



Vellore – 632014, Tamil Nadu, India  
**SCHOOL OF ELECTRICAL ENGINEERING**  
**FALL SEMESTER 2024-2025**  
**CAT-1**

Programme: B.Tech	Branch: BEC, BVD	Course code: EEEE102L
Course Name: Basic Electrical and Electronics Engineering		Date: 31/08/2024
Class Nbr: 6508, 6510, 6520	Max Marks: 50	Duration: 90 mins
Faculty name(s): ARUNACHALAM V, ELIZABETH RUFUS, VIJAYA DURGA CHINTALA		

**General instruction(s): 1. Answer ALL**

- | Q. No | Question  | Marks |
|-------|---|-------|
| 1.    | Find all the branch voltages and currents in the circuit given in Figure 1 using Kirchoff's laws. | 10    |

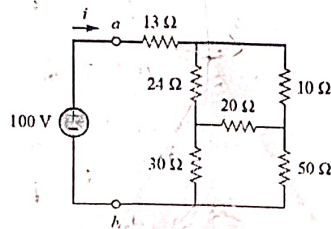


Figure 1

- |    |  |    |
|----|--|----|
| 2. | Apply Thevenin's theorem to find $V_o$ in the circuit of Figure 2. | 10 |
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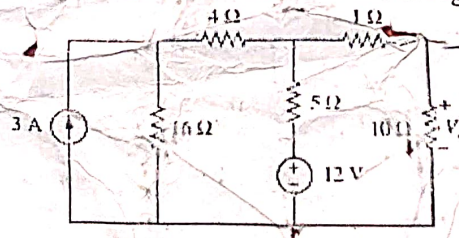


Figure 2

- |    |  |    |
|----|--|----|
| 3. | Find all node voltages in the circuit of Figure 3. | 10 |
|----|--|----|

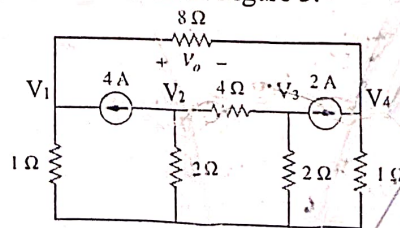


Figure 3

4. The output voltage waveform of a full wave rectifier is shown in Figure 4. Determine the form factor and the average power dissipated when this output is fed to a  $10\ \Omega$  resistor. 10

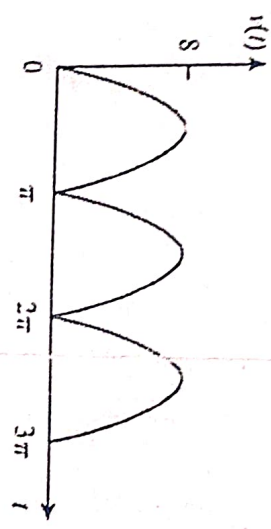


Figure 4

5. Calculate the complex power supplied by each of the two sources in the circuit in Figure 5. Show that the average power is conserved in the circuit. 10

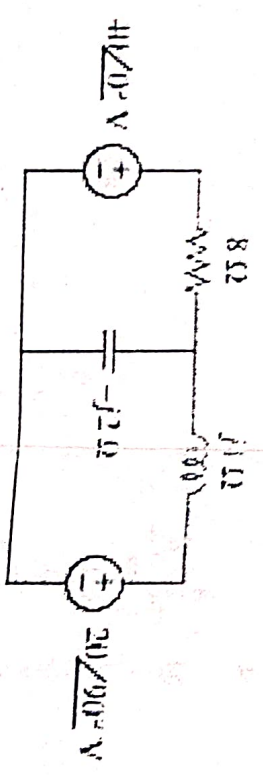


Figure 5