



Continuous Assessment Test (CAT) – I AUGUST 2025

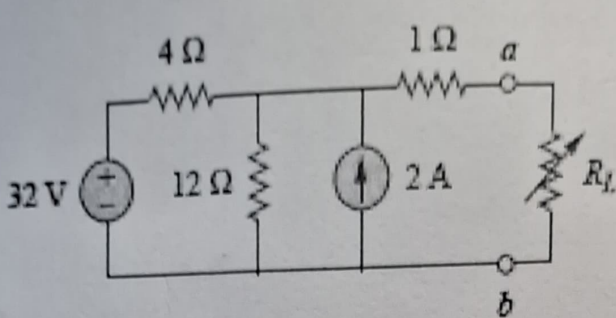
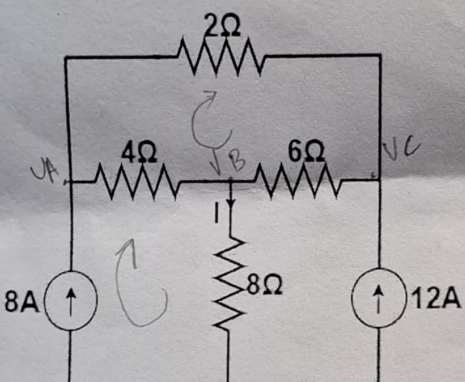
Programme	: B.Tech.	Semester	: Fall 2025-2026
Course Code & Course Title	: BAE00101- Basic Engineering	Slot	: E2+TE2
Faculty	Dr. SRIMATHI R	Class Number	CH2025260103865
	Prof. MOHAMED ABDULLAH J		CH2025260103867
	Dr. RAVI V		CH2025260103869
	Prof. HARINARAYANAN J		CH2025260103871
	Dr. FEBIN DAYA J L		CH2025260103873
	Dr. NITIN KUMAR KULKARNI		CH2025260103875
	Prof. BALAKUMAR I		CH2025260103877
	Prof. ANU SHALINI T		CH2025260103879
	Prof. MANISH KUMAR DWIVEDI		CH2025260103881
	Prof. SHRI SARANYAA J		CH2025260103883
	Dr. SUMAN SAHA		CH2025260103885
	Prof. DHANESH R		CH2025260103887
	Prof. MARABATHINA MAHEEDHAR		CH2025260103889
	Dr. SUMATHI V		CH2025260103893
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	Using nodal analysis find the power dissipated in the 6Ω resistor for the network shown in Figure 1. Figure 1	10	1	K3

2	Find the Thevenin's equivalent circuit of the circuit shown in Figure 2 to the left terminal a to b. Then find the current through $R_L = 36 \Omega$	10	1	K3
 Figure 2				
3	Find the current in 8Ω resistor for the given network shown in Figure 3 using superposition theorem.	10	1	K3
 Figure 3				
4	a) A series RC Circuit with $R=20\Omega$ and $C=127\mu F$ has 160V, 50 Hz supply connected to it. Find Impedance, Current, real power, reactive power and power factor.	6	1	K3
	b) A series RL circuit $R = 4k\Omega$ and $L=5mH$ is applied with 200V, 50kHz source. Determine voltage across the resistor and the inductor.	4	1	K3
5	a) Illustrate and describe the circuit diagram used to determine the input and output characteristics of BJT in CB configuration.	6	1	K2
	b) Using neat diagrams explain how a half wave rectifier works.	4	1	K2

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