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Daffodil International University

Department of Software Engineering

Faculty of Science & Information Technology

Midterm Examination, Fall 2023

Course Code: SE 213; Course Title: Digital Electronics & Logic design

Batch: 40 & 38; Sections: All

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)	**Develop** the truth table and circuit diagram of the following Function $F= xy(y'+z) + x'z'$	[Marks-4]	CLO-1 *Level-3*
	b)	**Utilize** 2's complement method to Subtract the binary numbers 101101 – 110011	[Marks-3]	
	c)	**Explain** why the NOR gate is referred to as a universal gate.	[Marks-3]	
2	a)	$Y= BC + AC' + AB + BCD$ (11) (10) (11) (111) **Apply** k-map simplification technique to simplify the above expressions. **Construct** the logic diagrams of the simplified output.	[Marks-4+3]	CLO-2 *Level-3*
	b)	Check the following function. **Interpret** in sum of minterms & convert it to product of maxterms form. $F(W,X,Y,Z)= Z(W'+X) + X'Z$	[Marks-8]	

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