



Daffodil International University

Faculty of Science & Information Technology

Department of Computer Science and Engineering

Midterm Examination, Fall-2024

Course Code: CSE121, Course Title: Electrical Circuits

Level: 1 Term: 2 Batch: 66

Time: 1 Hour and 30 Minutes

Marks: 25

Answer ALL Questions

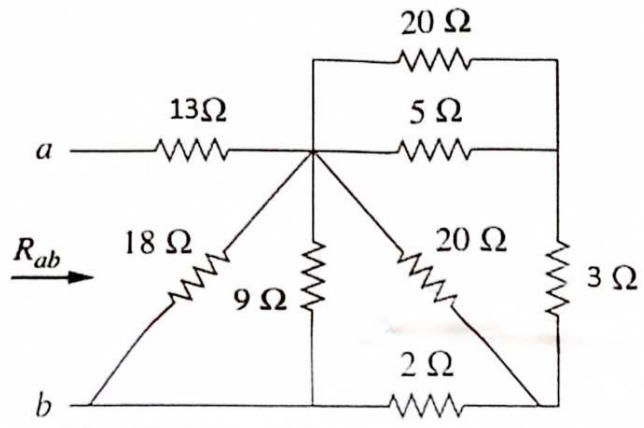
[The figures in the right margin indicate the full marks and corresponding course outcomes. All portions of each question must be answered sequentially.]

1.	a)	Define the term 'Branch' in an electric circuit.	5×1=5	CO1
	b)	List the factors that affect the resistance of a conductor.		
	c)	Illustrate the Thevenin equivalent circuit.		
	d)	Recall Kirchhoff's Voltage Law.		
	e)	Show the 'Node and Loop' in an electric circuit.		
2.	Solve the following circuit to determine a. The total resistance R_T. b. The source current I_s and indicate its direction on the circuit. c. The voltage across resistor R_2.		2×5=10	CO2

b)

Solve the following circuit to determine the total resistance R_{ab} .

2.40



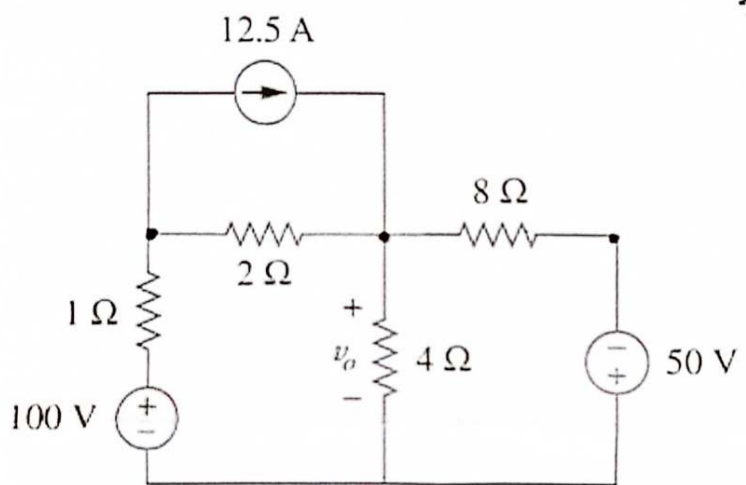
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a)

Analyze the following circuit to determine the voltage V_0 using nodal analysis.

2×5=10

CO3



b)

Examine the following circuit to obtain the Thevenin equivalent at terminals a-b using the Thevenin theorem.

