

Daffodil International University
Faculty of Science & Information Technology
Department of Software Engineering
QUIZ-1, Summer 2026

Course Code: SE314; Course Title: Computer Algorithm Design & Analysis
Sections: 44B & Teacher: AS

Time: 30 Minutes

Marks: 15

[The figures in the right margin indicate the full marks and corresponding course outcomes. All portions of each question must be answered sequentially.]

1. Analyze the essential characteristics that define a good algorithm and Calculate the time complexity and space complexity of the given algorithm- <pre> int sum(int A[], int n) { int sum = 0, i; for(i = 0; i < n; i++) sum = sum + A[i]; return sum; } </pre>	5
2. Differentiate between Big Oh (O) and Big Omega (Ω) notation. An algorithm has a running time function: $f(n)=5n+3$ Determine the asymptotic upper bound of the function using Big-O notation. Justify your answer.	5
3. An e-commerce platform stores the prices (in BDT) of newly added products: 1250, 850, 1999, 450, 750, 2200, 1500, 999 To improve search efficiency, the system first <u>breaks the collection into smaller sections, organizes each section, and then combines them to create one fully ordered list</u>. Illustrate the complete sorting process and provide the final ordered prices.	5