



VIT[®]

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

School of Electrical Engineering
B.Tech – First year
Continuous Assessment Test I – Fall Semester 2022-2023

Course Code: BEEE102L

Course Name: Basic Electrical and Electronics Engineering

Time: 90 min.

Slot: A2+TA2

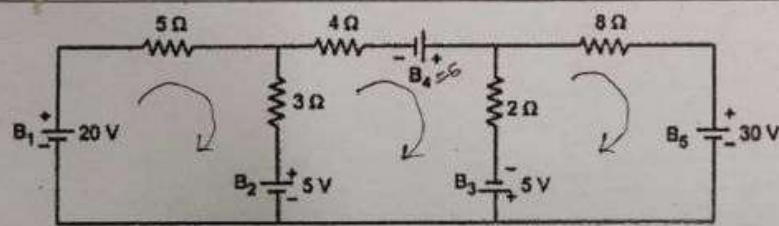
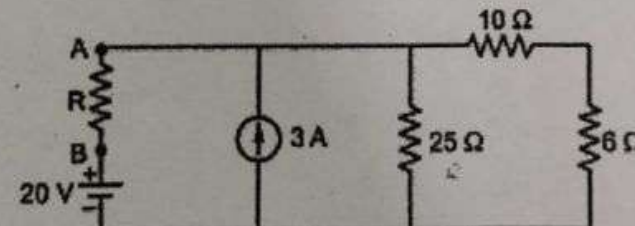
Max.Marks:50

Class No: 5277, 5271, 5274

Faculty Name: Dr.Indra Gandhi, Dr.Nawaz Shafi , Dr. Prabhakar Karthikeyan S, Dr.Razia Sultana W

Answer all the Questions

Assumptions can be made wherever necessary.

✓	Determine the current supplied by each source in the circuit using the mesh Analysis in Fig 1 with $B_4=5$ Volts	[10]
	 <p>Fig 1</p>	
2 ✓	Calculate the maximum power transferred and the value of R at which maximum power transfer takes place in Fig 2.	[10]
	 <p>Fig 2</p>	
3 ✓	Three impedances of 10Ω resistance and 5Ω inductive resistance each are connected in delta to a 400V, 3 phase supply. Determine the current in each phase and in each line. Calculate also the total power drawn from the supply and the p.f of the load.	[10]

4 Determine the power factor, the true power, the reactive power and the apparent power in the circuit shown in Fig 3. Enumerate the significance of the power factor for the given circuit. [10]

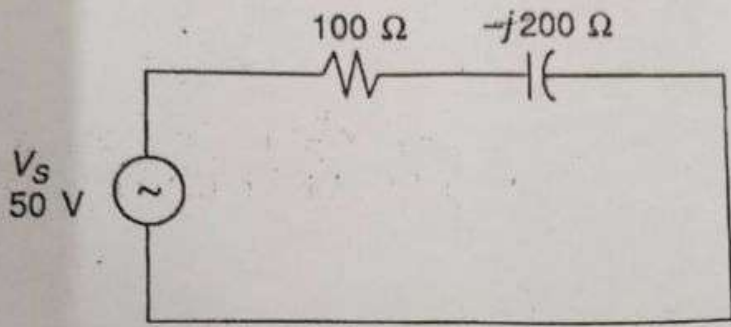


Fig 3

4

5 Find the equivalent resistance across the terminal a-b as shown in Fig 4 and calculate the net power delivered by the source if a 24V DC voltage source is connected across the terminal a-b. [10]

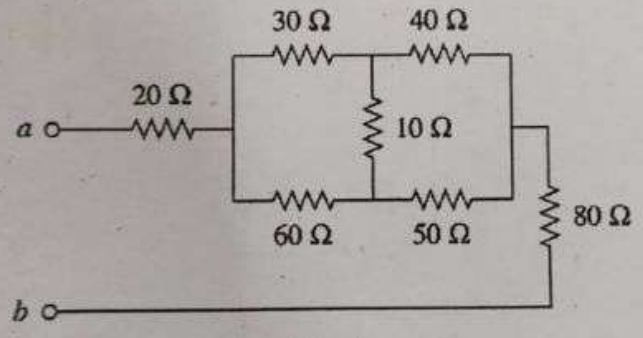


Fig 4