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Daffodil International University

Faculty of Science & Information Technology

Department of Computer Science & Engineering

Midterm Examination, Fall 2026

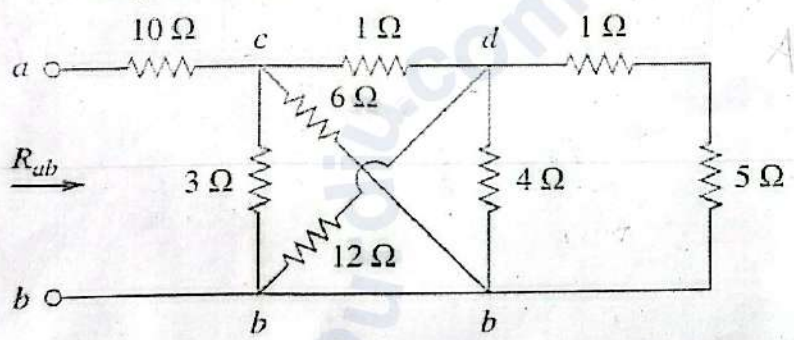
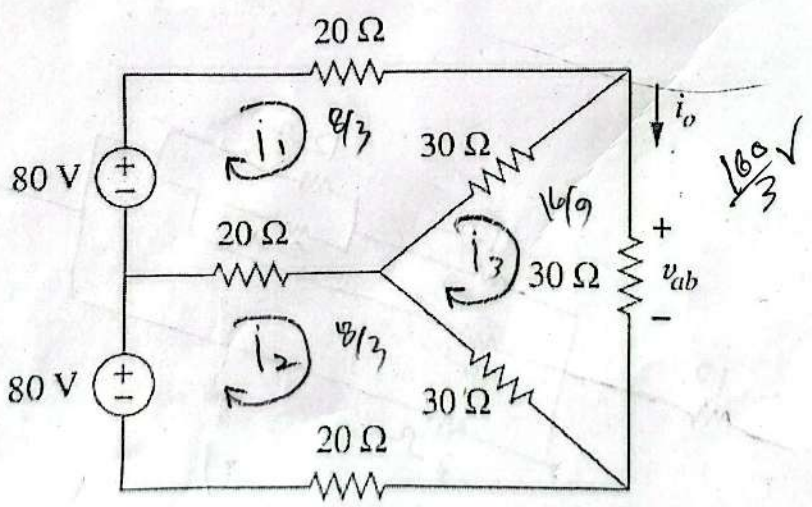
Course Code: CSE121 Course Title: Electrical Circuits

Level: 1 Term: 3 Batch: 71

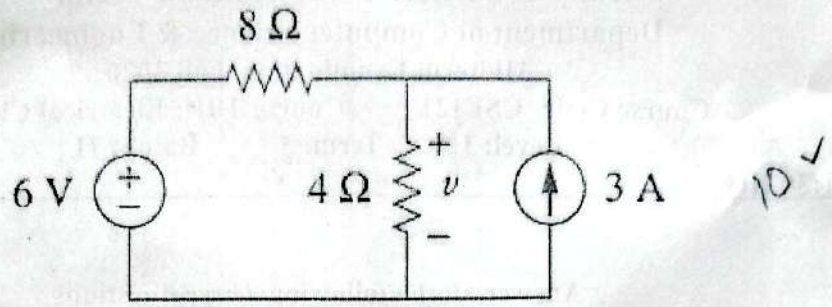
Time: 1:30 Hrs **Full Marks: 25**

Answer all the following *Three* questions

[All portions of each question must be answered sequentially]

Q1.	***a.***	Define an electrical circuit with a simple diagram.	**5x1 =5**	**CO1**
	b.	State DC and AC current and show them in the time domain.		
	c.	Define a dependent current source with a symbol.		
	d.	Define a loop and a mesh in an electrical circuit.		
	e.	Write a short note on Thevenin's Theorem.		
Q2.	***a.***	Solve for the total current of the following circuit, if a voltage source of 22.4 V is applied between the points a and b : 	**2x5 =10**	**CO2**
	b.	Apply mesh analysis to determine the current i_o and the voltage v_{ab} in the following circuit : 		

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Q3.	a.	Analyze the following circuit using the superposition theorem by determining the contribution of each independent source separately and hence finding the output voltage, v : 	2x5 =10	CO3
	b.	Analyze the circuit using Norton's theorem by obtaining the Norton equivalent circuit at terminals a and b in the following circuit : 