

ASS

ANNUAL EXAMINATION - 2025**8 - STD****MATHS**

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Time : 2.30 Hrs

Marks : 100

I Choose the correct answer.

10 X 1 = 10

- $-\frac{5}{4}$ is a rational number which lies between
a) 0 and $-\frac{5}{4}$ b) -1 and 0 c) -1 and -2 d) -4 and -5
- The square of 43 ends with the digit a) 9 b) 6 c) 4 d) 3
- 0.00000000020020 in scientific form is
a) 2.02×10^9 b) 2.02×10^{-9} c) 2.02×10^{-8} d) 2.02×10^{-10}
- 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) $6m^2n^2$
- Factors of $9x^2 + 6xy$ are
a) $3y, (x+2)$ b) $3x, (3x+3y)$ c) $6x, (3x+2y)$ d) $3x, (3x+2y)$
- Sum of a number and its half is 30 then the number is
a) 15 b) 20 c) 25 d) 40
- 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
- If $\triangle ABC \sim \triangle PQR$ in which $\angle A = 53^\circ$ and $\angle Q = 77^\circ$ then $\angle R$ is
a) 50° b) 60° c) 70° d) 80°
- The difference between the largest value and the smallest value of the given data is
a) range b) frequency c) variable d) none of these
- Every number of the Fibonacci sequence is multiple of 8
a) 2nd b) 4th c) 6th d) 8th

II Fill in the blanks.

5 X 1 = 5

- The multiplicative inverse of -1 is
- The longest chord of a circle is
- The value of x in the equation $x + 5 = 12$ is
- The medians of a triangle cross each other at
- Pie chart is a graph.

III True or false.

4 X 1 = 4

- 0 is the smallest rational number.
- In a right angled triangle the hypotenuse is the greatest side.
- Inclusive series is a continuous series.
- $(-9, 0)$ lies on the x - axis.

IV Match.

5 X 1 = 5

- | | | |
|-----------------------------|---|----------------|
| 20. $(3^3)^3$ | - | $x = -24$ |
| 21. A cuboid | - | Ungrouped data |
| 22. $20 = 6x - 4$ | - | 6 face |
| 23. Area of a parallelogram | - | 3^6 |
| 24. Bar graph | - | bh |

V Answer the following. (any 10)

10 X 2 = 20

- Compare $\frac{9}{-4}$ and $-\frac{2}{3}$.

26. Find the square root of 784 by prime factorisation.
27. 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.
28. If $l = 4pq^2$, $b = -3p^2q$, $h = 2p^3q^3$ then, find the value of $l \times b \times h$.
29. Expand $y^2 - 16$ by using $a^2 - b^2$ identity.
30. Factorize : $y^2 - 10y + 25$.
31. Solve : $2x + 5 = 9$.
32. 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?
33. If $x\%$ of 600 is 450, then find the value of x .
34. Represent the following data in un grouped frequency table which gives the number of children in 25 families. 1,3,0,2,5,2,3,4,1,0,5,4,3,1,3,2,5,2,1,1,2,6,2,1,4.
35. Using repeated subtraction method, find the HCF of 42 and 70.
36. Form additive cipher table (key = 4).
37. Find the quadrants without plotting the points on a graph sheet. $(3,-4), (5,7), (2,0), (-3,-5)$.
38. Find the value of $(-2)^5 \times (-2)^{-3}$.

VI Answer the following (Any 5)

$8 \times 5 = 40$

39. List any five rational numbers between $\frac{1}{4}$ and $\frac{7}{20}$.
40. Find the cube root of $24 \times 36 \times 80 \times 25$.
41. A rocket drawing has the measures as given in the figure. Find its area.
42. Expand : $(x + 3)(x + 5)(x + 2)$.
43. One number is seven times another. If their difference is 18, find the numbers.
44. 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?
45. In $\triangle ABC$, S is the circumvented, $BC = 72\text{cm}$ and $DS = 15\text{cm}$. Find the radius of its circumcircle.
46. A survey gives the following information of food items preferred by people. Draw a pie chart.



Items	Vegetables	Meat	Salad	Fruits	Sprouts	Bread
No. of people	160	90	80	50	30	40

47. Construct a histogram from the following distribution of total marks of 40 students in a class.

Marks	90-110	110-130	130-150	150-170	170-190	190-210
No. of students	9	5	10	7	4	6

48. Match the following. ($a = 00$, $z = 25$).
 - 1) Mathematics - 18 20 01 19 17 00 02 19 08 14 13
 - 2) Addition - 03 08 21 08 18 08 14 13
 - 3) Subtraction - 12 00 19 07 04 12 00 19 08 02 18
 - 4) Multiplication - 00 03 03 08 19 08 14 13
 - 5) division - 12 20 11 19 08 15 11 15 02 00 19 08 14 13
49. A can do a work in 45 days. He works it at for 15 days and then, B alone finishes the remaining work in 24 days. Find the time taken to complete 80% of the work, if they work together.

VII Answer all the questions.

$2 \times 8 = 16$

50. Construct a quadrilateral DEAR with $DE = 6\text{ cm}$, $EA = 5\text{cm}$, $AR = 5.5\text{cm}$, $RD = 5.2\text{cm}$ and $DA = 20\text{cm}$. Also find its area. (OR)
Construct a rectangle BEAN with $BE = 5\text{cm}$ and $BN = 3\text{cm}$. Also find its area.
51. Graph the equation : $y = 5x$. (OR)
If the points $P(5,3)$ $Q(-3,3)$ $R(-3,-4)$ and S form a rectangle, then find the coordinate of S .