Reg. No										

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GANDHI INSTITUTE OF ENGINEERING AND TECHNOLOGY, ODISHA, GUNUPUR
(GIET UNIVERSITY)

B. Sc. (Ag.)(First Semester - Regular) Examinations, February – 2025

NG-2 - Introductory Mathematics

Time: 2 hrs | Maximum: 50 Marks

Answer ALL questions

(The figures in the right hand margin indicate marks)

PART – A **(2 x 5 = 10 Marks)**

Q.1. Answer ***ALL*** questions

a. Construct the general matrix of order 3×3 , 2×3.

b. Find the Limit of $\lim_{x \to 1} \frac{2x^3-3x^2+4}{9x^2+8x+7}$.

c. Find the integration of $\int (4x^2 + 3x + 5)\, dx$

d. Find the derivative of $sinx + cosx$, e^{4x}.

e. Find the value of $\left(\frac{3}{4}\right)^3 \; and \; (2 \times 3)^4$.

PART – B **(8 x 5=40 Marks)**

Answer ***ANY EIGHT*** questions

		Marks
2.	Express the matrix in the form of Symmetric and skew symmetric form $\begin{bmatrix} 2 & 3 \\ 4 & 8 \end{bmatrix}$.	5
3.	If A=$\begin{bmatrix} 1 & 0 & -2 \\ 2 & 3 & -1 \end{bmatrix}$ B=$\begin{bmatrix} 4 & -1 & 3 \\ 0 & 2 & 1 \end{bmatrix}$ C=$\begin{bmatrix} 2 & -3 & 0 \\ 1 & 4 & 5 \end{bmatrix}$ Find A+B, A-B, A+B+C, 2A+3C,2A-B.	5
4.	Let A=$\begin{bmatrix} 1 & -2 & 5 \\ 4 & 4 & 8 \\ -3 & 1 & 0 \end{bmatrix}$ and B=$\begin{bmatrix} 5 & 2 & 0 \\ -5 & 3 & -4 \\ -4 & 2 & -4 \end{bmatrix}$ .Then find 2A+3B ,2B+3A , A-2B.	5
5.	Find the Minors Cofactors and Adjoint of the matrix A=$\begin{bmatrix} 5 & 1 \\ 2 & 4 \end{bmatrix}$.	5
6.	Find the inverse of the matrix $\begin{bmatrix} 1 & 2 \\ 3 & 4 \end{bmatrix}$.	5
7.	Write the first three terms of the sequence $a_n = 2n + 5$, $a_n = \frac{n-3}{4}$.	5
8.	Find the coordinates of the point $P(3,4) \; and \; Q(6,8)$ with ratio $3:2 \; then \; find$ i. Internal section formula ii. External section formula iii. Midpoint formula	5
9.	Write the Derivative formula of x^n, a^x,logx,e^x,$sinx$, $cosx$.	5
10.	Find the perpendicular distance from a point $(1,2)$ through a straight line $3x + 4y + 6 = 0$	5
11.	Find the integration of $\int x^n \, dx$, $\int e^x dx$, $\int a^x dx$, $\int (2x + 3)\, dx$, $\int (a^{2x} + 2)\, dx$.	5

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