

COMMON QUARTERLY EXAMINATION - 2023-24

Time Allowed : 2.30 Hours].

MATHEMATICS

[Max. Marks : 100

PART - A

I. Choose the correct Answer.

10x1=10

- 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
- Closure property is not true for division of rational numbers because of the number
a) 1 b) -1 c) 0 d) $\frac{1}{2}$
- $\sqrt{48}$ is approximately equal to -----
a) 5 b) 6 c) 7 d) 8
- If $\frac{10^x}{10^{-3}} = 10^9$, then x is -----
a) 4 b) 5 c) 6 d) 7
- The radius of a circle of diameter 24 cm is -----
a) 24 cm b) 12 cm c) 6 cm d) 48 cm
- A cube has ---- faces
a) 4 b) 5 c) 3 d) 6
- If the area of a square $36x^4y^2$ then its side is ----
a) $6x^4y^2$ b) $8x^2y^2$ c) $6x^2y$ d) $-6x^2$
- 12% of 250 liter is the same as ---- of 150 liter
a) 10% b) 15% c) 20% d) 30%
- The time taken for ₹. 4400 to become ₹. 4851 at 10% compounded half yearly is ----
a) 6 months b) 1 year c) $1\frac{1}{2}$ year d) 2 years
- How many 2 digit numbers contain the number 7?
a) 10 b) 18 c) 19 d) 20

II. Fill in the Blanks.

5x1=5

- The standard form of $\frac{58}{-78}$ is -----
- The once digit in the cube of 73 is -----
- The longest chord of a circle is -----
- $6xy \times \text{-----} = -12x^3y$.
- Loss or gain Percentage is always calculated on the -----

III. Say true or false.

5x1=5

- All rational numbers have an additive inverse.
- A cube has 6 face, 12 edges and 8 vertices.
- $7ab^3 + 14ab = 2b^2$
- The points (1,1) (2,2) (3,3) lies on a same straight line.
- Depreciation value is calculated by the formula $P = \left(1 - \frac{r}{100}\right)^n$

IV. Match the following.

5x1=5

- $a^m \times b^m$ - $\frac{1}{4} \pi r^2$ sq.units.
- Area of quadrant of a circle - C.P - S.P
- $4y^2x - 3y$ - (0,0)
- Loss - $(ab)^m$
- Origin - $-12y^3$

PART - B

V. Answer any 10 of the following. (Q.No.40 Compulsory)

10x2=20

26. Draw a number line and represent the rational number $\frac{-8}{3}$ on it.
27. Divide : $\frac{-21}{5} \times \frac{-7}{-10}$
28. Simplify : $\sqrt{12} \times \sqrt{3}$
29. Evaluate : $(5^0 \times 6^{-1}) \times 3^2$
30. Find the square root of 324 by Prime factorisation.
31. Find the area of the sector whose length of the arc is 44m and its radius 21 m.
32. A Circle of radius 120 m is divided into 8 equal sectors. Find the length of the arc of each sector.
33. Find the Product of $(2x+3)(2x-4)$
34. Divide : $27y^3$ by $3y$
35. Identify the errors and correct them $6xy + 3xy = 9x^2y^2$
36. 48 is 32% of which number?
37. If the Price of Orid dhall after 20% increase is ₹. 96 per kg, then find the original price of Orid dhall per kg.
38. The value of Motor cycle 2 years ago was ₹.70,000. It depreciate at the rate of 4% p.a.Find its present value.
39. If you have 2 School bags and 3 water bottles then in how many different ways can you choose each one of them, while going to school?
40. A family went to hotel and spent ₹.350 for food and paid extra 5% as GST, Calculate the CGST and SGST.

PART - C

VI. Answer any Seven questions. (Q.No.50 Compulsory.)

7x5=35

41. Arrange the following rational numbers in ascending and descending order.

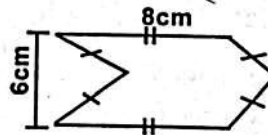
$$\frac{-17}{10}, \frac{-7}{5}, 0, \frac{-2}{4}, \frac{-19}{20}$$

42. Simplify: $\left[\frac{4}{3} - \left(\frac{-3}{2} \right) \right] + \left[\frac{-5}{3} \div \frac{30}{12} \right] + \left[\frac{-12}{9} \times \frac{-27}{16} \right]$

43. Find the cube root of 27000.

44. The radius of the sector 16 cm and its central angle is 45° i) length of the arc ii) perimeter

45. Find the area of the combined figure given which is got by the joining of two parallelograms.



46. Simplify: i) $\frac{3m^2}{m} + \frac{2m^4}{m^3}$ ii) $\frac{14P^5q^3}{2P^2q} - \frac{12P^3q^4}{3q^2}$

47. The ratio of boys and girls in a class is 5 : 3. If 16% of boys and 8% of girls failed in the examination then find the percentage of passed students.

48. If the selling price of 10 rulers is the same as the cost price of 15 rulers, then find the profit percentage.

49. Find the compound interest on ₹. 3200 at 2.5% p.a. for 2 years compounded annually.

50. A Car moves at a uniform speed of $(x+30)$ k.m/hrs. Find the distance Covered Car in $(y+2)$ hours.

VII. Answer any one of the following.

1x10=10

51. a) Construct a quadrilateral MATH with $MA=4\text{cm}$, $AT=3.6\text{cm}$, $TH=4.5\text{cm}$, $MH=5\text{cm}$ and $\angle A=85^\circ$. Also find its area.

(OR)

- b) Construct a trapezium BOAT in which \overline{BO} is parallel to \overline{TA} . $BO=7\text{cm}$, $OA=6\text{cm}$, $BA=10\text{cm}$ and $TA=6\text{cm}$. Also find its area.

VIII. Answer one of the following.

1x10=10

52. a) If the Points $P(5, 3)$, $Q(-3, 3)$, $R(-3, -4)$ and S form a rectangle, then find the Co - Ordinate of S .

(OR)

- b) Draw the graph of $x=5$.