VIT

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

REG. NO.:

SLOT: A2+TA2+TAA2

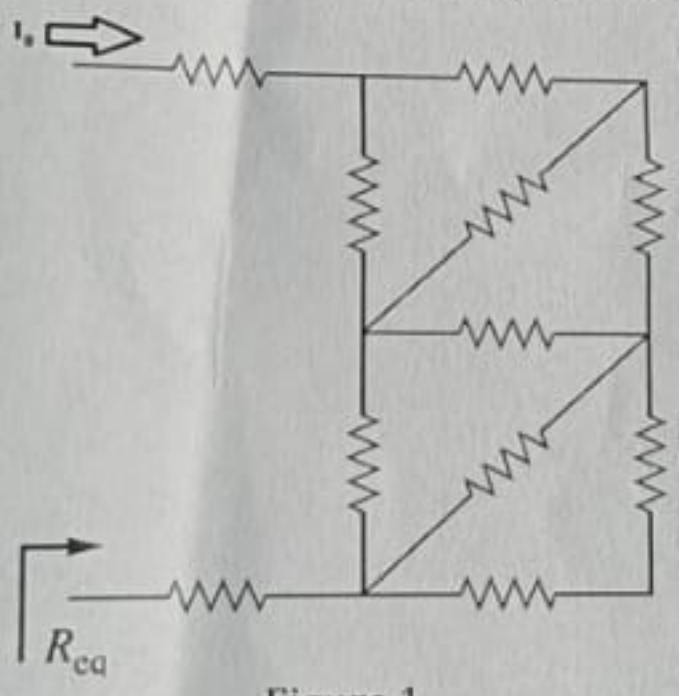
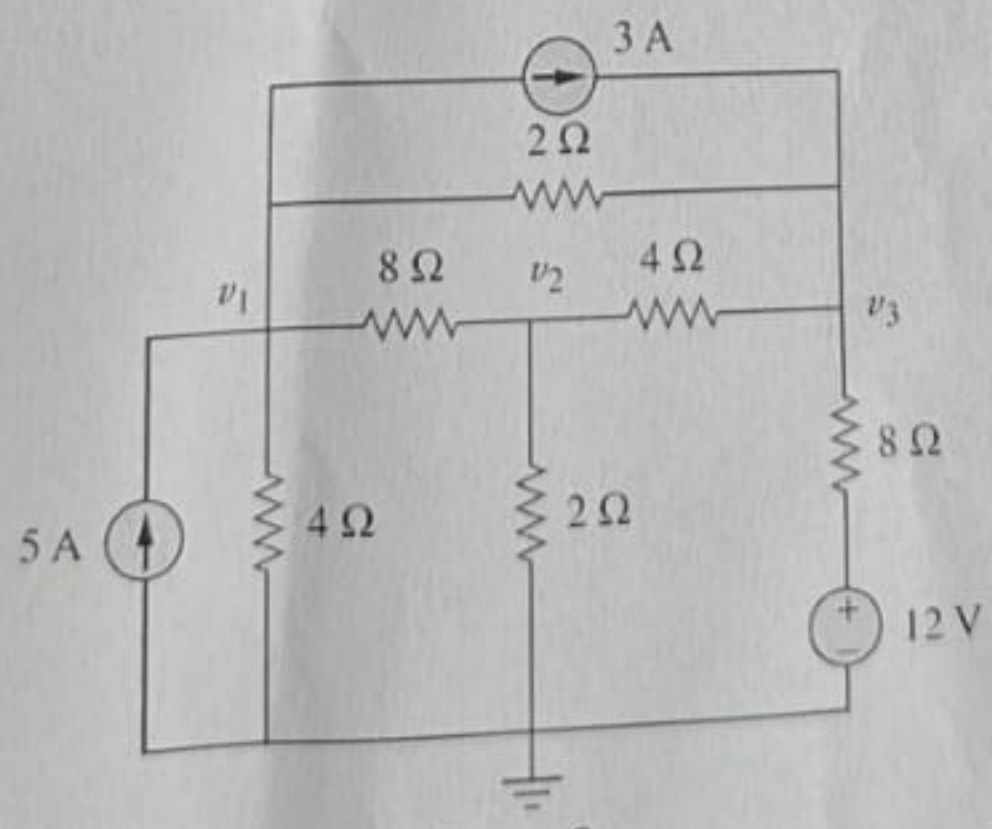
SCHOOL OF ELECTRONICS ENGINEERING
CONTINUOUS ASSESSMENT TEST - I
WINTER SEMESTER 2025-2026

Programme Name & Branch : B. Tech., BEC & BML
Course Code & Course Name : BAECE103 & Network Theory
Faculty Name(s) : Dr. Elizabeth Rufus, Dr. Velmurugan V., Dr. Sathya P., Dr. Nithish Kumar V., Dr. Konguvel E.
Class Number(s) : VL2025260500796, VL2025260500801, VL2025260500798, VL2025260500800, VL2025260500803
Date of Examination : 27.01.2026 (02:00 – 03:30 PM)
Exam Duration: 90 Minutes

General Instruction(s):

Maximum Marks: 50

- Answer All Questions
- M - Max mark; CO – Course Outcome; BL – Blooms Taxonomy Level (1 – Remember, 2 – Understand, 3 – Apply, 4 – Analyze, 5 – Evaluate, 6 – Create)
- Course Outcomes:
  CO1: Compute DC circuit parameters using circuit laws and theorems.
  CO2: Determine the natural and step responses of RC, RL, and RLC circuits.

. No.	Question	M	CO	BL
1.	For the circuit shown in Figure 1, obtain the equivalent resistance (R_{eq}). All resistors are 3Ω. Calculate I_0 when 24 V is applied to the resistive network.  Figure 1.	10	1	BL3
2.	Use mesh analysis to determine v_1, v_2, *and* v_3 in the circuit shown in Figure 2.  Figure 2.	10	1	BL3

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3.	Obtain the Norton's equivalent for the circuit shown in Figure 3. What will be the resistance to be connected across the terminals a and b which will draw maximum current?	10	1	BL3

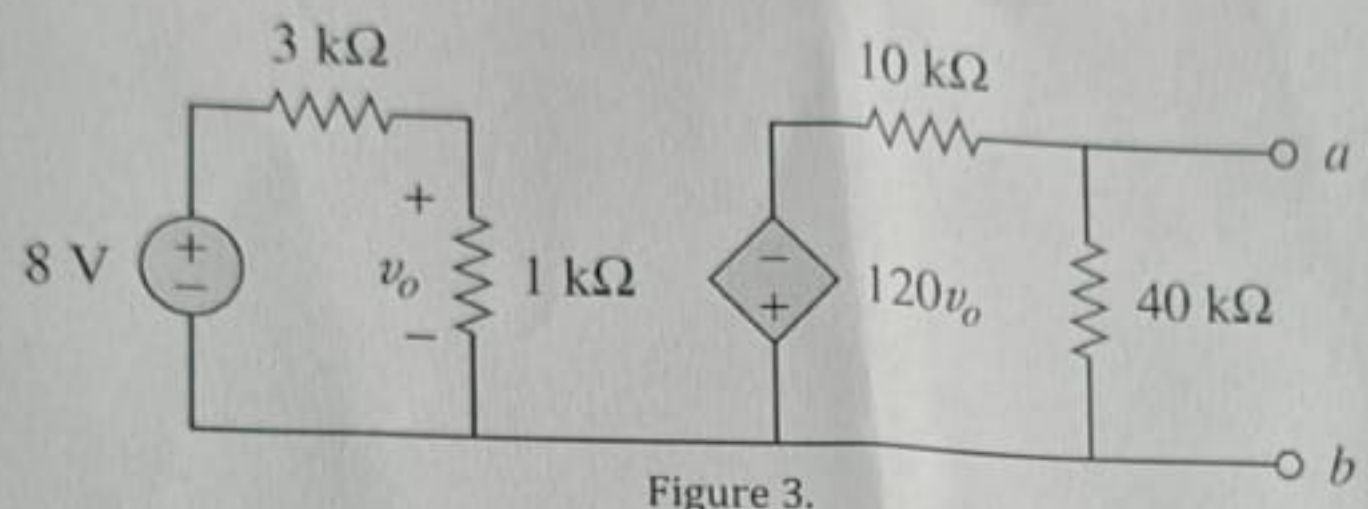

Figure 3.

4.	Obtain the inductor current for both $t < 0$ and $t > 0$ in the circuit given in Figure 4.	10	2	BL3

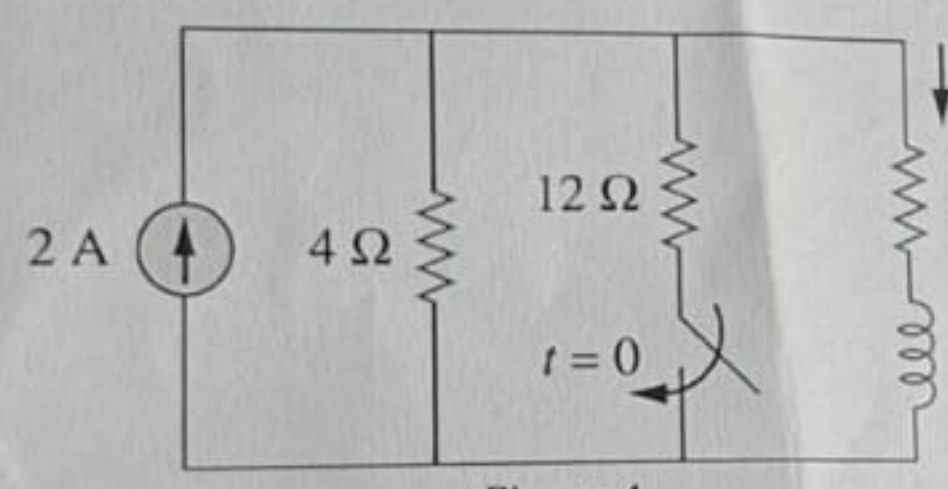

Figure 4.

	Determine v(t) for t > 0 in the circuit shown in Figure 5.	10	2	BL3

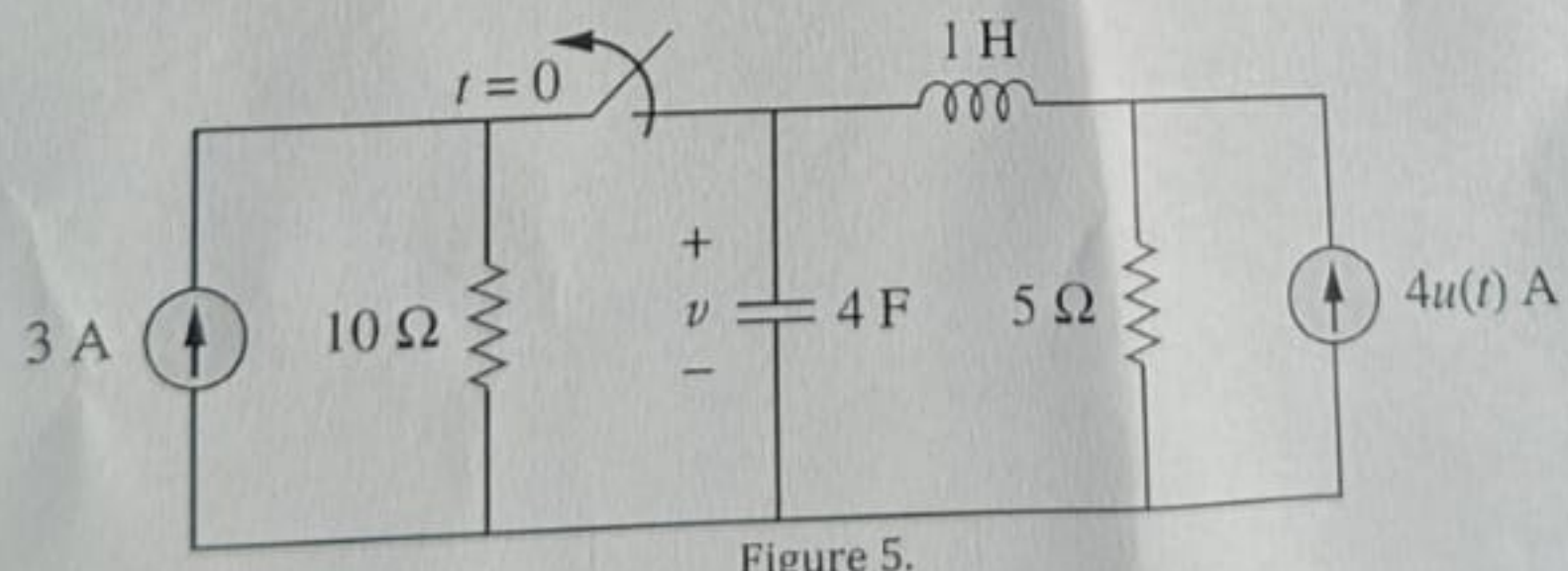

Figure 5.

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