

Basic Electrical & Electronics Engineering

Sem -I

Question Bank_IA-1

Academic Year 2026-27

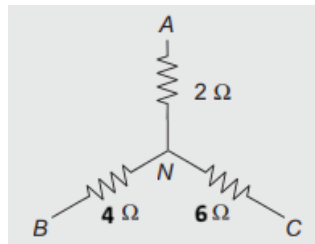
Duration: - 1 hour

Total Marks: -20

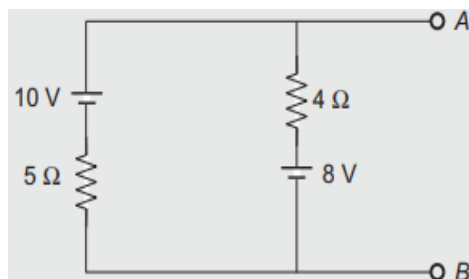
Q.1.

(10 Marks)

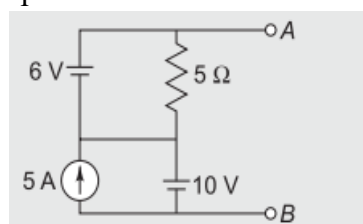
1. Define the following terms with suitable example: -
 - a. Kirchhoff's Voltage Law
 - b. Kirchhoff's Current Law
2. Convert the star circuit into its equivalent delta circuit



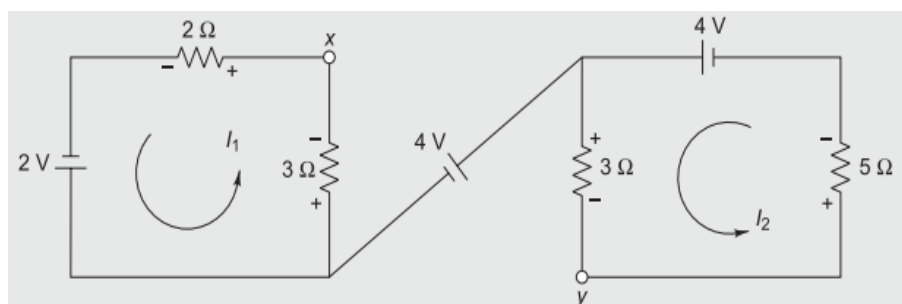
3. Convert the given circuit into a single current source in parallel with a single resistance between points A and B.



4. Find the voltage V_{AB} by superposition theorem



5. Discuss the steps to be used for analysis of Thevenin's theorem.
6. What is the potential difference between points x and y in the network?

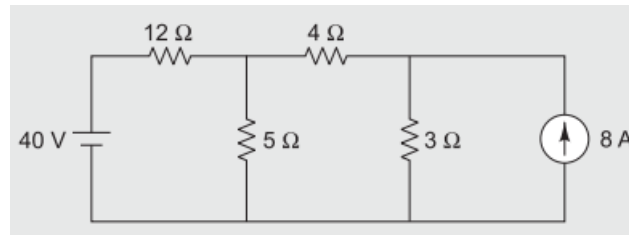


7. What is Zener diode? Draw the symbol of Zener diode.
8. What is BJT? Draw the symbol of n-p-n and p-n-p transistor.
9. What is FET? Draw the symbol of N-channel and P-channel FET.
10. What is LED? Write any applications of LED.

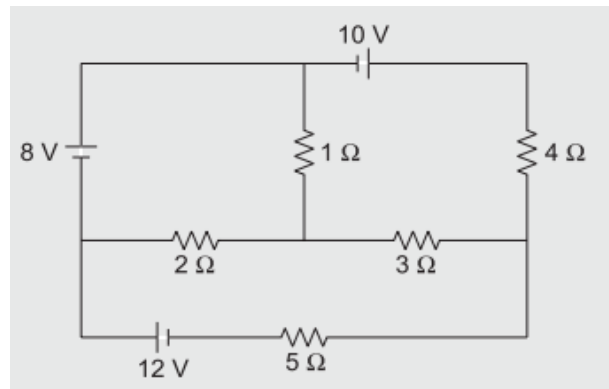
Q.2.

(05 Marks)

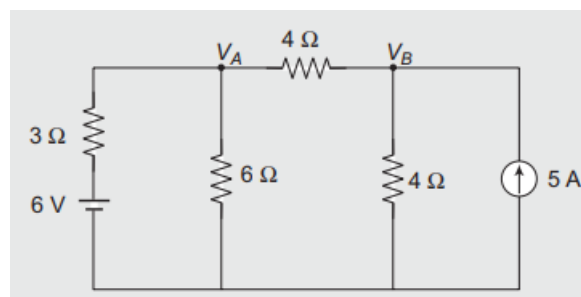
1. Discuss in detail delta to star transformation method.
2. Find the value of current flowing through 4Ω resistor by using superposition theorem.



3. Determine the value of current flowing through 5Ω resistor using mesh analysis.



4. Find the value of current flowing through 4Ω using nodal analysis.



Q.3.

(05 Marks)

1. Discuss the operation and characteristics of Zener diode in detail.
2. How zener diode can be used as voltage regulator? Explain.
3. Explain in detail common emitter configuration of BJT. Draw input and output characteristics of BJT.
4. Draw and discuss the construction and operation of n-channel FET.
