

CHAPTER-3

CURRENT ELECTRICITY

1. Define electric current. Explain the concept of drift velocity and its relation to the flow of electric charge in a conductor.
2. What is resistance? Describe the factors that affect the resistance of a conductor. How is resistivity related to the resistance of a material?
3. State Ohm's law. Discuss its significance in understanding the relationship between current, voltage, and resistance in an electrical circuit.
4. Explain the concept of electric power. How is power related to the current and the potential difference across a conductor?
5. Discuss the behavior of electrical components connected in series and in parallel. How do the total resistance and effective resistance change in each configuration?
6. Define the terms 'electromotive force (emf)' and 'potential difference'. How do emf and potential difference differ in the context of an electrical circuit?
7. Explain the concept of internal resistance in a source of emf. How does internal resistance affect the flow of current in a circuit?
8. Describe the behavior of a cell or a battery in an electrical circuit. How does the emf of a cell or battery relate to the potential difference across its terminals?
9. Discuss the practical applications of current electricity in various electrical devices and systems. Provide examples of how current electricity is utilized in everyday technology.
10. Explain the concept of electrical energy and its conservation in an electrical circuit. How is the energy dissipated in a circuit, and how can it be calculated using the concepts of current and resistance?