



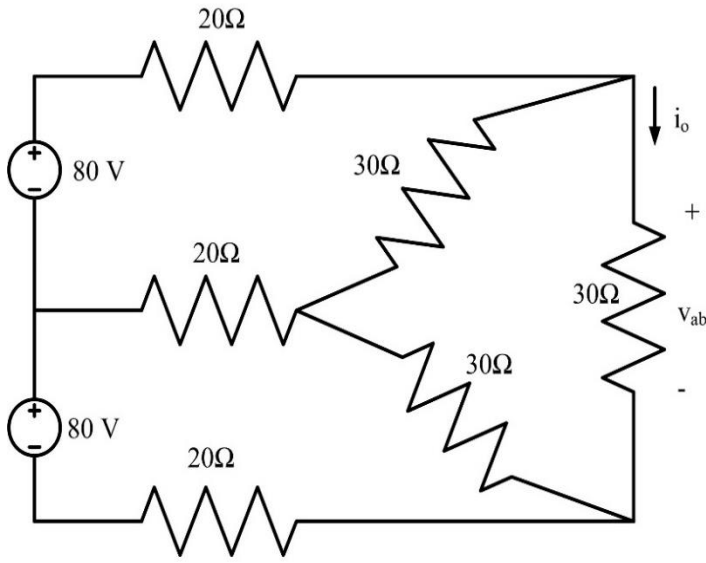
Continuous Assessment Test (CAT) – I AUGUST 2025

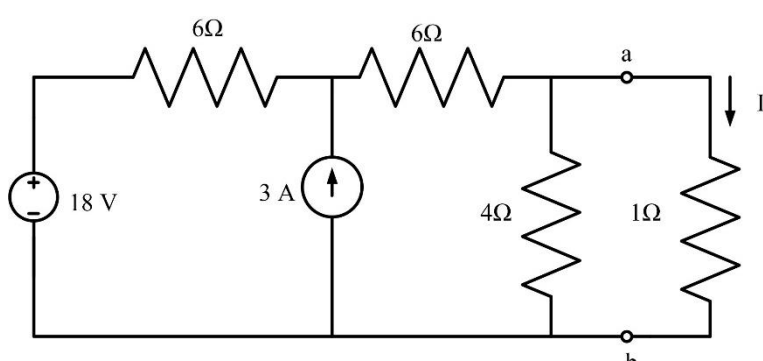
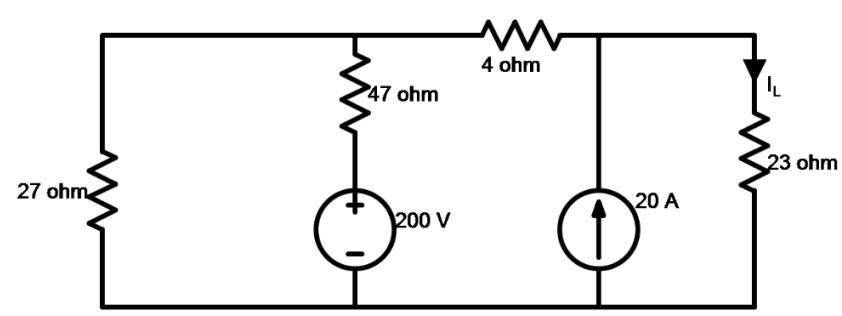
Programme	: B.Tech.	Semester	: Fall 2025-2026
Course Code & Course Title	: BAEED101- Basic Engineering	Slot	: E1+TE1
Faculty	Dr. SRIMATHI R	Class Number	CH2025260103836
	Prof. RAJAGURU V		CH2025260103838
	Dr. SEBINA YESMIN		CH2025260103839
	Dr. KRISHNA KUMBA		CH2025260103841
	Dr. GANESH M		CH2025260103843
	Dr. SWETHA R KUMAR		CH2025260103845
	Dr. SUMATHI V		CH2025260103847
	Prof. MANISH KUMAR DWIVEDI		CH2025260103849
	Prof. MOHANA PREETHI V		CH2025260103851
	Prof. ABHIRAMI AN		CH2025260103855
	Prof. MOHAMED ABDULLAH J		CH2025260103857
	Dr. UMayal C		CH2025260103859
	Dr. NITIN KUMAR KULKARNI		CH2025260103861
	Prof. MARABATHINA MAHEEDHAR		CH2025260103863
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	Description	Marks	CO	BT Level
1	Use mesh analysis to find v_{ab} and i_o in the circuit of Figure 1.  Figure 1	10	1	K3

2	Using Thevenin's theorem, find the equivalent circuit to the left of the terminals in the circuit of Figure 2. Also find the load current.  Figure 2	10	1	K3
3	Using the superposition theorem, find the current flowing through the 23-ohm resistor in the circuit shown in the Figure 3.  Figure 3	10	1	K3
4	a) A coil of resistance 5Ω and inductance 100 mH is connected in series with a $200\mu\text{F}$ capacitor across a 200V, 50Hz supply. Calculate impedance, current, power factor and total power.	6	1	K3
	b) A series RC circuit $R = 4\text{k}\Omega$ and $C=4\mu\text{F}$ is applied with 200V, 50Hz source. Determine the voltage across the resistor and the capacitor.	4	1	K3
5	a) Draw and explain the circuit diagram used to determine the input and output characteristics of BJT in CE configuration	6	1	K2
	b) Elucidate the operation of the Zener diode as a voltage regulator.	4	1	K2

*****All the best *****