



Multiple Choice Questions

- Which part of an electric cell is the positive terminal?**
 - Filament
 - Metal disc
 - Plastic covering
 - Metal cap
- What do we call a combination of two or more cells connected properly?**
 - Switch
 - Circuit
 - Battery
 - Terminal
- The glowing wire inside an incandescent lamp is called:**
 - Filament
 - LED
 - Bulb
 - Cap
- In an LED, the longer wire represents the:**
 - Negative terminal
 - Insulator
 - Filament
 - Positive terminal
- A switch works by:**
 - Reducing heat
 - Breaking or completing a circuit
 - Increasing voltage
 - Producing electricity
- In a circuit, electric current flows from:**
 - Positive to negative
 - Negative to positive
 - Both directions
 - None of these
- Which of these is an electrical insulator?**
 - Copper
 - Aluminium
 - Rubber
 - Silver
- Which material is commonly used for making electrical wires?**
 - Plastic
 - Glass
 - Copper
 - Rubber
- A circuit diagram represents components using:**
 - Colours
 - Symbols
 - Pictures
 - Shapes

10. **An LED glows only when:**
- (a) Connected through an insulator
 - (b) Connected without a battery
 - (c) Its positive terminal is connected to battery's positive terminal
 - (d) Connected in any direction

Fill in the blanks :

11. The metal cap of an electric cell is the _____ terminal.
12. A group of cells connected together is called a _____.

True / False

13. A closed electric circuit allows electric current to flow.
14. Materials like rubber and plastic are good conductors of electricity.

Very Short Type Questions

15. What is an electric cell?
16. Name any one electrical insulator.

Short Type Questions

17. What is an electric circuit? When does a lamp glow in a circuit?
18. Why are electric wires covered with plastic?

Essay Type Questions

19. Explain how a simple electrical circuit works using a cell, wires, and a lamp.
20. Explain the difference between conductors and insulators with examples.

HOTS

21. **Assertion (A):** An LED does not glow if its terminals are connected the wrong way.
Reason (R): Electric current can flow through an LED only in one direction.
Choose the correct option:
- a) Both A and R are true, and R correctly explains A
 - b) Both A and R are true, but R does not explain A
 - c) A is true but R is false
 - d) A is false but R is true



1. (d) Metal cap
2. (c) Battery
3. (a) Filament
4. (d) Positive terminal
5. (b) Breaking or completing a circuit
6. (a) Positive to negative
7. (c) Rubber
8. (c) Copper
9. (b) Symbols
10. (c) Its positive terminal is connected to battery's positive terminal
11. Positive
12. Battery
13. True
14. False
15. An electric cell is a portable source of electrical energy.
16. Rubber is an electrical insulator.
17. An electric circuit is a complete path through which electric current flows. A lamp glows only when the circuit is closed and current passes through the filament.
18. Electric wires are covered with plastic because plastic is an insulator. It prevents leakage of electric current and protects us from electric shock.
19. A simple electrical circuit works when the positive terminal of a cell is connected to one terminal of a lamp and the negative terminal is connected to the other through wires. This setup creates a complete path for current to flow. When current moves through the filament of the lamp, it heats up and produces light. If any part of the circuit is open or incorrectly connected, the current cannot flow and the lamp will not glow.
20. Conductors are materials that allow electric current to pass through them easily, such as copper, aluminium, and silver. They are used to make wires and connectors. Insulators do not allow current to pass, such as rubber, plastic, and glass. These materials are used to cover wires and switches so that people do not get electric shocks. Both conductors and insulators are important in making electrical devices safe and functional.

21. Correct Answer: A) The correct answer is (a).

Explanation: The assertion is true because a lamp glows only when electric current flows through it. The reason is also true because electric current can flow only through a closed circuit. Since the reason correctly explains why the lamp glows only in a complete circuit, option (a) is correct.

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