



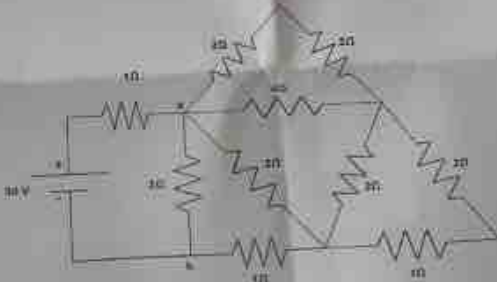
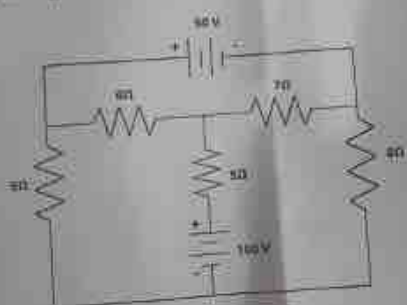
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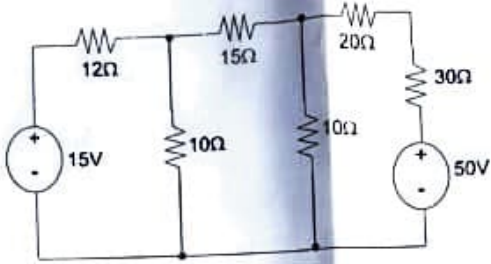
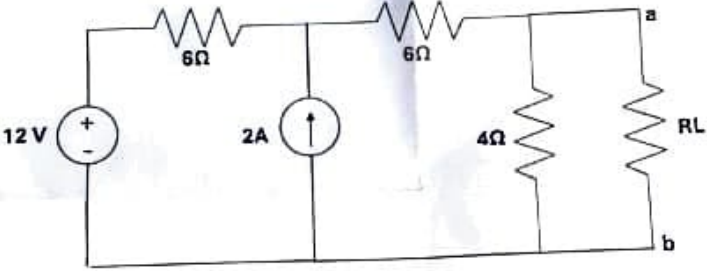
School of Computer Science and Engineering
Fall Semester 2024_25
CAT 1

SLOT: E3

Programme Name & Branch: B Tech. Computer Science and Engineering and Business Systems
Course Name & Code : EEE1001 - Basic Electrical and Electronics Engineering
Class Number (s) : VL2024250108477 / VL2024250109155
Faculty Name (s) : KAVITHA K.V.N. / RAJESH G
Exam Duration: 90 Min. Maximum Marks: 50

Answer all the Questions

Q.No	Question Text	Max. Marks	CO	BL
1	Find the equivalent resistance across the terminals a and b in Fig. 1. Also, calculate the current flowing through the $2\ \Omega$ resistor, connected between terminals a and b. 	10	CO1	BL3
2	Use mesh analysis to determine the value of the currents in all three loops for the circuit shown in Fig.2. Also, find the current flowing through $6\ \Omega$ resistor. 	10	CO1	BL3

3	Apply Thevenin's theorem to determine current through 15Ω resistor for the given circuit shown in Fig.3. Also draw the Thevenin's equivalent circuit diagram.  Fig.3	10	CO1
4	Find the value of R_L for maximum power transfer in the circuit of Fig.4. Also, find the maximum power delivered across the load resistor.  Fig.4	10	CO1
5	A 30Ω resistance and a 30mH inductance are connected in series and the circuit is fed from 200V, 50Hz, AC supply. Find the inductive reactance, RMS value of current, voltage across resistance, voltage across inductance, Real power and power factor of the circuit. Also draw the phasor diagram of the circuit.	10	CO1