Enroll. No._____

MARWADI EDUCATION FOUNDATION

Faculty of Engineering/Technology/PG Studies

ELECTRONICS AND COMMUNICATION ENGINEERING

B.E. SEM: 3 MID-SEM. EXAM: I September: 2014

Subject: - Circuits and Networks (2130901) **Date:- 15/09/2014**

Total Marks:-30 **Time: - 75 Minutes**

Instructions:

1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

Question: 1. [6 x 1]

Explain Non-Linear element, Time Invariant element and Lumped element with examples. And find out the equivalent inductance across points a and b in the **Figure 1**.

Question: 2. [6 x 2]

(a) Find out the THEVENIN'S equivalent circuit across points A and B in the **Figure 2**.
(b) Find individual MESH CURRENTS in **Figure 3**.

OR

(a) Find the NORTON equivalent across points A and B in given **Figure 4**.
(b) Find the individual NODE VOLTAGES in **Figure 5**.

Question: 3. [6 x 2]

(a) Find the voltage across the 1 Ohm resistor in **Figure 6** using SUPER POSITION theorem.
(b) Find the Z parameter for the network given in **Figure 7**.

OR

(a) For the magnetically coupled circuit shown in **Figure 8**, Find DOT Convention and write MESH equations.
(b) Find the Z parameter for the network given in **Figure 9**.

Figure 1

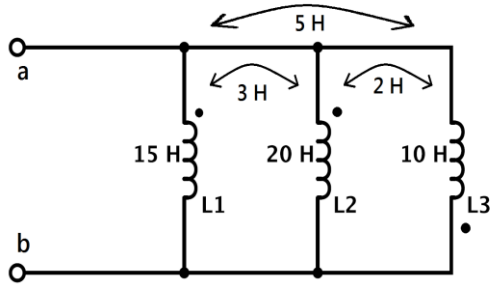


Figure 2

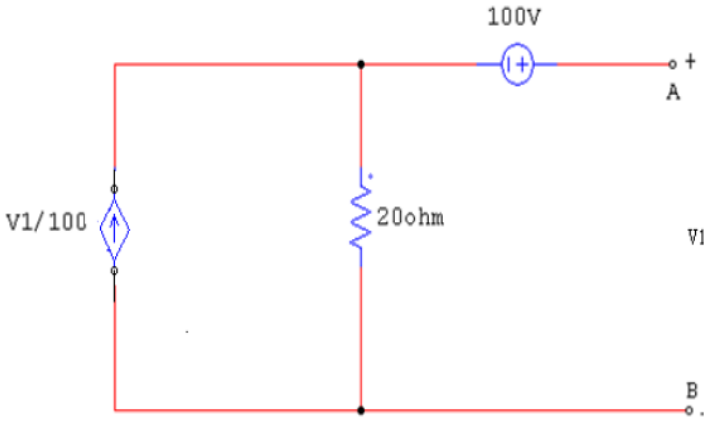


Figure 3

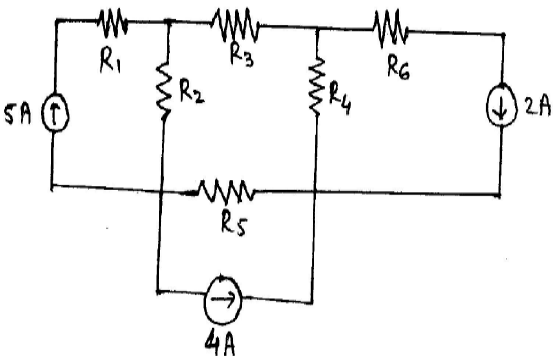


Figure 4

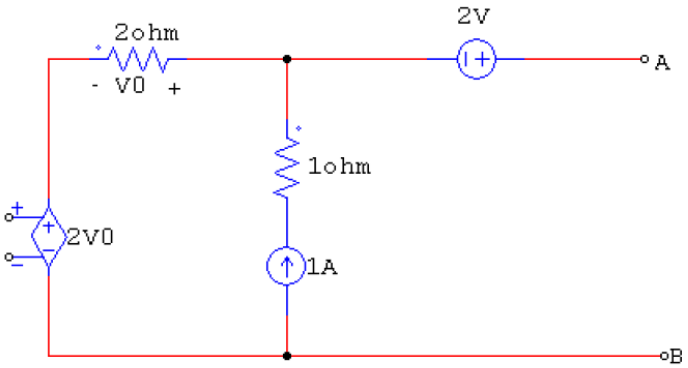


Figure 5

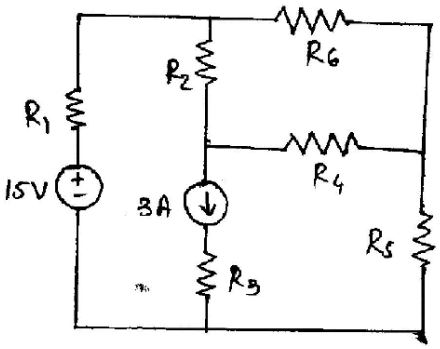


Figure 6

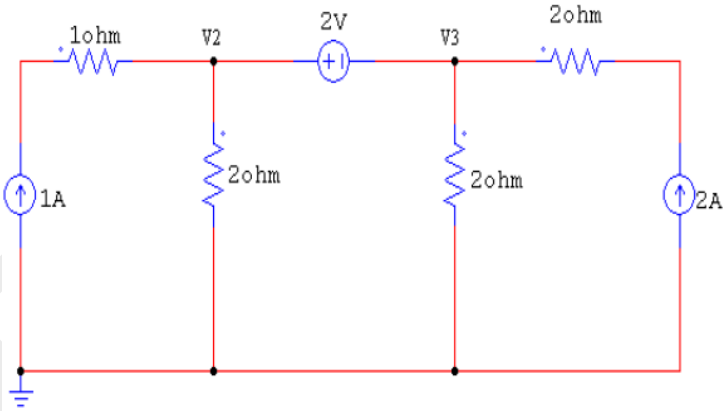


Figure 7

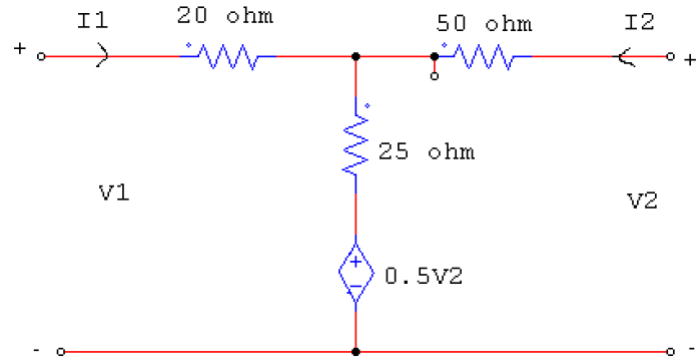


Figure 8

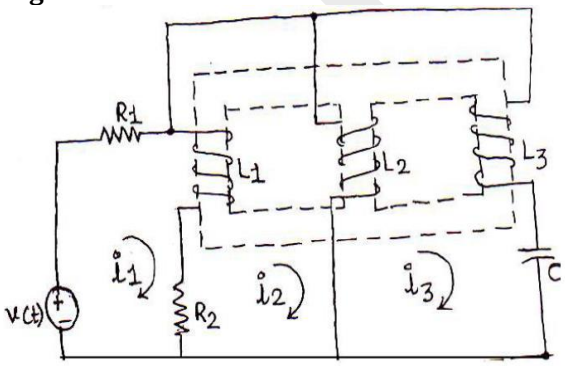
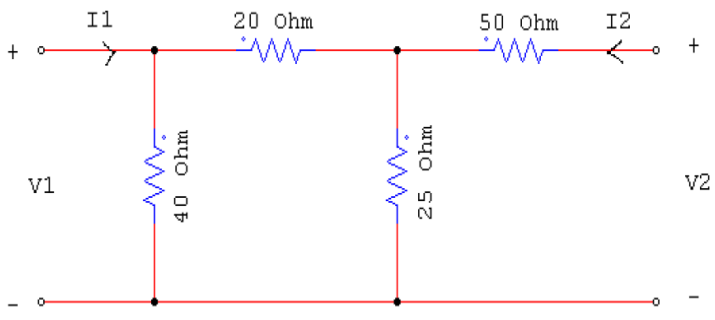


Figure 9



ALL THE BEST !!!

Course Outcome Wise Questions

Subject Code	**2130901**	Subject	**CIRCUITS & NETWORKS**

CO No.	Course Outcome
CO1	Get knowledge of various network theorems like superposition, Thevenin's, Norton and more for circuit analysis.(Knowledge)
CO2	Understand mathematical transforms to describe the behavior of networks which are represented using differential equations.(Understand)
CO3	Application of knowledge for solving the electrical circuit problems using different methods. (Application)
CO4	Discuss methods of reducing the circuit. Develop an ability to choose an appropriate analytical method.(Analytical)
CO5	Develop the ability to design electrical circuits based on the given inputs and outputs.
CO6	Evaluate lecture material with circuit simulation software and laboratory bench experiments. (Evaluate)

Blooms Taxonomy	Question List
Remember / Knowledge	
Understand	
Apply	
Analyze	
Evaluate	
Higher order Thinking / Creative	