

Class : 8

Register
Number

COMMON ANNUAL EXAMINATION - 2023-24

Time Allowed : 2.30 Hours]

MATHEMATICS

[Max. Marks : 100

PART - A

- I. Choose the correct Answer. 10x1=10
- $-\frac{5}{4}$ is a rational number which lies between
 - 0 and $-\frac{5}{4}$
 - 1 and 0
 - 1 and -2
 - 4 and -5
 - 0.000000002020 is scientific form is
 - 2.02×10^9
 - 2.02×10^{-9}
 - 2.02×10^{-8}
 - 2.02×10^{-10}
 - A part of a circumference of a circle is called -----
 - Circular arc
 - Radius
 - Diameter
 - Chord
 - If the area of a square is $36x^4y^2$, then its side is -----
 - $6x^2y$
 - $8x^2y^2$
 - $6x^2y$
 - $-6x^2y$
 - One factor of x^3+y^3 is -----
 - $x-y$
 - $x+y$
 - $(x+y)^3$
 - $(x-y)^3$
 - The largest number of the three consecutive numbers is $x+1$, then the smallest number is
 - x
 - $x+1$
 - $x+2$
 - $x-1$
 - 15% of 25% of 10000 = -----
 - 375
 - 400
 - 425
 - 475
 - Histogram is a graph of a ----- frequency distribution!
 - Continuous
 - discontinuous
 - discrete
 - none of these
 - How many outcomes can you get when you toss three coins once?
 - 6
 - 8
 - 3
 - 2
 - What is the eleventh Fibonacci number?
 - 55
 - 77
 - 89
 - 144
- II. Fill in the Blanks. 5x1=5
- A rational number ----- does not have a reciprocal.
 - The cross section of a solid cylinder is -----
 - The difference between C.I and S.I for 2 years -----
 - The point of concurrence of the three perpendicular bisectors of a triangle is called -----
 - The range of the data 200,15, 20,103, 3, 196 is -----
- III. Say true or false. 5x1=5
- The ones digit in the square of 77 is 9.
 - Area of a circle is $2\pi r$.
 - $y = -9x$ not passes through the origin.
 - Depreciation value is calculated by the formula $P \left[1 - \frac{r}{100} \right]^n$
 - Inclusive series is a discontinuous series.
- IV. Match the following. 5x1=5
- $a^m \times b^m$ - $xy=k$
 - Longest chord of a circle - Pythagorean triplet
 - $10P^4 \div 2P^3$ - $(axb)^m$
 - Inverse proportion - Diameter
 - (3,4,5) - 5P
- PART - B
- V. Answer any 10 of the following. (Q.No.40 Compulsory) 10x2=20
- Name the property under multiplication used in each of the following.
 - $\left(\frac{-4}{5}\right) \times 1 = 1 \times \left(\frac{-4}{5}\right) = \frac{-4}{5}$
 - $\left(\frac{-13}{17}\right) \times \left(\frac{-2}{7}\right) = \left(\frac{-2}{7}\right) \times \left(\frac{-13}{17}\right)$
 - Find the square root of 459684.

CH/8/Mat/1

28. Find the area of the sector whose length of the arc = 48m, $r = 10m$.
29. If vertices = 6 and Edges = 14. Find faces using Euler's Formula.
30. Factorise: $4x^2 - 8x + 3$.
31. Find x : $\frac{2x+1}{3x-2} = \frac{9}{10}$
32. When a number is decreased by 25% it becomes 120. Find the number.
33. Find the compound interest on ₹ 4000 at 5% p.a. for 2 years compounded annually.
34. 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?
35. Represent the following data in ungrouped 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.
36. A safety locker in a jewel shop requires a 4 digit unique code. The code has the digits from 0 to 9. How many unique codes are possible?
37. Using repeated division method find the HCF of 455 and 26.
38. Frame Additive Cipher table. (key = 4).
39. Find the best buy of the following purchase. A pack of 5 chocolate bars of ₹ 175 or 3 chocolate bars for ₹ 114?
40. Multiply $\frac{6}{10}$ by the reciprocal of $-\frac{7}{16}$.

PART - C

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

7x5=35

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

$$\frac{-5}{12}, \frac{-11}{8}, \frac{-15}{24}, \frac{-7}{-9}, \frac{12}{36}$$

42. Find the cube root of $24 \times 36 \times 80 \times 25$.

43. Find the central angle of the sector whose measures are area = 462 cm^2 , $r = 21 \text{ cm}$ ($\pi = \frac{22}{7}$)

44. Find the area of the shaded part ($\pi = 3.14$)



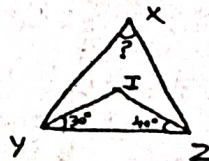
10cm

45. Expand: $(2a+5)^2$

46. If a mattress is marked for ₹ 7500 and is available at two successive discounts of 10% and 20%. Find the amount to be paid by the customer?

47. A is thrice as fast as B. If B can do a piece of work in 24 days. then find the number of days they will take to complete the work together.

48. If I is the incentre of $\triangle XYZ$, $\angle IYZ = 30^\circ$, and $\angle IZY = 40^\circ$ find $\angle YXZ$.



49. A survey gives the following information of food items preferred by people. Draw a pie chart.

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

50. The following is the distribution of time spent in the library by students in a school.

Time spent (In minutes)	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90
Number of students	25	40	33	28	30	20	16	8

Draw a frequency polygon using histogram.

VII. Answer any one of the following.

1x10=10

51. a) 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. (OR)

- b) Construct a rectangle HAND with $HA = 7 \text{ cm}$ and $AN = 4 \text{ cm}$. Also find its area.

VIII. Answer one of the following.

1x10=10

52. a) Draw the graph of $x = -7$.

(OR)

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

CH/8/Mat/2