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Sabbir

Daffodil International University

Department of Software Engineering
Faculty of Science & Information Technology
Midterm Examination, Fall 2025

Course Code: SE 111; Course Title: Computer Fundamentals

Sections & Teachers: SI (A,B,C), MSA (D,E,M), MKH (F,N,O), AF (G), PC (H,I), AZ (J,P), RHH (K,L), MSP (Q)

Time: 1 Hour 30 Mins **Marks: 25**

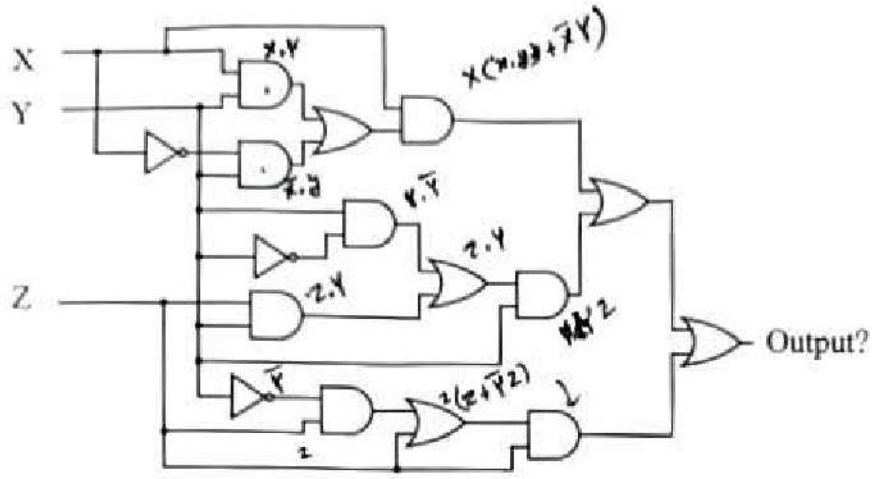
Answer ALL Questions

[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)*	At the Computer Lab of SWE department, Raihan is working on a project to prepare a presentation report. He uses the keyboard and mouse to input data, edit text, and design slides. These input devices send the data to the computer, where it is processed by the CPU to organize and format the information according to his instructions. During editing, the data is stored temporarily in the memory unit for quick access. Once the presentation is finalized, he saves the file permanently in the storage unit. Later, he displays the completed presentation on a projector. Based on the scenario **explain** the functions of each unit briefly with proper diagram.	[Marks-6]	CLO-1 *C2*
	b)	i) **Convert** 615_8 to its Base 16 equivalent Number. ii) **Convert** 1101110.010111_2 to its Base 10 equivalent Number. iii) **Convert** 369_{13} to its Base 7 equivalent Number.	[Marks-9]	
2.	*a)*	In the Software Engineering Department at DIU, a student is designing a simple security system for the lab. The system only allows access if one sensor is off, or both are off. The system's decision depends on checking the combination of the two sensor signals. **Identify** the logic gate used in the above scenario with its truth table and diagram.	[Marks-3]	CLO-2 *C4*

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b)	**Identify** the final output for each logic gates from the given logic circuit diagram also simplify the output result and prove your simplification using truth table.		[Marks-7]	



$x(xy+\bar{x}y)+y(y.\bar{y}+yz)+z(z+\bar{y}z)$

$xy+z$

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Push yourself, because no one else is going to do it for you.