REG.NO.:

VIT

Vellore Institute of Technology

SCHOOL OF ELECTRONICS ENGINEERING
CONTINUOUS ASSESSMENT TEST - II
WINTER SEMESTER 2024-2025

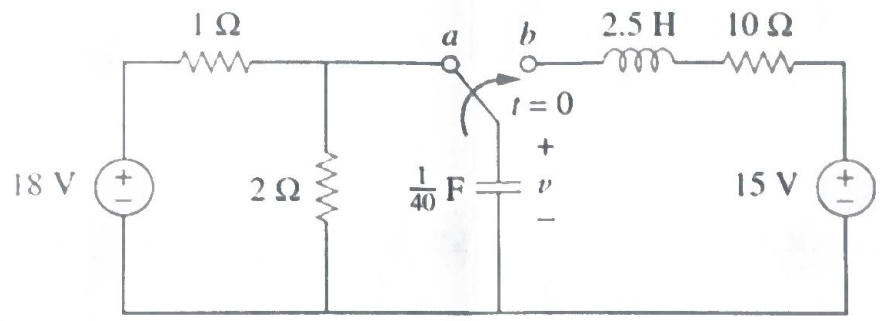
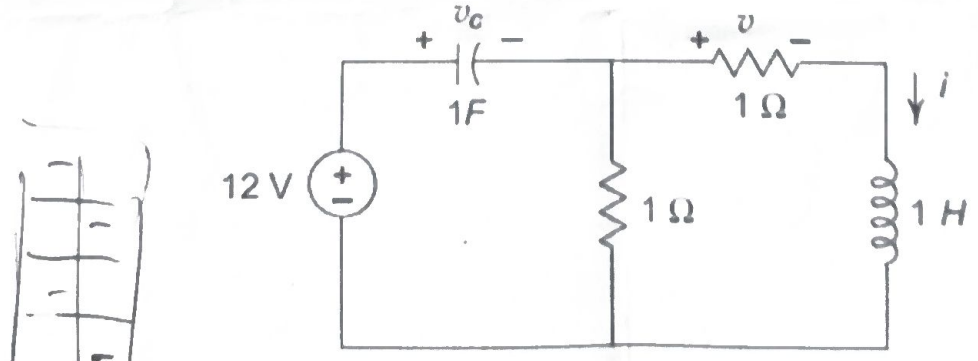
SLOT: C1 +TC1+TCC1

Programme Name & Branch	: B. Tech / ECE / BML / BVD;
Course Code and Course Name	: BECE203L – Circuit Theory
Faculty Name(s)	: Dr. Sathya P, Dr. Dr.Velmurugan V, Dr.Venugopal P, Dr.Vaegae Naveen Kumar, Dr. Yogesh kumar, Dr.Kumaravel S, Dr. Avinash Chandra, Dr.Abdul Majeed K
Class Number(s)	: VL2024250500734, 0736, 0728, 0724, 0737, 0739, 0727, 0731
Date of Examination	: 18.03.25
Exam Duration	: 90 minutes Maximum Marks: 50

General instruction(s):

- Answer All Questions
- M - Max mark; CO – Course Outcome; BL – Blooms Taxonomy Level (1 – Remember, 2 – Understand, 3 – Apply, 4 – Analyse, 5 – Evaluate, 6 – Create)
- Course Outcomes:

CO2: Analyse the resonance and transient response of the first order, second order circuits.
CO5: Able to analyse the given network by transforming from time domain to S domain
CO6: Analyse the given network using Fourier series and transforming from time domain to frequency domain.

Q. No	Question	M	CO	BL
1.	Determine v(t) for t > 0 in Fig. (a) using time-domain transient analysis.  Fig. (a)	10	2	3
2.	Determine v for the circuit shown in Fig. (b) using Laplace transform. Assume $v_c(0) = 4$ V and $i(0) = 2$ A.  Fig. (b)	10	5	3

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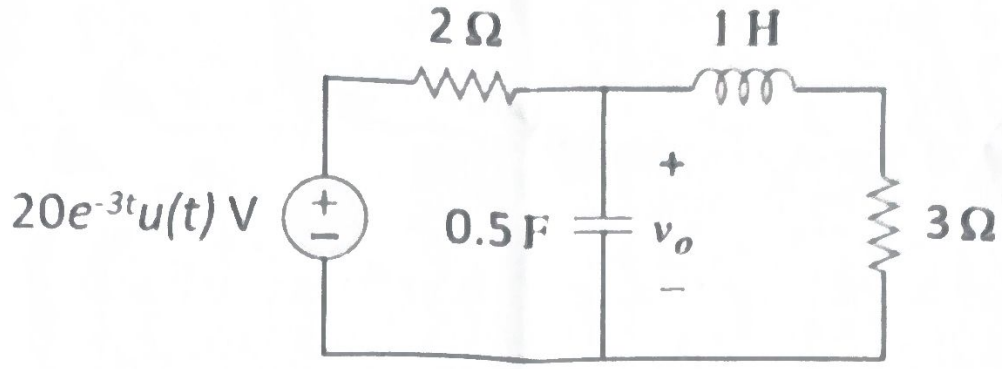
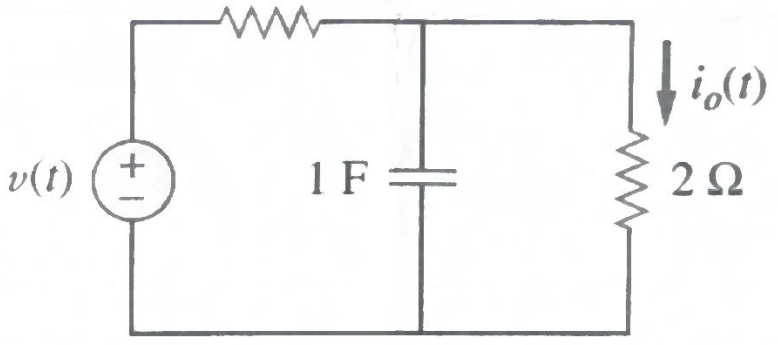
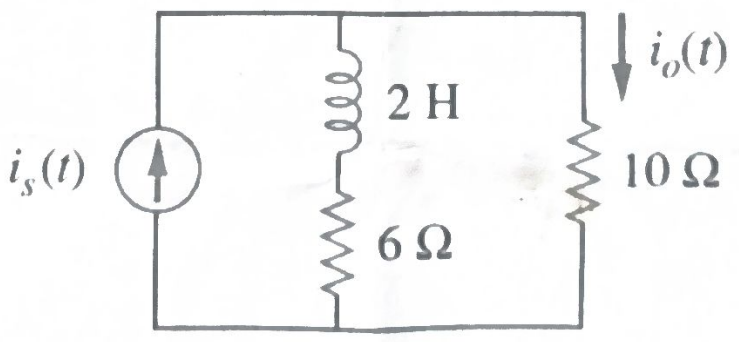
3.	Apply the Thevenin's theorem to determine $v_o(t)$ for $t > 0$ in the circuit of Fig.(c) using Laplace transform.  Fig. (c)	10	5	3
4.	Determine the output response $i_o(t)$ in Fig. (d) if the input voltage has a Fourier series expansion of $v(t) = 1 + \sum_{n=1}^{\infty} \frac{2(-1)^n}{1+n^2}(\cos nt - n \sin nt)$  Fig. (d)	10	6	3
5.	Determine $i_o(t)$ in the circuit in Fig. (e) using Fourier transform for the input $i_s(t) = 20 \cos 4t$ A.  Fig. (e)	10	6	3