



Daffodil
International
University

Class Test

Student ID : 262-15-XXXXX

Program : *BSc in CSE*

Semester: Summer- 2026

Course Code: MAT101

Course Title: Mathematics I

Section: 72-B

Date: 08/06/26

Class Test No. : 01

Signature of the Course Teacher :

Time: 30 minutes

Q1. Define Injective, Surjective, and Bijective Functions with examples. 4

Q2. State the remainder theorem. Find the roots of the equation $4x^4 - 24x^3 + 23x^2 + 18x = 0$

By using the factor theorem. 5

Q3. Examine the Differentiability of the following function at the point $x = \frac{\pi}{2}$ 6

$$f(x) = \begin{cases} 1; x < 0 \\ 1 + \sin x; 0 \leq x < \frac{\pi}{2} \\ \left(x - \frac{\pi}{2}\right)^2 + 2; x \geq \frac{\pi}{2} \end{cases}$$

Start from here