



# LGS GROUP OF COLLEGES

[XI MATHEMATICS] Ex. # 2.7,2.8,3.1

TEST#

W-T-5

Class: FSC/ICS Part 1 Code:2424 Session: 2024

Subject: Mathematics	Name: _____	Roll No: _____
Time: 35 Minutes	Weekly Test	Marks = 15

## OBJECTIVE TYPE

**Q# 1.** 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 × 4 = 4)

1	If order of a matrix A is $2 \times 3$ and of matrix B is $3 \times 3$ , then order of AB is: A. $3 \times 3$ B. $2 \times 2$ C. $3 \times 2$ D. $2 \times 3$
2	The set N w.r.t addition is a:- A. Group      B. Monoid      C. Null Set      D. Semi-Group
3	Inverse of a square matrix A does not exist if A is: A. Diagonal      B. Non-Singular      C. Unit      D. Singular
4	If a and b are elements of group G, then solution of equation $ax = b$ will be: A. $a^{-1}b$ B. $b^{-1}a$ C. $ab^{-1}$ D. $ba^{-1}$

## SUBJECTIVE TYPE

### SECTION - 1

**Q# 2.** Attempt ALL SHORT Questions:

(2 × 3 = 6)

i	Define Semi Group
ii	Prepare a table of multiplication of the elements of the set of residue classes modulo 5
iii	If $A = \begin{bmatrix} i & 0 \\ 1 & -i \end{bmatrix}$ , Show that $A^4 = I_2$

### SECTION - II

**Attempt LONG Question:**

(5 × 1 = 5)

Q# 3.	Prove that all $2 \times 2$ non-singular matrices over the real field form a non abelian group under multiplication
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