



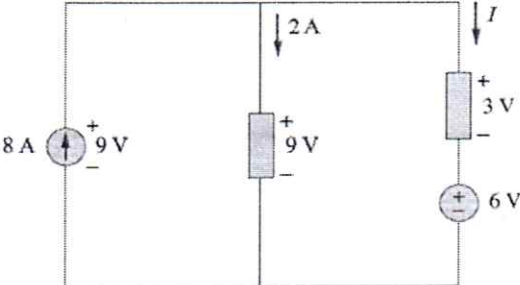
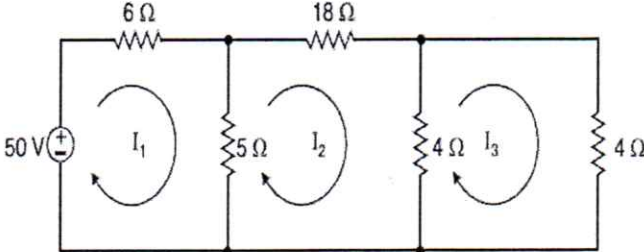
Continuous Assessment Test (CAT) – I AUGUST 2025

Programme	: Integrated M-Tech	Semester	: FALL 25-26
Course Code & Course Title	: IAEEE101, Basic Electrical and Electronics Engineering	Class Number	: XXXXXXXXXX
Faculty	: XXXXXXXXXX	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. 	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. 	10

3	-	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	10
4	-	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	10
5	-	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	10
*****All the best *****			