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Daffodil International University

Faculty of Science & Information Technology

Department of Information Technology & Management

Mid-Term Examination, Spring 2026

Course Code: ITM121; Course Title: Structured Programming

Sections & Teachers: A, MA

Time: 1:30 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)*	**Define** variables and constants in your own words. Write down the syntax to declare and initialize a variable in C.	[Marks-3]	CO-1 *Level-2*
	b)	**Explain** the rules for naming variables in C.	[Marks-3]	
	c)	**Explain** the 4 main parts of a loop. Differentiate between entry-controlled and exit-controlled loops.	[Marks-3]	
	d)	**Differentiate** between `int`, `float`.	[Marks-1]	
2.	*a)*	The ITM department system needs to check student usernames. **Implement** a C program using switch to determine whether an input character is a vowel or a consonant.	[Marks-4]	CO-2 *Level-3*
	b)	The ITM department system needs to validate username characters. **Implement** a C program to check whether an input character is a capital letter, small letter, digit, or special symbol and display the result.	[Marks-4]	

	c)	`1`
		`22`
		`333`
		`4444`
		`55555`
		Implement a C program to print the above pattern.
			[Marks-4]	

	d)	The ITM department records student attendance for a lab session. The system scans student IDs one by one. If a student ID `0` is entered, it indicates that all remaining students are absent, and the scanning should stop immediately. **Implement** a C program that: 1. Continuously takes student IDs as input. 2. Prints each ID as present. 3. Stops scanning when the ID `0` is entered using a break statement.	[Marks-3]	