

FIRST TERM EXAMINATION - 2022-2023

STANDARD - VIII

SUBJECT - MATHEMATICS

Time: 2½ Hrs.

M.M:80

SECTION - A (10 X 4 = 40)

Attempt all questions, each question carries 10 marks with 3 sub parts.

1.

- Find the value of:  $5^3 \times 5^7 \div (5^4)^2$  (3)
- Ashu had a loss of Rs. 88 by selling an article for Rs. 2112. Find his loss percentage. (3)
- If 50 is the fourth proportional of 8,10 and x, find the value of x. (4)

2.

- Find the simple interest and amount on Rs. 8750 at 8% per annum for 3 years. (3)
- Find  $(7x + 5)(7x - 5)$  (3)
- Find the solution set of inequation  $x < 5$ , for the replacement set,  $\{1,2,3,4,5,6,7,8\}$  and represent on the number line. (4)

3.

- Two angles of a quadrilateral are  $70^\circ$  and  $40^\circ$  respectively and the remaining two angles are in the ratio of 2:3. Find the measure of each angle of the quadrilateral. (3)
- Construct a quadrilateral ABCD, if  $AB = 4.5\text{cm}$ ,  $BC = 5.5\text{cm}$ ,  $CD = 5\text{cm}$ ,  $DA = 4.8\text{cm}$  and  $\angle ABC = 60^\circ$  (3)

c) Find the solution set of the inequation  $2(x-3) < 5x$ , where  $x$  is negative integer. (4)

a) Fill in the blanks:

i) The space occupied by a solid is called its \_\_\_\_\_ (3)

ii) 1 litre = \_\_\_\_\_ cu.cm

iii) Volume of a cuboid is \_\_\_\_\_

b) Rahul bought a smart watch for Rs. 1350. He spent Rs. 50 on repairs and sold it at a profit of 15%. What is the selling price of watch? (3)

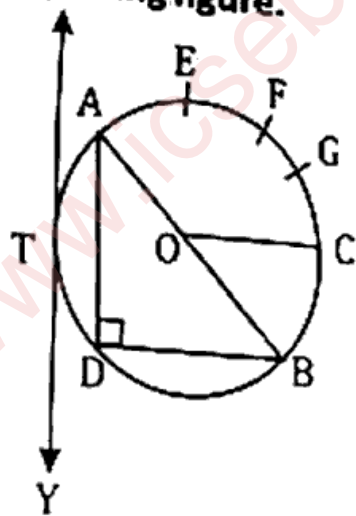
c) Fill in the blanks using the adjoining figure. (4)

Radius = \_\_\_\_\_

BD = \_\_\_\_\_

EFG = \_\_\_\_\_

Point T = \_\_\_\_\_



### SECTION - B (40 marks)

5. Attempt any four questions out of seven. Each sum carries 10 marks with 3 sub-parts.

a) Evaluate  $\frac{x^a}{x^b} \times \frac{x^b}{x^c} \times \frac{x^c}{x^a}$  (3)

b) Construct a quadrilateral ABCD in which  $AB=BC=CD=5\text{cm}$ ,  $\angle B=90^\circ$  and  $\angle C=120^\circ$  (3)

c) The ratio of two adjacent sides of a parallelogram is 3:4 and its perimeter is 84cm. Find the sides of the

parallelogram.

2.

a) Simplify  $\frac{2^{n+1} \times 4^{n-1}}{2^{n-1} \times 4^{n+1}}$

b) Divide Rs. 360 among three persons in proportion to 3:4:5 (3)

c) Reema went to purchase 10 ball pens marked at Rs. 6 per ball pen. Find the price paid by Reema, if she pays a sales tax of 12%. (4)

3.

a) A profit of Rs. 1500 is to be divided among three persons who invested in the ratio 3:4:8. Find the share of each. (3)

b) If  $a - b = 2$  and  $ab = 15$ , find the value of  $a^2 + b^2$  (3)

c) Write  $4x^2 + 12xy + 9y^2$  as a perfect square. (4)

4.

a) Calculate the compound interest on Rs. 7000 at 9% per annum for 2 years.

b) Find  $(203)^2$  using identity: (3)

c) The measure of two adjacent angles are in the ratio of 5:4. Find the measure of each angle of the parallelogram. (4)

5.

a) Find the product:  $(x + 5)(x - 5)(x^2 + 25)$  (3)

b) Solve the inequation and write its solution set. (3)

$$5(x - 1) < 2x + 1, x \in \mathbb{W}$$

c) Find the loss or profit percent, if its selling price is  $\frac{16}{15}$  of its cost price. (4)

6.

- a) If  $A:B = 2:3$  and  $B:C = 4:5$ , find  $A:B:C$  (3)
- b) Find the discount percent, when M.P = Rs. 1400 and S.P = Rs. 1274 (3)
- c) Calculate the compound interest on Rs. 4,000 in 2 years, when the rate of interest for successive years is 5% and 7% respectively. (4)
- ✓
- a) If 18 diaries cost Rs. 802.80, how much would 26 diaries cost? (3)
- b) Expand  $(8x - 4y)^2$  (3)
- c) If 75 is the third proportional of 3 and x, find the value of x. (4)



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