Class : 8

Register Number

COMMON QUARTERLY EXAMINATION - 2024-25

Time Allowed : 2.30 Hours]

MATHEMATICS
PART - I

[Max. Marks : 100

I.   Choose the correct Answer.   10x1=10

1. 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

2. $\frac{3}{4} \times \left(\frac{5}{8} \div \frac{1}{2} \right)$ = ----------
    a) $\frac{5}{8}$ b) $\frac{2}{3}$ c) $\frac{15}{32}$ d) $\frac{15}{16}$

3. Closure property is not true for division of rational numbers because of the number -------
    a) 1   b) -1   c) 0   d) $\frac{1}{2}$

4. ---------- is added to get 25^2
    a) 4^2 b) 5^2 c) 6^2 d) 7^2

5. $(-2)^{-3} \times (-2)^{-2}$ = ----------
    a) $\frac{-1}{32}$ b) $\frac{1}{32}$ c) 32   d) -32

6. Area of a Circle ----------
    a) πr^2 b) $2\pi r$ c) $\frac{1}{4}\pi r^2$ d) $2\pi r^2$

7. The product of $7P^3$ and $(2P^2)^2$ is ----------
    a) $14P^{12}$ b) $28P^7$ c) $9P^7$ d) $11P^{12}$

8. $\frac{(a + b)(a^3 - b^3)}{a^2 - b^2}$ = ----------
    a) $a^2 - ab + b^2$ b) $a^2 + ab + b^2$ c) $a^2 + 2ab + b^2$ d) $a^2 - 2ab + b^2$

9. Two similar triangles will always have ---------- angles.
    a) Acute   b) Obtuse   c) Right   d) Matching

10. The number of conversion periods in a year, if the interest on a principal is compounded every two month is ------
    a) 2   b) 4   c) 6   d) 12

II. Fill in the Blanks.   5x1=5
11. The Multiplicative inverse of -1 is ----------
12. The one digits in the square of 77 is ----------
13. The longest chord of a circle is ----------
14. The cube has ---------- faces.
15. The symbol $\sim$ is used to represent ---------- triangles.

III. Say true of false.   5x1=5
16. 0 is the smallest rational number (   )
17. The square root of 225 is 15. (   )
18. $27y^3 \div 3y = 9y^2$.
19. The co-ordinates of the origin are (1, 1). (   )
20. Loss or gain percentage is always calculated on the selling price. (   )

IV. Match the following.   5x1=5
21. Area of a circle   - $\frac{1}{4} \pi r^2$
22. Circumference of a circle   - $(\pi + 2) r$
23. Area of the sector of a circle   - πr^2
24. Circumference of a semi circle   - $2\pi r$
25. Area of a quadrant of a circle   - $\frac{\theta^{\circ}}{360^{\circ}} \times \pi r^2$

PART - II

V.   Answer any 10 of the following. (Q.No.40 Compulsory)   10x2=20

26. Find a rational number between $\frac{1}{3}$ and $\frac{5}{9}$

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27. Evaluate : i) $\dfrac{9}{132} \times \dfrac{-11}{3}$ ii) $\dfrac{-7}{27} \times \dfrac{24}{-35}$

28. Find the value of $\sqrt{256}$.

29. Simplify $(3^5 \div 3^8)^5 \times 3^{-5}$

30. By how much does $\dfrac{1}{(10/11)}$ exceed $\dfrac{(1/10)}{11}$?

31. A circular shaped Gymnasium ring of radius 35cm is divided into 5 equal arcs shaded with different colours. Find the length of each of the arcs.

32. A circle of radius 70 cm is divided into 5 equal sectors. Find the area of the sectors.

33. Find the product of $2x^2 y^2$, $3y^2z$ and $-z^2x^3$

34. Simplify : $\dfrac{3m^2}{m} + \dfrac{2m^4}{m^2}$

35. Find the value of $(3a + 4c)^2$ by using $(a+b)^2$ Identify.

36. What is 25% of 30% of 400?

37. If x% of 600 is 450 Then find the value of x.

38. The value of motor cycle 2 years ago was ₹. 70,000. It depreciates at the rate of 4% p.a. Find its present value.

39. Can a right triangle have sides that measure 5 cm, 12 cm and 13 cm?

40. Is 108 a perfect square number?

PART - III

VI. Answer any Seven questions. (Q.No.50 Compulsory.)   7x5=35

41. Arrange the following rational numbers in ascending and decending order.
$$\dfrac{-5}{12}, \dfrac{-11}{8}, \dfrac{-15}{24}, \dfrac{-7}{-9}, \dfrac{12}{36}$$

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

43. What is the square root of Cube root of 46656?

44. If $P + 2q = 18$ and $Pq = 40$, Find $\dfrac{2}{p} + \dfrac{1}{q}$

45. Find the least numbers by which 1800 should be multiplied so that it becomes a perfect square number. Also find the square root of the perfect square thus, obtained.

46. Find the Area of the given figure.
Radius r = 3.5 cm.

47. Multiply: $(2x+5y)$ and $(3x-4y)$.

48. Find the quadrats without plotting the points on a graph (-3, 4) , (2, 0) (-7, -3) , (5, 2).

49. Find the C.I for the data Principal = Rs 4000, r = 5% p.a, n = 2 years.

50. Divide : $(5y^3 - 25y^2 + 8y)$ by 5y

PART - IV

VII. Answer the following.   2x10=20

51. a) Construct a quadrilateral DEAR, with DE = 6 cm, EA = 5 cm, AR = 5.5 cm RD = 5.2 cm and DA = 10 cm. Also Find its area.   **(OR)**

    b) Construct a quadrilateral NICE with NI = 4.5 cm, IC = 4.3 cm, NE = 3.5 cm, NC = 5.5 cm and IE = 5 cm. Also find its area.

52. a) Draw a straight line by joining the points A (-2, 6) and B (4, -3)   **(OR)**

    b) If the points P(5,3), Q(-3,3), R(-3,-4) and 'S' from a rectangle, then find the co-ordinate of S.