LGS GROUP OF COLLEGES

Class: I.COM Part 1(chp 5,6) M2 **Session: 2022 - 2024**

Subject: B.Mathematics	**Name:**	**Roll No:**
Time: 1hr	**Objective Type**	**Marks = 35**

SECTION-I OBJECTIVE TYPE

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 within the answer-book. Cutting or filling two or more circles will result in zero mark in that question. (8 x 1 = 8)

1	A transpose of COLUMN matrix is a _____	
	A. Row matrix	C. Unit matrix
	B. Column matrix	D. None of these
2	The order of matrix $\begin{bmatrix} 0 & 0 & 0 \\ 0 & 0 & 0 \end{bmatrix}$	
	A. 0×1	C. 2×4
	B. 4×4	D. 3×4
3	The matrix $\begin{bmatrix} 2 & 0 \\ 0 & 2 \end{bmatrix}$ is	
	A. Diagonal matrix	C. Scalar matrix
	B. Inverse matrix	D. Identity matrix
4	$If \quad X - \begin{bmatrix} 3 \\ 4 \end{bmatrix} = \begin{bmatrix} -4 \\ 3 \end{bmatrix}$ *Than matrix X will be*	
	A. $\begin{bmatrix} 0 \\ 0 \end{bmatrix}$	C. $\begin{bmatrix} -4 \\ 3 \end{bmatrix}$
	B. $\begin{bmatrix} -4 \\ -3 \end{bmatrix}$	D. $\begin{bmatrix} -7 \\ -1 \end{bmatrix}$
5	Number used in decimal system are	
	A. 0 to 9	C. 1 to 10
	B. 0 and 1	D. none of them
6	$(1011)_2$ in decimal system is	
	A. 11	C. 15
	B. 19	D. 21
7	8 in binary system is	
	A. $(100)_2$	C.$(1000)_2$
	B. $(10000)_2$	D. $(1100)_2$
8	Conversion of $(111011)_2$*into decimal number is*	
	A. 56	C. 57
	B. 58	D. 59

Section-II SUBJECTIVE TYPE

Part - I

Q2. Write short answer to all eight (8) parts. (8 x 2 = 16)

i) If $A = \begin{bmatrix} 4 & 1 \\ 5 & 0 \end{bmatrix}$ Find A^t

ii) $A = \begin{bmatrix} 3 & 1 \\ 2 & 4 \end{bmatrix}$ $Find\ A^{-1}$

iii) $A = \begin{bmatrix} 4 & 1 \\ 1 & 2 \end{bmatrix}$ $find\ |A|$

iv) $A = \begin{bmatrix} 3 & 1 \\ 0 & 9 \end{bmatrix}$ $find\ \ A \times A$

v) Evaluate 945 in base 2 , than add to $(111)_2$

vi) Evaluate $(1011)_2 - (101)_2$

vii) Simplify $(1001)_2 \times (1011)_2$

viii) Define a decimal system.

SECTION – II (PART II)

Solve all long questions

Q. 3 : Solve by CRAMER's Rule

$$5x - 2y = 16$$

$$x - y \quad = 10$$

(3)

Q. 4 : $A = \begin{bmatrix} 2 & -3 \\ 6 & 4 \\ 1 & 0 \end{bmatrix}, B = \begin{bmatrix} 2 & 4 & 0 \\ 1 & 0 & 3 \\ 2 & 5 & 4 \end{bmatrix}$ $Find\ BA$ (3)

Q. 5 : Divide $(101001)_2 \div (1111)_2$ (3)

Q.6: Convert into binary system **59. 59375** **(2)**