Enroll. No._____

MARWADI EDUCATION FOUNDATION

Faculty of Engineering/Technology

(ELECTRICAL ENGINEERING)

B.E. SEM:III FIRST MID-SEM. EXAM SEPTEMBER: 2015

Subject: - CIRCUIT AND NETWORKS (2130901) **Date:- 27 – 09 - 2015**

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.**

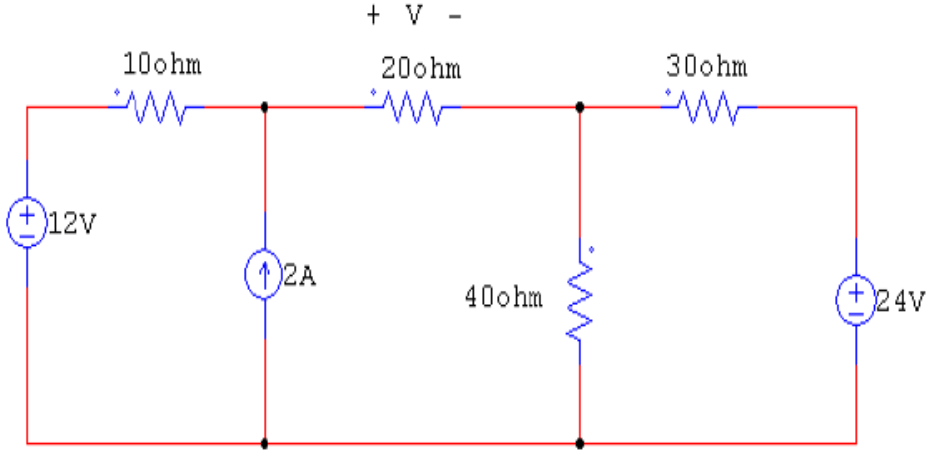
Question-1 Define Following terms: **[06]**

1) Ideal & actual Voltage and current source
2) Active and Passive Networks
3) Lumped and Distributed networks

Question-2 **[12]**

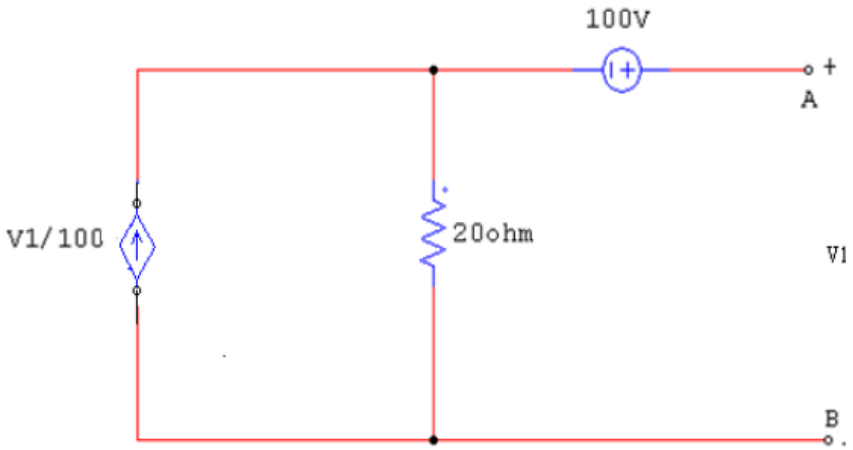
(a) State and explain Maximum Power Transfer theorem. Also derive the condition for maximum power transfer to the load for DC and AC circuit.

(b) Find voltage across 20 ohm resistance using Superposition theorem.



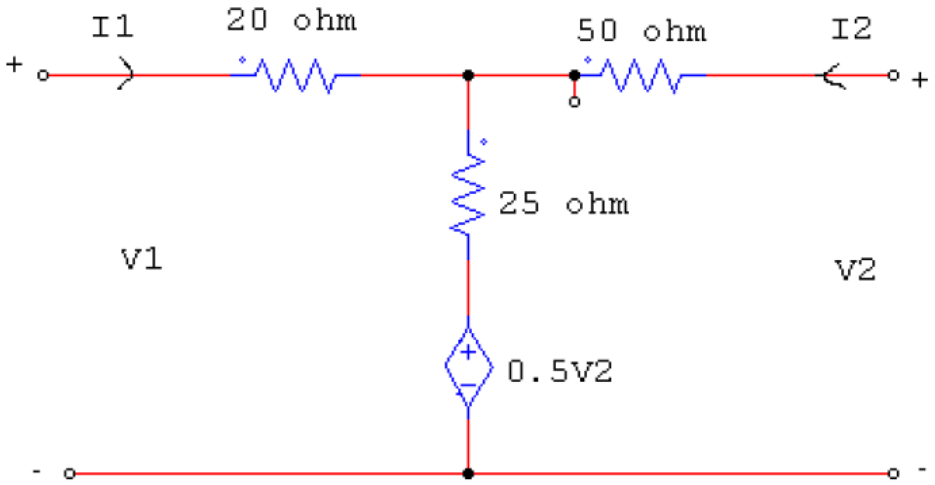
OR

(b) Find Thevnin's equivalent network across the terminals A and B.

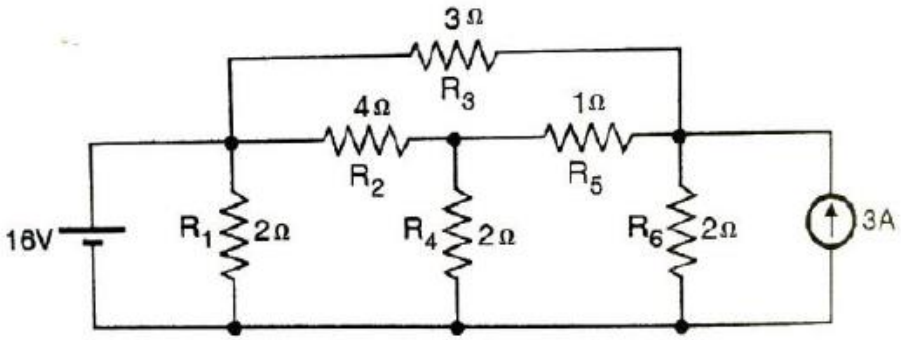


Question-3 **[12]**

(a) Find Z parameters for the given network.



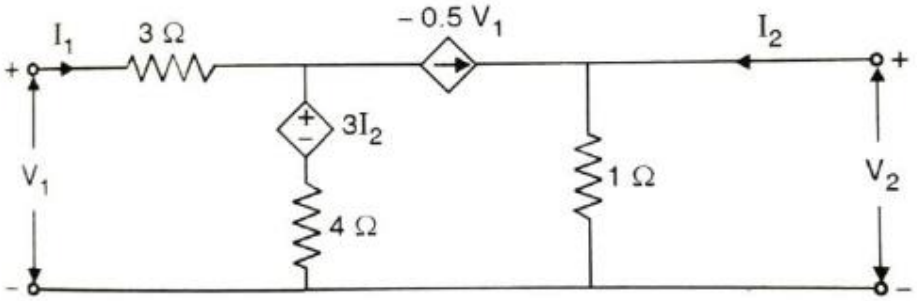
(b) Calculate the node voltages for all the nodes shown in fig using Nodal analysis.



OR

(a) Find the current through 4 ohm resistor using Mesh analysis.

(b) Find h parameters for the given network.



---Best of Luck---

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	