ourdiu.com | Shared by Hasib Ibne Zaman

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

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

Start from here