



Class: X

Time Allowed: 20 minutes

MODEL PAPER EXAMINATION 2025
SUBJECT: GENERAL MATHEMATICS
(SECTION "A")

Marks: 15

Note: Attempt **ALL** questions from Section 'A'. Each question carries **ONE** mark.

1. In cubic polynomial, the highest power of the variable is _____.
 A. 1 B. 2 C. 3 D. 4
2. HCF of 24 and 30 is _____.
 A. 6 B. 12 C. 18 D. 24
3. If the determinant of the matrix is zero, the matrix is called a/an _____ matrix.
 A. Identity B. Null C. Singular D. Non-singular
4. Coordinate points _____ is known as the origin of the standard coordinate system where the x-axis and y-axis intersect each other at 90^0 .
 A. (1,1) B. (-1, -1) C. (0,0) D. (0,1)
5. $\frac{16}{20} = \text{-----} \%$.
 A. 16 B. 20 C. 40 D. 80
6. In the expression $\sqrt{24}$, the value of index is _____.
 A. 2 B. 3 C. 24 D. 48
7. The absolute value of -5 is _____.
 A. -5 B. 0 C. 5 D. 10
8. $\sqrt[3]{64} = \text{_____}$.
 A. 4 B. 8 C. 16 D. 32
9. In a right-angled triangle, the opposite side of the right angle is called _____.
 A. Perpendicular B. Base C. Hypotenuse D. Diagonal
10. The order of the matrix with 3 columns and 2 rows is _____.
 A. 2 x 3 B. 3 x 2 C. 2 x 2 D. 3 x 3
11. Point (3, - 4) lies in _____.
 A. Quadrant I B. Quadrant II C. Quadrant III D. Quadrant IV
12. $\begin{bmatrix} 6 & -3 \\ 9 & 3 \end{bmatrix} - \begin{bmatrix} 2 & 5 \\ 0 & -6 \end{bmatrix} = \text{_____}$.
 A. $\begin{bmatrix} 4 & 8 \\ -9 & 9 \end{bmatrix}$ B. $\begin{bmatrix} -4 & 8 \\ 9 & -9 \end{bmatrix}$ C. $\begin{bmatrix} 4 & 8 \\ -9 & -9 \end{bmatrix}$ D. $\begin{bmatrix} 4 & -8 \\ 9 & 9 \end{bmatrix}$
13. $5^0 \times y^2 = \text{_____}$.
 A. 0 B. $5 \times y^2$ C. $x y^2$ D. $x^5 y^{10}$
14. If $a > b$ and $c > 0$, then the relationship between ac and bc is _____.
 A. $ac \leq bc$ B. $ac = bc$ C. $ac < bc$ D. $ac > bc$
15. Degree of the polynomial $2x^3 + 3x^2 + 4x + 1$ is
 A. 1 B. 2 C. 3 D. 4

END OF SECTION A



Class: X

MODEL PAPER EXAMINATION 2025

Time: 2 hours 40 minutes SUBJECT: GENERAL MATHEMATICS (SECTION "B" AND SECTION "C") **Total Marks 60**
SECTION "B" (SHORT ANSWER QUESTIONS) **30 Marks**
Note: Attempt any **SIX** questions from Section 'B'. Each question carries **FIVE** marks.

Q.2 Prove that: $(a + b)^2 + (a - b)^2 = 2(a^2 + b^2)$

Q.3 Find continued product by using the formula: $(x + y)(x - y)(x^2 + y^2)(x^4 - y^4)$

Q.4 Find the value of $x^3 - \frac{1}{x^3}$ when $x - \frac{1}{x} = 4$

Q.5 Factorize: (i) $81a^2 - 25b^2$ (ii) $a^3 - 125$

Q.6 Construct a rectangle with sides 10 cm and 6 cm. Also, write steps of construction.

Q.7 Two angles are supplementary and the greater angle exceeds the smaller angle by 30° . Calculate the measurement of each angle.

Q.8 Find the value of $a^2 + b^2 + c^2$ when $a + b + c = 12$ and $ab + bc + ca = 8$

Q.9 Multiply: $(3\sqrt{5} - 5\sqrt{2}) \cdot (4\sqrt{5} + 3\sqrt{2})$.

Q.10 Find the distance between the pairs of points: (2, 1) and (-4, 3).

Q.11 If $x = 3 + \sqrt{8}$ then find the value of $x + \frac{1}{x}$

SECTION "C" (DETAILED ANSWER QUESTIONS)
30 Marks
Note: Attempt any **THREE** questions from Section 'C'. Each question carries **TEN** marks.

Q.12 Solve the following simultaneous equations by the Matrix Inversion Method:

$$2x - 5y = 1$$

$$3x - 7y = 2$$

Q.13 Derive the quadratic formula by using completing the square method.

Q.14 Find the H.C.F and L.C.M of the following algebraic expression by Division Method:

$$(x^3 + x^2 + x + 1)(x^3 - x^2 + x - 1)$$

Q.15 Solve: $\frac{1}{a^2+1} - \frac{a^4}{a^2+1} + \frac{a^6}{a^2-1} - \frac{1}{a^2-1}$

Q.16 The base and height of a triangle are $(x + 3)$ cm and $(2x - 5)$ cm respectively. If the area of a triangle is 20 cm^2 , find x .

END OF PAPER