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)	$Y = BC + AC' + AB + BCD$ 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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