

## Chapter 12. Electricity And Circuits

---

### Very Short Q&A:

**Q1:** Electric cell is the source of \_\_\_\_\_.

**Ans:** Electricity

**Q2:** What are the two terminals of electric cell?

**Ans:** Negative terminal and positive terminal.

**Q3:** An electric cell produce electricity from chemical stored in it. (TRUE/FALSE)

**Ans:** True

**Q4:** The metal cap is \_\_\_\_\_ terminal of electric cell and metal disc is \_\_\_\_\_ terminal.

**Ans:** Positive, negative

**Q5:** The filament of bulb is made up of \_\_\_\_\_.

**Ans:** Tungsten.

**Q6:** The switch is said to be 'ON' when it allows current to pass through it. (TRUE/FALSE)

**Ans:** True

**Q7:** In an electric circuit the direction of current is taken to be from \_\_\_\_\_ to \_\_\_\_\_ terminal of electric cell.

**Ans:** Positive to negative.

**Q8:** The thin coiled wire that gives off light is called \_\_\_\_\_ of the bulb.

**Ans:** Filament

**Q9:** To break the flow of current in a circuit, \_\_\_\_\_ is used.

**Ans:** Switch

**Q10:** There are \_\_\_\_\_ terminals in an electric cell.

**Ans:** 2

**Q11:** What is a switch?

**Ans:** The simple device that either breaks the circuit or completes it is called switch.

**Q12:** Name any two electrical gadgets that have switches built into them.

**Ans:** Torch and oven

**Q13:** Give any two examples of conductors of electricity.

**Ans:** Copper and aluminium

**Q14:** Is air a conductor or insulator?

**Ans:** Air is insulator

**Q15:** Which of the following is good conductor of electricity: Rubber, wood, graphite

**Ans:** Graphite

**Q16:** What are conductors?

**Ans:** Materials that allow electric current to pass through them are called conductors.

**Q17:** Electric wires are made up of \_\_\_\_\_ but they are covered with \_\_\_\_\_.

**Ans:** Conductor, insulator.

**Q18:** Which part of electric cell or bulb can be connected to form a circuit?

**Ans:** The two terminals-negative and positive.

**Q19:** What are insulators?

**Ans:** Materials that do not allow electric current to pass through them are called insulators.

**Q20:** Which of the following is not good conductor of electricity:

Copper, aluminium, mercury, rubber



**Ans:** Rubber

**Q21:** Give two examples of insulators.

**Ans:** Rubber and plastic

**Q22:** Electricians must wear \_\_\_\_\_gloves while repairing electric switch.

**Ans:** Rubber

**Q23:** The materials which do not allow electric current to pass through them are called \_\_\_\_\_.

**Ans:** Insulators

**Q24:** In an electric bell, \_\_\_\_\_energy is transformed into \_\_\_\_\_energy.

**Ans:** Electrical, magnetic

**Q25:** Cotton and thermo Col are good conductors of electricity.(TRUE/FALSE)

**Ans:** False

**Q26:** Electric \_\_\_\_\_is a path along which current flows.

**Ans:** Circuit

**Q27:** Switch can break electricity flow.(TRUE/FALSE)

**Ans:** True

**Q28:** The material that allows electric current to pass through it is called \_\_\_\_\_.

**Ans:** Conductor

**Q29:** Our body is \_\_\_\_\_of electricity.

**Ans:** Conductor

**Q30:** All metals are good conductors. Is the statement true? Give example.

**Ans:** Yes. For example-iron, copper etc.

**Q31:** Which materials can be used to cover electric wires, plug tops, switches etc?



**Ans:** Insulators such as plastic, rubber etc.

**Q32:** Gold is a conductor. (TRUE/FALSE)

**Ans:** True

**Q33:** What are electric wires made up of?

**Ans:** Electric wires are made up of copper, aluminium.

**Q34:** Name any three components of electric circuit.

**Ans:** Electric cell, wire and electric bulb.

---

### Short Q&A:

**Q1:** What will happen if we join two terminals of electric cell directly through a wire?

**Ans:** If we join two terminals of electric cell directly through a wire, the chemical in an electric cell get used up very fast and the cell will stop working.

**Q2:** What is an electric circuit?

**Ans:** Arrangement that provides a complete path for electricity to pass (current to flow) is known as electric circuit.

**Q3:** Explain how the bulb glows in circuit when it is connected to an electric cell?

**Ans:** When the terminals of the bulb are connected with that of electric cell by wires, a current pass through the filament of the bulb and it makes the bulb glow.

**Q4:** How can an electric bulb get fused?

**Ans:** An electric bulb may get fused due to break in its filament. A break in the filament of bulb means break in the path of current between the terminals of electric cell.

**Q5:** Why rubbers and plastic used to cover electric wires and plug tops?

**Ans:** Rubbers and plastic are used to cover electric wires and plug tops because they are insulators and do not allow electric current to pass when we touch plugs and switches.

**Q6:** Why is distilled water used in the batteries and not the tap water?



**Ans:** Because distilled water acts as an insulator as it is purest water. Whereas tap water has salts and impurities and acts as a conductor.

**Q7:** Why is handle of tools like screw driver, pliers are covered with plastic or rubber?

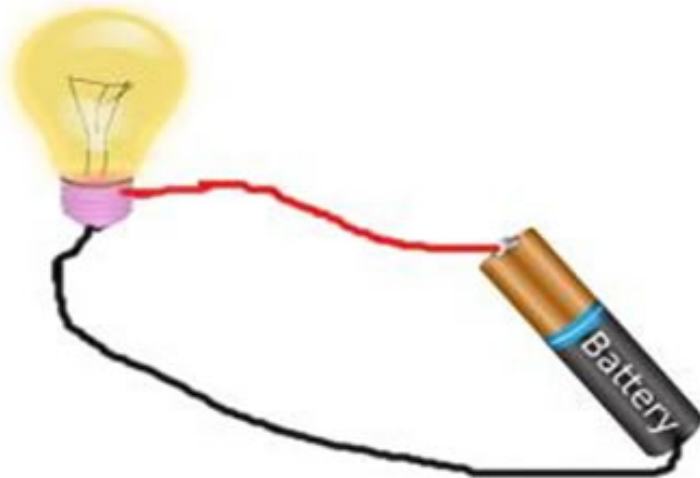
**Ans:** Because they are insulators and avoid direct contact with electric current while touching electric wires.

**Q8:** Generally what can be components of an electric circuit?

**Ans:** Components of electric circuit can be following:

- a. A cell or a battery
- b. Connecting wires made of copper or aluminium
- c. Switch
- d. Bulb or other electric device

**Q9:** Would bulb glow in the circuit given below? Why or why not?



**Ans:** Yes, bulb will glow because current will flow from two terminals of the bulb.

**Q10:** What is the function of an electric switch?

**Ans:** It is a simple device that either breaks the circuit or completes it. For example-in a microwave or toy cars we have switches to turn it ON or OFF.

**Q11:** What is an electric cell? How many terminals it has?

**Ans:** An electric cell is a device that converts chemical energy into electrical energy. It has two metal plates indicating two terminals-negative and positive. It has chemical inside it.

**Q12:** Statement is true or false:

- a. Bulb has one terminal.
- b. Electrolyte is present in the cell.
- c. Copper is good conductor of electricity.
- d. Circuit shows the path of current.

**Ans:**

- a. False
- b. True
- c. True
- d. True.

**Q13:** Match the following:

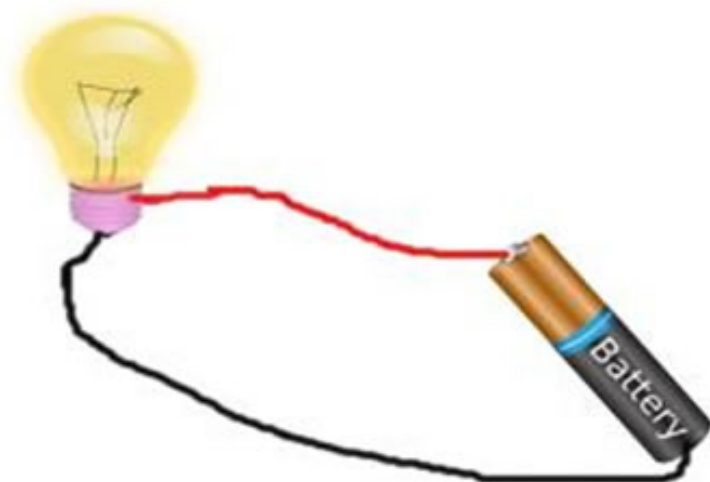
A	B
1. Circuit	a. Electrolyte
2. Switch	b. Path of current
3. Bulb	c. Break the circuit
4. Electric cell	d. Filament

**Ans:**

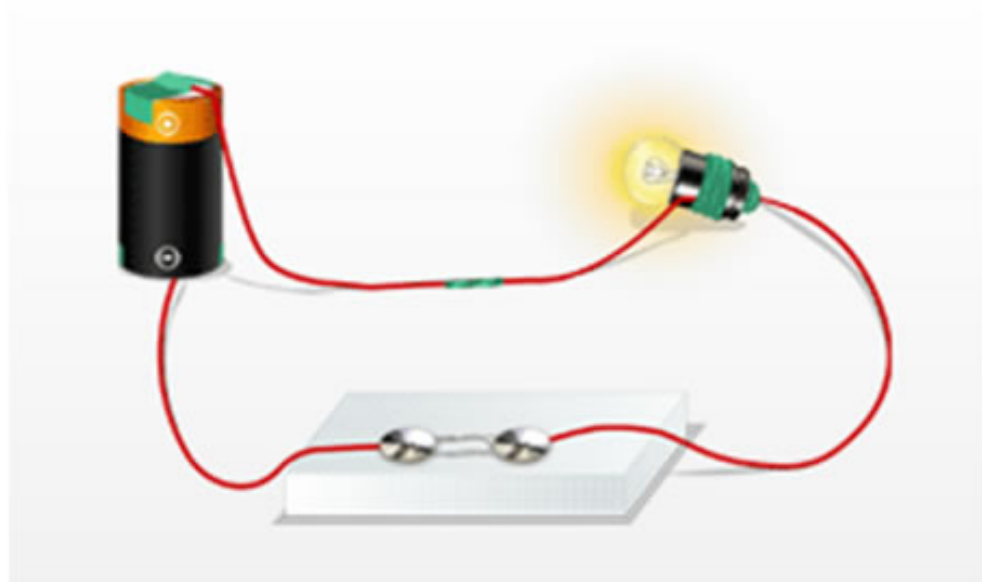
A	B
1. Circuit	a. Path of current
2. Switch	b. Break the circuit
3. Bulb	c. Filament
4. Electric cell	d. Electrolyte

**Q14:** Draw a diagram to show a circuit.

**Ans:**



**Q15:** Explain why bulb will glow in the arrangement shown:



**Ans:** Because the switch is ON and therefore current will flow.

**Q16:** Classify the following as conductor or insulator:  
Eraser, coin, glass, pencil, needle, key, iron nail, plastic scale

**Ans:**

Conductor-coin, needle, key, iron nail  
Insulator-eraser, glass, pencil, plastic scale

---

### Long Q&A:

**Q1:** What is the difference between conductor and an insulator? Explain with examples.

**Ans:** Materials that allow electric current to pass through them are called conductors. For example iron, copper etc. Metals are good conductors. Materials that do not allow electric current to pass through them are called insulators. For example-rubber, plastic etc.