

ANNUAL EXAMINATION - APRIL 2024**8 - STD****MATHS**

TIME: 2.30 Hrs

Marks : 100

I. Choose the Correct answer.**10 x 1 = 10**

- $\sqrt{48}$ is approximately equal to
a) 5 b) 6 c) 7 d) 8
- Closure property is not true for division of rational numbers because of the number.....
a) 1 b) -1 c) 0 d) $\frac{1}{2}$
- If the area of a square is $36x^4y^2$, then its side is
a) $6x^2y$ b) $8x^2y^2$ c) $6x^2y$ d) $-6x^2y$
- $(a - b) = 3$ and $ab = 5$ then $a^3 - b^3 =$
a) 15 b) 18 c) 62 d) 72
- Sum of a number and its half is 30 then the number is
a) 15 b) 20 c) 25 d) 40
- 15% of 25% of 10000 =
a) 375 b) 400 c) 425 d) 475
- The hypotenuse of a right angled triangle of sides 12 cm and 16 cm is
a) 28 cm b) 20 cm c) 24 cm d) 21 cm
- Histogram is a graph of a frequency distribution
a) Continuous b) discontinuous c) discrete d) none of these
- How many outcomes can you get when you toss three coins once?
a) 6 b) 8 c) 3 d) 2
- Two numbers are said to be co-prime numbers if their HCF is
a) 2 b) 3 c) 0 d) 1

II. Fill in the blanks.**4 x 1 = 4**

- The rational number does not have a reciprocal.
- The cross section of a solid cylinder is
- The medians of a triangle cross each other at
- Pie chart is a graph.

III. Say True and False**5 x 1 = 5**

- All rational numbers have an additive inverse.
- The coordinates of the origin are (1, 1)
- 8, 15, 17 is a pythagorean triplet.
- The centroid, orthocentre and incentre of a triangle are collinear.
- Comparison of parts of a whole may be done by a pie chart.

IV. Match the following.**5 x 1 = 5**

- $4y^2 \times (-3y)$ - $20x^2y - 20x$
- $-2xy(5x^2 - 3)$ - $5x^3 - 5xy^2 + 5x^2y$
- $5x(x^2 - y^2 + xy)$ - $4x^2 - 9$
- $(2x + 3)(2x - 3)$ - $-12y^3$
- $5x(4xy - 4)$ - $10x^3y + 6xy$

V. Answer any 10 questions.**10 x 2 = 20**

25. Write the decimal form of $\frac{13}{4}$.
26. Find the square root of 324 by prime factorisation.
27. A spinner of radius 7.5cm is divided into 6 equal sectors. Find the area of each of the sectors.
28. If $l = 4pq^2$, $b = -3p^2q$, $h = 2p^3q^3$ then find the value of $l \times b \times h$.
29. Divide $(32y^2 - 8yx)$ by $2y$.
30. Expand $y^2 - 16$ by using the identity $a^2 - b^2$.
31. Find the value of x if $-3(4x + 9) = 21$.
32. Find the quadrants without plotting the points on a graph sheet. $(3, -4)$, $(2, 0)$, $(0, 10)$, $(5, 7)$
33. If $x\%$ of 600 is 450, then find the value of x .
34. Find the difference in C.I. and S.I for Principal = ₹5000, $r = 4\%$ p.a. and $n = 2$ years.
35. A and B together can do a piece of work in 16 days and A alone can do it in 48 days. How long will B take to complete the work?
36. Can a right triangle have sides that measure 5cm, 12cm and 13cm?

VI. Answer any 8 questions.**8 x 5 = 40**

37. List any five rational numbers between $\frac{1}{4}$ and $\frac{7}{20}$.
38. Find the central angle of each of the sectors whose measures are area = 462 cm^2 and radius = 21 cm [Take $\pi = \frac{22}{7}$].
39. Find the value of $(98)^3$ using the identity.
40. Find the compound interest on ₹3200 at 2.5% p.a for 2 years, compounded annually.
41. If 48 men working 7 hours a day can do a work in 24 days, then in how many days will 28 men working 8 hours a day can complete the same work?
42. A 20 feet ladder leans against a wall at height of 16 feet from the ground. How far is the base of the ladder from the wall?
43. Draw a suitable pie chart for the following data relating to the cost of construction of a house.

Particulars	Bricks	Steel	Cement	Timber	Labour	Others
Expenses	10%	15%	25%	10%	20%	20%

Also find how much has spent on labour if ₹55000 was spent for cement.

44. Draw a histogram for the following data

Class Interval	0-10	10-20	20-30	30-40	40-50	50-60
No. of Students	5	15	23	20	10	7

45. In Class VIII, a math club has four members M, A, T and H. Find the number of different ways, the club can elect i) a leader ii) a leader and an assistant leader.
46. using repeated subtraction method, find the HCF of 36 and 80.

VII. Answer any one.**1 x 8 = 8**

47. (i) Construct a quadrilateral DEAR with $DE = 6\text{cm}$, $EA = 5\text{cm}$, $AR = 5.5\text{cm}$, $RD = 5.2\text{cm}$ and $DA = 10\text{cm}$. Find its area. (OR)
- (ii) Construct a square LAMP of side 4cm. Also find its area.

VIII. Answer any one.**1 x 8 = 8**

47. (i) Draw straight lines by joining the points $A(2, 5)$, $B(-5, -2)$, $M(-5, 4)$, $N(1, -2)$ also find the point of intersection. (OR)
- (ii) Draw the graph of $y = 5x$.