COMMON ANNUAL EXAMINATION - 2025

STANDARD - VIII

Reg. No. | | | | | | |

MATHEMATICS

Time : 2.30 hrs Marks : 100

I. Choose the correct answer: 10×1=10

1) $\frac{-5}{4}$ 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

2) $\left(\frac{3}{4}-\frac{5}{8}\right)+\frac{1}{2}=$ _____.

a) $\frac{15}{64}$ b) 1 c) $\frac{5}{8}$ d) $\frac{1}{16}$

3) The central angle of a semicircle is

a) 180° b) 360° c) 90° d) 45°

4) If $\frac{10^x}{10^{-3}}=10^9$, then x is _____.

a) 4 b) 5 c) 6 d) 7

5) The HCF of two numbers is _____, then they are relatively prime.

a) 2 b) 3 c) 0 d) 1

6) The co-ordinate (–3, –5) lies in the _____ quadrant.

a) 1st b) 2nd c) 3rd d) 4th

7) The sum which amounts to ₹ 2,662 at 10% p.a. in 3 years compounded yearly is _____.

a) ₹ 2,000 b) ₹ 1,800 c) ₹ 1,500 d) ₹ 2,500

8) Data is a collection of _____.

a) numbers b) words c) measurements d) all the three

9) The common prime factors of 30 and 250 are

a) 2×5 b) 3×5 c) 2×3×5 d) 5×5

10) The graphical representation of grouped data is _____.

a) bar graph b) pictograph c) pie chart d) histogram

5×1=5

II. Fill in the blanks:

11) The multiplicative inverse of –1 is _____.

12) If 30% of x is 150, then x is _____.

13) $(a-b)^3$ = _____.

14) The area of a rectangle is _____ sq.units.

15) The central angle of a component = _____.

III. Match the following: 5×1=5

16) Distance and time - $\frac{\theta}{360^\circ} \times 2\pi r$ units

17) $\sqrt[3]{x}$ - 89

18) Length of the arc of a sector - similar

19) The eleventh Fibonacci number - Direct variation

20) The symbol ~ is used to represent _____ triangles - $x^{1/3}$

IV. Answer any 10 questions: 10×2=20

21) Draw a number line and represent the rational number $-8/3$ on it.

22) If 108 is a perfect square number?

23) Factorise: $x^2+8x+15$

24) Find the product $(4x^2+9)$ with $(3x-2)$.

25) Find the difference in C.I and S.I on ₹ 5,000 for 2 years at 4% p.a.

26) Can a right triangle sides that measure 5 cm, 4 cm and 3 cm.

27) State Pythagoras theorem.

28) Akila scored 80% of marks in an examination. If her score was 576 marks, then find the maximum marks of the examination.

29) An examination paper has 3 sections, each with five question and students are instructed to answer one question from each section. In how many different ways of can the questions be answered.

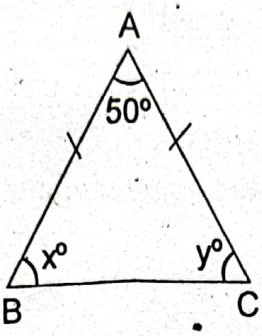
30) Using repeated subtraction method, find the HCF of 42 and 70.

31) Find the best buy of the following purchases. A pack of 5 chocolate bars for ₹ 175 (or) 3 chocolate bars for ₹ 114?

32) Write the following numbers in scientific notation:
(i) 1642.398
(ii) 0.000001972

33) The radius of a sector is 21 cm and its central angle is 120°. Find the length of the arc.

34) Find the value of x and y.



V. Answer any 8 questions: 8×5=40

35) Arrange the following rational numbers in ascending and decending order:

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

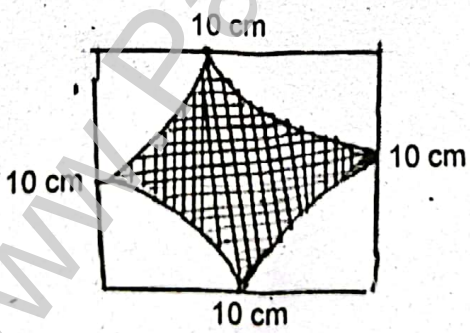
36) Simplify: $\frac{9^2 \times 7^3 \times 2^5}{84^3}$

37) Factorise: $x^3+15x^2+75x+125$

38) The price of a rain coat was slashed from ₹ 1,060 to ₹ 901 by a shopkeeper in the rainy season to boost the sales. Find the rate of discount given by him.

39) A cement factory makes 7000 cement bags in 12 days with the help of 36 machines. How many bags can be made in 18 days using 24 machines?

40) Find the area of the shaded part. (π = 3.14)



41) 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?

42) Draw a pie diagram to represent the following data, which shows the information of food items preferred by people.

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

43) **Draw a histogram for the following table:**

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

44) Frame Additive Cipher Table (Key = 5).

45) The sum of three - consecutive odd numbers is 75. Which is the largest among them?

2×10=20

VI. Answer the following questions:

46) 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 the area.

(OR)

b) Construct a square EAST of side EA = 6.5 cm. Also find its area.

47) a) Plot the following points in a graph sheet.

(3, –4), (5, 7), (2, 0), (–3, –5), (4, –3), (–8, 0), (7, –4), (–1, –1).

(OR)

b) Draw the graph of y = –3x.
