



Class: XI

Time Allowed: 15 minutes

MODEL PAPER EXAMINATION 2026

SUBJECT: BUSINESS MATHEMATICS

Q1:

(SECTION "A")

Marks: 10

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

- The multiplicative inverse of 7 is _____.
 A. -7 B. $-\frac{1}{7}$ C. $\frac{1}{7}$ D. $\frac{7}{1}$
- The ratio of Rs. 4 to 80 paise is _____.
 A. 5:1 B. 1:5 C. 3:8 D. 8:3
- The simple interest of Rs. 4000 for 4 years at 10% per annum is _____.
 A. 16,000 B. 1,600 C. 600 D. 6
- The graph of _____ is also called graph of straight line.
 A. Parabola B. Linear equation C. Simultaneous equation D. Quadratic equation
- If $x + y = 6$ and $x = y$ then $x =$ _____,
 A. $x = 1, y = 5$ B. $x = 3, y = 3$ C. $x = 5, y = 1$ D. $x = 8, y = 2$
- A _____ equation is also called quadratic equation,
 A. First Degree B. Second degree C. Third degree D. Fourth degree
- Binary number system is also called _____ system,
 A. Base two number B. Two number C. Duo number D. Dual number
- The binary number $(110)_2$ is equal to the decimal number _____,
 A. 10 B. 8 C. 6 D. 4
- The matrix $\begin{bmatrix} 1 & 0 & 0 \\ 0 & 1 & 0 \\ 0 & 0 & 1 \end{bmatrix}$ is called
 A. Null matrix B. Identity matrix C. Complete matrix D. None of these
- If $A = \begin{bmatrix} 3 & 2 \\ 1 & 4 \\ 6 & 3 \end{bmatrix}$ then its transpose will be
 A. $\begin{bmatrix} 2 & 4 & 3 \\ 3 & 1 & 6 \end{bmatrix}$ B. $\begin{bmatrix} 3 & 1 & 6 \\ 2 & 4 & 3 \end{bmatrix}$ C. $\begin{bmatrix} 2 & 3 \\ 4 & 1 \\ 3 & 6 \end{bmatrix}$ D. None of these

END OF SECTION A

**Q2:**

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

- (i) Simplify $(4x + 6y)(x + 4y)$
(ii) Expand $(5b + 2c)^3$
- If 20 men earn Rs. 1,000 in 5 days, how much will 25 men earn in 8 days?
- What amount of money invested at 8% compound interest will amount to Rs. 30,000 in 5 years?
- Find the equation of straight line when x-intercept = 4 and y-intercept = 6

- Solve the following equations using method of substitution:

$$5x + 2y = 6$$

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

- (i) $(10011)_2 = (\quad)_{10}$
(ii) $(150)_{10} = (\quad)_2$

$$7. A = \begin{bmatrix} 1 & -1 & 2 \\ 3 & 4 & 5 \\ 0 & 1 & -1 \end{bmatrix}, B = \begin{bmatrix} 0 & 2 & 1 \\ 3 & 0 & 5 \\ 7 & -6 & 0 \end{bmatrix}, \text{ and } C = \begin{bmatrix} 0 & 0 & 2 \\ 3 & 1 & 0 \\ 0 & -2 & 4 \end{bmatrix}$$

Determine the following

(i.) $A - 3B$

(ii.) $2A - C$

- Multiply matrix B by matrix C, where:

$$B = \begin{bmatrix} 5 & 4 \\ 6 & 1 \end{bmatrix} \text{ and } C = \begin{bmatrix} 2 & 4 \\ 3 & 2 \end{bmatrix}$$

SECTION "C" (DETAILED ANSWER QUESTIONS)

Marks 20

Q3:

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

- Find an equation to the straight line passing through the points (6,4) and (3,5).
- What is the present value of an annuity that would pay Rs. 5,000 a year for 15 years, assuming an interest rate of 10% compounded annually
- Solve the following equations by the help of matrices:

$$5x - 3y = 15$$

$$4x + 7y = 40$$

END OF PAPER