

CRPF PUBLIC SCHOOL, ROHINI

First Intra School Mathematics Olympiad 2010

CLASS X

Max. Marks: 60

Time: 1 hour 30 minutes

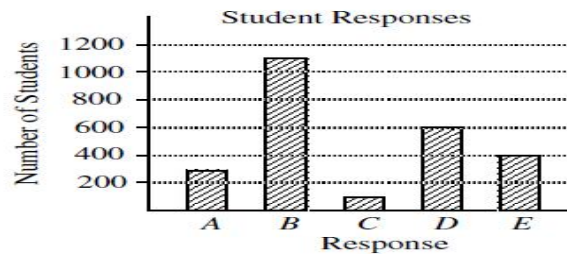
General Instructions:

1. Each question of Section A (Q1-5) carries 2 marks, that of Section B (Q6-15) carries 3 marks and of Section C (Q16-20) carries 4 marks.
2. Each question has five choices (A, B, C, D or E). Select the correct answer to each question and darken the corresponding circle in the Answer Sheet provided to you. For each correct answer in section A, B and C, two, three and four marks will be awarded respectively. **One mark will be deducted for each incorrect answer (of all the sections), while no mark will be deducted for any unattempted question.** Darkening of more than one circle for any answer shall bear zero mark.
3. Darken the correct circle with HB Pencil ONLY.
4. Do not make any stray marks on the answer sheet and do not use it for any kind of Rough Work.

SECTION - A

Q1. The graph shows the number of students who selected each of five possible choices in responding to a question. The correct response was the one most frequently chosen. The percentage of students who selected the correct response was

- (A) 14 (B) 56 (C) 50
(D) 11 (E) 44



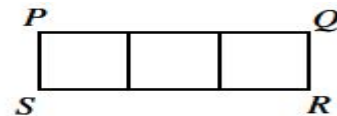
Q2. If $\frac{1}{2} + \frac{2}{3} + \frac{3}{4} + \frac{n}{12} = 2$, then the value of n is:

- (A) -4 (B) 13 (C) 18 (D) 4 (E) 1

Q3.

In the diagram, rectangle $PQRS$ is divided into three identical squares. If $PQRS$ has perimeter 120 cm, what is its area, in cm^2 ?

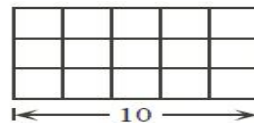
- (A) 225 (B) 675 (C) 360
(D) 432 (E) 144



Q4.

In the diagram, the rectangular wire grid contains 15 identical squares. The length of the rectangular grid is 10. What is the length of wire needed to construct the grid?

- (A) 60 (B) 70 (C) 120
(D) 66 (E) 76



SECTION - C

Q16.

Twelve 1 by 1 squares form a rectangle, as shown. What is the total area of the shaded regions?

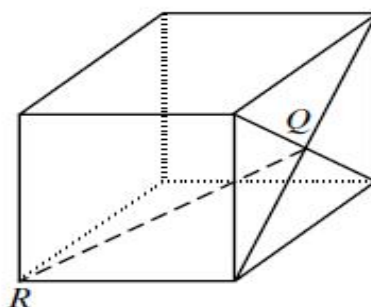
- (A) 8 (B) 9 (C) 10
 (D) 11 (E) 12



Q17.

Q is the point of intersection of the diagonals of one face of a cube whose edges have length 2 units. The length of QR is

- (A) 2 (B) $\sqrt{8}$ (C) $\sqrt{5}$
 (D) $\sqrt{12}$ (E) $\sqrt{6}$



Q18.

The product of 20^{50} and 50^{20} is written as an integer in expanded form. The number of zeros at the end of the resulting integer is

- (A) 70 (B) 71 (C) 90 (D) 140 (E) 210

Q19. Suppose that a , b and c are three numbers satisfying

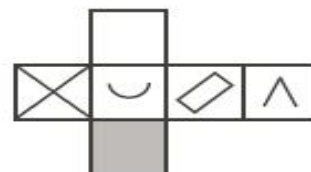
$$\begin{aligned} a + b &= 3 \\ ac + b &= 18 \\ bc + a &= 6 \end{aligned}$$

Then the value of c is:

- (A) 2 (B) 11 (C) 3 (D) 6 (E) 7

Q20.

The diagram shows a piece of cardboard that can be folded to make a cube. The cardboard has designs on one side only. Which one of the following cubes can be made from this cardboard?



- (A) (B) (C)
 (D) (E)

NOTE: The **answer key** of this question paper will be available on the School's blog www.crpfpsrohini.blogspot.com on November 9, 2010 after 6 pm. The **Result** will be declared on 16 November and will also be available on the school's blog.