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Set: B

Daffodil International University

15

Class Test

Student ID: 261-15-[redacted] Program: B. Sc. in CSE Semester: Summer Year: 2026

Course Code: MAT102 Course Title: Mathematics-II Section: 71_A Date: 23.06.2026

Class Test No.: 02 Marks Obtained: ..... Signature of the Course Teacher: .....

Time: 30 minutes **Total Marks: 15**

1.	Determine the value of $\int_0^{\pi/2} \frac{\sin\theta}{\sqrt[4]{\cos^3\theta}}\, d\theta$.	[5]
2.	By using techniques involving the Beta function, find the exact value of $\int_0^1 \frac{1}{\sqrt[3]{x^2 - x^3}}\, dx.$	[5]
3.	Evaluate: $\int_1^e \int_1^x \int_0^{\sqrt{xy}} \frac{z}{x}\, dz\, dy\, dx$.	[5]

$\pi/2$ $\pi/2$ $\pi/2$