

Enroll No

Q.P. Code
UT 2952

S.Y. B.Tech.-Electronics & Telecommunication Engineering

**Course Code: EE2034**

**Course Name: Electrical Circuit Analysis**

Day & Date: Monday, 11/08/2025

Time: 03:45 PM to 04:45 PM

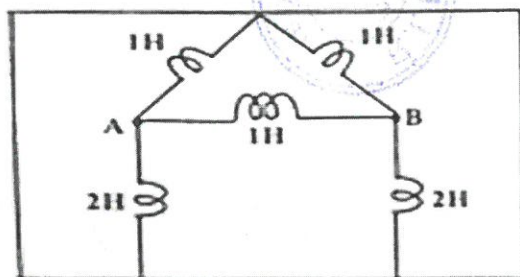
Max Marks- 25

- 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

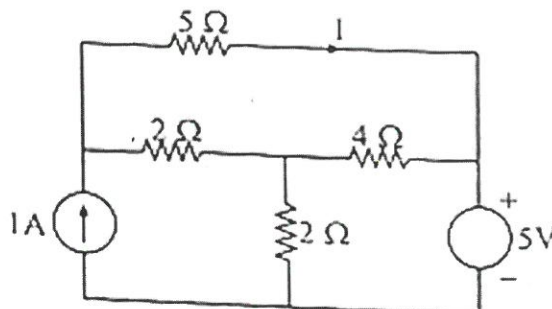
Marks	BT Level	COS
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**Attempt all questions. Each question is compulsory.**

- Q.1 A Determine the equivalent inductance across terminals A and B for the given network of inductors. 4 3 1

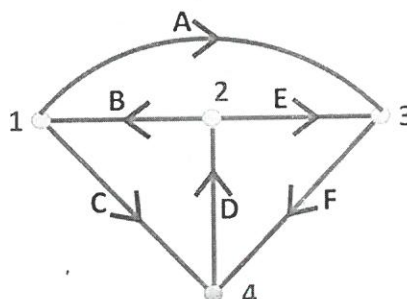


- B Determine the value of the current  $I$  flowing through the  $5\Omega$  resistor using nodal analysis or mesh analysis. 5 BL3 1

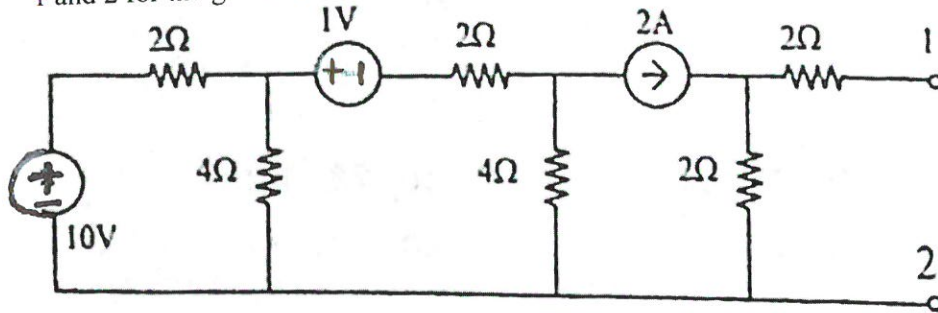


**Figure 1.B**

- C Determine the cut-set matrix of the given network by considering the twigs B, E, and D. 3 4 3



- Q.2 A Determine the Thevenin's equivalent voltage (3 Marks), Norton's equivalent current (3 Marks), and equivalent resistance (2 Marks) as seen from terminals 1 and 2 for the given circuit. 8 3 2



- B Determine the value of the current  $I$  flowing through the  $5\ \Omega$  resistor using superposition theorem for Figure 1.B (refer figure Question 1-B). 5 3 2

OR

Explain the Superposition Theorem with the help of a suitable example.

