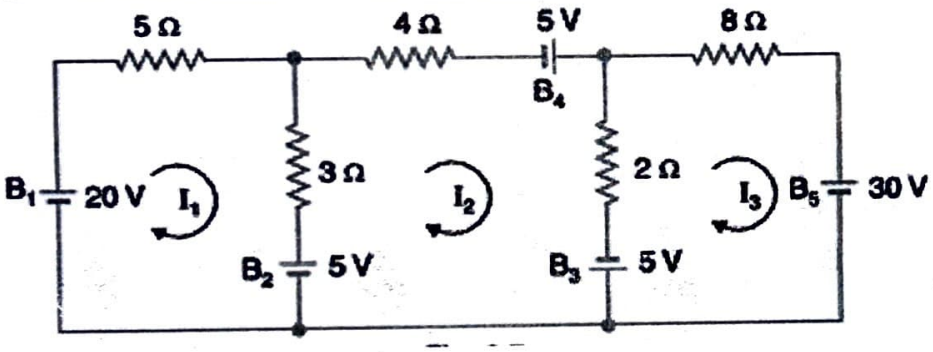
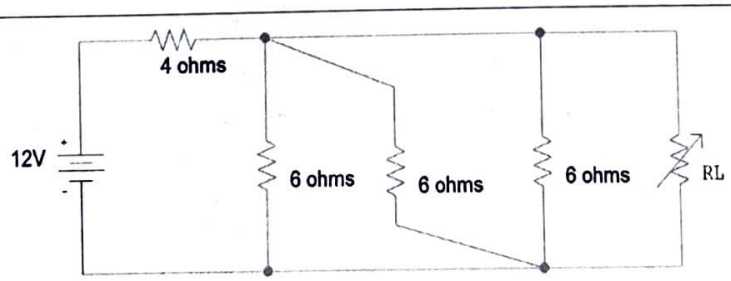
NIRANJANA SUNIL
416-30

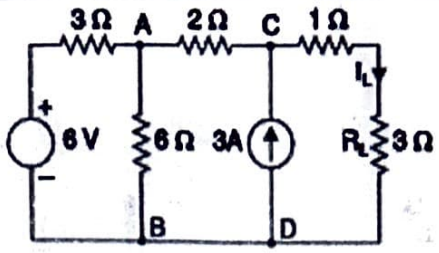
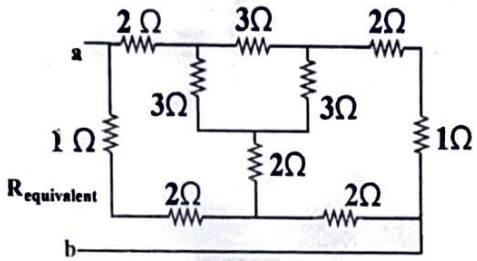
VIT
Vellore Institute of Technology
(Deemed to be University under section 3 of UGC Act, 1956)

D1+TD1 SLOT

School of Electrical Engineering
B.Tech – EEE
Continuous Assessment Test I – Fall Semester 2024-2025

Course code: BEEE102L — Course Name: Basic Electrical and Electronics Engineering
Time Duration: 90 min. — Max.Marks:50
Faculty in charge: Dr.S.Prabhakar Karthikeyan, Dr.I.Jacob Raglend and Dr. Anusuya Bhatacharyya
Answer all Questions
Assumptions can be made wherever necessary

Sl. No	Questions	Max Marks
1.	 Figure 1 Find the branch currents and mesh currents using mesh analysis for the circuit shown in figure 1.	[10]
2.	 Figure 2 Calculate the value of load resistance R_L such that maximum power transfer occurs from source to the load. Also calculate the maximum power?	[10]

3	 Figure 3 From figure 3,verify super position theorem and hence find the current I_L?	[10]
4	A 10 ohms resistor is connected in series with a 100micro Farad capacitor to a 230 V, 50 Hz supply. Find (a) the impedance, (b) current, (c) power factor, (d) phase angle, (e) voltage across the resistor and the capacitor.	[10]
5	Determine the resistance between the point a and b of the network shown in Figure 4  Figure 4	[10]