  - Free medical services supplied by Govt. dispensary.
  - Free medical facilities to an employee by a firm.
- \*14. Whether following are to be included in N.I. or not. Give reason.
- Expenditure on streetlight by the Govt.
  - Purchase of new shares of a domestic firm.
  - Remittance sent by non-resident Indians to his family.
  - Financial assistance given to parents under 'Ladli Scheme' by the Govt.

### ANSWER FOR 1 MARK QUESTIONS

- Macro-economics is that branch of economics which deals with economic problems which are related to aggregates.
- Examples of macro-economics full employment and national income.
- Under value added method, by deducting intermediate consumption from value of output problem of double counting can be solved.
- Net exports means the difference between exports and imports.

$$\text{Net exports} = \text{Exports} - \text{Imports.}$$



5. Expenditure on intermediate consumption for production of goods and services by a producer.
6. 'Leakage' is that economic concept, which has negative impact on flow of income.
7. 'Injection' is that economic concept, which add to flow of income and goods *e.g.* investment, exports etc.
8. Undistributed profit is that part of profit which is not distributed to shareholders.
9. Current transfers are those transfers which are paid from current income and are added in current income of the receipient.
10. That part of real national income which is received by each person on an average.
11. Real national income does not get affected by change in prices. Whereas, national income at current prices does get affected by price changes.
12. When NFIA is zero then  $NDP = N.I.$
13. Transfer payment neither generate income nor add to the flow of goods and services.
14. GDP : It is gross money value of all final goods and services produced within domestic territory over a particular period of time.
15. National wealth is stock.  
National Income is flow.
16. Circular flow of income explains the flow of goods and services or income in between various sectors of an economy in circular form.
17. The sum of earned and unearned incomes received by the residents of a country is called national disposable income.
18. It is addition to stock of capital during a given period. In this consumption of fixed capital is also included.
19. Consumption of fixed capital is decrease in the value of fixed capital due to normal wear and tear and foreseen obsolescence.
20. Due to increase in price level, nominal N.I. will increase.
21. Value of output is the sum of sales by a firm during one financial year and change in stock (closing stock-opening stock).
22. N.I. accounting helps to identify economic variables and their contribution in N.I.
23. Sugar is a final good for a consumer whereas it is intermediate good for the bakery. Hence it is true that a good is intermediate or final depends on its use.
24. Machine and tools – capital goods.  
Raw material and consumption of power and fuel – Intermediate goods.
25. Income from property and entrepreneurship is operating surplus. It is also the sum of rent, interest, royalty and profit.

26. Normal resident of a country is that person or institution whose centre of economic interest lies in that country.
27. Those services which are produced for self consumption and not for sale in the market are treated as production of services for self consumption. It is difficult to estimate their value therefore, they are not included in N.I..
28. When NFIA is zero then Domestic income is equal to N.I.
29. (a) These can be stored.  
(b) Their transfer is possible.
30. Economic territory means that geographical territory administered by a Govt. within which persons, goods and capital circulates freely.
31. NFIA is the difference between factor services provided to R.O.W. by normal residents of an economy and factor services received from R.O.W.
32. Net retained earnings is the difference between retained earning of domestic companies located abroad and retained earnings of foreign companies located in domestic territory.

### HINTS FOR 6 MARKS QUESTIONS

7. (a) It is not included in national income because it is transfer income.  
(b) Due to practical difficulties of getting data these services are traditionally kept out of national income.  
(c) It is a transfer income. It is not included in national income.  
(d) It is a necessary payment of tax and national income is calculated at factor cost. So it is not included.
8. (a) It is assumed that general Govt. borrows to meet consumption expenditure not for production expenditure therefore it is like a transfer payment, it is not included in National Income.  
(b) It is a direct tax so it is a transfer payment therefore it is not included in National Income.  
(c) It is capital gain, it is not included.  
(d) It is merely transfer of funds from one transactor to another it does not lead to production of goods or a services. So it is not included in National Income.
9. (a) It is factor income received from rest of the world.  
(b) It is a part of factor income received from rest of the world. French Embassy is a part of economic territory of France.  
(c) This factor income is not generated in Indian Economic territory.  
(d) It is operated by German Govt. so it a part of German economic territory.

10. (a) It is a factor income paid abroad.  
 (b) It is a transfer income.  
 (c) It is a factor income paid abroad.  
 (d) It is a factor income paid abroad.
11. (a) It is a part of factor income earned by normal resident of India.  
 (b) It is a part of factor income.  
 (c) It is a part of export.  
 (d) It is a part of factor income received from abroad.
12. (a) (i) It is a part of private final consumption expenditure. So it is included.  
 (ii) It is a part of intermediate consumption of firm therefore it is not included.  
 (b) (i) It is a part of private final consumption. Expenditure therefore it is included.  
 (ii) It is a part of intermediate consumption therefore it is not included.
13. (a) It is intermediate consumption of firm. So It is considered in value added method, therefore, it is not included in N.I.  
 (b) It is private final consumption expenditure. It is considered in national income while using expenditure method.  
 (c) It is a part of Govt. final consumption expenditure considered in expenditure method. It is included in national income.  
 (d) It is a part of compensation of employee. It is considered in income method. It is included in National Income.
14. (i) It is a part of Govt. final expenditure therefore it is included.  
 (ii) It is purchase of financial capital. It does not lead to production therefore it is not included.  
 (iii) It is transfer income therefore it is not included.  
 (iv) It is transfer income therefore it is not included.

## NUMERICALS FOR PRACTICE

1. From the following data calculate the value added of firm A and B.

(i) Import of raw material by firm A	900
(ii) Sale of firm B	6000
(iii) Purchase by firm A from firm B	600
(iv) Sale of firm A to consumers	3,000

(v) Export of firm B	900
(vi) Sale by firm A to firm B	4200
(vii) Export of firm A	1800
(viii) Closing stock of firm A	900
(ix) Net stock of firm B	(-600)
(x) Opening stock of firm A	150

[Ans. : Value added of firm A = 8250  
Value added of firm B = 750]

2. Calculate gross value added at market price ( $GVA_{MP}$ )

(i) National Income.	24,000
(ii) Net indirect taxes.	2,000
(iii) Gross capital formation.	8,000
(iv) Net capital formation.	6,400
(v) Private final consumption exp.	9,600
(vi) Net factor income from abroad.	(-400)

[Ans. : 28,000]

3. Calculate with help of following Datas

A. Value of output.	
B. Net value added at factor cost.	
(i) Domestic sale .	1200
(ii) Production for self consumption.	800
(iii) Export	400
(iv) Closing stock	700
(v) Opening stock	400
(vi) Purchase of raw material from other firms.	600
(vii) Consumption of power and fuel.	200
(viii) Purchase of plant machinery.	400
(ix) Subsidies	80
(x) Net indirect taxes.	240

(xi) Depreciation	160
(xii) Import of raw material.	300

[Ans. : (a) 2700 (b) 1200]

- Purchase of plant and machinery is a capital expenditure not intermediate consumption.
- Production for self consumption also a part of sales.

4. Calculate net value added at market price

(i) Value of output	
(a) Primary sector	1750
(b) Secondary sector	500
(c) Service sector	400
(ii) Depreciation in value of fixed capital.	200
(iii) Value of intermediate consumption	
(a) Primary sector	600
(b) Secondary sector	450
(c) Service sector	300
(iv) Net indirect taxes.	150
(v) Import of primary and secondary sector.	300

[Ans. : 1100]

5. Calculate national disposable income :

(i) Value of output.	40,000
(ii) Import of raw material.	15,000
(iii) Consumption of power and fuel.	2,500
(iv) Depreciation in value of fixed capital.	3,000
(v) Indirect tax.	3,500
(vi) Net factor's income from abroad.	1,000
(vii) Current transfers from rest of the world.	4,000
(viii) Current transfer's to rest of the world.	2,000
(ix) Subsidies	1,000

[Ans. : 25,500]

6. Calculate net national disposable income :

(i) Gross domestic income at factor cost.	10,000
(ii) Indirect tax	1,000
(iii) Subsidies	1,250
(iv) Depreciation	500
(v) Net factors income abroad.	1400
(vi) Net transfer from rest of the world.	1500

[Ans. : 12150]

7. Calculate net national disposable income.

(i) National income.	1800
(ii) Mixed income.	300
(iii) Net factors income from abroad.	(-150)
(iv) Indirect tax.	450
(v) Depreciation	240
(vi) Net current transfer from rest of the world.	600

[Ans. : 2850]

8. Calculate from following Datas :

(a) Net national disposable income.

(b) Gross domestic product at factor cost.

(i) Private final consumption exp.	1400
(ii) Govt. final consumption ext.	600
(iii) Net export	200
(iv) Net domestic capital formation.	400
(v) Net stock.	300
(vi) Opening stock.	100
(vii) Net indirect tax.	160
(viii) Depreciation	240
(ix) Net factors income from abroad.	(-100)
(x) Net transfer from rest of the world.	200

[Ans. : A = 3,000 B= 2,980]

9. Calculate compensation of employees :

(i) Profit	2,000
(ii) Net domestic product at factor cost	16,000
(iii) Interest	1,600
(iv) Depreciation in value of fixed capital.	3,200
(v) Mixed income	6,000
(vi) Indirect tax	1,200
(vii) Govt. subsidies	400
(viii) Rent	2,400

[Ans. : 4,000]

10. Calculate "sales" from following data :

(i) Intermediate consumption	1800
(ii) Net indirect tax	500
(iii) Closing stock	2,000
(iv) Opening stock	1,000
(v) Gross value added at market price	10,000
(vi) Consumption of fixed capital	600

[Ans. : 10,800]

11. Calculate operating surplus from following Data :

(i) GNPFC	8,000
(ii) Mixed income of self employed	1200
(iii) NFIA	(- 200)
(iv) Wages and salaries	2,000
(v) Contribution or employee in social securities.	1,000
(vi) Decrease in value of fixed capital.	600
(vii) Net indirect tax.	400

[Ans. : 4,000]

12. Calculate compensation of employee

(i) GDPFC	5,000
(ii) Rent	200
(iii) Profit	400
(iv) Income from property and Entrepreneurship.	1500
(v) Net indirect tax	300
(vi) Deperication of fixed capital	200
(vii) Mixed income of self employed	1,000

[Ans. : 2,300]

13. Calculate :

(a) National income by output method.

(b) GNPFC by income method.

(i) Net value of output at market price :

(a) Primary sector	15,000
(b) Secondary	8,000
(c) Tertiary sector	6,000

(ii) Consumption of fixed capital 1,000

(iii) Production tax 1700

(iv) Sales tax 1300

(v) Subsidies 1500

(vi) Value of intermediate consumption :

(a) Primary sector	6,000
(b) Secondary sector	4,000
(c) Tertiary sector	2,000

(vii) Income from property and entrepreneurship. 4,000

(viii) Mixed income of self employed. 6,500

(ix) Compensation of employee. 5,000

(x) Contribution of employer in social securities. 2,000

(xi) Net factors income from abroad. (-2000)

[Ans. : A = 13500 B = 14500]



14. Calculate from following data :

(i) Private income	
(ii) Personal disposable income.	
1. Income accruing by private sector from domestic product	16,000
2. NFIA	1400
3. Current transfer from Govt.	800
4. Current transfer from rest of the world	2400
5. Interest on national debts.	600
6. Direct tax paid by house-holds.	500
7. Miscellaneous receipts of Govt.	300
8. Corporation tax.	700
9. Corporate savings.	500

[Ans. : (i) 21,200 (ii) 19,200]

15. Calculate national income by income method and expenditure method.

(i) Retirement pension.	1,000
(ii) Wages and salaries.	13,000
(iii) Contribution of employer in social securities.	2,800
(iv) Income from property and entrepreneurship.	3,000
(v) Mixed income of self employed.	5,000
(vi) Old age pension.	1,400
(vii) Private final consumption.	6,000
(viii) Compensation of employee paid by govt.	6,000
(ix) Direct purchase of non durable good by govt. from abroad.	3,600
(x) Purchase of goods and services by govt in domestic market	2,400
(xi) NFIA	(-800)
(xii) Gross domestic capital formation.	12,000
(xiii) Net domestic capital formation.	6,000
(xiv) Net indirect tax.	1200
(xv) Net export	2,000

[Hint : Govt final consumption – VIII, IX, X]

[Ans. : 24,000]

16. Calculate from following data :

(a) Private income.

(b) GNPFC

(i) Private consumption expenditure.	4,800
(ii) Private savings.	6,000
(iii) Corporation tax.	1,200
(iv) Direct tax paid by household.	3,000
(v) Savings of corporate sector.	2,400
(vi) Current transfer from rest of the world.	1,800
(vii) Income to Govt. from property and entrepreneurship.	9,000
(viii) Net indirect tax.	4,200
(ix) Consumption or fixed capital.	6,000
(x) Interest on national debts.	3,000
(xi) Net factors income from abroad.	(-1500)
(xii) Current transfer from Govt.	2100

[Ans. : (i) 60,600 (ii) 68,700]

17. Calculate gross domestic product at market price :

(i) Private final consumption expenditure.	3,250
(ii) Final consumption of non-profitable institute serving household.	750
(iii) Wages salaries	4500
(iv) Operating surplus	1,000
(v) Mixed income.	2,500
(vi) Net indirect tax	750
(vii) Depreciation	1250
(viii) Net commercial fixed investment.	2,000
(ix) Net home construction investment.	600
(x) Net govt. investment.	400
(xi) Stock investment.	1,000

(xii) NFIA.	500
(xiii) Govt. final consumption expenditure.	1,000
(xiv) Net export.	1,000

[Ans. : 10,000]

18. Calculate from following data :

(a) Private income

(b) Personal disposable income.

(i) Gross national product at factor cost.	1200
(ii) Net factors income from abroad.	(-80)
(iii) Income from property and entrepreneurship to govt. admn. enterprises.	360
(iv) Consumption of fixed capital.	130
(v) Savings of Non-Deptt. enterprises.	70
(vi) Interest on national debt.	90
(vii) Current transfer from govt.	180
(viii) Private corporate tax.	120
(ix) Savings of company sector.	90
(x) Private direct tax.	50
(xi) Misc. receipts of govt.	30

[Ans. : (i) 910 (ii) 310]

## Unit 7

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# DETERMINATION OF INCOME AND EMPLOYMENT

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- Aggregate demand (AD) refers total demand for goods and services in the economy. AD represents the total expenditure on goods and services in an economy.
- Main components of aggregate demand are :
  - (a) Household consumption expenditure. (C)
  - (b) Investment expenditure. (I)
  - (c) Govt. consumption expenditure. (G)
  - (d) Net exports (X – M).

In two sector economy  $AD = C + I$ .

- Aggregate supply (AS) is the total supply of goods and services in the economy. It is also the value of total output available in an economy during a given period of time. Aggregate supply represents the national income of the country  $AS = Y$  (National Income).
- Major part of national income is spent on consumption and rest is saved, therefore, aggregate supply is the sum of consumption expenditure and savings.

$$AS = C + S$$

- Equilibrium level of income is determined only at the point where  $AD = AS$  or  $S = I$ . But it can be at full employment level or it can be at less than full employment.
- Full employment is a situation when all those who are able and willing to work at prevailing wage rate, get the opportunity to work or no one is unemployed.
- Full employment equilibrium is a situation where  $AD = AS$  at full employment level.
- Voluntary unemployment is a situation where person is able to work but not willing to work at prevailing wage rate.
- Involuntary unemployment is a situation where worker is able and willing to work at current wage rate but does not get work.
- Underemployment is a situation where  $AD < AS$  at full employment level.
- Consumption (C) depends on the level of income. As income increases consumption also increases but rate of increase in income is more than rate of increase in consumption.
- Consumption function shows functional relationship between consumption and income  $C = f(Y)$ .
- Consumption function (propensity to consume) is of two types.
  - (a) Average propensity to consume (APC).
  - (b) Marginal propensity to consume (MPC).

- Average propensity to consume is the ratio of consumption to income

$$APC = C/Y$$

- MPC is the ratio of change in consumption ( $\Delta C$ ) to change in income ( $\Delta Y$ ).

$$MPC = \Delta C/\Delta Y$$

- Average propensity to save is the ratio of saving to income  $APS = S/Y$ .

Marginal propensity of save is the ratio of change in savings to change in income.

$$MPS = \Delta S/\Delta Y$$

- The sum of APC and APS is always one.
- The sum of MPC and MPS is always one.
- Investment multiplier (K) is the ratio of change in income ( $\Delta Y$ ) to change in investment ( $\Delta I$ )

$$K = \Delta Y/\Delta I$$

- Excess demand is when aggregate demand is more than aggregate supply at full employment level.
- Inflationary gap is the gap by which actual aggregate demand exceeds the level of aggregate demand required to establish full employment. It measures the amount of excess of aggregate demand.
- Deficient demand when aggregate demand is less than aggregate supply at full employment level.
- Deflationary gap is the gap by which actual aggregate demand is less than the level of aggregate demand required to establish full employment. It measures the amount of deficiency of aggregate demand.
- Fiscal policy is the policy of public revenue and expenditure of the govt.
- Monetary policy is the central bank's policy of money supply and availability of credit or credit control policy.

## IMPORTANT FORMULAE

$$AD = C + I$$

$$APC = C/Y$$

$$APS = S/Y$$

$$APC + APS = 1$$

$$APC = 1 - APS$$

$$APS = 1 - APC$$

$$AS = C + S$$

$$MPC = \Delta C/\Delta Y$$

$$MPS = \Delta S/\Delta Y$$

$$MPC + MPS = 1$$

$$MPC = 1 - MPS$$

$$MPS = 1 - MPC$$

$$K = \frac{\Delta Y}{\Delta I} \quad \text{or} \quad K = \frac{1}{1 - MPC} \quad \text{or} \quad K = \frac{1}{MPS}$$

$$\Delta Y = K \cdot \Delta I$$

$$\text{or} \quad \Delta Y = \frac{1}{MPC} \cdot \Delta I$$

## ONE MARK QUESTIONS

1. Define aggregate demand.
2. Define aggregate supply.
3. Give the meaning of full employment equilibrium.
4. What do you mean by under employment equilibrium.
5. Define following concepts.
  - (a) Voluntary unemployment.
  - (b) Involuntary unemployment.
  - (c) Savings.
  - (d) Consumptions.
6. What do you mean by saving function.
7. What is consumption function.
8. When can investment multiplier be infinity.
9. What do you understand by break-even point.
10. What is the relation between marginal propensity to consume and marginal propensity to save.
11. What is the relation between average propensity to save and average propensity to consume.
- \*H12. Under which situation is consumption function represented by a straight line.

13. Find out the value of average propensity to consume when the value of average propensity to save is zero.
14. Find out average propensity to consume when level of income is Rs. 30,000 and savings is Rs. 9000.
15. When can marginal propensity to save be zero.
16. What will be marginal propensity to save if marginal propensity to consume is 0.75.
17. Find out marginal propensity to save when disposable income increases from Rs. 1,000 to Rs. 1,500 and consumption expenditure increases from Rs. 700 to Rs. 1,200.
18. How is multiplier related to marginal propensity to consume.
19. What do you mean by investment multiplier.
20. How can investment multiplier be calculated? State the formula.
21. What can be the maximum value of marginal propensity to consume? When?
22. What is the relation of investment multiplier with marginal propensity to consume and marginal propensity to save.
23. When will the situation of deficient demand arise.
24. Can average propensity to consume be negative.
25. What can be the maximum value of multiplier.
26. What will be the value of multiplier when value of marginal propensity to save is zero.
27. Name the components of aggregate demand.
- \*28. What is the impact of continuous increase in income on average propensity to consume.

### **3 – 4 MARKS QUESTIONS**

29. Briefly explain components of aggregate demand.
30. Name the components of aggregate supply and explain briefly.
31. What do you mean by full employment equilibrium. Explain with the help of diagram.
32. Explain with the help of diagram the concept of under employment equilibrium.
- \*33. Why aggregate supply curve is 45° line passing through origin.
- \*34. Derive consumption function curve from saving function curve.
35. Briefly explain with the help of diagram the relationship between savings and income.
- \*36. Explain the relationship between average propensity to consume and average propensity to save. Can average propensity to consume be more than average propensity to save.

37. What is the impact of excess demand on production employment and price level-show it with the help of diagram.
38. Give the meaning of investment multiplier. How marginal propensity to consume influences investment multiplier.
39. Explain the concept of consumption function.
40. Draw consumption curve with the help of an imaginary consumption function schedule and show break-even point.
41. Briefly explain the relationship between marginal propensity to consume and marginal propensity to save.
42. Explain the deflationary gap with the help of diagram.
43. What will be the impact on N.I. and employment when planned savings is more than planned investment.
44. How national income and level of employment will be affected when planned savings is less than planned investment.
45. Briefly explain realised savings and realised investment and planned savings and planned investment.
46. What is economic depression. How it affects full employment level.
47. How does change in bank rate control the situation of excess and deficit demand.
48. Distinguish between induced investment and autonomous investment.
- \*49. Explain with the help of diagram the concept of marginal efficiency of capital.
50. Find out the value of multiplier, when due to increase in investment by Rs. 10 crores, income increases by Rs. 50 crores.
51. In an economy, the level of income is Rs. 200 crores and marginal propensity to consume is 0.75. Find out increase in income due to increase in investment by Rs. 200 crores.
52. Find out the value of multiplier and change in savings when MPC = 0.7 and investment increases by Rs. 100 crores, as a result income increases by Rs. 5000 crores.
53. Briefly explain fiscal measures to control excess demand.
- \*54. Find out equilibrium level of incomes, when  $S = -40 + 0.25 Y$  and investment is Rs. 60.

**[Ans. : Rs. 400]**

**Solution :** Equilibrium condition is  $S = I$

$$-40 + 0.25 Y = 60$$

$$0.25 Y = 60 + 40$$

$$Y = \frac{100}{.25} \quad Y = \text{Rs. } 400.$$



55. Find out marginal propensity to save when  $C = 100 + .8 Y$ . [Ans. :  $MPS = .2$ ]
56. Briefly explain the determination of equilibrium level of income with C + I approach.
57. Explain with the help of numerical example, the determination of equilibrium level at the point where planned Saving = Planned Investment.
58. What do you understand by inflationary gap. Explain with the help of diagram.
59. If the disposable income of a person increases by Rs. 100 and his savings increase from Rs. 30 to Rs. 60 what would be MPC and MPS. [Ans. :  $MPC = .7$   $MPS = .3$ ]

### 6 MARKS QUESTION

60. How is the equilibrium level of income determined with the help of aggregate demand and aggregate supply approach?
61. Explain the determination of equilibrium level of income with the help of saving and investment approach.
62. Can there be equilibrium in case of underemployment. Explain with the help of a diagram.
63. Explain with the help of diagram the concept of inflationary gap. What would be the effect of inflationary gap on production and price level.
64. Why is it necessary that planned saving should be equal to planned investment at equilibrium level. Explain with the help of diagram.
- \*65. How increase in investment will effect income level of an economy. Explain with the help of an example and diagram?
66. What do you mean by excess demand. Explain the impact of excess demand on employment, N-I and output level.
67. How quantitative and qualitative instruments of Govt's monetary policy controls excess demand? Explain.
- \*68. Briefly explain the concept of under employment equilibrium with the help of diagram. How increase in investment helps in achieving full employment equilibrium?
69. What do you mean by fiscal policy? How it helps in controlling excess demand?
70. When planned investment is more than planned savings, what will be its impact on income and employment. Explain with the help of diagram.
71. Explain with the help of diagram the situation when  $AD > AS$ .
72. Explain with the help of diagram the situation when aggregate supply is more than aggregate demand.
73. Explain the working of multiplier with the help of an example.
74. Explain the concept of marginal efficiency of capital with the help of diagram.

75. Distinguish between inflationary and deflationary gap with the help of diagram.
76. Explain diagrammatically the concept of inflationary gap. Explain fiscal measures to remove this gap.

### NUMERICALS FOR PRACTICE

1. Calculate APC and MPC, APS and MPS

Income	200	300	400
Consumption	150	200	250

2. Find out  $\Delta S$  and  $\Delta Y$  at all levels of income.

Income	0	10	20	30	40
Consumption expenditure	4	12	20	28	36

3. Determine

- (a) Equilibrium level of income.  
 (b) Break even point.

Consumption	60	140	220	300	380	460	540
Savings	-60	-40	-20	0	20	40	60
Investment	40	40	40	40	40	40	40

4. Complete the given chart and determine the equilibrium level of income.

AS	C	I	S	AD
100	125	25		
200	200	25		
300	275	25		
400	350	25		
500	425	25		

5. Calculate MPC and MPS if an additional investment of Rs. 200 crores generate an additional income of Rs. 800 crores.
6. There is an additional investment of Rs. 50 crores in an economy. How much additional income will be created if  $MPS = 0.2$  (Rs. 250 crores).
7. If the value of multiplier is 4. What will be the effect on total income if additional investment is rs. 3000 crores (Rs. 12,000 Crs.)
8. What will be the value of multiplier if additional income of Rs. 10,000 crores is generated by an additional investment of Rs. 5000 crores. Also find out MPC.

9. Complete the following table.

<i>Y</i>	<i>C</i>	<i>S</i>	<i>I</i>	<i>AD</i>	<i>AS</i>
0	60	–	–	100	–
–	–	– 40	–	–	100
200	–	–	–	260	–
–	–	0	–	–	300
400	380	–	–	–	–

### ANSWERS TO ONE MARK QUESTIONS

- Aggregate demand refers to total demand for goods and services in the economy.
- Aggregate supply is the total supply of goods and services in the economy.
- Fully employment equilibrium is a situation where  $AD = AS$  at full employment level.
- Under employment equilibrium is at the point where  $AD = AS$  but  $AD$  is less than  $AS$  at full employment level.
- Voluntary unemployment is a situation where worker is able to work but not willing to work at prevailing wage rate.
  - Involuntary unemployment is a situation where worker is able and willing to work at prevailing wage rate but does not get work.
  - That part of income which is not spent on consumption is savings.
  - That part of income which is spent on consumption of goods and services to fulfill human requirements.
- Saving function shows the functional relationship between savings and income.
- Functional relationship between consumption and income is consumption uncton.
- It can infinity when
 
$$MPS = \text{zero or } MPC = \text{one.}$$
- When consumption = income or  $S = \text{zero.}$
- There is inverse relationship between  $MPC$  and  $MPS$  because sum of  $MPC$  and  $MPS$  is one.  
 $MPC + MPS = 1.$
- Sum of  $APC$  and  $APS$  is always one or there is inverse relationship between  $APC$  and  $APS$ .
- When marginal propensity to consume remains constant.
- $APC = 1.$
- $APC = .7, APS = .3$
- When  $MPC$  is one.

16.  $MPS = 0.25$
17.  $MPS = \text{zero}$ .
18. There is positive relationship between MPC and multiplier.
19. Investment multiplier measures the impact of change in investment on income.
20.  $K = \frac{1}{MPS}$  or  $\frac{1}{1 - MPC}$  or  $\frac{\Delta Y}{\Delta I}$ .
21. Maximum value of MPC can be one, when MPS is zero.
22. There is inverse relationship between multiplier and savings. There is positive relationship between MPC and multiplier.
23. When AD is less than AS at full employment.
24. Yes, when consumption is more than income.
25. Maximum value of multiplier can be  $\rightarrow$  infinity.
26.  $K = \infty$
27. Components of aggregate demand
- (a) private consumption expenditure.
  - (b) Investment expenditure.
  - (c) Govt. consumption expenditure.
  - (d) Net exports.
28. APC falls with continuous increase in income.

## Unit 8

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# MONEY AND BANKING

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### KEY POINTS

**Money** : Money may be defined as anything which is generally acceptable as a medium of exchange and does the function of 'unit of account' and 'measure of value.'

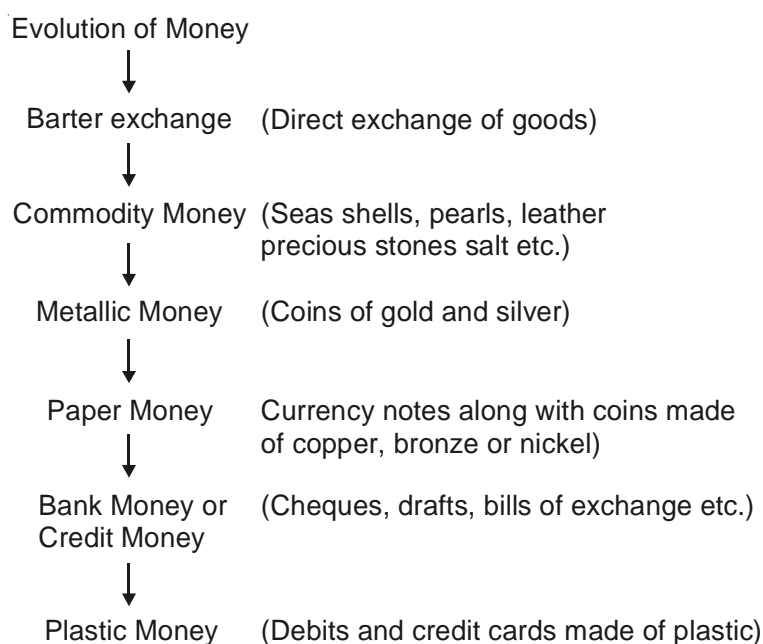
**Barter Exchange** : It is a system of exchange in which transactions are made by exchange of goods. It was in practice before the invention of money.

**Supply of Money** : total stock of money which are held by the public at any particular point of time.

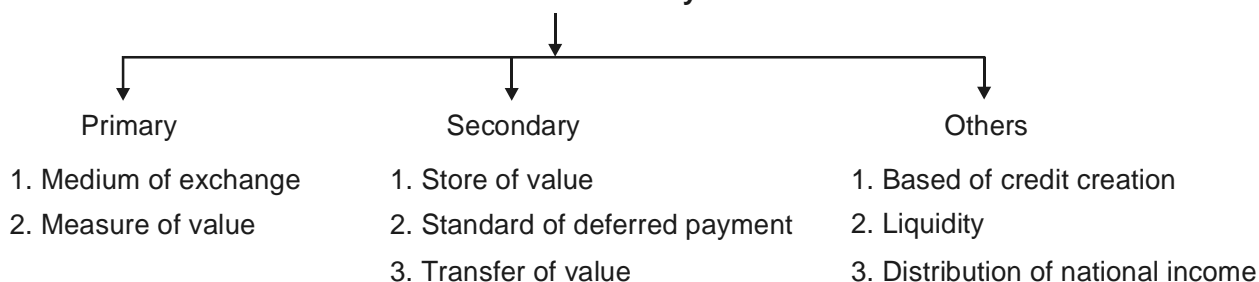
**Commercial Bank** : Commercial bank is a financial institution who accepts deposits from the general public and gives loans for investment.

**Central Bank** : The central bank is the apex institution of monetary and banking system of a country.

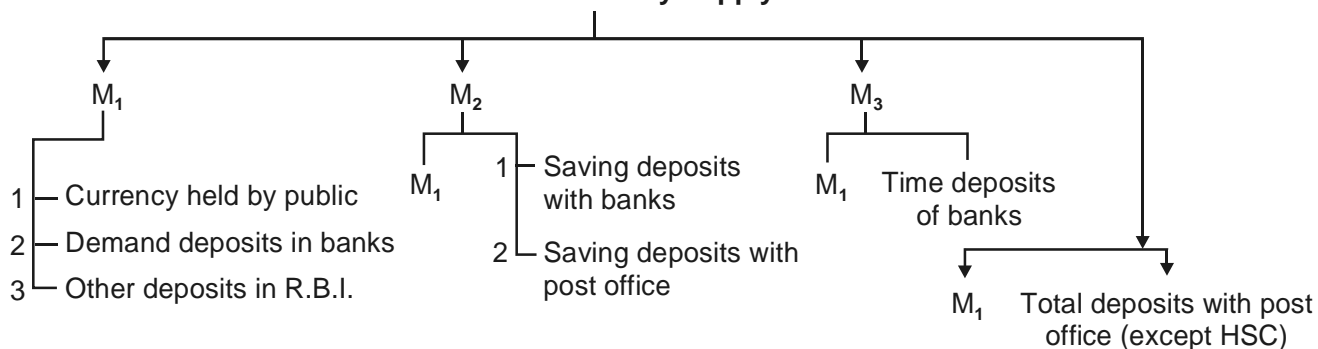
**Factors Affecting Money Supply** : Monetary policy of central bank, fiscal policy of Govt. capacity of credit creation and policy of commercial banks.



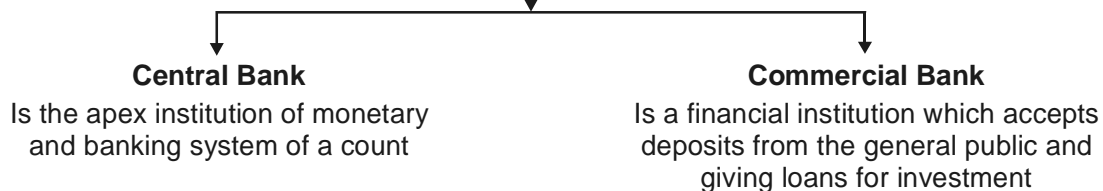
### Functions of Money



### Measures of Money Supply



### Bank

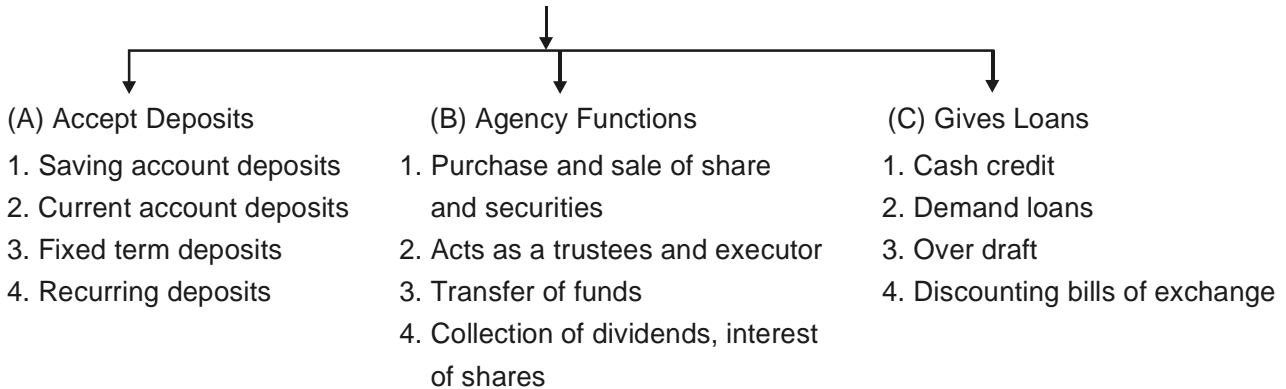


## FUNCTIONS OF BANKS

### Functions of Central Banks

1. Issue of currency.
2. Controller of credit.
3. Banker to govt.
4. Banker's bank.
5. Lender of last resort.
6. Custodian of foreign exchange.

### Functions of Commercial Bank



### 1 MARK QUESTIONS

1. What do you know about barter exchange system.
2. Write any two drawbacks of barter exchange systems.
3. What is overdraft facility?
4. Define money.
5. What is meant by the term money supply?
6. State two primary functions of money.
7. Write any two factors affecting money supply.
8. What do you mean by credit creation?
9. What is credit multiplier?
10. What do you know about rationing of credit?
11. Mainly paper currency is in circulation in modern time, explain why?
12. Write two functions of central bank.
13. Write any two agency functions of commercial banks.
14. What is CRR (cash reserve ratio).
15. What do you mean by statutory liquidity ratio (SLR).
16. What do you mean by marginal requirement of loan.
17. What do you understand by demand deposits by banks.
18. Explain two main component of credit control by central bank.
19. Why paper money is becoming inconvenient now a days.
20. What is metallic money?

21. According to R.B.I. write three components of  $M_1$ .
22. All the finance institutions are not bank. Give reasons.
23. What will be the effect of rise in bank rate on money supply?

### 3 – 4 MARKS QUESTIONS

1. What is barter system? Explain any two problems faced in barter system.
2. Explain three agency functions of commercial banks.
3. State two points of difference b/w central bank and commercial bank.
4. Explain the function of money as “Unit of value.”
5. How does money solve the problem of double coincidence of wants?
6. Explain “store of value’ function of money.
7. Name any three types of deposits accounts of commercial banks and also state one of their distinguishing feature.
8. What are open market operations? What is their effect on availability of credit?
9. Explain any two functions of commercial banks.
10. Explain the ‘lender of last resort’ function of central bank.
11. What is meant by statutory liquidity ratio (SLR). State the effect of rise in rate of SLR on creation of credit.
12. Distinguish between SLR and CRR.
13. Bank money or credit money is the most important form of money in modern time, explain.
14. Explain briefly the evolution of money.
15. Write difference between  $M_1$  and  $M_4$  measures of money supply.
16. Explain ‘Acceptance of deposits’ function of commercial bank.
17. State the role of Central Bank as a banker of the Government.
18. Describe ‘Medium of Exchange’ and ‘Standard of Deffered Payment’ functions of money.
19. ‘Central bank is the banker’s bank and also the supervisor’. Explain.
20. State any four functions of money.
21. Explain ‘Issue of Currency’ and ‘Controller of Credit’ functions of Central Bank.
22. Explain different measures of money supply adopted by R.B.I. in India.
23. How does money solve the problem’s faced in barter system? Explain any two of them.



## ANSWERS OF 1 MARK QUESTIONS

1. It is the system of exchange in which transactions are made by exchange of goods.
2.
  - (i) Lack of double coincidence of wants.
  - (ii) Difficulty in measurement of value.
3. It is a facility to a (customer) depositor for overdrawing the amount more than the balance amount in his account.
4. Anything which is generally acceptable by the people as medium of exchange and also performs the functions of 'Store of Value', measure of value.
5. Total stock of money which are held by the public at a particular point of time in an Economy.
6.
  - (i) Medium of Exchange.
  - (ii) Measure of Value
7.
  - (i) Monetary policy of Central Bank.
  - (ii) Credit creation capacity and policy of commercial banks.
8. Credit creation means power to expand demand deposits of Commercial Banks.
9. Credit multiplier measures, number of times deposits are multiplied as credit.
10. Rationing of credit is a system under which Central Bank of a country fixes the maximum limit of credit creation by Commercial Bank for certain purposes.
11. Due to growth in economic development, the volume of transactions increased so that mainly paper currency is in circulation.
12.
  - (i) Issue of Currency.
  - (ii) Controller of Money and Credit
13.
  - (i) Transfer of funds
  - (ii) Collection of dividends, interest on shares
  - (iii) Acts as Trustees and Executor of property
14. Commercial banks are required under law to keep a certain percentage of their total deposits in the Central Bank in the form of cash reserves. This is called CRR.
15. Every Commercial Bank is required to keep a fixed percentage (ratio) of its assets in cash called liquidity ratio.
16. Marginal requirement of loan means the difference in percentage between the amount of the loan and market value of the security offered by the borrower against the loan.
17. Demand deposits are deposits which can be withdrawn from bank at any time by the account holder.

18. Two components are :
- (i) Quantitative Credit Control
  - (ii) Qualitative Credit Control
19. Because of time involved in its counting and space required for its safe keeping.
20. Commodity money is discarded in favour of coins of gold and silver which is called metallic money.
21.  $M_1 = C + DD + OD$
- C = Currency held with public
  - DD = Demand Deposits of Banks
  - OD = Other deposits with RBI
22. Because all the financial institutions do not facilitate its customers to withdraw their money by cheques which is the main characteristic of a bank.

## Unit 9

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# GOVERNMENT BUDGET AND THE ECONOMY

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### KEY POINTS

- Budget is a financial statement showing the expected receipts and expenditure of Govt. for the coming fiscal or financial year. In India, fiscal year is from 1st April to 31st March.
- Main objectives of budget are :
  - (a) Reallocation of resources
  - (b) Redistribution of income and wealth.
  - (c) Economic stability
  - (d) Management of public enterprises
- There are two components of budget :
  - (a) Revenue Budget
  - (b) Capital Budget
- Revenue Budget consists of revenue receipts of Govt. and expenditure met from such revenues.
- Capital budget consists of capital receipts and payments.
- Revenue receipts :
  - (i) Neither create liabilities for Govt.
  - (ii) Nor causes any reduction in assets.
- Revenue Expenditure :
  - (i) Neither creates assets.
  - (ii) Nor reduces liabilities
- Capital Receipts :
  - (i) Create liabilities, or
  - (ii) Reduces assets
- Capital Expenditure :
  - (i) Creates assets
  - (ii) Reduces liabilities

- Revenue deficit when total revenue expenditure exceeds total revenue receipts

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$$\text{Revenue Deficit} = \text{Total Revenue Expenditure} > \text{Total Revenue Receipts}$$


---

- Implications of Revenue deficit are :
  - It leads to repayment burden in future without investment
  - It shows wasteful expenditure of Govt. on administration
  - It increases the burden of taxes

- Fiscal deficit = When total expenditure exceeds total receipts excluding borrowings

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$$\text{Fiscal Deficit} = \text{Total Expenditure} > \text{Total Receipts Excluding Borrowings}$$


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***Implications of Fiscal Deficit are :***

- It leads to inflationary pressure.
  - A country has to face debt trap.
  - It reduces future growth and development.
- **Primary Deficit** : By deducting interest payments from fiscal deficit we get primary deficit.

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$$\text{Primary Deficit} = \text{Fiscal Deficit} - \text{Interest Payments}$$


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***Implications of Primary Deficit are :***

- It shows future burden originating from past policies.
  - A zero or low primary deficit means that interest commitment on earlier loans have compelled the Govt. to borrow.
  - It indicates how much Govt. borrowing, is going to meet expenses other than interest payments.
- Budgetary Deficit → Total Expenditure exceeds total receipts

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$$\text{Budgetary Deficit} = \text{Total Expenditure} > \text{Total Receipts}$$


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- Deficit Budget → Estimated expenditure exceeds estimated receipts.

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$$\text{Deficit Budget} = \text{Estimated Expenditure} > \text{Estimated Receipts}$$


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### 1 MARK QUESTIONS

1. Define Budget.
2. State objectives of budget.

3. What does revenue budget consist of?
  4. What are revenue receipts?
  5. Give two examples of tax receipts.
  6. Why are tax receipts not capital receipts?
  7. Is disinvestment revenue receipt or capital receipt? Give reasons.
  8. Give one example each of revenue expenditure and capital expenditure.
- H\*9.** What is the main objective of revenue expenditure?
10. What do you mean by taxes?
  11. Define direct and indirect taxes.
  12. Write two drawbacks of deficit budget.
- H\*13.** What is the safe level of fiscal deficit?
14. What do you mean by Balanced Budget?
  15. Define Surplus Budget.
- \*16.** A Govt. budget shows primary deficit of Rs. 4,400 crs. The revenue expenditure as interest payments is Rs. 400 crs. How much is the fiscal deficit?
- \*17.** In a Govt. budget, revenue deficit is Rs. 5,00,000 crs. and borrowings are Rs. 75,000 crs. How much is the fiscal deficit?
18. What does zero primary deficit mean?
  19. In a Govt. budget primary deficit is Rs. 10,000 crs. and interest payments are Rs. 8,000 crs. How much is the fiscal deficit?
  20. What is meant by monetary expansion?
  21. Why is tax receipt a revenue receipt?
- \*22.** What are Budget Receipts?
23. Why Govt. depends on the receipts which lead to increase in liabilities and reduce assets.

### **3 – 4 MARKS QUESTIONS**

1. Why does the Govt. need Budget?
2. Briefly explain the main objectives of Govt. budget?
3. What are the main sources of Govt. receipts? Explain.
4. How are revenue receipts different from capital receipts?
5. Give the relationship between the revenue deficit and the fiscal deficit.

6. What do you mean by Govt. expenditure? In how many parts it can be divided. Show it with the help of a chart.
7. Distinguish between plan expenditure and non-plan expenditure.
8. Define revenue expenditure with example.
9. Distinguish (with the help of example) between capital expenditure and revenue expenditure.
10. What is developmental and non-developmental expenditure? Explain with the help of example.
11. How can a deficit be financed?
12. What is revenue deficit? What are its implications?
13. What is fiscal deficit and how it can be removed?
- \*14. What is the need for fiscal deficit to be minimum? What are its implications?
15. What do you mean by monetary expansion. What are its impacts on the economy?
16. Distinguish between Direct and Indirect Taxes.
17. What is the basis of classifying Govt. expenditure into :
  - (a) Revenue expenditure and capital expenditure
  - (b) Plan expenditure and non-plan expenditure
18. Giving reasons, categorise the following into revenue receipts and capital receipts :
  - (a) Recovery of loans
  - (b) Corporate tax
  - (c) Dividends on investment made by Government.
  - (d) Sale of public sector undertaking.
19. Giving reasons categorise the following into revenue expenditure and capital expenditure.
  - (a) Subsidies
  - (b) Grants given to State Govt.
  - (c) Repayment of loans
  - (d) Construction of school buildings.

### **LONG ANSWER QUESTIONS (6 MARKS)**

1. Distinguish between :
  - (a) Fiscal Deficit and Revenue Deficit
  - (b) Developmental and Non-developmental Expenditure

2. What is fiscal deficit? How deficit can be financed. What are the various problems that arise due to fiscal deficit?
3. Define revenue receipts and capital receipts. What are the various sources of these receipts.
4. What are the various objectives of Govt. budget? Explain the impacts of the budget on the economy.
5. Distinguish between Balanced and Unbalanced Budget. Is balanced budget an achievement of the Govt.?

### **ANSWERS TO 1 MARK QUESTIONS**

1. Budget is a financial statement showing the expected receipts and expenditure of the Govt. for coming fiscal or financial year.
2. Objectives of Budget are :
  - (i) Reallocation of Resources
  - (ii) Redistribution of income and wealth.
  - (iii) Economic Stability
  - (iv) Management of Public Enterprises
3. Revenue budget consist of :
  - (a) Revenue Receipts, and
  - (b) Revenue Expenditure
4. Revenue receipts are those receipts which :
  - (i) neither create liabilities for Govt.
  - (ii) Nor causes any reduction in assets
5. Income tax, corporate tax
6. Tax receipts are not capital receipts because it neither creates liabilities nor reduces assets.
7. Capital receipts. Because it reduces Govt. assets.
8. Example of Revenue Expenditure : Interest payments.  
Example of Capital Expenditure : Loans to public.
9. Main objective of Revenue Expenditure is to increase economic and social welfare and to fulfill developmental objectives.
10. Taxes are the compulsory payments against which monetary benefit cannot be expected.
11. Direct taxes are the taxes which are borne and paid by the same person.  
Indirect taxes are the taxes for which liability to pay is on one person but paid by other person.

12. Drawbacks of Deficit Budget :
  - (a) Increase in money supply
  - (b) Decrease in value of money.
13. The safe level of fiscal deficit is considered to be 5% of G.D.P.
14. Balanced Budget is that when estimated receipts are equal to estimated expenditure.
15. Surplus Budget is that when estimated receipts are more than estimated expenditure.
16. Fiscal Deficit = Primary Deficit + Interest Payments
$$= 4,400 \text{ crs.} + 400 \text{ crs.}$$
$$= 4,800 \text{ crs.}$$
17. Rs. 75,000 crores.
18. Zero deficit means that interest commitment on earlier loans have compelled the Govt. to borrow.
19. Rs. 18,000 crores.
20. Monetary expansion means printing money to the extent of deficit.
21. Tax receipt is a revenue receipt because it neither creates liabilities nor reduces assets.
22. Estimated money receipts received by the Govt. from different sources in an accounting year are called Govt. or budgetary receipts. It is the sum total of revenue receipts and capital receipts.
23. When Govt's current income is not enough to meet total expenditure of the Govt., then Govt. is compelled to rely on these receipts which create liabilities for the Govt.



## Unit 10

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# BALANCE OF PAYMENT

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- Foreign Exchange refers to all currencies other than the domestic currency of a given country.
- The price of one currency in term of the other is known as the exchange rate. In other words the rate at which currency of one country can be exchanged for currency of another country is called the rate of foreign exchange.
- The epitome of the fixed exchange rate system was the gold standard in which each participant country committed itself to covert freely its currency into gold at a fixed price.
- In a system of flexible exchange rate (also known as floating exchange rates), the exchange rate is determined by the forces of market demand and supply of foreign exchange.
- Sources of Demand for Foreign Exchange :
  - (a) To purchase goods and services from the rest of world.
  - (b) To purchase financial assets (*i.e.*, to invest in bonds and equity shares) in a foreign country.
  - (c) To invest directly in shops, factories, buildings in foreign countries.
  - (d) To send gifts and grants to abroad.
  - (e) To speculate on the value of foreign currency.
  - (f) To undertake foreign tours.
- Sources of Supply of Foreign Exchange
  - (a) Foreigners purchasing domestic country's goods and services.
  - (b) Foreign investment in the domestic economy.
  - (c) Remittances by non-residents living abroad.
  - (d) Flow of foreign exchange due to speculative purchases by N.R.I.
  - (e) Exports of goods and services.
- In currency depreciation, there is a fall in the value of domestic currency in term of foreign currency. In currency appreciation, there is a rise in the value of domestic currency in term of foreign currency.
- Equilibrium flexible exchange rate is determined at a level where demand for and supply of foreign exchange are equal to each other.
- Merits of Flexible Exchange Rate :
  - (i) No need to hold foreign exchange reserves

- (ii) Leads to automatic adjustment in the 'balance of payments'.
- (iii) To increase the efficiency in the economy by achieving optimum resources allocation.
- Demerits of Flexible Exchange Rate :
  - (i) Fluctuations in future exchange rate.
  - (ii) Encourages speculation.
  - (iii) Discourages international trade and investment.
- Merits of fixed exchange rate :
  - (i) Stability in exchange rate
  - (ii) Promotes capital movement and international trade.
  - (iii) No scope for speculation.
- Demerits of fixed exchange rate
  - (i) Need to hold foreign exchange reserves.
  - (ii) No automatic adjustment in the 'Balance of payments.'
  - (iii) Enhances dependence on external sources.
- The balance of payment is annual record of the transactions in goods, services and assets between residents of a country with the rest of the world. There are two main accounts in balance of payment :
  - (i) Current account.
  - (ii) Capital account.
- The current account records exports and imports of goods and services and transfer payments.
- The capital account records all international purchases and sales of assets such as money-stock bonds etc.
- A country that has a deficit in its current account must finance it by selling assets or by borrowing from abroad. Thus any current account deficit is of necessity is to be financed by a net capital inflow.

### **ONE MARK QUESTIONS**

1. Define Foreign Exchange?
2. What is meant by Foreign Exchange Rate?
3. What do you mean by Foreign Exchange Market?
4. Define Fixed Exchange Rate?

5. Define Flexible Exchange Rate?
6. How is equilibrium of Flexible Exchange Rate determined?
7. What is the source of information of economic stability in the economy?
8. Name the forces which determine Flexible Exchange Rate?
9. State two merits of Flexible Exchange Rate?
10. State two demerits of Fixed Exchange Rate?
11. What is the slope of demand curve of Foreign Exchange like?
12. What do you mean by appreciation of currency?
13. Define devaluation of currency?
14. What is meant by depreciation of currency?
15. State any one reason for volatility in exchange rate?
16. Name any two functions of Foreign Exchange Market?
17. What is the slope of supply curve of foreign exchange?
18. Why does demand curve of foreign exchange slopes downward to the right?
19. Why does a rise in foreign exchange rate causes a rise in its supply of foreign exchange?
20. Why does a rise in foreign exchange rate causes a fall in its demand?
21. What will be the effect on export, if foreign exchange rate increases?
22. What is meant by demand of foreign exchange for speculation?
23. What is hedging?
24. What does a change from \$ 4 = £ 1 to \$ 2 = £ 1 show?
25. The balance of trade shows a deficit of Rs. 300 crores. The value of exports is Rs. 500 crores. What is the value of imports?
26. The balance of trade shows a deficit of Rs. 5000 crores and value of imports are Rs. 9000 crores. What is the value of exports?
27. When is there a deficit in the balance of trade?
28. Which two transactions determine balance of trade?
29. What is Balance of Trade?
30. What is meant by BOP account?
31. A country's balance of trade is Rs. 100 crores and value of exports of goods is Rs. 175 crores. Find out value of imports of goods?

32. When does BOT shows a deficit?
33. When will balance of trade show a surplus?
34. What is balance of visible items in balance of payment accounts called?
35. What does balance of payment account record?
36. Give meaning of balance of payments.
37. List the items included in the balance of Trade Account.
38. List two items of the capital account of balance of payments.
39. What is the difference between the value of exports of goods and imports of goods called?
40. What do you mean by visible items?
41. Give two examples of visible items.
42. What is meant by invisible items?
43. Give two examples of invisible items.
44. Name two main accounts of Balance of Payments?
45. What is meant by unilateral (unrequited) transfers?
46. Give any two examples of unilateral transfers.
47. What is meant by autonomous transactions?
48. What do you mean by accommodating transactions?
49. What is meant by current account of Balance of Payment?
50. What is meant by capital account of Balance of Payment?

### **3 MARKS QUESTIONS**

51. Define foreign exchange rate. Explain it with the help of an example.
52. Distinguish between foreign exchange and foreign exchange rate?
53. What is meant by foreign exchange market? Explain its main functions.
54. State the merits of fixed exchange rate?
55. Explain briefly demerits of fixed exchange rate.
56. State the merits of flexible exchange rate.
57. Explain briefly demerits of flexible exchange rate.
58. Explain sources of demand for foreign exchange.

59. State sources of supply of foreign exchange.
60. Explain determination of flexible exchange rate with the help of diagram.
61. Why does a rise in exchange rate cause a rise in its supply? Explain with help of an example.
62. Define foreign exchange rate. Give three reasons why people desire to have foreign exchange?
63. What will be the effect on following if there is rise or fall in foreign exchange rate :  
(i) Demand of Foreign Exchange? (ii) Supply of Foreign Exchange?
64. What is meant by demand of foreign exchange for speculation? Explain with the help of an example.
65. Define foreign exchange rate. Why does the demand for foreign exchange rise when its price falls?
66. Higher the foreign exchange rate lower the demand for foreign exchange. Explain why?
67. Explain the impact on imports due to change in foreign exchange rate.
68. Explain the impact on exports when there is rise of fall in foreign exchange rate.
69. Define Balance of Payment? Explain briefly characteristic of BOP.
70. Distinguish between current account and capital account of Balance of Payment.
71. Explain components of current account of Balance of Payment.
72. Explain components of capital account of Balance of Payment.
73. How deficit in BOP can be financed?
74. Distinguish between positive balance of trade and negative balance of trade?
75. "Balance of Payment always balances." Explain it.
76. Explain major causes for disequilibrium in the Balance of Payment.
77. Give difference between the autonomous and accommodating items included in BOP.
78. What is meant by visible and invisible items in the Balance of Payment accounts? Give two examples of invisible items.

### **6 MARKS QUESTIONS**

79. Distinguish between fixed exchange rate and flexible exchange rate.
80. What do you mean by foreign exchange and foreign exchange rate? Explain foreign exchange rate with the help of examples.
81. What is meant by flexible exchange rate? Explain how foreign exchange rate is determined in foreign exchanges market. Use diagram.

82. Explain merits and demerits of flexible exchange rate.
83. What is meant by fixed exchange rate? Explain merits and demerits of fixed exchange rate.
84. What will be the impact on export and import if there is change in foreign exchange rate?
85. Balance of Payment is more extensive or broader in comparison to Balance of Trade. How?
86. State the components of current account and capital account of Balance of Payment?
87. Should a current account deficit be a cause for alarm? Explain.

## **ANSWERS**

1. Foreign exchange refers to all currencies other than the domestic currency of a given country.
2. The rate at which the currency of one country can be exchanged for the currency of another country is called the rate of foreign exchange.
3. Foreign exchange market is a process in which foreign currencies are bought and sold.
4. Fixed exchange rate is the rate which is officially fixed (or pegged) in terms of gold or any other currency by the government and adjusted only infrequently.
5. Flexible exchange rate is determined by the demand for and supply of a given currency in the foreign exchange market.
6. Equilibrium in the foreign exchange market occurs by the interaction of the forces of demand and supply of foreign exchange.
7. Foreign exchange rate.
8. Market demand and market supply of foreign exchange.
9.
  - (i) No need to hold foreign exchange reserves.
  - (ii) Optimum resource allocation.
10.
  - (i) Need huge international reserves.
  - (ii) Discourages the movement of capital in the international market.
11. The demand curve for foreign exchange is negatively sloped.
12. Appreciation of a currency is a rise in the value of the domestic currency in terms of foreign currency.
13. The decrease in the price of the domestic currency under a pegged exchange rate through official action is called devaluation.
14. A decrease in the price of the domestic currency in terms of the foreign currency under floating exchange rates corresponds to an increase in the exchange rate.
15.
  - (i) Growth of the international financial market or
  - (ii) Growth of information technology or

- (iii) Growing speculative activities.
16. (i) International transfer of foreign currency.  
(ii) Provides credit for foreign trade.
  17. Supply curve of foreign exchange is upward sloping.
  18. Because there is inverse relation between foreign exchange rate and demand for foreign exchange.
  19. Because Indian goods have become cheaper for foreigners so export will increase.
  20. Because foreign goods have become costlier for Indians so import will decrease.
  21. Export will increase.
  22. Demand of foreign exchange for speculation means to hold international currencies with a view to making speculative gains.
  23. Hedging means covering an exchange risk. It is done by forward foreign exchange transaction, through the banks.
  24. It shows appreciation of \$ (dollar) and depreciation of £ (pound).
  25. Value of import = 800 crores.  
 $500 \text{ (exports)} + 300 \text{ (deficit)} = 800 \text{ crores.}$
  26. Value of exports = 4000 crores.  
 $9000 \text{ (imports)} - 5000 \text{ (deficit)} = 4000 \text{ crores.}$
  27. If value of imports is more than value of exports.
  28. Exports and imports of visible items like wheat, rice sugar etc.
  29. Balance of trade means the difference between value of export and import of visible items.
  30. A balance of payment is a statement of double entry system of all economic transactions between residents of a country and the residents of foreign countries during a given period of time.
  31. BOT = value of export – value of import  
 $100 = 175 - \text{value of import}$   
Value of imports =  $175 - 100 = 75$  crores.
  32. When value of import is more than value of export during a year.
  33. When value of exports is more than value of imports during a year.
  34. Balance of trade.
  35. BOP account records a country transactions with the rest of the world during a given period.

36. BOP is the difference between a nation's total payments to foreign countries and its total receipts from them.
37. Import and export of all visible goods.
38.
  - (i) Foreign investment.
  - (ii) Loans
39. Balance of trade.
40. Visible items which include all types of physical goods exported and imported. These are seen crossing the borders.
41. Visible items like watches, petrol, cloths etc.
42. Invisible items which include all types of services exported and imported. These are not seen crossing the borders.
43. Shipping, banking, insurance, tourism etc.
44.
  - (i) Current account.
  - (ii) Capital account.
45. Gifts, remittances, indemnities etc. from foreigners are called unrequited or unilateral transfers because residents of a country receive 'for free.' Nothing has to be paid for unilateral transfer.
46.
  - (i) Gifts
  - (ii) Remittances.
47. Autonomous items refer to international economic transactions in the current and capital account that are undertaken for profit.
48. Accommodating items refer to all transactions that occur because of other activity in the BOP, such as government financing.
49. Current account is that account which records imports and exports of goods, services and unilateral transfers.
50. Capital account records capital transfer such as loans and investment between one country and the rest of the world which causes a change in the asset or liability status of the residents of a country or its government.



## Question paper Set - I

# ECONOMICS

वर्ष 2017-18

Time : 3 hours

Maximum Marks : 100

कुल अंक : 100

समय : 3 घण्टे

### General Instructions :

- (i) All questions in both the sections are compulsory.
- (ii) Marks for questions are indicated against each.
- (iii) Questions Nos. 1 to 5 and 17 to 21 are very short answer questions carrying one mark each. They are required to be answered in one sentence each.
- (iv) Questions Nos. 6 to 10 and 22 to 26 are short answer questions carrying three marks each. Answer to them should not normally exceed 60 words each.
- (v) Question Nos. 11 to 13 and 27 to 29 are also short answer questions carrying four marks each. Answer to them should not normally exceed 70 words each.
- (vi) Question Nos. 14 to 16 and 30 to 32 are long answer questions carrying six marks each. Answer to them should not normally exceed 100 words each.
- (vii) Answer should be brief and to the point and the above word limit be adhered to as far as possible.

### SECTION 'A'

1. What is meant by scarcity of resources?
2. Define market demand.
3. What will be the price elasticity of demand at mid point of straight line demand curve?
4. In which competitive market, demand of a commodity is more than unit elastic?
5. What will be the elasticity of supply on supply curve making an angle of  $75^\circ$  passing through origin?
6. What change in total revenue will result in
  - (i) a decrease in marginal revenue.
  - (ii) Constant marginal revenue.
7. Explain the relation between total utility and marginal utility.

8. Complete the table given below :

<i>Unit of output</i>	<i>AVC (Rs.)</i>	<i>TC (Rs.)</i>	<i>MC (RS.)</i>
1	20	80	–
2	15	–	–
3	20	–	–
4	31	–	–

**Or**

<i>Output</i>	<i>TVC</i>	<i>AVC</i>	<i>MC</i>
1	–	12	–
2	20	–	–
–	–	10	10
4	40	–	–

9. Why is production possibility curve negatively sloped. Explain with diagram.
10. Distinguish between perfect and imperfect market on the basis of following criterion :
- Type of commodity.
  - Price determination.
  - Number of buyers and sellers.
11. A consumer buys 40 units of a commodity at a price of Rs. 3 per unit. When a price of a commodity rises to Rs. 4. per unit, he incurs an expenditure of Rs. 120 calculate price elasticity of demand by outlay method.
12. Explain the effect of change in income of buyers on the demand of a good.

**Or**

Explain the main determinants of elasticity of demand of a commodity.

13. Marginal cost curve cuts the average variable cost curve and average total cost curve at their minimum points. Discuss with the help of diagram.
14. Explain the law of returns to a factor with the help of numerical example and diagram.
15. Differentiate between change in supply and change in quantity supplied with the help of a diagram.

**Or**

Explain any four determinants of supply.

16. Explain with diagram the situation when there is increase in equilibrium price due to simultaneous change in demand and supply.

## SECTION 'B'

17. What can be the minimum and maximum value of multiplier?
18. What do you mean by involuntary unemployment.
19. Under what condition does the Central Bank reduce (C.R.R.) cash reserve ratio?
20. What is meant by marginal requirement of loans.
21. What is meant by fiscal deficit?
22. What is meant by balance of trade? Write two examples of visible items included in it.
23. Explain any three objectives of govt. budget.
24. Write any three agency functions of commercial banks.

**Or**

What is meant by bank rate? How does it affect credit creation?

25. How does money as a medium of exchange solve the problem of double coincidence of wants?
26. Calculate net value added at market price from the following data :

	<i>Rs. Crores</i>
(i) Consumption of fixed capital	5
(ii) Sales	100
(iii) Opening stock	20
(iv) Intermediate consumption	70
(v) Excise duty	10
(vi) Change in stock	(-) 10

27. Explain income and employment determination by saving-investment approach.

**Or**

Explain the concept of deflationary gap with the help of a diagram.

28. Distinguish
  - (i) Plan expenditure and non-plan expenditure.
  - (ii) Development expenditure and non-development expenditure.
29. Describe the effect of increase in foreign exchange rate on exports and imports.
30. Explain the concept of excess demand with the help of a diagram and given any two fiscal measures to solve this problem.

Or

Explain deficient demand with the help of a diagram and give any two monetary measures to solve this problem.

31. Calculate

- (i) Private income
- (ii) Personal disposable income

(Rs. crores)

(i) Net domestic product at factor cost accruing to private sector.	8000
(ii) Net factor income from abroad.	700
(iii) Current transfers from abroad.	1200
(iv) Current transfers from govt.	400
(v) National debt interest.	300
(vi) Direct taxes paid by individuals.	250
(vii) Miscellaneous receipts of Govt.	150
(viii) Private corporate tax.	350
(ix) Cooperate savings.	250

32. Giving reasons explain why the following are not included while estimating national income.

- (a) Profits earned by a branch of foreign bank situated at Hyderabad.
- (b) Money sent to family members in Indian by non-resident Indian.
- (c) Salary earned by an American working in Indian embassy.
- (d) Salary of foreign doctor working in Indian hospital.

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# MARKING SCHEME

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## SET – I

1. Scarcity of resources is that situation in which demand of a factor is more than its supply. 1
2. Market demand is the sum of individual demand in a market at different prices over a given period of time. 1
3. Unit elastic 1
4. Monopolistic competition. 1
5. Unit elastic 1
6. (i) Total revenue will increase at diminishing rate.  $1\frac{1}{2} \times 2$   
(ii) total revenue increases at constant rate.
7. (i) So long as MU falls but is positive TU increases.  
(ii) When MU is zero, TU is maximum.  
(iii) When MU becomes negative, TU falls. 1 × 3

8.

<i>TQ</i>	<i>AVC</i>	<i>TC</i>	<i>MC</i>
1	20	80	20
2	15	90	10
3	20	120	30

$\frac{1}{2} \times 6$

Or

<i>TQ</i>	<i>TVC</i>	<i>AVC</i>	<i>MC</i>
1	12	12	12
2	20	10	8
3	30	10	10

$\frac{1}{2} \times 6$

9. Diagram. To produce more of one good, other goods have to be sacrificed as there are limited resources.  $1\frac{1}{2}$  marks for curve  
( $1\frac{1}{2}$  mark for reason)

10.

<i>Basis</i>	<i>Perfect competition</i>	<i>Monopolistic competition</i>
(a) Nature of the good	Identical	Differentiated
(b) Price determination	Price determination is done by an Industry by the forces of demand and supply.	On the basis determined by other firms.
(c) No. of buyers and sellers.	Very large number	Large number

$\frac{1}{2} \times 6$

11.

<i>Price</i>	<i>Demand</i>	<i>Total Expenditure</i>
3	40	120
4	30	120

$1\frac{1}{2} \times 2$

Total expenditure remains same or does not change due to increase in price of the good. Therefore, demand is unit elastic.  $1 \times 1$

12. Income effect is negative in case of inferior goods. With increase in income, demand for inferior goods will fall and vice versa. Income effect is positive in case of Normal good. With increase in income, demand for normal goods also rises and vice versa.  $2 \times 2$

**Or**

- (i) Nature of the product.
  - (ii) Taste, preference of the consumer.
  - (iii) Availability of substitutes.
  - (iv) Alternative uses of the good.
  - (v) Portion of income spend on the good.  $\frac{1}{2} \times 4$  for point,  $\frac{1}{2} \times 4$  for explanation
13. Marginal cost intersects average total cost and average variable cost at their minimum point – to be explained with diagram. 2 marks for curve, 2 marks for explanation
14. Law of Returns to a factor – During short period by increasing units of one variable factor, keeping other factors to be constant, following changes will occur in production :
- (i) So long as MPP rises, TPP increases at increasing rate.
  - (ii) What MPP falls but is positive, TPP increases at diminishing rate.
  - (iii) When MPP becomes zero, TPP reaches to maximum.
  - (iv) When MPP becomes negative, TPP starts following.

1 mark for explanation of law  
2 marks for table, 1× 3 mark for each stage.

15.

<i>Change in Quantity Supplied</i>	<i>Change in Supply</i>
(i) Change in quantity supplied due to change in its own price of the good.	Change in supply is due to change in factors other than price of the good.
(ii) In this situation other factors remain constant.	In this situation price of the good remains constant.
(iii) Producer moves upwards or downwards on the same demand curve.	Producer shifts rightward or leftwards to a new supply curve.
(iv) Law of supply is applicable.	Law of supply is not applicable.
(v) This is also known as movement along the supply curve.	This is also known as shift in supply curve.
(vi) Diagram	Diagram.

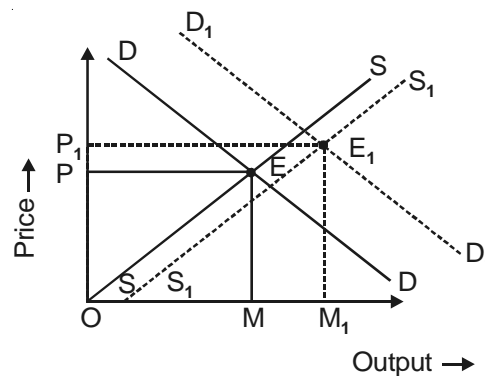
1×6

Or

- (i) Price of the product.
- (ii) Change in technology.
- (iii) Tax policy of the govt.
- (iv) Change in price of inputs.
- (v) Good of the firm.
- (vi) Expectation of change in price in future.

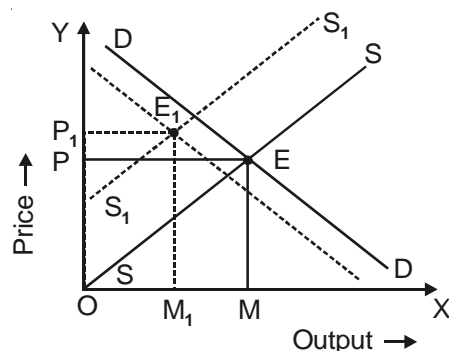
½ mark for mentioning the four points.  
1 mark for brief explanation of four points

16. (i) When increase in demand is more than increase in supply. ( $\uparrow DD > \uparrow SS$ )



2 marks for diagram, with brief explanation

- (ii) When decrease in supply is more than decrease in demand. ( $\uparrow SS > \downarrow DD$ ).



1 marks for condition, 2 mark of diagram with brief explanation.

### PART B

- |   |                     |
|---|---------------------|
| 17. One or infinity   | 1                   |
| 18. When a person is able and willing to work at given wage rate but do not get work.   | 1                   |
| 19. Under deflationary conditions.  | 1                   |
| 20. It is the difference between the current value of security offered for loans and the value of loans granted.              | 1                   |
| 21. It is the excess of total expenditure over total receipts excluding borrowings.   | 1                   |
| 22. It is the difference between exports and imports of visible goods annually. Examples of visible goods → cloths, diamonds. | 2 marks for example |
| 23. (i) Allocation of resources.  |                     |
| (ii) Economic stability.  |                     |
| (iii) Redistribution of resources (income and wealth).  |                     |
| (iv) Management of public enterprises.  | 1 × 3               |
| 24. (i) Collection and payment of various items.  |                     |
| (ii) Purchase and sale of securities.   |                     |
| (iii) Purchase and sale of foreign exchange.  |                     |
| (iv) Trustee and executor.  | 1 × 3               |

Or

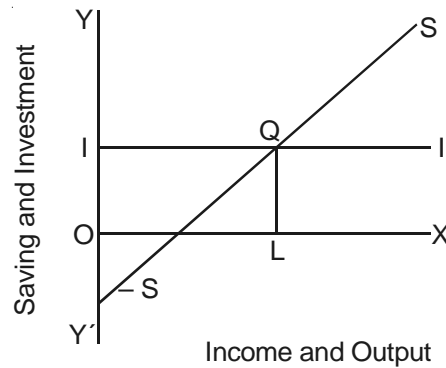
Bank rate is that minimum rate of interest at which central bank lends loans to commercial banks. With increase in bank rate, interest rate also increases. As a result demand for loans reduces and vice versa. 1 mark for meaning, 2 mark for effect on credit creation.

- |  |   |
|--|---|
| 25. Money has the quality of general acceptability and it is the unit of value. So it solves all the problems of exchange. | 3 |
|--|---|



26. Net value added at market price =  $100 + (-10) - 70 - 5 = 15$  crore Rs. 3

27. According to Keynes at equilibrium level of income and output planned savings are equal to planned investment as shown by the diagram below. 1 mark for correct meaning.



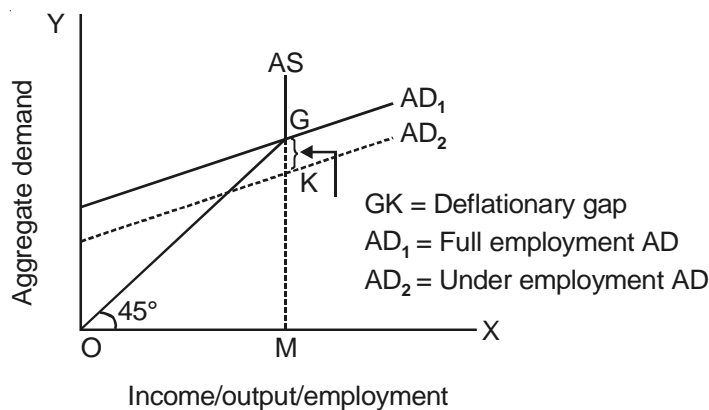
2 marks for diagram 1 mark for explanations of diagram.

In the diagram equilibrium level of national income is OL where planned saving is equal to planned investment.

**Or**

It aggregate demand in country is less than aggregate demand which is required for full employment, difference between the two is called deflationary gap as shown in the diagram given below :

(1 mark for correct meaning, 2 marks for diagram, 1 mark for explanation of diagram)

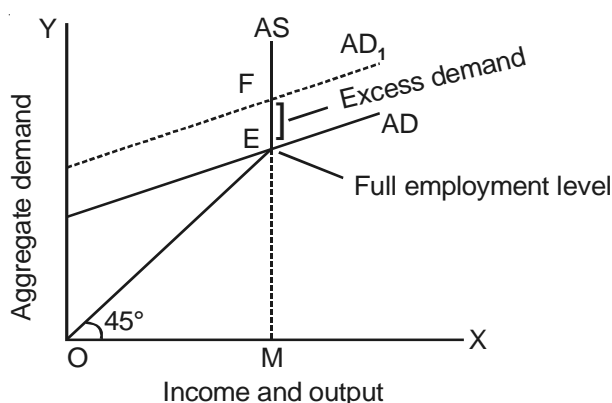


In the diagram AD<sub>1</sub> is full employment aggregate demand curve and AD<sub>2</sub> is under employment aggregate demand curve. Difference between the two 'GK' is deflationary gap.

28. (i) Planned expenditure is the expenditure incurred by the govt on planned development programme e.g. expenditure increased by the govt on digging canals for irrigation whereas non planned expenditure is that expenditure which is not incurred under planned development programmes e.g. Expenditure for the help of earthquake victims. (2 marks for explanation)
- (ii) Development expenditure is that expenditure which is incurred for the economic development of the country and contributes directly to the flow of goods in the economy

e.g. expenditure incurred on the expansion of public enterprises. On the contrary non development expenditure is that expenditure which is not related to development programmes of the country and do not contribute directly in the flow of goods e.g. expenditure on defence. 2 marks for explanation

29. (i) Impact on imports : As a result of increase in foreign exchange rate, importers will have to pay higher prices for imports. So imports will decline.
- (ii) Impact on export : As a result of increase in foreign exchange rate domestic goods and services will be comparatively cheaper and demand of exports will increase. 2
30. Excess demand refers to a situation in which aggregate demand is greater than aggregate supply at full employment level.



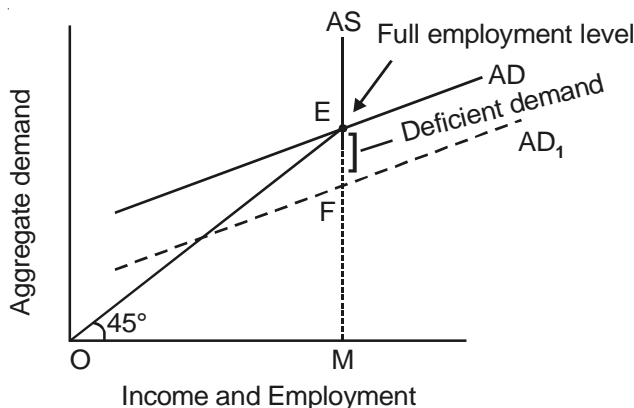
1 mark for meaning, 3 marks of correct diagram for brief explanation 1 x 2 for each point

Fiscal measures.

- (i) Increase in taxation.
- (ii) Decrease in public expenditure.
- (iii) Increase in public loans.

Or

Deficient demand refers to a situation in which aggregate demand falls short of aggregate supply at for full employment level.



1 mark for meaning 3 marks for correct diagram and explanation 1 x 2 for each point.

Monetary Measures :

1. Decrease in bank rate.
  2. Purchase of securities.
  3. Decrease in SLR.
31. (i) Private income :  $8000 + 700 + 400 + 1200 + 300 = 10600$  Cr. Rs.  
(ii) Personal disposable income :  $10600 - (350 + 250 + 250 + 150) = 9600$  Cr. Rs.(3+3)
32. (a) Because it is earned by a foreign institution. So it is factor income paid abroad and will be deducted from factor income received from abroad.  
(b) Because it is transfer payment.  
(c) Because it is factor payment to abroad for their services. So it will be deducted from factor income received from abroad.  
(d) Because only factor income earned by normal residents is included in national income.  
1½ for correct answer with reason

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## SET - II

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Time : 3 hours

Maximum Marks : 100

fu/kr le; % 3 ?kVs

vf/kdre val % 100

**General Instructions :**

- (i) All questions in both the sections are compulsory.
- (ii) Marks for questions are indicated against each.
- (iii) Question Nos. 1 to 5 and 17 to 21 are very short answer questions carrying one mark each. They are required to be answered in one sentence each.
- (iv) Question Nos. 6 to 10 and 22 to 26 are short answer questions carrying three marks each. Answer to them should not normally exceed 60 words each.
- (v) Question Nos. 11 to 13 and 27 to 29 are also short answer questions carrying four marks each. Answer to them should not normally exceed 70 words each.
- (vi) Question Nos. 14 to 16 and 30 32 are long answer questions carrying six marks each. Answer to them should not normally exceed 100 words each.
- (vii) Answer should be brief and to the point and the above word limit be adhered to as far as possible.

### SECTION A

1. What is meant by marginal rate of transformation.
2. When is a good called an inferior good?
3. What will be the elasticity of demand of a commodity whose substitute is available in the market.
4. What is the effect on the supply curve of a firm with rise in the price of its input.
5. Which market has 'product differentiation' a characteristic feature.
6. How will the following situations affect equilibrium price?
  - (a) Increase in demand is more than increase in supply.
  - (b) decrease in supply and demand is unit elastic.
7. Why production possibility curve is concave to the origin? Explain with diagram.
8. Discuss consumer's equilibrium with reference to one commodity.
9. In monopolistic competition, marginal revenue is less than average revenue. Why? Explain.

Or

What is shut down point of production for a firm? Explain with diagram.

10. Units of output	1	2	3	4
MC	80	60	52	48

If AFC of 2nd unit is 40, calculate AVC and AC.

11. 1000 units of a commodity are demanded at a price of Rs. 50 per unit. If price falls by 10% the demand becomes 1080. Find price elasticity of demand. Is its demand elastic? Give reasons for your answer.
12. How does change in price of a commodity affect the demand for its related good?

**Or**

When does a consumer buy more of a commodity at a given price?

13. Explain the increasing returns of a factor with the help of total physical output schedule.
14. At a given price, there is excess demand. Is it equilibrium price? If not how will equilibrium price be determined?
15. Explain three reasons each for increase in supply and decrease in supply.

**OR**

Explain the factors affecting elasticity of supply.

16. Explain returns to scale using numerical examples. Give reasons.

## SECTION B

17. What can be the maximum value of marginal propensity to consume.
18. Define voluntary unemployment.
19. Complete the equation  $M_1 =$
20. What is meant by cash reserve ratio?
21. Define fiscal deficit.
22. How does central bank control availability of credit through open market operations.

**Or**

Explain the 'acceptance of deposits' function of commercial banks.

23. Explain 'standard of deferred payment function of money.'
24. Name three items each of current account and capital account of balance of payment.
25. Explain three economic effects of fiscal deficit on the economy.

26. Calculate private income from the following data :

	<i>(Rs. crore)</i>
(i) National debt interest	30
(ii) Gross national product at market price	400
(iii) Current transfer from govt.	20
(iv) Net indirect taxes.	40
(v) Net current transfers from the rest of the world	(-)10
(vi) Net domestic product at factor cost accruing to govt.	50
(vii) Consumption of fixed capital.	70

27. State two advantages and two disadvantage of deficit budget.

28. Explain the affect on export and import of decrease in foreign exchange rate.

29. Explain determination of equilibrium level of income and employment using aggregate demand and aggregate supply approach.

**Or**

Explain inflationary gap with the help of a diagram.

30. Explain deficit demand with the help of a diagram. Discuss any two monetary measures to solve this problem.

**Or**

Explain the problem of excess demand in economy with the help of a diagram. Explain the role of bank rate in correcting it.

31. Calculate the following :

(a) National income by output method.

(b) Gross national product at factor cost by income method.

(i) Net value of output at market price

Primary sector	1500 Cr. Rs.
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Secondary sector	8000
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Tertiary sector	6000
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(ii) Consumption of fixed capital	1000
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(iii) Excise duty	1700
-------------------	------

(iv) Sales tax	1300
----------------	------

(v) Govt. grants	1500
(vi) Value of intermediate consumption	
Primary sector	6000
Secondary sector	4000
Tertiary sector	2000
(vii) Income from property and entrepreneurship.	4000
(viii) Mixed income of self employed persons.	6500
(ix) Compensation of employees.	5000
(x) Employee's contribution to social security.	2000
(xi) Net factor income from abroad.	(-) 2000

32. Why are the following items included in national income?

- (a) Interest received from commercial bank situated in Delhi.
- (b) Salary received by Indian working in Pakistan Embassy.
- (c) Direct purchase made by foreigners in Indian market.
- (d) Salary of Indian pilot working in German Airlines.