



Daffodil
International
University

Student ID:

Course Code: MAT101

Class Test No.: 01

Class Test

Program:

Course Title: Mathematics I

Signature of the Course Teacher:

Semester: Fall 2026

Section: 73-D

Date: 27/09/26

Time: 20 minutes

Q1. i. If $f(x) = e^{2x+1}$; then find the inverse of $f(x)$.

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ii. If

$$R = \{(1,1), (2,4), (-2,4)\}$$

$$S = \{(-3,7), (-3,8), (5,9), (7,11)\}$$

$$T = \{(2,10), (2,12), (5,22), (6,26)\}$$

Which relation is a function and why?

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Q2. Examine the Differentiability of the following function at the point $x = 1$

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$$f(x) = \begin{cases} \ln x; 0 < x \leq 1 \\ 0; 1 < x \leq 3 \\ 1 - 3x^2; x > 3 \end{cases}$$

Q3. Select the correct answer for each of the following questions.

1. What does OBE stand for?

- a) Objective-Based Education
☒ b) Outcome-Based Examination
☒ c) Outcome-Based Education
d) Organization-Based Education

2. Which PO is associated with CO3 in MAT101?

- a) PO1
c) PO3

- ☒ b) PO2
d) PO4

3. How many POs are specified for MAT101?

- a) 1
c) 3

- ☒ b) 2
d) 4

4. How many POs must you attain to be a CSE Engineer?

- a) 10
c) 8

- ☒ b) 12
d) 9

5. How many credits should be completed to be a CSE engineer?

- a) 150
☒ c) 154

- b) 160
d) 155