

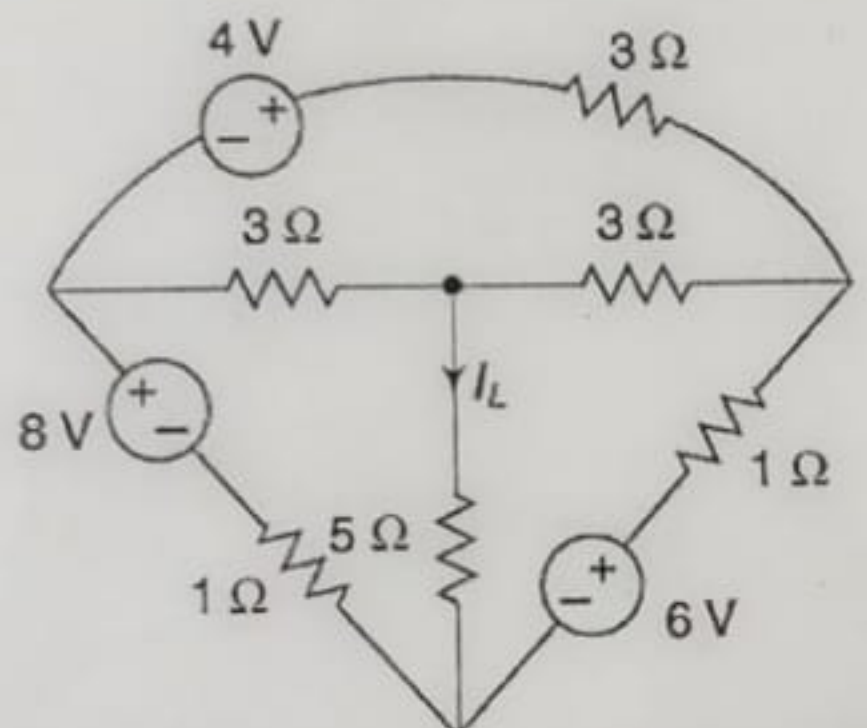
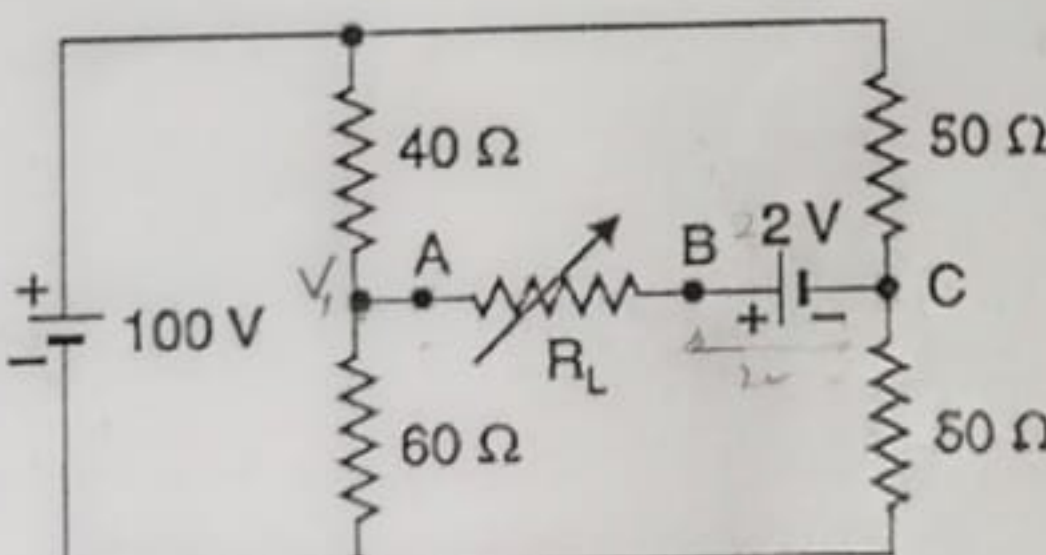
SCHOOL OF ELECTRICAL ENGINEERING
FALL SEMESTER 2026-2027
CONTINUOUS ASSESSMENT TEST - II

Programme Name : B. Tech
Course Code and Course Name : BAE101-Basic Engineering
Faculty Name(s) : GEETHANJALI P, RASHMI RANJAN DAS, MALLIKARJUNA GOLLA, GOKULAKRISHNAN G, ANBARASAN P, THAMILMARAN A, CHILUKURI VENKATA MAHENDRA, MADDELA CHINNA OBAIAH, GNANAVIGNESH, POOMPAVAI
Class Number(s) : VL2026270105760, 5756, 5745, 5735, 5727, 5731, 6159, 5749, 5752, 5739
Date of Examination : 04/10/2026, 2PM-3.30PM
Exam Duration : 90 minutes **Maximum Marks: 50**

General instruction(s):

- Answer All Questions
- Rough work should not be done on question paper. It will be treated as malpractice.

CO. 1: Analyse the electrical circuits, electrical motors and the role of power electronics in industrial applications.

Q. No	Question	M	CO	BL
1.	Determine the current I_L in the circuit shown below using Mesh current analysis method. 	10	1	4
2.	Determine Thevenin equivalent for the circuit shown below. 	10	1	4

REG.NO.:

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

SLOT:G1+TG1

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3.	A circuit consisting of a resistor in series with a capacitor takes 100 watts at a power factor of 0.5 from a 100 V, 60 Hz supply. Find (a) the current flowing (b) the phase angle (c) the resistance (d) the impedance and (e) the capacitance	10	1	4
4.	A 40 μ F capacitor in series with a coil of resistance 8 Ω and inductance 80 mH is connected to a 200 V, 100 Hz supply. Calculate (a) the circuit impedance (b) the current flowing (c) the phase angle between voltage and current (d) the voltage across the coil and (e) the voltage across the capacitor	10	1	4
5.	How three phase induction motor is self-starting? Explain the construction of three phase induction motor with necessary diagram.	10	1	2
