ZIAUDDIN UNIVERSITY
EXAMINATION BOARD

Total Time 3 hours
Total Marks: 75

Class: X **MODEL PAPER 2026**
Time Allowed: 20 minutes **SUBJECT: GENERAL MATHEMATICS**
Q1: **SECTION "A" (MULTIPLE CHOICE QUESTIONS)** **Marks: 15**

Note: Attempt **ALL** the MCQs from Section "A". Each MCQ carries **ONE** mark**.**

1. Which of the following is a polynomial?
   A. $x^2 + 2x + 1$ B. $(x^2 + 2x + 1) / (x + 1)$ C. $\sqrt{x} + 2$ D. $1 / x$

2. What is the simplified expression of $(x^2 + 2x + 1) / (x + 1)$?
   A. $x + 1$ B. $x - 1$ C. $x^2 + 1$ D. $x^2 - 1$

3. What $(\sqrt{xy})^2 - (\sqrt{z})^2$ is equal to?
   A. $(\sqrt{xy} + \sqrt{z})(\sqrt{xy} - \sqrt{z})$ B. $(\sqrt{xy} + \sqrt{z})(\sqrt{xy} + \sqrt{z})$
   C. $(\sqrt{xy} - \sqrt{z})(\sqrt{xy} - \sqrt{z})$ D. $(\sqrt{xy} - \sqrt{z})^2 (\sqrt{xy} - \sqrt{z})^2$

4. The HCF of two numbers is 5 and their LCM is 60. If one of the numbers is 15, what is the other number?
   A. 10 B. 20 C. 25 D. 30

5. What is conjugate of $2 - \sqrt{3}$?
   A. $2 + \sqrt{3}$ B. $-2 - \sqrt{3}$ C. $\sqrt{2} + 3$ D. $\sqrt{3} - 4$

6. What is the solution of the equation $2x + 5 = 11$?
   A. $x = 2$ B. $x = 3$ C. $x = 4$ D. $x = 5$

7. Which of the following is a solution to the inequality $x - 3 > 2$?
   A. $x = 4$ B. $x = 5$ C. $x = 6$ D. x = 6, 7, 8, …...

8. What type of matrix has the same number of rows and columns?
   A. Row matrix B. Column matrix. C. Square matrix D. Rectangular matrix

9. In a right-angled triangle, what is the relationship between the lengths of the sides according to Pythagoras' Theorem?
   A. $a^2 = b^2 + c^2$ B. $a^2 + b^2 = c^2$ C. $a^2 - b^2 = c^2$ D. $a = b + c$

10. Which matrix is a singular matrix?
   A. If its determinant is greater than zero. B. If its determinant is less than zero.
   C. If its determinant is equal to zero. D. If its determinant is equal to one.

11. What is the formula for the area of a semi-circle?
   A. $A = \pi r^2$ B. $A = (1/2)\pi r^2$ C. $A = 2\pi r$ D. $A = \pi r$

12. If three points are not on the same line, what are they called?
   A. Collinear points B. Endpoint C. Midpoint D. non-collinear points

13. What are the roots of the quadratic equation $x^2 - 4x + 4 = 0$?
   A. $x = 1, x = 4$ B. $x = 2, x = 2$ C. $x = 0, x = 4$ D. $x = -2, x = 2$

14. What is the value of 'x' in this equation $2x + 1/3 = ¾$?
   A. $x = 1/2$ B. $x = 1/3$ C. $x = 5/24$ D. $x = 7/24$

15. Is the matrix $\begin{bmatrix} 1 & 1 \\ 1 & 1 \end{bmatrix}$ singular or non-singular?
   A. Singular B. Non-singular C. Both D. Neither

END OF SECTION "A"

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Total Time 3 hours

Total Marks: 75

Class: X **MODEL PAPER 2026**

Time: 2 hours 40 minutes **SUBJECT: GENERAL MATHEMATICS (SECTION "B" & 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 Multiply $\frac{x+3}{x-2}$ by $\frac{x^2-4}{x+3}$ and give the result in lowest terms.

Q.3 Determine the remainder of $3x^3-2x^2+7x-5$ when divided by $(x + 3)$.

Q.4 Find the solution set of the following inequation and also illustrate the solution on number line:

$|2x + 3| < x + 2, \forall x \in Z$

Q.5 Solve the following equation by Completing the Square Method:

$24x^2 = -10x + 21$

Q.6 Find the solution of the following equations by Cramer's Rule:

$2x + 3y = 14$

$-4x + y = 28$

Q.7 Prove that:

If two sides of a triangle are unequal in length, the longer side has an angle of greater measure opposite to it.

Q.8 Illustrate corresponding angles, alternate angles, vertically opposite angles, interior angles and exterior angles.

Q.9 Take any triangle ABC and draw its altitudes.

Q.10 A sphere has a volume of 288π cm^3. Find its radius.

Q.11 A rectangle has opposite vertices at (1, 2) and (7, 6). Find the coordinates of the other two vertices.

SECTION "C" (DETAILED ANSWER QUESTIONS) **30 Marks**

Note: Attempt any **THREE** questions from Section "C". Each question carries **TEN** marks**.**

Q.12 Solve $4t^2 - 12t + 5 = 0$ by completing the square method.

Q.13 Factorize the following by Factor Theorem:

$x^3 + 5x^2 - 4x - 20$

Q.14 Find the HCF of the following expressions by Division Method:

$x^3 - 5x^2 + 10x - 8$ and $x^3 - 4x^2 + 7x - 6$

Q.15 Find the inverse of the matrix $A = \begin{bmatrix} 9 & 2 & 1 \\ 5 & -1 & 6 \\ 4 & 0 & -2 \end{bmatrix}$ by Adjoint Method.

Q.16 Two supplementary angles are in the ratio 4 : 5. Determine them.

END OF PAPER