

FTJ

## QUARTERLY EXAMINATION - 2023

8 - STD

MATHS

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Time : 2.30 Hrs

Marks : 100

## Part - A

## I Choose the best answer.

10 X 1 = 10

- Which of the following rational number is the greatest?  
a)  $\frac{-17}{24}$       b)  $\frac{-13}{16}$       c)  $\frac{7}{-8}$       d)  $\frac{-31}{32}$
- Closure property is not true for division of rational numbers because of the number  
a) 1      b) -1      c) 0      d)  $\frac{1}{2}$
- The square of 43 ends with the digit .....  
a) 9      b) 6      c) 4      d) 3
- $\sqrt{48}$  is approximately equal to .....  
a) 5      b) 6      c) 7      d) 8
- If  $\frac{10^x}{10^{-3}} = 10^0$ , then x is .....  
a) 4      b) 5      c) 6      d) 7
- If the area of a rectangle is  $48m^2n^3$  and whose length is  $8mn^2$  then, its breadth is  
a)  $6mn$       b)  $8m^2n$       c)  $7m^2n^2$       d)  $6m^2n^2$
- Two similar triangles will always have ..... angles.  
a) acute      b) obtuse      c) right      d) Matching
- How many outcomes can you get when you toss three coins once?  
a) 6      b) 8      c) 3      d) 2
- If the area of a rectangular land is  $(a^2 - b^2)$  sq units whose breadth is  $(a-b)$  then, its length is .....  
a)  $a - b$       b)  $a + b$       c)  $a^2 - b$       d)  $(a + b)^2$
- The sum of the digits of the denominator in the simplest form of  $\frac{112}{528}$  is .....  
a) 4      b) 5      c) 6      d) 7

## II Fill in the blanks.

5 X 1 = 5

- The decimal form of the rational number  $\frac{15}{-4}$  is .....
- The value of  $\left(\frac{-3}{6}\right) \times \left(\frac{18}{-9}\right)$  is .....
- The number perfect square numbers between 300 and 500 is .....
- A part of circumference of a circle is called as .....
- x - axis and y - axis intersect at .....

## III True or false.

4 X 1 = 4

- The average of two rational numbers line between them.
- The additive inverse of  $\frac{-11}{-17}$  is  $\frac{11}{17}$ .
- $7ab^3 \div 14ab = ab^2$ .
- The in centre is equidistant from all the vertices of a triangle.

## IV Match the following.

5 X 1 = 5

- |                                   |   |  |
|-----------------------------------|---|--|
| 20. Area of a circle              | - | a) $\frac{1}{4} \pi r^2$                           |
| 21. Circumference of a circle     | - | b) $(\pi + 2) r$                                   |
| 22. Area of the sector of circle  | - | c) $\pi r^2$                                       |
| 23. Circumference of a semicircle | - | d) $2 \pi r$                                       |
| 24. Area of a quadrant of circle  | - | e) $\frac{\theta^\circ}{360^\circ} \times \pi r^2$ |

## Part - B

V Answer any ten of the following.

10 X 2 = 20

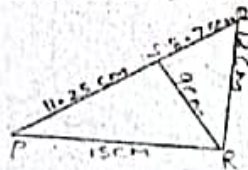
25. Add :  $\frac{-6}{11}, \frac{8}{11}, \frac{-12}{11}$ .
26. Evaluate :  $\frac{9}{132} \times \frac{-11}{3}$ .
27. Is 108 a perfect square number?
28. Find the square of 203?
29. Find x if  $5\frac{x}{5} \times 3\frac{3}{4} = 21$ .
30. i) A spinner of radius 7.5cm is divided into 6 equal sectors. Find the area each of the sectors. ii)  $3x^2y, -3xy^3, x^2y^2$ .
31. Simplify :  $\frac{14p^5q^3}{2p^2q} - \frac{12p^3q^4}{3q^2}$ .
32. Phythagoram theorem.
33. Sum of  $\frac{7}{5} + \frac{5}{7}$ .
34. Find the value of  $\sqrt{256}$ .
35. Find the value of  $4^{-3}$ .
36. i) Length of the arc,  $l =$  ii) Area of the sector,  $A =$
37. Expand  $-2p(5p^2 - 3p + 7)$ .

## Part - C

VI Answer any eight of the following.

8 X 5 = 40

38. Find a rational number between  $\frac{1}{3}$  and  $\frac{5}{9}$ .
39. The product of two rational number is  $-\frac{2}{3}$ . If one number is  $\frac{3}{7}$ , then find the other.
40. Find the square root of 324 by prime factorisation.
41. Solve for x . i)  $\frac{2^{2x-1}}{2^{x+2}} = 4$ , ii)  $\frac{5^5 \times 5^{-4} \times 5^x}{5^{12}} = 5^{-5}$ .
42. The radius of a sector is 21cm and its central angle is  $120^\circ$ .  
Find i) the length of the arc. ii) area of the sector. iii) Perimeter of sector  $\left(\pi = \frac{22}{7}\right)$ .
43. Nishanth has a key - chain which is the form of an equilateral triangle and a semicircle attached to a square of side 5cm as shown in the fig. 2.24. Find its area ( $\pi = 3.14$ ,  $\sqrt{3} = 1.732$ )
44. Divide :  $(5y^3 - 2y^2 + 8y)$  by  $5y$ .
45. Prove that  $\Delta PQR \sim \Delta PRS$ .
46. Find the cube root of 27000.
47. Shanthy has 5 chudithar sets and 4 frocks. In how many possible ways, can she wear either a chudithar on a frock?



VII Answer the following questions.

2 X 8 = 16

48. a) Construct a quadrilateral DEAR with  $DE = 6\text{cm}$ ,  $EA = 5\text{cm}$ ,  $AR = 5.5\text{cm}$ ,  $RD = 5.2\text{cm}$  and  $DA = 10\text{cm}$ . Also find its area. (OR)  
b) PLAY,  $PL = 7\text{cm}$ ,  $LA = 6\text{cm}$ ,  $AY = 6\text{cm}$ ,  $PA = 8\text{cm}$  and  $LY = 7\text{cm}$ .
49. a) Consider the following points  $M(4,3)$ ,  $N(-4,5)$ ,  $P(-3,-6)$ ,  $Q(5,-2)$ ,  $R(6,0)$ ,  $S(0,-5)$   
(OR) b) Find the quadrants without plotting the points on a graph sheet  
 $(3,-4)$ ,  $(5,7)$ ,  $(2,0)$ ,  $(-3,-5)$ ,  $(4,-3)$ ,  $(-7,2)$ ,  $(-8,0)$ ,  $(0,10)$ ,  $(-9,50)$ .