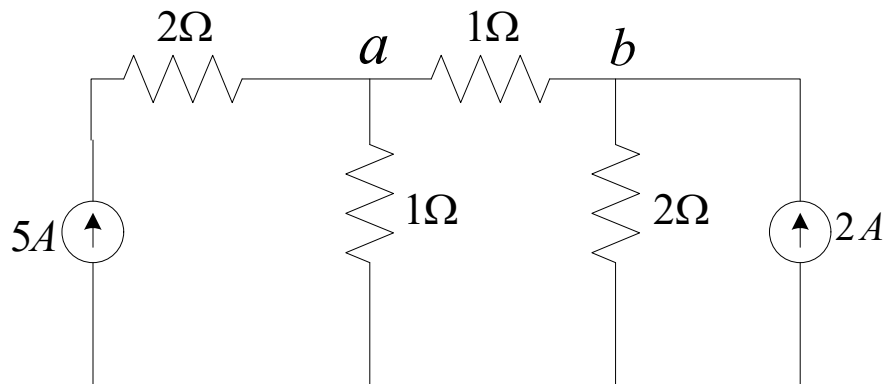


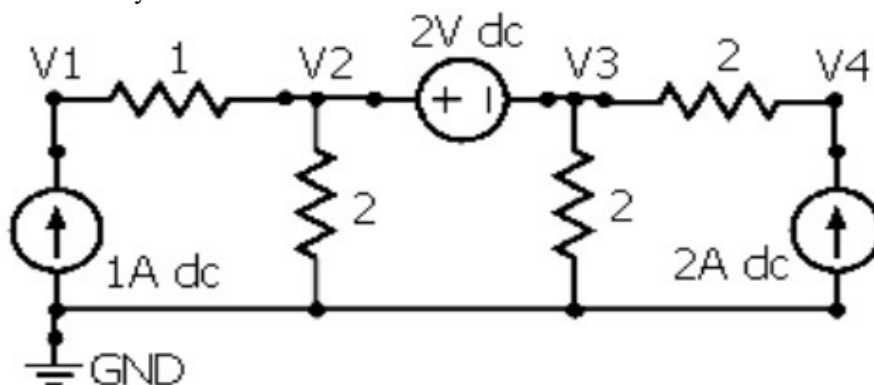
Assignment: 1

Objectives: To understand

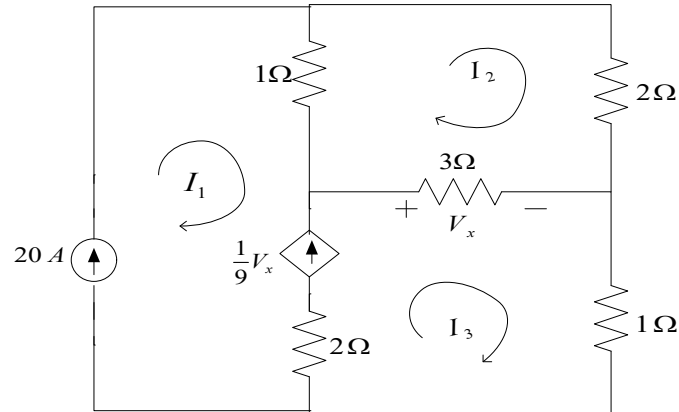
- Application of KVL and KCL.
 - Concept of theorems.
 - Concept of duality.
 - Concept of Maximum power transfer.
 - Concept of Dot.
-
- State and Explain the “The Maximum Power Transfer Theorem” .Also derive the condition for maximum power transfer to the load for D.C. and A.C. Circuit.
 - State and Explain the “Reciprocity Theorem”.
 - Discuss compensation theorem and steps for solution of a network using this theorem
 - State and explain Thevenin’s Theorem and Norton’s theorem.
 - Explain: The concept of Duality. List all analogous quantities used in Duality.
 - Explain the “Dot Convention Rule” for the magnetically coupled Network. Explain the method to put the Dots on different linked Coils using suitable example.
 - Using the Node Voltage analysis, find the current in all resistors in given figure.



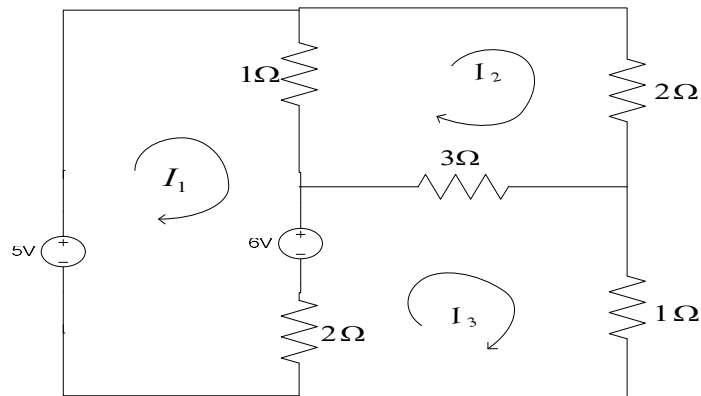
- Solve for the nodal voltages V_1 , V_2 , V_3 and V_4 as shown in the network in given figure, using the nodal analysis.



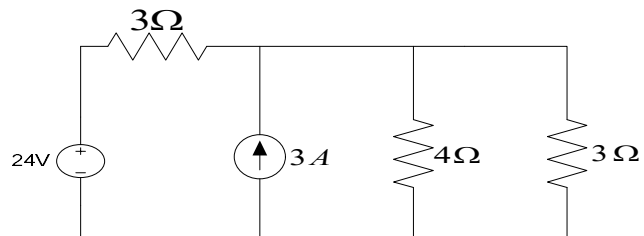
9. Determine the mesh currents in a network using mesh analysis.



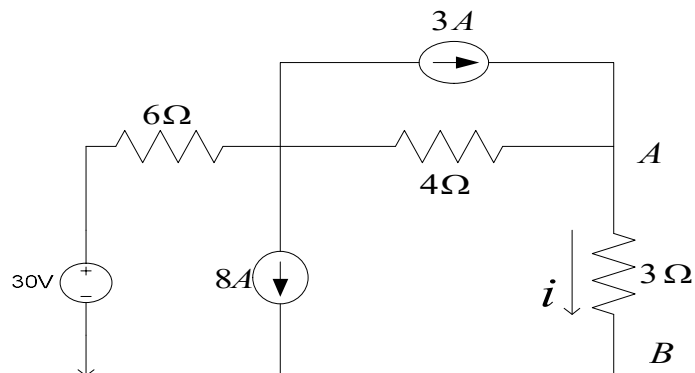
10. Determine the mesh current in the given network of figure.



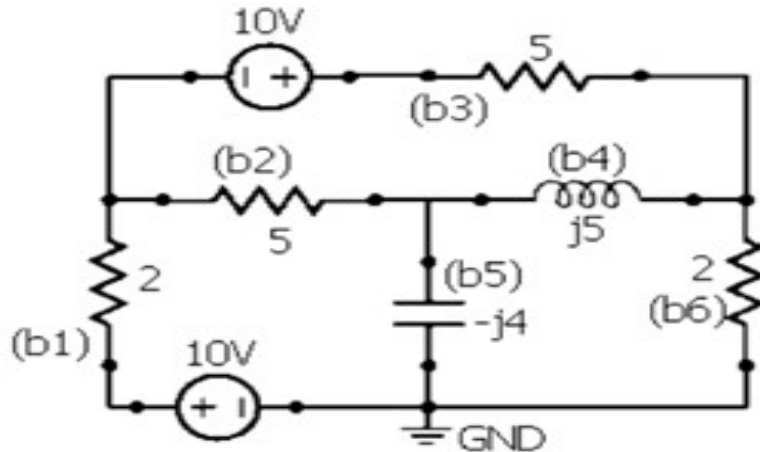
11. Find the current in the 4-ohm resistor in given figure using Thevenin's Theorem.



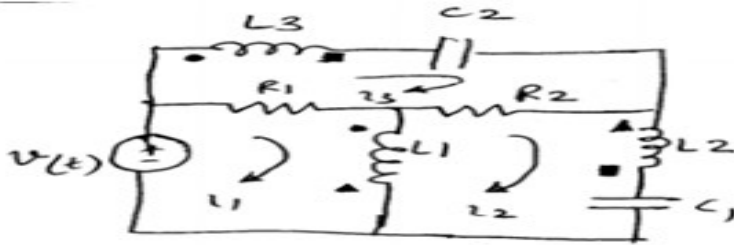
12. Find Voltage across 3Ω in figure using Superposition Theorem



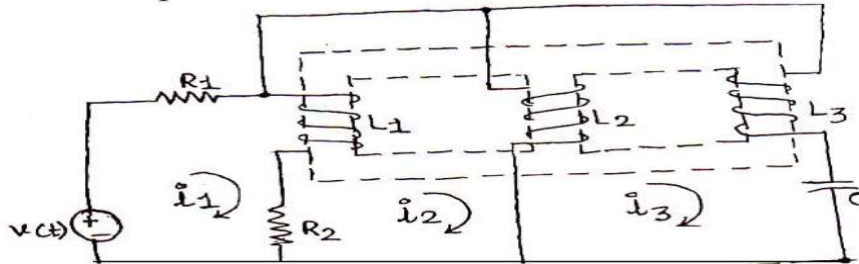
13. Draw the dual of the network shown in figure



14. Formulate the Loop equations for Network shown in figure



15. For magnetically coupled network shown in Figure, find dot-convention and write the KVL equations.



Suggested References:

1. U.A.Patel, "Electric Circuit Analysis", Mahajan Publishing House, 2019.
2. K.S.Suresh Kumar, "Electric Circuit Analysis", Pearson Publications, 2013.
3. Website: nptel.ac.in
4. Google sites

Rubric wise marks obtained:

Criteria	Level of Knowledge and Understanding	Analytical Ability	Quality & Correctness of Write-up, Ethical Practices and Submission	Total
Marks				