

# **BHARATI VIDYAPEETH INSTITUTE OF TECHNOLOGY**

## **Unit Test-I Question Bank**

### **FEE-K Scheme (312310)**

#### **UNIT 1 Basic Electrical Parameters (12M)**

##### **2 M Questions**

1. Distinguish between Direct Current and Alternating Current.
2. Define Electric Work Give its SI units.
3. Define Electric Power Give its SI units.
4. Define Electric Energy Give its SI units.
5. Define Resistance and state its unit.
6. List different types of resistor and give its one application each.
7. Define EMF and Electric Current
8. Define Electric Potential
9. State the effects of Electric Current

##### **4 M Questions**

1. State the effect of temperature on Resistance
2. Explain Carbon Composition Resistor with its neat diagram and Write its applications.
3. Explain Fixed resistor and Variable resistor
4. Explain Wire Wound resistor with its applications.
5. Classify Voltage and Current Sources with its diagram.
6. State the various effects of electric current and explain any one of them.

#### **UNIT 2 D.C Circuits (14M)**

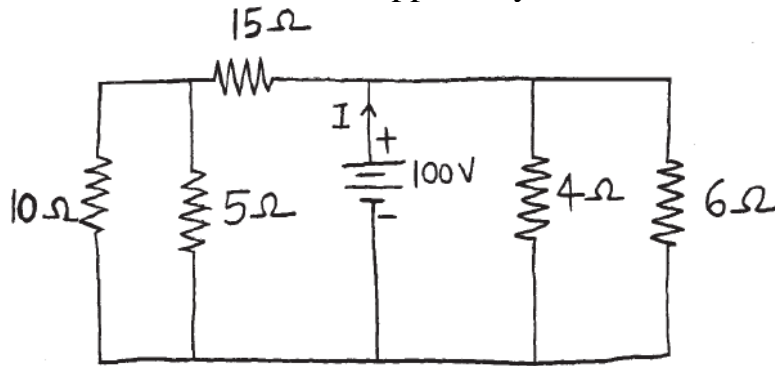
##### **2 M Questions**

1. Define internal voltage drop
2. Define Terminal Voltage.
3. State Kirchoff's Current Law
4. State Kirchoff's Voltage Law

##### **4 M Questions**

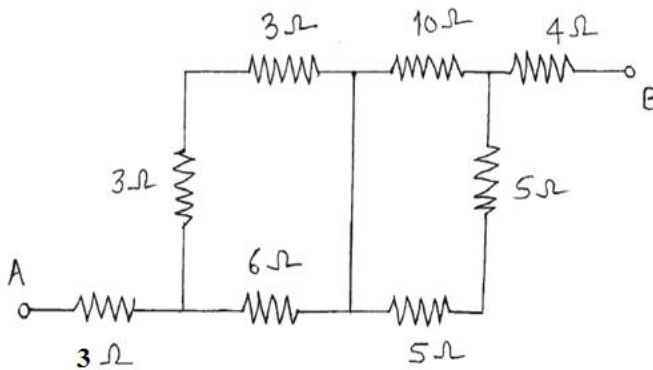
1. Define following networks.  
(i) Active (ii) Passive (iii) Unilateral (iv) Bilateral

2. State and explain Ohm's law.
3. Define the following terms as related to electric circuits  
(i) Node (ii) Branch (iii) Loop and (iv) Mesh
4. Find the current  $I$  supplied by 100 V source in the Figure No. (1).

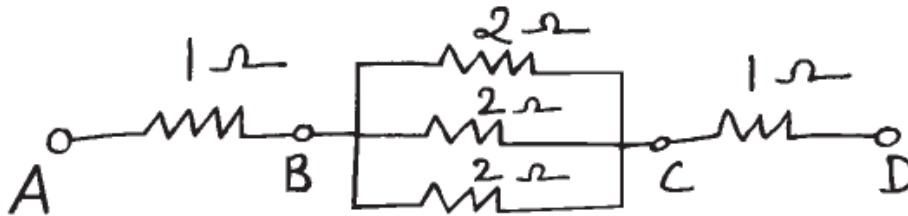


**Fig. No. 1**

5. A resistance of  $10\ \Omega$  is connected in parallel with  $15\ \Omega$ . If current through the combination is 10A. Calculate the current through each resistance.
6. Compare KCL and KVL
7. Find resistance  $R_{AB}$  from Figure No. 2.



8. Compare Resistance in Series and Resistance in parallel
9. Calculate the equivalent resistance between points A and D in the Fig. No. 1.



**Fig. No. 1**

10. Find the current through  $5\ \Omega$  resistor using Kirchhoff's laws (Fig. No. 2)

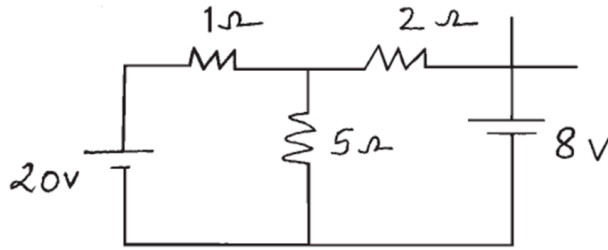


Fig. No. 2

11. By applying Kirchhoff's law find the current through  $10\ \Omega$  resistor Figure No. 1

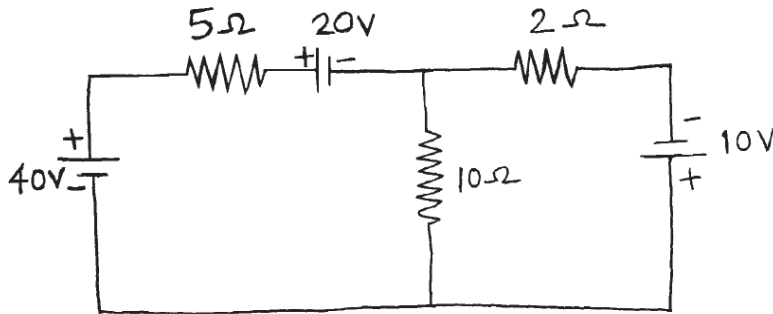
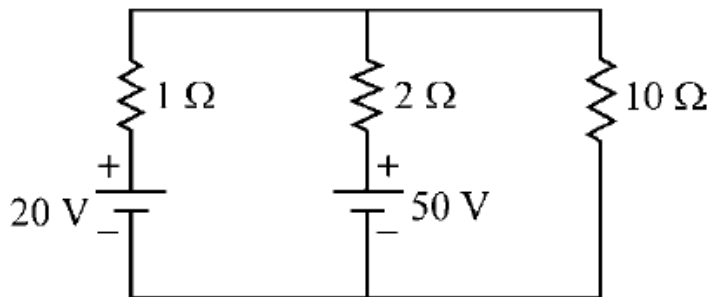


Fig. No. 2

12. Using Kirchhoff's law Calculate the current flowing through  $10\ \Omega$  resistor



### UNIT 3 Capacitors and Battery (14M)

#### 2 M Questions

1. Define capacitor State its unit and draw the symbol.
2. List the factors affecting capacitance of capacitor.

#### 4 M Questions

1. Describe the construction of any one type of capacitor.
2. Derive the expression of capacitance for parallel plate capacitor.