

Enroll No

Q.P. Code
UT3486

**Course Code:** SH1295

**Day & Date:** Thursday, 16/10/2025

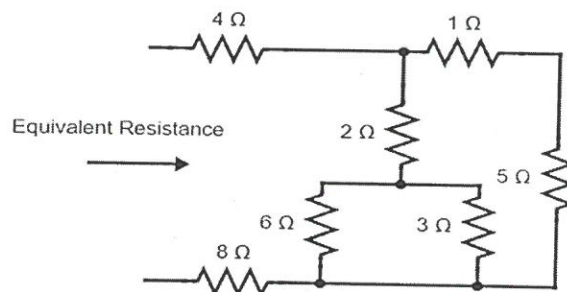
**Time:** 10.30 A.M to 11.30 A.M

**Course Name:** Basic Electrical Engineering

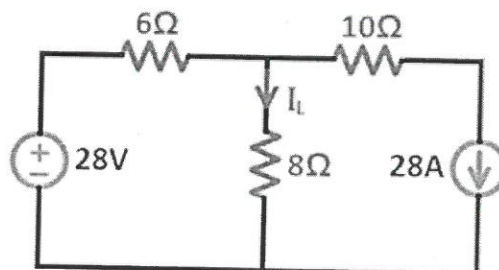
Max Marks- 25

- Instructions:**
- 1) All questions are compulsory.
  - 2) Figures in rounded () brackets within the question, indicate the scheme of marking for respective part of the question, whereas, figures in the first right column indicate total marks for that whole question.
  - 3) CO is the index number of the Course Outcome statement.
  - 4) The Bloom's taxonomy level (BL) for 1,2,3,4,5 and 6 is remember, understand, apply, analyze, evaluate and create respectively.
  - 5) Assume suitable data if necessary.
  - 6) Use of non-programmable calculators is allowed

			Marks	BT Level	COs
Q.1	A	State and explain Ohms Law and Kirchoff's Current Law (KCL). (Ohms Law- 2 Marks, KCL- 2 Marks)	04	L1	CO1
	B	Find the Equivalent Resistance of the given circuit. (Simplification 2 marks, equivalent resistance 1 mark)	03	L3	CO1



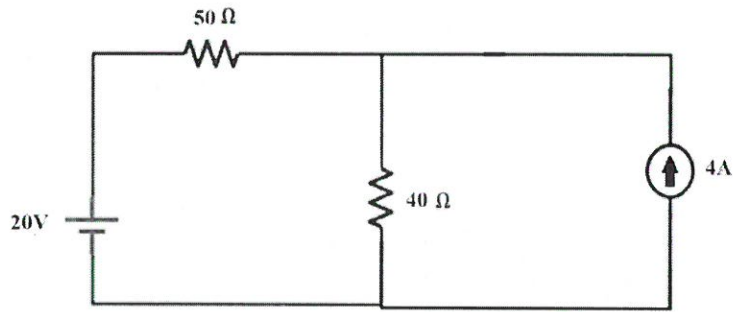
- C Determine the current ( $I_L$ ) passes through the 8Ω resistor in the given network using the superposition theorem.



OR

Find the current flowing through 40 Ω resistance using Kirchoff's Current law (KCL).





- Q.2 A Define the following terms. 04 L1 CO1
- RMS value (1 mark)
  - Peak value (1 mark)
  - Time Period (1 mark)
  - Average value (1 mark)
- B The equation for an alternating current is given by  $i = 100\sin(396.8t - 30^\circ)$  A. Find 03 L3 CO1
- Peak-to-peak value of current (1 mark)
  - RMS value of the current (1 mark)
  - Frequency (1 mark)
- C Explain Alternating Current (AC) through purely Resistive Circuit with neat sketch. (Circuit Diagram-1 Mark, Phasor Diagram- 1 mark, Waveform-1 Mark, Explanation-2 Marks) 05 L3 CO1

OR

Explain Alternating Current (AC) through purely Inductive Circuit with neat sketch. (Circuit Diagram-1 Mark, Phasor Diagram- 1 mark, Waveform-1 Mark, Explanation-2 Marks)

