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Daffodil International University

Class Test

15/15

Student ID: [redacted] **Program:** **Semester: Fall 2026**

Course Code: MAT101 **Course Title: Mathematics I** **Section: 73-H** **Date: 22/09/26**

Class Test No. : 01 **Signature of the Course Teacher :** **Time: 20 minutes**

Q1. i. If $f(x)=\ln x+2; x\geq 0$ then find the inverse of $f(x)$. 3

ii. If

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

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

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

Which relation is a function and why? 2

Q2. Examine the Differentiability of the following function at the point $x=1$ 5

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

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 CO2 in MAT101?
   a) PO1
   b) PO2
   c) PO3
   d) PO4

3. How many POs are specified for MAT101?
   a) 1
   b) 2
   c) 3
   d) 4

4. How many POs must you attain to be a CSE Engineer?
   a) 10
   b) 12
   c) 8
   d) 9

5. How many credits should be completed to be a CSE engineer?
   a) 150
   b) 160
   c) 154
   d) 155