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ANNUAL EXAMINATION – 2012-2013

Class – VIII

SUBJECT – Mathematics

Time – 2½ Hrs.

M.M. – 80

Answer to this paper must be written on paper provided separately.

You will not be allowed to write during the first 15 minutes.

This time has to be spent in reading the question paper.

The time given at the head of this paper is the time allowed for writing the answers.

Answer all questions from Section A and any four questions from Section B.

All working, including rough work, must be clearly shown and must be done on the same sheet as the rest of the answer.

The intended Marks for question or parts of questions are given in the brackets [].

Section – A (40 Marks)

Answer all the questions

Question 1

- a) An athlete covers a distance of 1200 metres in 4 min 48 sec. Find his speed in km/hr. [4]
- b) In what time will the simple interest on Rs. 7560 be Rs. 1102.50 at 6¼% per annum? [4]
- c) The HCF of two numbers is 14 and their LCM is 11592. If one of the numbers is 504, find the other. [2]

Question 2

- a) Rahul spends 85% of his salary and saves Rs. 3120 per month. Find his monthly salary. [4]
- b) A table was sold for Rs. 2142 at a gain of 5%. At what price should it be sold to gain 10%? [3]
- c) Let $A = \{5, 6, 7\}$ and $B = \{3, 4, 5, 6, 7\}$, Let $R = \{(a, b) / a \in A, b \in B \text{ and } a \leq b\}$. Write R in Roster form. Find its domain and range. [3]

Question 3

- a) Let $A = \{x, y, z\}$ and $B = \{a, b\}$, Is $R = \{(x, a), (x, b), (y, a), (y, b)\}$ a function from A to B? Give reasons. [3]
- b) Solve the equation - $\frac{(x+5)}{6} - \frac{(x+1)}{9} = \frac{x+3}{4}$ [3]
- c) The sum of two numbers is 40 and their difference is 6. Find the numbers. [4]

Question 4

- a) Solve graphically - [3]
 $4x + 3y = 1$
 $2x - y = 3$
- b) Solve - $10x^2 + 11x + 3 = 0$ [3]
- c) Construct a parallelogram ABCD such that AB = 4.5 cm, AC = 4 cm and BD = 5.6 cm [4]

Section – B (40 Marks)

Answer any four questions

Question 5

- a) Construct a ΔABC in which AB = 5 cm, $\angle A = 45^\circ$, $\angle B = 30^\circ$. Draw a circumcircle of the triangle. [4]
- b) The base of an isosceles triangle is 12 cm and its perimeter is 32 cm. Find its area. [3]
- c) The diagonal of a square is $5\sqrt{2}$ m. Find its area and perimeter. [3]

Question 6

- a) Find the cost of carpeting a room 12 m long and 8 m broad with a carpet 75 cm broad at the rate of Rs. 6.50 per metre. [4]
- b) The area of a trapezium is 198 cm^2 and height is 9 cm. If one of the parallel sides is longer than the other by 8 cm, find the two parallel sides. [3]
- c) How many revolutions would a cycle wheel of diameter 40 cm make to cover a distance of 176 metres? [3]

Question 7

- a) The surface area of a cube is 1176 cm^2 . Find its volume. [3]
- b) The monthly incomes of A and B are in the ratio 4:3 and their monthly savings are in the ratio 9:5. If each spends Rs. 3500 per month, find the monthly income of each. [4]
- c) The sum of three consecutive odd numbers is 75. Find the numbers. [3]

Question 8

- a) Solve the following simultaneous equations - [4]
 $\frac{2}{x} + \frac{10}{y} = 3$
 $\frac{8}{x} - \frac{15}{y} = 1$

