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Daffodil International University

Faculty of Science & Information Technology

Department of Multimedia and Creative Technology (MCT)

Mid Term Examination, Fall - 2026

Course Code: 0541-121

Course Title: Mathematics-2

Course Teacher's Initial: AG

Time: 1:30 Hrs **Marks: 25**

Answer ALL Questions

1.	a) Construct an augmented matrix based on the system of linear equations stated in question number 4. b) In a hypothetical scenario you are provided with two matrices. The first matrix has a dimension of 3 by 10 and the second matrix has a dimension of 10 by 33. Can these two matrices be multiplied following the matrix multiplication process? Start writing your answer with a "Yes" or "No". Later justify your answer briefly. c) Exemplify the following types of matrices without any definition or explanation. i. Identity Matrix ii. Upper Triangular Matrix	[1+1+ (1+1) =4]	CLO 1, C1 3×10 10×33
2.	By applying the calculation process of Digital Differential Analyzer, calculate and draw lines for the following cases- **Case 1:** (5, 4) to (11, 4) **Case 2:** (5, 4) to (5, 12) **Case 3:** (5, 3) to (10, 6) **Case 4:** (5, 5) to (10, 10) **Case 5:** (11, 8) to (16, 13) Note that all lines must be drawn in a single graph paper and ***proper labeling is critically important.***	[7]	CLO 2, C3
3.	Calculate the determinant, cofactors, ad-joint and inverse matrix for the given system of linear equations and figure out the value of x, y & z. $10x + 2y + 3z = 51$ $6x + 3y + 2z = 41$ $8x + y + 4z = 49$	[7]	CLO 1, C3
4.	Apply Cramer's rule in the following system of linear equations and figure out the value of x, y & z. $8x + 2y + 3z = 68$ $5x + 3y + 2z = 54$ $7x + y + 4z = 66$	[7]	CLO 1, C3