1. Electricity is a form of:
   a) Food energy
   b) Sound energy
   c) Heat energy
   d) Energy used to run devices

2. An electric circuit is complete when it is:
   a) Open
   b) Closed
   c) Broken
   d) Without a battery

3. The function of a switch is to:
   a) Create heat
   b) Glow a bulb directly
   c) Open or close the circuit
   d) Convert energy to light

4. Which device uses the heating effect of electricity?
   a) Speaker
   b) Electric iron
   c) Fan
   d) Mobile phone

5. Which appliance works due to the magnetic effect of electricity?
   a) Torch
   b) Electric bell
   c) Toaster
   d) Bulb

6. When electricity flows through a wire, the wire:
   a) Glows
   b) Melts
   c) Behaves like a magnet
   d) Vanishes

7. A circuit that allows current to flow is called:
   a) Fused circuit
   b) Short circuit
   c) Closed circuit
   d) Open circuit

8. If the bulb's filament breaks, the bulb is:
   a) Active
   b) Fused

c) Magnetic
d) Safe

**9.** A good conductor of electricity:
a) Plastic
b) Wood
c) Copper
d) Rubber

**10.** Insulators are materials that:
a) Allow current
b) Reflect light
c) Don't allow electricity to pass
d) Store current

**11.** The + and − terminals of a cell are:
a) Connected to the wire
b) Its charging points
c) Energy outputs
d) Its two ends for flow of current

**12.** Which wire should not be touched with wet hands?
a) Plastic
b) Insulated
c) Naked wire
d) Wood

**13.** Compass needle deflection shows:
a) Electrical heating
b) Sound energy
c) Magnetic effect of electricity
d) Air pressure

**14.** Electromagnets are used in:
a) Mobile phones
b) Lifting heavy metal objects
c) Glowing bulbs
d) Water heaters

**15.** Which of these is not a safety measure?
a) Turning off appliances
b) Using wet hands
c) Using insulated wires
d) Not inserting metal in plug points

**16.** A device that uses a glowing filament is:
a) Radio

b) Electric bell
c) Electric bulb
d) Electric fan

**17.** What does an electric cell do?
a) Store light
b) Heat water
c) Provide electricity
d) Spin

**18.** A broken electric circuit is:
a) Complete
b) Closed
c) Safe
d) Open

**19.** Example of an insulator:
a) Water
b) Copper
c) Rubber
d) Iron

**20.** Safety rule:
a) Use wet fingers to switch
b) Keep wires exposed
c) Turn off devices not in use
d) Connect metal to plugs

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**Assertion-Reason Questions (1 mark each)**

**Options:**
**A. Both A and R are true, and R explains A**
**B. Both A and R are true, but R is not the correct explanation of A**
**C. A is true, R is false**
**D. A is false, R is true**

**21.** **A:** An electric bell works using magnetism**.**
**R:** Magnetic effect of electricity helps in moving objects.

**22.** **A:** A broken circuit still allows electricity to flow**.**
**R:** Electricity can jump through air in normal conditions.

**23.** **A:** Plastic is a good conductor of electricity.
**R:** All non-metals conduct electricity.

24. **A**: Fused bulbs do not glow.
    **R:** The filament inside the bulb is broken.

25. **A:** Never insert a metal pin into sockets.
    **R:** Metals conduct electricity and can cause shock**.**

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**Case Study-based Questions (Each with 4 sub-questions)**

**Case Study 1: Classroom Experiment**

In a science lab, students created a simple circuit using a battery, wires, bulb, and switch. They observed that the bulb only glows when the switch is turned on and wires are properly connected.

1. What made the bulb glow?
2. Name two components used in this circuit.
3. What would happen if the circuit was open?
4. What is the role of a switch?

**Case Study 2: Heavy Lifting in Scrap Yard**

Cranes in a junkyard use powerful magnets to lift scrap metal. These magnets only work when current flows through them.

1. What type of magnet is used in the crane?
2. What effect of electricity is used here?
3. Name one other device that uses this effect.
4. What happens when the current is stopped?