



# Daffodil International University

Faculty of Science & Information Technology

Department of Computer Science & Engineering

Mid Examination, Summer 2025

Course Code: CSE331, Course Title: Compiler Design

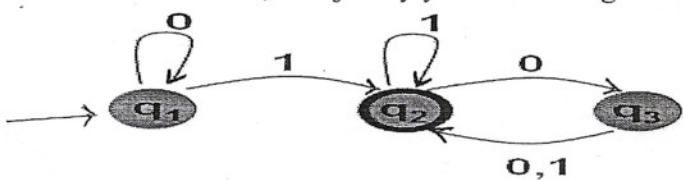
Level: 3 Term: 3 Batch: 62

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 a grammar designed to parse simplified time formats: $T \rightarrow H : M$ $H \rightarrow N   NN$ $M \rightarrow NN$ $N \rightarrow 0   1   2   3   4   5   6   7   8   9$ Determine whether the grammar is ambiguous for the input string- 1 : 23	[5]	CO1
2.	a)	<pre>float newSal(float B_Sal, Exp, Edu, KPI, Er_T) float b1=b2=b3=b4=0.4, nSal = B_Sal+b1*Exp+b2*Edu+b3*Sex+b4*KPI+e.Er_T*0.3    //3<sup>rd</sup> stat. return nSal,</pre> Describe the phases of a compiler for the 3 <sup>rd</sup> statement of the given function.	[6]	CO1
	b)	Find the errors in the above code 2(a) and explain how panic mode method can recover from the errors.	[4]	
3.	a)	Using the given transition diagram (TD), explain the five components (5-tuple) of the Finite State Machine (FSM). Additionally, identify whether the FSM is deterministic or non-deterministic, and justify your reasoning. 	[6]	CO1
	b)	Analyze the given grammar for Left Factoring and modify it to eliminate any occurrences while preserving its structure. $E \rightarrow \underline{edu}   edu.bd   edu.com   diu.edu   diu.bd   diu   educate   education   educated   twinkle   humpty   dumpty$	[4]	