CLASS: VIII   **FULL MARKS: 50**

SUBJECT: MATHEMATICS   **TIME: 1 HOUR 15 MINUTES**

Section – A (20 Marks)

(Attempt all the questions from this section)

1. Answer the following questions: **[2 × 5]**

a) Find the square root of 729 by division method.

b) Simplify: $\sqrt[3]{0.064} + \sqrt[3]{0.216}$

c) Find the product of $(x - 3)(x - 6)$.

d) Insert two rational numbers between $\frac{1}{5}$ and $\frac{2}{4}$

e) If 26 workers can paint a building in 10 days, how many days will it take for 13 workers to paint same building?

2.   **[3 + 3 + 3 + 1]**

a) Find the value of $\frac{4^{-3} \times 6^{-2} \times 4^6}{36 \times 32 \times 6^{-5}}$.

b) Factorise: $r^2 + ap - ar - rp$

c) Three numbers are in the ratio 1: 3 : 4. The sum of their cubes is 11,500. Find the numbers.

d) Divide $63a^2 bc^2$ by $(-9abc)$.

Section – B (20 Marks) (Attempt any three questions from this section)

3.   **[3 + 3 + 4]**

a) Find the greatest 4 – digit number which is a perfect square.

b) Factorise: $x - 1 - (x - 1)^2 + bx - b$

c) One day $\frac{1}{15}$ of the whole strength of a class was absent and $\frac{1}{4}$ of those present brought math books. How many students did not bring the math book, the total strength of the class being 180?

4.   **[3 + 3 + 4]**

a) Solve for n: $5^{2n-1} = \dfrac{1}{125^{n-3}}$

b) Find the smallest number by which 576 should be multiplied to make it a perfect cube.

c) A and B can do a piece of work in 12days; B and C in 15 days; C and A in 10days. In how many days will they finish it working together?

5.   **[3 + 3 + 4]**

a) A bag is filled with oranges, each weighing $^{1}/_{12}$ kg. The weight of the bag should not exceed $^{3}/_{6}$ kg. Find the maximum number of oranges that can be put inside the bag.

b) Simplify: $-7 + \,^{9}/_{10} + \,^{3}/_{7} + (-5) + \,^{5}/_{11} + (\,^{-6}/_{5})$ by necessary arrangement

c) Divide $m + 6n^{2} - 15$ by $2m - 3$.