SLOT: E2+TE2

REG.NO.:

VIT

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

SCHOOL OF ELECTRICAL ENGINEERING
CONTINUOUS ASSESSMENT TEST -II
FALL SEMESTER 2025-2026

Programme Name & Branch : B.Tech.,
Course Code and Course Name : BAEEE101- Basic Engineering
Faculty Names : 12959 - Gokulakrishnan G;11815-Ravi K; 11562-Saravanan B;12957 - Ponnambalam P;11075-Sankardoss V;12973 - Rajini G.K.
Class Numbers : VL2025260106313, 6316, 6321, 6326, 6319,6304.
Date of Examination : 09/10/2025
Exam Duration : 90 minutes **Maximum Marks: 50**

General instructions:

- Answer All Questions
- Rough work should not be done on question paper. It will be treated as malpractice.
- M - Max mark; CO – Course Outcome; BL – Blooms Taxonomy Level (1 – Remember, 2 – Understand, 3 – Apply, 4 – Analyse, 5 – Evaluate, 6 – Create)

Course Outcomes Statements:

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

Q. No	Question	M	CO	BL
1.	Find the value of current flowing through the 2 ohm resistor using mesh analysis the circuit as shown in fig.1?	10	1	3

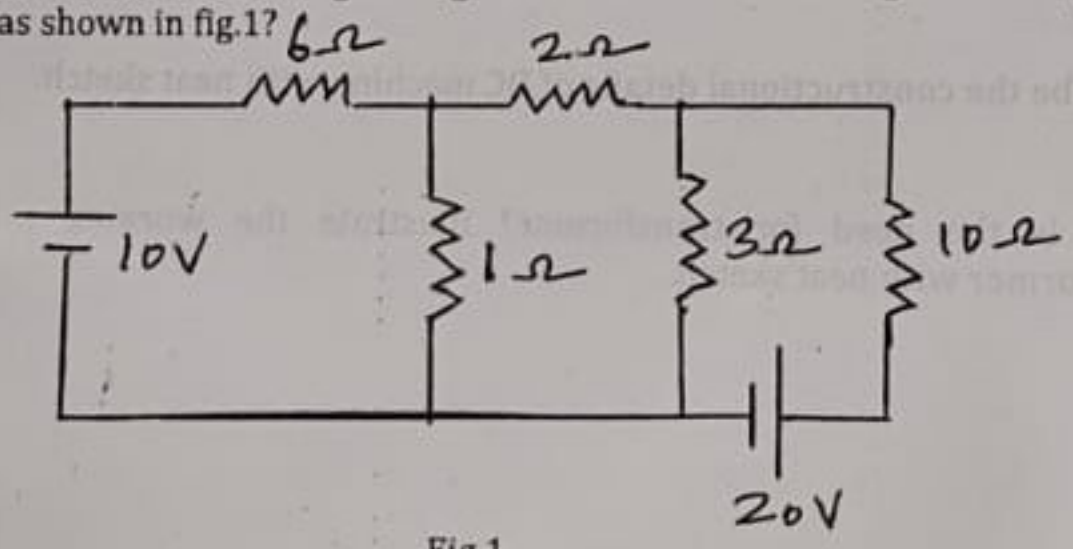

Fig.1

2.	Find the value of current flowing through the 3-ohm resistor using Thevenin's theorem the circuit shown in fig.2?	10	1	3

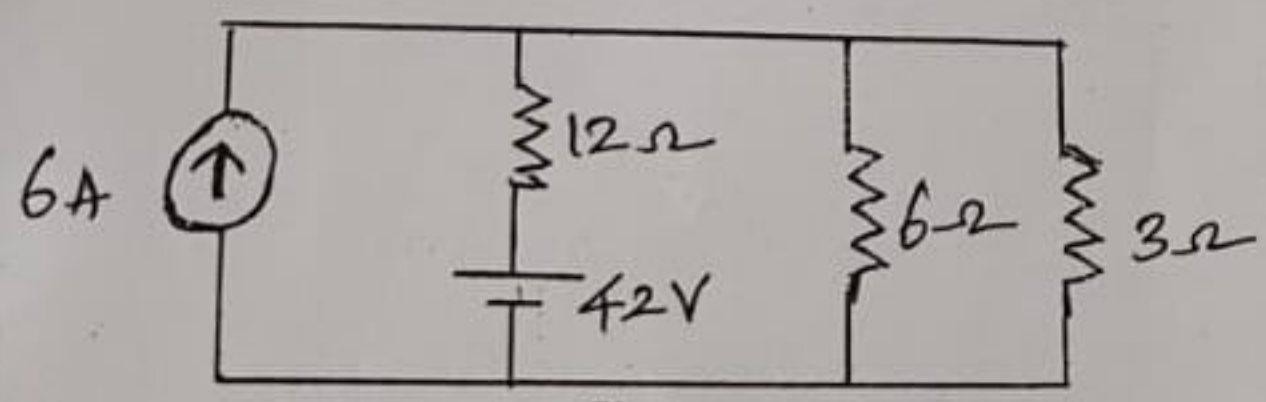

Fig.2

SLOT: E2+TE2

VIT

Vellore Institute of Technology

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

SCHOOL OF ELECTRICAL ENGINEERING

CONTINUOUS ASSESSMENT TEST -II

FALL SEMESTER 2025-2026

4.	Find the value of current and power dissipated through the 10 Ohm resistor using superposition theorem the circuit shown in fig.3.	10	1	3

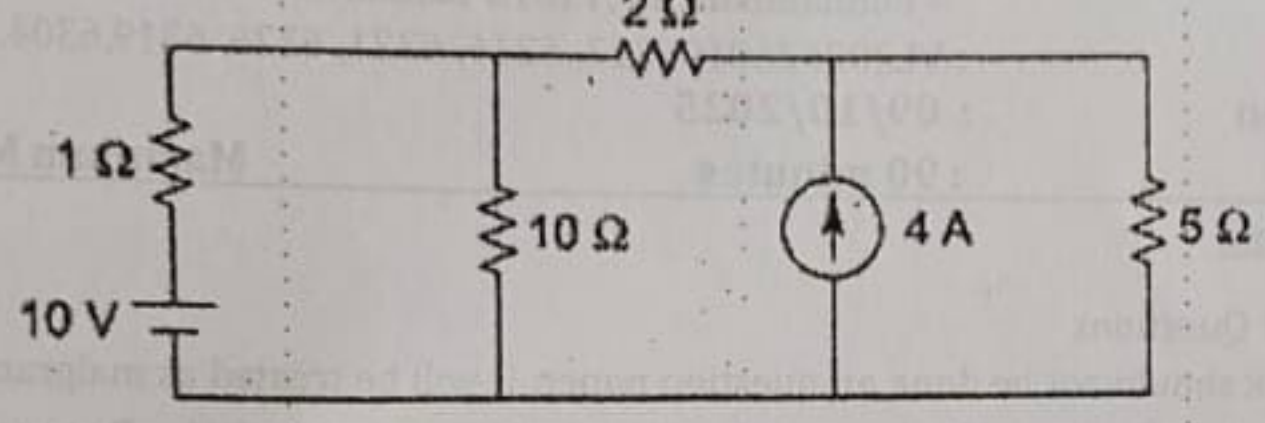

Fig.3

4	A coil having a resistance of 7Ω and an inductance of 31.8mH is connected to 230V, 50Hz supply. Calculate (i) the circuit current (ii) Impedance (iii) power factor (iv) real power consumed (v)Voltage across the resistor and an inductor.	10	1	3

5.	A)	Describe the constructional details of DC machine with neat sketch.	5	1	2
	B)	What is the need for transformer? illustrate the working principle of a transformer with neat sketch.	5	1	2