



Daffodil International University

Faculty of Science & Information Technology
Department of Computer Science and Engineering

Midterm Examination, Spring-2024

Course Code: CSE121, Course Title: Electrical Circuits

Level:1 Term: 2 Batch: 65

Time: 1 Hour and 30 Minutes

Marks: 25

Answer ALL Questions

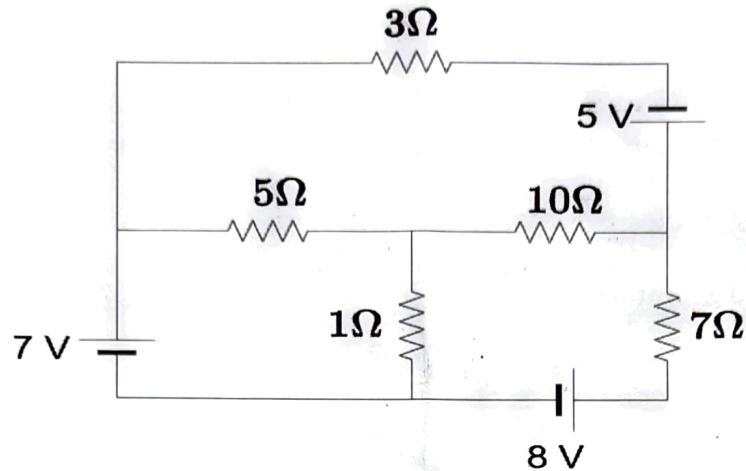
[The figures in the right margin indicate the full marks and corresponding course outcomes. All portions of each question must be answered sequentially.]

1.	a)	Define the term 'Conductance' in an electric circuit.	5×1=5	CO1
	b)	Show the difference between an open and short circuit.		
	c)	Illustrate the Norton equivalent circuit.		
	d)	Recall some applications of the maximum power transfer theorem.		
	e)	Show the peak-to-peak voltage of a sinusoidal wave using a graphical representation.		
2.	a)	Relate that maximum power is transferred to the load when the load resistance equals the Thevenin resistance of the network.	2×5=10	CO2
	b)	Solve the following circuit to determine the total resistance R_{eq} .		

3. a) Analyze the following circuit to determine the mesh currents using mesh analysis, and the value of current through the $7\ \Omega$ resistor.

$2 \times 5 = 10$

CO3



- b) Examine the following circuit to determine the current through the $10\ \Omega$ resistor using the superposition theorem.

