



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

Vellore – 632014, Tamil Nadu, India

B₁ SLOT

SCHOOL OF ELECTRICAL ENGINEERING

FALL SEMESTER - 2026

CAT-I

Programme Name & Branch : B.TECH

Course Code : BAEEE101

Course Name : Basic Engineering

**Faculty Member : MADDELA CHINNA OBAIAH/GOKULAKRISHNAN
G/SATHISH KUMAR K/P.ANBARASAN/RAMA PRABHA
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LENKA/GNANAVIGNESH R/TAMILMARAN A.**

Class Number(s) : VL2026270105327/5336/5340/5903/5905/5908/5912/59205928/6088

Date of the Examination : 10.08.2026

Duration : 90 minutes

Max. Marks : 50

General instruction(s): Answer for all the questions.

S.No		Mark	CO	BL
1.	Determine the currents in each branch for the network shown in figure-1 by mesh current analysis. Figure-1	10	1	BL3
2.	(a).State Thevenin's theorem. (b). Use Thevenin's theorem to find the current through 10 Ω resistor for the circuit shown in figure-2.	2 8	1	BL3

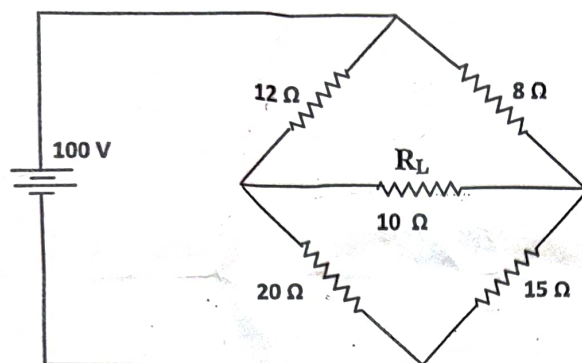


Figure-2

3. A series RLC circuit with $R=10\ \Omega$, $L=50\text{ mH}$ And $C = 100\mu\text{F}$ is supplied with 200 V, 50 Hz supply. Find (i) impedance, (ii). Current (iii). Phase angle , (iv). Power factor , (v). The voltage across R, L and C (vi). Real power, reactive power also draw the phasor diagram.

4.

Find the magnitude of branch currents for the circuit shown in figure -3 by superposition theorem.

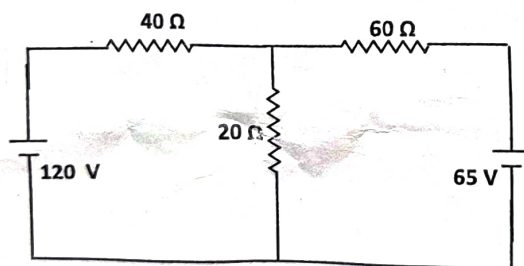


Figure-3

5. Explain the constructional details with a neat sketch of d.c.motor and its applications.