

Class: VI
Subject: Physics
Topic: Electricity and circuits
No. of Questions: 21

1. From where do we get electricity?

Ans: A power station provides electricity. If the supply of electricity may fail we use other sources of energy like torch at home.

2. Why does the bulb glow switch on a torch?

Ans: It glows because the electric energy stored in the electric cells is converted into light energy by the bulb.
Hence Electric cell is a source of light energy.

3. Name the scientist who developed first Cell?

Ans: The first electric cell was developed by an Italian scientist Luigi Galvani and then improved by Alessandro Volta.

4. Name a cell that is recharged by Light of the Sun?

Ans: alkali cells and solar cells. Solar cells convert light energy into electric energy.

5. What is an electric cell?

Ans: An electric cell is a device which converts chemical energy into electric energy. The cell has two different metal plates – one is the positive terminal and the other is the negative terminal. These plates are kept inside a chemical called electrolyte. One of the chemical is white in color NH_4Cl (Ammonium chloride) and other is a black powder MnO_2 (manganese dioxide).

6. What is an electric current?

Ans: Electric current is the flow of electrons or charge. The cell is a source of electric current.

7. What is an electric circuit?

Ans: An electric circuit is the closed path along which electric current flows from the positive terminal to the negative terminal of the battery.

A circuit generally has:

- a) A source of electric current - a cell or battery (A group of cell called battery)
- b) Connecting wires for carrying current.
- c) A device which uses the electricity - a bulb (Bulb is a device that convert electrical energy into light)
- d) A key or a switch – A component of circuits that stop or allow the flow of current. When the current flows the circuit is said to be closed circuit. When the current does not flow, the circuit is said to be open circuit.

8. How does a bulb glow and produce light?

Ans: Inside the bulb there is a thin coil of wire made of tungsten, called filament. It gets heated and glows when the current flows. Hence, electric energy is converted into light energy by a bulb.

9. If the filament inside the bulb is broken will the bulb glow? Why?

Ans: The circuit is not complete; current does not flow through the circuit and the bulb does not glow.

10. Why do we feel warm when we touch the lighted bulb?

Ans: The bulb also emits heat energy along with light.

11. What conductors and insulators?

Ans: The materials which allow electric current to pass through them are called conductors. Examples: All metals like Copper, Iron, Silver and Human body.
INSULATORS: The materials which do not allow electric current to pass through them are called bad conductors or insulators. Examples: Plastic, Wood, Rubber and Glass.

12. Why do electricians wear rubber gloves and shoes while at work?

Ans: It because rubber gloves are an insulator and prevent current to flow in body .Thus saves electricians from electric shock.

13. What do you mean by heating effect of current?

Ans: Electric current is actually the flow of electrons in the conducting material. Now, when these electrons flow, they encounter some resistance in the structure of the conductor, which accounts for the "resistance" of materials. As the electrons collide or vibrate, heat energy is generated depending on the resistance of the conductor. This overall effect is called heating effect of electrical current.

14. Name a few appliances that work on the heating effect of current?

Ans: Electric kettle: Used for boiling water to make tea or coffee
Electric bulb: The filament of the bulb is heated when current flows and becomes white hot to emit brilliant light.
Electric iron: Used for ironing or pressing clothes.
Electric toaster: Used to toast bread

15. Name a special material used for heating component?

Ans: It is a coil of wire made of a special material called Nichrome, which becomes very hot when current is passed. This heat is used to cook food (as in an electric stove), heat water (as in an electric kettle, electric heater) etc

16. Name the elements used to make an alloy Nichrome?

Ans: Nickel and Chromium.

17. Why are electric wire are made up of copper through silver is best conductor?

Ans: Silver is an expensive metal. Material needed for conductor should be cheap as wires are used extensively in almost every appliance. That is why silver can't be used to make wires.

18. Why do you apply a tap over the joint of electric wire?

Ans: Tap is an insulator and save us from electric shock.

19. If you connect a battery cell to the bulb through a wooden stick, the will not glow. Why?

Ans: No, wooden stick is an insulator that cannot conduct electricity

20. Do not handle the electric appliances when your hands are wet. Why?

Ans: Tap water is good conductor and we may get electric shock.

21. There will be three colored wires normally used while connecting any electric equipment. What are those colors? Tell which colored wire gives us electric shock?

Ans: Red (Live wire that give us electric shock), Black (Neutral) , and Green(Earth wire)

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