

Roll No _____

(To be filled in by the candidate)

(Academic Sessions 2017 – 2019 to 2020 – 2022)

BUSINESS MATHEMATICS

UJR-21

Q.PAPER (Objective Type)

221-(INTER PART -I)

Time Allowed : 15 Minutes

PAPER CODE = 6644

Maximum Marks : 10

Note : Four possible answers A, B, C and D to each question are given. The choice which you think is correct, fill that circle in front of that question with Marker or Pen ink in the answer-book. Cutting or filling two or more circles will result in zero mark in that question.

1-1	If $f(x) = 3x - 6$, then $f(0)$ is :	(A) 6	(B) -6	(C) 3	(D) -3
2	In the binary system digits used :	(A) 1, 2	(B) 0, 2	(C) 1, 0	(D) 1, 10
3	If $x + 9 = 15$ then value of x is :	(A) 6	(B) -6	(C) 7	(D) 24
4	If matrices A and B are non-singular then $(AB)^{-1} =$:	(A) $A^{-1}B^{-1}$	(B) AB	(C) $B^{-1}A^{-1}$	(D) BA

(Turn Over)

(2)

MSR-21

5	30% of 300 is :	(A) 80	(B) 90	(C) 70	(D) 60
6	Which value of x is the root of the equation $11x - 22 = 11$:	(A) $x = 3$	(B) $x = -3$	(C) $x = 4$	(D) $x = 33$
7	Ratio between 10 minutes and 30 minutes is :	(A) 2 : 3	(B) 1 : 3	(C) 2 : 4	(D) 1 : 5
8	The number 4 in binary system is :	(A) $(101)_2$	(B) $(100)_2$	(C) $(111)_2$	(D) $(1010)_2$
9	If matrix $A = \begin{bmatrix} 2 & 1 \\ 2 & 1 \end{bmatrix}$, then $ A $ is :	(A) 4	(B) 0	(C) -4	(D) -8
10	The simple interest on Rs.700/- borrowed for one year at the rate of one percent per annum is :	(A) Rs.7	(B) Rs.70	(C) Rs.700	(D) Rs.80

Roll No _____ (To be filled in by the candidate)

(Academic Sessions 2017 – 2019 to 2020 – 2022)

BUSINESS MATHEMATICS

(Essay Type)

221-(INTER PART – I)

Time Allowed : 1.45 hours

Maximum Marks : 40

2. Write short answers to any SIX (6) questions :

MR-2

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- (i) Find the value of x , if $x : 250 :: 4 : 50$
- (ii) Find 10% of 15000.
- (iii) If cost of a bag is Rs. 120 and selling price is Rs. 150, what is the profit or loss?
- (iv) What is the "Principal" amount?
- (v) Find simple interest on Rs.5000 for 10 years at 8% per annum.
- (vi) Solve the equation $\frac{9}{x+4} = \frac{5}{x-8}$
- (vii) Solve by factorization $x^2 - 5x + 6 = 0$
- (viii) Find the value of x , if $2x + 7 = 9$
 $x + y = 8$
- (ix) Solve the equations
 $x - y = 4$

3. Write short answers to any SIX (6) questions :

12

- (i) If $f(x) = x^2 - 4$ then find the value of $f(4)$ and $f(\sqrt{2})$.
- (ii) Write the domain and range of the relation $\{ (1, 3), (3, 3), (5, 1), (6, 1) \}$
- (iii) Define matrix.
- (iv) If $A = \begin{bmatrix} 6 & 3 \\ 4 & x \end{bmatrix}$ is a singular matrix, then what will be the value of x ?

(Turn Over)

(2)

UUR-21

3. (v) Find the value of x from $X + \begin{bmatrix} 3 \\ 4 \end{bmatrix} = \begin{bmatrix} 5 \\ 3 \end{bmatrix}$
- (vi) Find the inverse of $\begin{bmatrix} 3 & -1 \\ 4 & 5 \end{bmatrix}$
- (vii) Simplify $(111)_2 + (100)_2$
- (viii) Convert $(101)_2$ into decimal number system.
- (ix) Multiply the binary number's $(111)_2 \times (1110)_2$

SECTION - II

Note : Attempt any **TWO** questions.

4. (a) A bus travels 200 km in 3 hours. How much time is needed for journey of 450 km? 4
- (b) At what rate Rs.1000 double itself in 5 years? 4
5. (a) Solve $\frac{y^2}{2} - \frac{y}{6} = \frac{1}{12}$ by using quadratic formula. 4
- (b) Find domain and range of the function $f(x) = \frac{x^2 - 16}{x - 4}$, $x \neq 4$ 4
6. (a) Solve the system of equations $2x - 5y = 1$ by using Cramer's rule. 4
- $3x + 4y = 36$
- (b) Evaluate by changing into binary number system : $[(111011)_2 + (110001)_2] - (20)_{10}$ 4

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