Reg. No | | | | | | | | | | |

AY 24

Gandhi Institute of Engineering and Technology University, Odisha, Gunupur
(GIET University)

B. Sc. (Ag.) (First Semester - Regular) Examinations, January – 2026

NG-2: Introductory Mathematics

Time: 2 hrs | Maximum: 50 Marks

Answer ALL questions

(The figures in the righthand margin indicate marks)

PART – A **(2 x 5 = 10 Marks)**

Q.1. Answer ***ALL*** questions	CO #	Blooms Level
a. Construct a matrix of order 4×3 and 3×3.	CO1	K1
b. Find the distance between $(1,2)$ and $(3,4)$.	CO2	K2
c. Find the derivative of $3x - e^{5x+3}$.	CO1	K1
d. Find the sequence up to 4th terms $a_n = \frac{2n}{n+1}$.	CO1	K1
e. Find the sum of all numbers from 1 to 50.	CO2	K2

PART – B **(8 x 5 = 40 Marks)**

Answer ***ALL*** the questions	Marks	CO #	Blooms Level
2. Find the minor, Cofactor and Adjoint of the matrix $\begin{bmatrix} 2 & 4 \\ 5 & 7 \end{bmatrix}$.	5	CO2	K2
3. Find the equation of straight line passing through the points $A(6,8)$ and $B(10,16)$.	5	CO2	K2
4. Find $\frac{dy}{dx}$. $Where \quad y = 8sin10x \;\; ii. y = 3e^{8x} \;\; iii. y = 7a^{2x}$.	5	CO2	K2
5. Find the perpendicular distance from a point $(1,2)$ through a straight line $3x + 4y + 6 = 0$	5	CO3	K3
6. Find the Limit of i. $\lim_{x\to 1} \frac{2x^3-3x^2+1}{9x^2+8x+7}$ ii. $\lim_{x\to 2} \frac{2x^3-3x^2}{9x^2+8x}$ iii. $\lim_{x\to 3} \frac{2x^3-3}{9x^2+7}$	5	CO2	K2
7. Find the integration of i.$\int (ax^2 + bx + c)\, dx$ ii. $\int (5x^2 + sinx + 1)$dx iii. $\int (3x^2 + 3x + 5)$dx	5	CO3	K3
8. Write the first three terms of the sequence $a_n = 2n + 5$, $a_n = \frac{n-3}{4}$.	5	CO2	K2
9. 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+B.	5	CO2	K2
10. Find the derivative $\frac{dy}{dx}$. i.$y = 2x^3 + e^{3x} + 6x + 21 \;\; ii. y = e^{7x}$+7x+10 $iii. y = 3e^{4x}$+5$e^{2x} - 5x$+5	5	CO3	K3
11. Express the matrix in the form of Symmetric and skew symmetric form $\begin{bmatrix} 2 & 3 & 4 \\ 1 & 2 & 3 \\ 6 & 8 & 4 \end{bmatrix}$.	5	CO2	K2

--- End of Paper ---