Roll No. of Candidate : _____

BUSINESS MATHEMATICS **Intermediate Part-I, Class 11th (1st A 324 - IV)** **Paper: I**

(Commerce Group) GUJ-24

Time: 15 Minutes **OBJECTIVE** **Code: 6647** **Marks: 10**

Note: You have four choices for each objective type question as A, B, C and D. The choice which you think is correct, fill that circle in front of that question number. Use marker or pen to fill the circles. Cutting or filling two or more circles will result in zero mark in that question.

1. 1. If a : b = c : d then

(A) ab = cd (B) ac = bd (C) ad = bc (D) abc = d

2. If three times of a number is 150, then number is

(A) 50 (B) 100 (C) 35 (D) 65

3. Conversion of $(10)_2$ in decimal system is

(A) 2 (B) 3 (C) 4 (D) 5

4. 18 to 30 is same as

(A) 3 : 4 (B) 3 : 5 (C) 6 : 7 (D) 2 : 3

5. If $A = [2 \quad 3 \quad 4]$; then A^t =

(A) $\begin{bmatrix} 3 \\ 2 \\ 4 \end{bmatrix}$ (B) $\begin{bmatrix} 4 \\ 3 \\ 2 \end{bmatrix}$ (C) $[4 \quad 3 \quad 2]$ (D) $\begin{bmatrix} 2 \\ 3 \\ 4 \end{bmatrix}$

6. The value of f(x) = 4x + 100 at x = 2 is

(A) 104 (B) 106 (C) 108 (D) 110

7. If $X = \begin{bmatrix} 3 \\ 4 \end{bmatrix} + \begin{bmatrix} -8 \\ 5 \end{bmatrix}$, then X =

(A) $\begin{bmatrix} -5 \\ 9 \end{bmatrix}$ (B) $\begin{bmatrix} 9 \\ 5 \end{bmatrix}$ (C) $\begin{bmatrix} -5 \\ -9 \end{bmatrix}$ (D) $\begin{bmatrix} 5 \\ 9 \end{bmatrix}$

8. The solution of $x^2 - x = 0$

(A) 0 , 4 (B) 1 , –1 (C) 0 , 1 (D) 1 , –1

9. If an amount is doubled in 1 year, then rate of simple interest is

(A) 10% (B) 50% (C) 75% (D) 100%

10. $(101)_2 \times (10)_2$ =

(A) $(1000)_2$ (B) $(1010)_2$ (C) $(1001)_2$ (D) $(1111)_2$

JSINESS MATHEMATICS **Intermediate Part-I, Class 11th (1st A 324)** **Paper: I**

(Commerce Group)

Time: 1:45 Hours **SUBJECTIVE** GUJ-24 **Marks: 40**

Note: Section-I is compulsory. Attempt any TWO (2) questions from Section-II.

SECTION – I

2. Write short answers to any SIX questions. **(2 x 6 = 12)**

i. Distribute Rs 1000 between two students in the ratio of 2 : 3

ii. Find x if 14 : 19 :: x : 38

iii. 250 is 20% of what?

iv. Find simple interest on Rs 8000 at 10% p.a. for 40 days.

v. Define ordinary annuity.

vi. Solve the equation $2x + 3 = 6 - (2x - 3)$

vii. Solve for x : $\frac{5x+4}{3x+2} = \frac{3}{5}$

viii. What are the methods to solve quadratic equation?

ix. Solve $4x^2 + 7x - 1 = 0$ by using quadratic formula.

3. Write short answers to any SIX questions. **(2 x 6 = 12)**

i. Find the domain of function $f(x) = 3x - 7$

ii. Draw the graph of $f(x) = 2x - 3$

iii. Convert $(421)_{10}$ to Binary Number System.

iv. Convert $(11111)_2$ to Decimal Number System

v. Add $(1011)_2$, $(1100)_2$

vi. Define "Matrix"

vii. If $A = \begin{bmatrix} 1 & 2 \\ -3 & 4 \end{bmatrix}$, $B = \begin{bmatrix} 0 & 3 \\ 5 & -2 \end{bmatrix}$. Find A + B

viii. If $A = \begin{bmatrix} 4 & -4 \\ -6 & -5 \end{bmatrix}$. Find |A|.

ix. Find the value of x , if $\begin{bmatrix} 2 & x \\ 5 & 10 \end{bmatrix}$ is a singular matrix.

SECTION – II

4. (a) A family spends Rs 4004 for food out of total income of Rs 15400. How much money is needed for food if such family earns Rs 18000? 4

(b) Find compound amount of Rs 10,000 payable at the end of 8 years at the rate of 6% compounded annually. 4

5. (a) Find x-intercept, y-intercept and draw the graph of $f(x) = 3x - 5$ 4

(b) Solve $\frac{3}{x-2} + \frac{1}{x+2} = 5$ 4

6. (a) Solve the system by Crammer's Rule : 4

$$3x + y = 1$$
$$x - 2y = -2$$

(b) Simplify $(11011)_2 \times (11110)_2$ 4