ourdiu.com | Shared by Ahnab Shariar

Daffodil International University
Faculty of Science & Information Technology
Department of Computer Science & Engineering
Midterm Examination, Summer 2026
Course Code: CSE313, Course Title: Compiler Design
Level: 3 Term: 1 Batch: 67

Time: 01:30 Hrs **Marks: 25**

Answer ALL Questions

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

1.	a)	Consider the following CFG: S → Actor Act Act → Event | Act Connector Act | Act Connector Act Connector Act Actor → hero Event → runs | jumps | hides Connector → then Explain whether the grammar is ambiguous or not for the below input string: hero runs then jumps then hides	[5]	CO1

2.	a)	intt processData(float velocity, float acceleration, float len, float time) {
		float 2result;
		result = velocity + 4 * len - time * velocity + len - acceleration * time // target
		return result + k;
		}
		Illustrate the phases of a compiler for the target of the given function.
			[6]	CO1

	b)	Classify the errors in the above code 2(a), and explain how panic-mode error recovery would handle the errors in this program.	[4]	
3.	a)	Consider an FSM with the following transition table:	[4]	CO2

State	δ(q,a)	δ(q,b)
→ q0	{q0, q1}	{q0, q2}
q1	{q3}	{q1, q4}
q2	{q2}	{q3}
q3	{q4}	{q3}
*q4	{q4}	{q2, q4}

Construct the FSM for the given transition table and identify the tuples from the FSM.

	b)	If the FSM is an NFA, convert it into a DFA and write a regular expression that describes the language accepted by the resulting DFA.	[6]	