ZIAUDDIN UNIVERSITY
EXAMINATION BOARD

Total Time 2 hours
Total Marks: 50

Class: XI
Time Allowed: 15 minutes
Q1:

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

Marks: 10

Note: Attempt **ALL** questions from this section. Each question carries **ONE** mark

1. Sum of three consecutive numbers is 12, the numbers are _____.

   A. 4,4,4 B. 3,4,5 C. -11, -1,0 D. 6,3,3

2. The ratio of 150 milliliter to 1 Liter is _____.

   A. 1.5 B. 0.5 C. 0.1 D. 0.15

3. _____ is a fixed amount of money that is paid or received at equal intervals of time.

   A. Annuity B. Future value C. Compound Amount D. Present value.

4. The y-intercept of the straight line 4x+2y-75=0 is _____

   A. $\frac{-2}{75}$ B. $\frac{75}{2}$ C. $\frac{4}{75}$ D. -75

5. If $\sqrt{x^2-32}=2$ then x = _____

   A. 4 B. 8 C. 6 D. 10

6. For the quadratic equation $x^2 - 5 = 0$ the values of a, b and c are _____

   A. a = 1, b = 0, c = -5 B. a = 1, b = -5, c = 0 C. a = 1, b = 0, c = 5 D. a = 1, b = 5, c = 0

7. $(25)_{10} = (\quad)_2$

   A. 10001 B. 11101 C.11111 D. 11001

8. The decimal equivalent of binary number 1001 is _____.

   A. 6 B. 10 C. 8 D. 9

9. _____ is a square matrix in which the elements along the main diagonal all equal 1 and all other elements equal 0.

   A. Null Matrix B. Zero Matrix C. Unit Matrix D. None of these

10. If A = $\begin{bmatrix} 2 & 1 \\ 3 & 2 \\ 4 & 3 \end{bmatrix}$ and B = $\begin{bmatrix} 4 & 3 \\ 3 & 2 \\ 2 & 1 \end{bmatrix}$ then A+B = _____

    A. $\begin{bmatrix} 0 & 1 \\ 1 & 0 \\ 0 & 1 \end{bmatrix}$ B. $\begin{bmatrix} 8 & 4 \\ 4 & 6 \\ 2 & 8 \end{bmatrix}$ C. $\begin{bmatrix} 6 & 4 \\ 6 & 4 \\ 6 & 4 \end{bmatrix}$ D. $\begin{bmatrix} 5 & 4 \\ 4 & 5 \\ 3 & 6 \end{bmatrix}$

END OF SECTION A

ZIAUDDIN UNIVERSITY
EXAMINATION BOARD

Total Time 2 hours
Total Marks: 50

Class: XI **MODEL PAPER EXAMINATION 2025**
Time: 1 hours 45 minutes **SUBJECT: BUSINESS MATHEMATICS SECTION "B" AND SECTION "C"** **Total Marks 40**
SECTION "B" (SHORT ANSWER QUESTIONS) **Marks 20**

Q2:

Note: Attempt any **FIVE** questions from this section. Each question **FOUR** equal marks.

1. (i) Divide $27x^5y^4$ by $9x^4y^5$
   (ii) Solve $(1 + 6)^2 - (10 - 7)^3 \div 3^2$
2. A mobile phone is sold for Rs. 15,500/- at a gain of 15%. Find its Cost Price and Profit.
3. In what time will Rs. 1,200/- amount to Rs. 1,680/- at 5% per annum simple interest.
4. Find the equation of straight line whose slope is -5 and passing through the point (3,6).
5. Solve the simultaneous equation using method of elimination:

   $4x + y = 10$
   $2x - 2y = 20$
6. Perform the following operations to the binary numbers:

   $11101 - 1001 \times 11$
7. Find $|A|$, where:

$$A = \begin{bmatrix} 1 & 6 & 9 \\ 2 & 5 & 7 \\ 3 & 4 & 8 \end{bmatrix}$$

8. Find x, y, z if:

$$\begin{bmatrix} x & 6 & 0 \\ 1 & y & 7 \\ 3 & 4 & z \end{bmatrix} = \begin{bmatrix} 3-x & 5 & 9 \\ 2 & 3y-2 & 7 \\ 3 & 3 & 7+5z \end{bmatrix}$$

SECTION "C" (DETAILED ANSWER QUESTIONS) **Marks 20**

Q3:

Note: Attempt any **TWO** questions from this section. Each question carries **TEN** marks.

1. Determine the quarterly vehicle payment necessary to repay Rs. 2,500,000/- automobile loan if interest is computed at 20% per year compounded quarterly. Assume the period of the loan is 3 years.
2. Solve the following quadratic equation:

   $x^2 - x - 72$

   using both
   i. Method of factorizing.
   ii. Method of quadratic formula.
3. Using inverse of the coefficient matrix solve the following simultaneous equation:

   $2x + 4y = 2$
   $-3x + y = 11$

END OF PAPER