

# BHARATI VIDYAPEETH INSTITUTE OF TECHNOLOGY

## QUESTION BANK

Unit Test-II (Shift:-I & II)

Program: - EJ

Semester: - III

Course: -ECN (22330)

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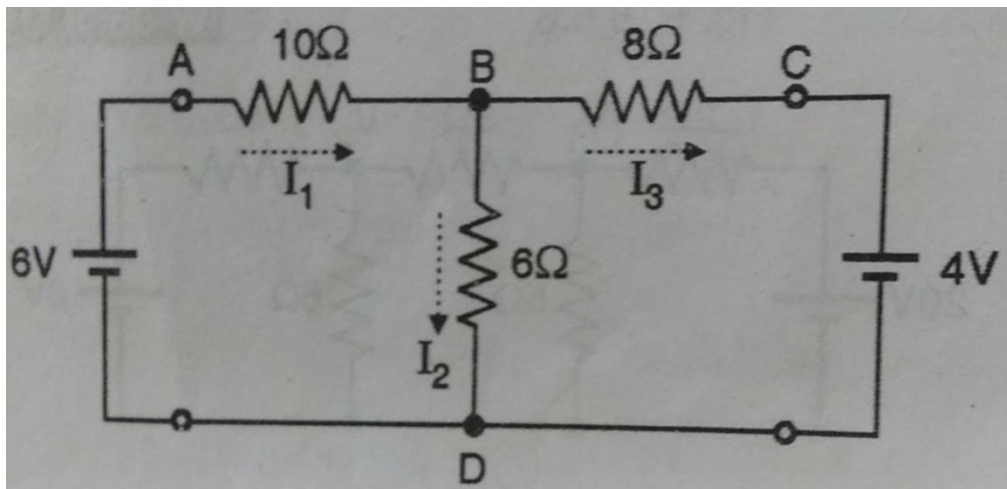
### CHAPTER-3 PRINCIPLES OF CIRCUIT ANALYSIS (14)

#### 2 MARKS

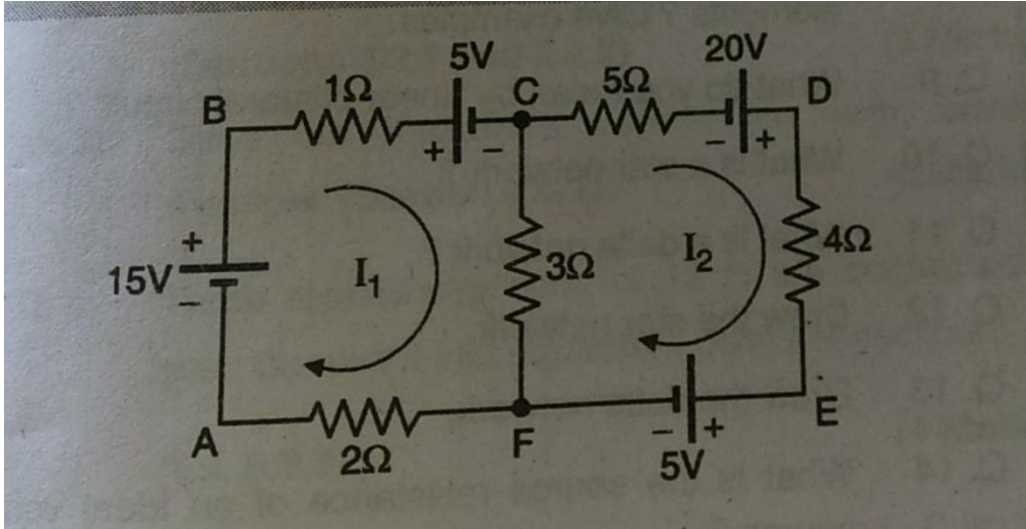
1. State KCL and also define a node.
2. State KVL and also define a mesh.
3. Explain Mesh Analysis.
4. Explain Node Analysis.

#### 4 MARKS

5. Calculate the node voltage  $V_B$  using Nodal Analysis.



6. Calculate the current through  $3\Omega$  resistance using Loop current method.



7. Compare Mesh Analysis and Node Analysis

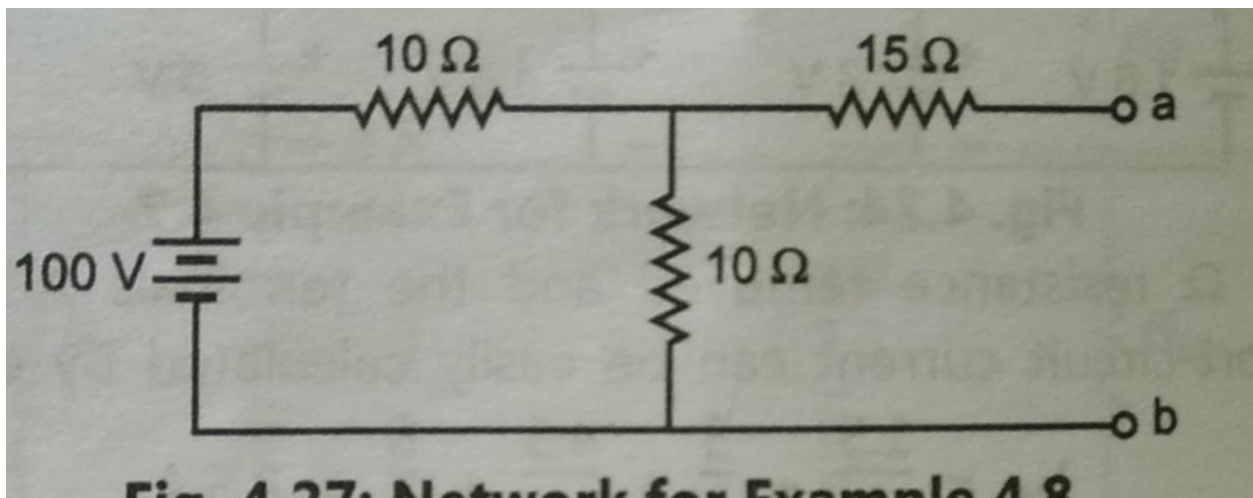
## **CHAPTER-4 NETWORK THEOREMS(18)**

### **2 MARKS**

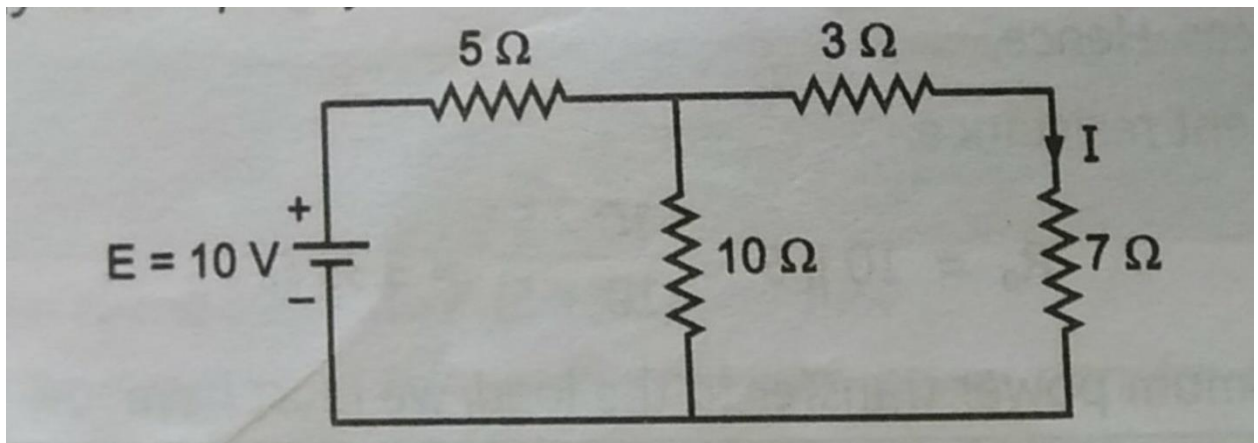
8. State Superposition Theorem.
9. State Norton's Theorem.
10. State Reciprocity Theorem
11. Define- i) Unilateral network ii) Bilateral network iii) Linear network
12. Define- i) Active network ii) Passive network iii) Non- Linear network
13. Write the condition to transfer Maximum Power to the load in a.c. circuits.

### **4 MARKS**

14. State and explain Thevenin's Theorem.
15. State Superposition theorem and write the steps to find the current through an element by Superposition theorem.
16. Using Norton's theorem find the Norton's equivalent circuit for the network shown.



17. Verify Reciprocity Theorem for the circuit shown below.



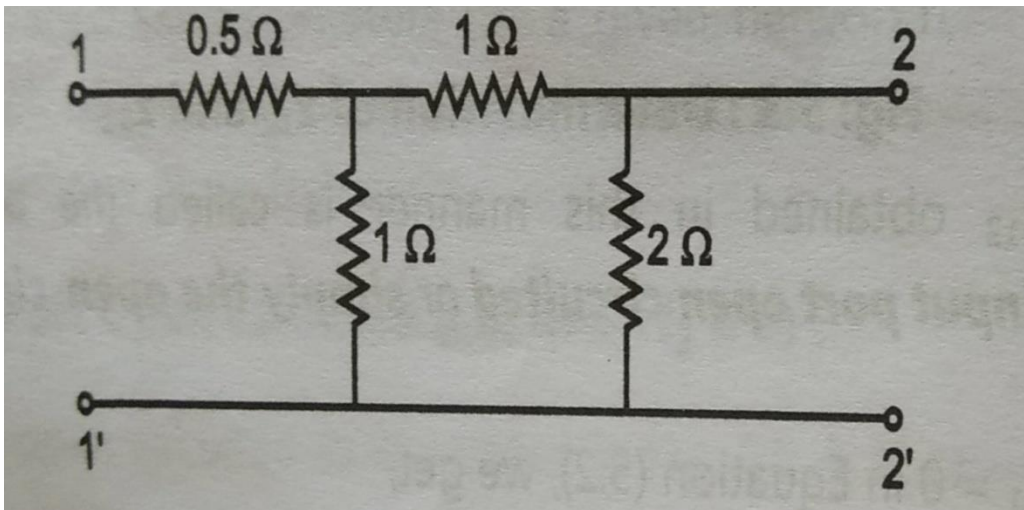
## CHAPTER-5 TWO-PORT NETWORK(10)

### 2 MARKS

18. Write the equations of Open circuit Z parameters.
19. Define symmetrical network.
20. Define reciprocal network.
21. Write the condition for network to be reciprocal in terms of Y and Z parameters.

### 4 MARKS

22. Find the impedance (z) parameter for the resistive circuit shown below.



23. A symmetrical T-network has the following open-circuit and short-circuit impedances:

$Z_{oc} = 800\Omega$  ( open circuit impedance)

$Z_{sc} = 600\Omega$ (short circuit impedance)

Calculate impedance values of the network.

24 . Draw the two port network and determine the indicated parameters for the following configurations.

i) Cascade configurations (ABCD parameter)

ii) Series configurations

iii) Parallel configurations.

25. Draw and explain short circuit admittance (y) parameter.