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Daffodil International University
Faculty of Science & Information Technology
Department of Computer Engineering
Course Code: CSE 331 ; Course Title: Compiler Design

Time: 1 hour 25/10/2025 **Marks: 15**

Sl.	Question	Marks
1.	Consider this code written in C: Int x =0, y = 0, z = 30; X = x*z+25; Y = 5+ x;	
	a) Show how the code goes through different phases of the compiler till code optimization	04
2.	Design a regular expression for	
	a) Language that only accepts strings that start with b, can contain a or b, then might contain ab, if it contains ab it can be repeated up to k times, where k is finite, and the string at the end contains a.	02
	b) A language that describes variables for C : Can contain "_" or "Letters", then can contain "_", "Letters" or "Numbers". Use regular definitions for Letters and Numbers and describe these definitions.	02
3.	Draw the Transition Diagram and Table for the regular expression in 2(a)	02
4.	Define the Finite Automata described by question 3.	
	a) Explain if it is a DFA or NFA	01
	b) If it is a NFA, use subset construction method to derive the DFA transition table	04