

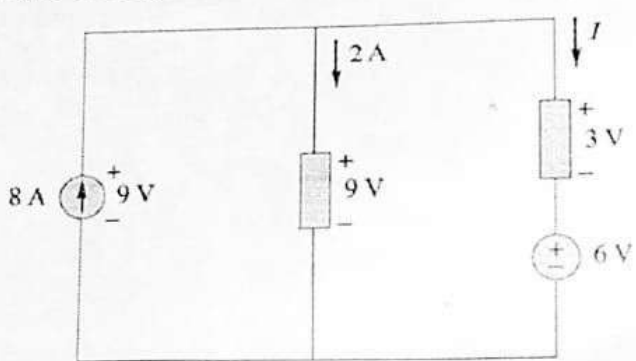
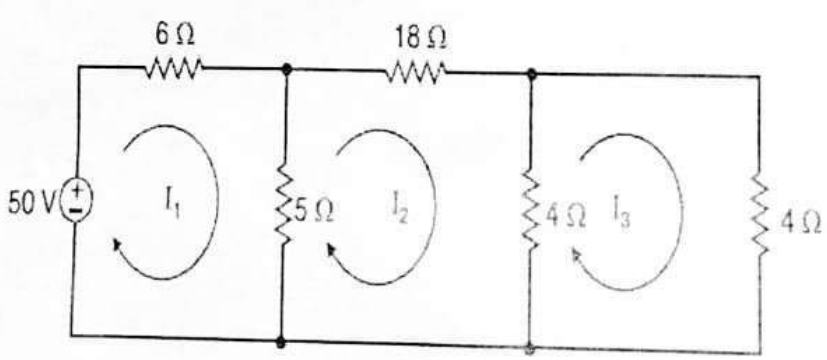
Continuous Assessment Test (CAT) – I AUGUST 2025

Programme	: Integrated M-Tech	Semester	: FALL 25-26
Course Code & Course Title	: IAEEE101, Basic Electrical and Electronics Engineering	Class Number	: CH2025260102873
Faculty	: Dr. L.Premalatha	Slot	: A1+TA1
Duration	: 90 minutes	Max. Mark	: 50

General Instructions:

- Write only your registration number on the question paper in the box provided and do not write other information
- Only non-programmable calculator without storage is permitted

Answer all questions

Q. No	Sub Sec.	Description	Marks
1	a	Find the current 'I' and the power absorbed by each element in the network of Figure 1.  Figure 1	5
	b	A 4Ω resistance is in series with the parallel combination of 20Ω resistance and an unknown resistance R_x. The equivalent resistance for the network is 8Ω. Determine the value of R_x.	5
2	-	By using mesh method, calculate the current in each branch of the circuit shown in Figure 2.  Figure 2	10

Obtain the node voltages in the circuit shown in Figure 3. below by using nodal method and find the current through 7Ω resistance.

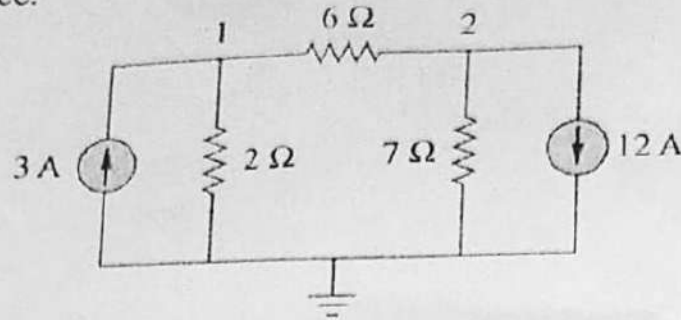


Figure 3

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Find the current flowing through the 5Ω resistor connected across the terminals A and B as shown in Figure 4 using Thevenin's theorem.

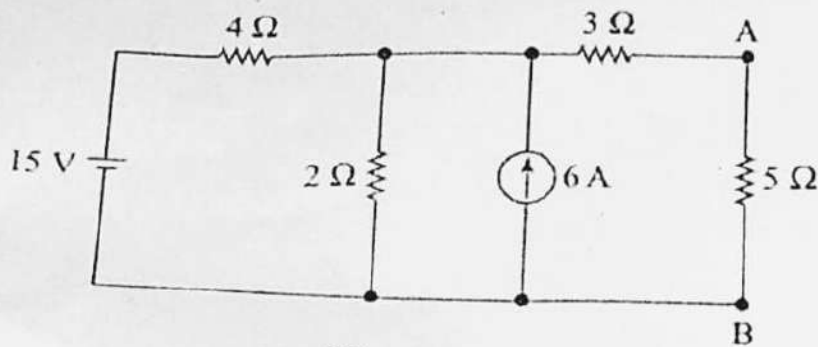


Figure 4

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Using superposition theorem, find the current flowing through the 2Ω resistance in the circuit shown in Figure 5. Also calculate the voltage drop across 2Ω resistance.

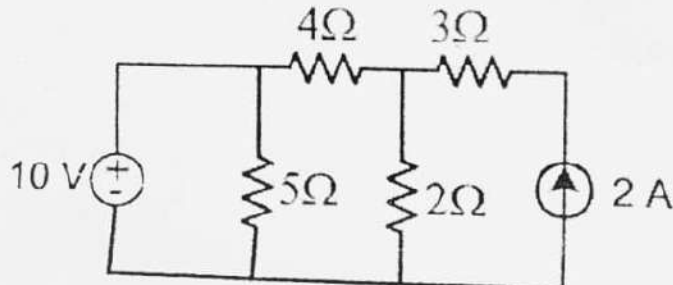


Figure 5

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*****All the best *****