

## Assignment – Science

### Chapter – 12 , Electricity and Circuits

1. A fused bulb does not glow. Why?

A fused bulb does not glow because in a fused bulb , the filament of bulb burns up and connection is broken or incomplete , so the current cannot flow.

2. Mention how many types of terminals of an electric cell are there.

There are two terminals of an electric cell, positive terminal and negative terminal.

3. Name the glowing part of an electric bulb.

The glowing part of an electric bulb is its filament.

4. Name the portable electric lamp that works on cells?

Torch is the portable electric lamp that works on cells.

5. What does the positive terminal of dry cell consists of?

The positive terminal of dry cell consists of carbon.

6. State the purpose of using of an electrical switch.

An electrical switch is used to close or open the electric circuit.

7. We should use plastic gloves for operating electrical devices. Explain why?

We should use plastic gloves for operating electrical devices to avoid electric shocks.

8. Give the examples of some gadgets which use electricity.

The gadgets which use electricity are fan , heater , television, air conditioner etc.

9. Name the device that can produce electricity by chemical reactions.

The device that can produce electricity by chemical reactions is cell or battery.

10. State whether electricity can pass through thermocol . If no why?

Electricity cannot pass through thermocol because it is an insulator.

11. The electric cell and the bulb both have two terminals. Explain why?

The electric cell and the bulb both have two terminals so that there will be a path for the flow of electricity in a complete circuit .

12. Mention what type of materials can be used in electric circuit so that the current can pass through them.

Materials used in the electric circuit should be good conductors of electricity that allow electricity to pass through them such as metals. For ex. – Aluminium , Copper , Iron etc.

13. Discuss briefly that how switch works?

A device which is used to close or open a circuit is known as switch, so when we open the switch , there exists an air gap which does not allow the current to pass through it. On the other hand, when it is closed , then there is not any existence of air gap between the wires and therefore in this way , it conducts electricity.

14. Briefly explain about the components present inside the cell.

The cell consists of a carbon rod present at the centre of the zinc container. On the side, metal cup present is positive terminal and opposite to that is a metal disc which is of negative terminal.

**15. Explain the structure and function of a torch with the help of a labelled diagram.**

An electric torch is a device which is used as a lamp. It has two or more than two cells, a bulb and a switch. When we slide the switch of electric torch, circuit becomes complete and bulb starts glowing, while on sliding switch back, circuit gets broken and bulb goes off.

**16. A torch is not working, what can be the possible reasons for this? Mention any three.**

The possible reasons for not functioning of torch may be

- a. The torch bulb may be fused.
- b. The cell may be discharged.
- c. The connecting wires may be broken up.

**17. Silver is the best conductor of electricity instead of this we use copper and aluminium. Why?**

Silver is the best conductor of electricity instead of this we use copper and aluminium because copper and aluminium are much cheaper than silver and silver is used as an ornaments and is also heavier than copper and aluminium.

**18. Rechargeable batteries are used again and again, How?**

A rechargeable battery has such chemicals which on after use can be restored by passing suitable current in the opposite direction to the rechargeable batteries, so it can be used again and again.

**19. If we touch a base wire and we are in contact with earth, then we can get an electric shock and if we are standing above a plastic chair we will not get any electric shock. Explain why?**

If we touch a base wire and we are in contact with earth, then we can get an electric shock and if we are standing above a plastic chair we will not get any electric shock because current can only flow through a body if it gets the way to pass through it. In case of the earth, it gets the way from base wire to your body to the earth. In case of plastic chair it doesn't get the way to flow. So, you don't get any shock.

**20. When you switch on the torch, which part of the bulb glows?**

When we switch on the torch, the filament of the bulb glows.

## Assignment – Science

### Chapter – 13, Fun With Magnets

1. Name the instrument utilized in finding the direction.

Magnetic compass is the instrument utilized in finding the direction.

2. In which direction, a freely suspended magnet orients themselves.

A freely suspended magnet orients themselves in the North – South direction.

3. Is the soil a magnetic or a non-magnetic material?

The soil is generally a non-magnetic material. But, some iron fillings are available in the soil which can stick to magnet.

4. In which direction, the pointed end of the needle in the magnetic compass points. In the magnetic compass, the pointed end of the needle always points in the North – South direction.

5. Is it possible to isolate North and South pole of a magnet.

No, it is not possible to isolate North and South pole of a magnet.

6. When South pole of a magnet comes in contact with South pole of other magnet, then what happens?

When South pole of a magnet comes in contact with South pole of other magnet, then it repels each other because like poles always repel each other.

7. What types of forces act between the two unlike poles of the magnet, if both of them are put together.

If the two unlike poles of a magnet are put together, then a force of attraction develops between them.

8. Mention the name of the magnet used in electric bell.

The magnet which is used in electric bell is horse – shoe magnet.

9. State the ways through which a magnet can be demagnetised?

There are following two ways to demagnetize a magnet.

i. By heating

ii. By hammering

10. Magnets can lose their properties. Write a few cautions.

1. Magnets can lose their properties if they are heated, hammered, or dropped from some height.

2. Magnets become weak if they are not stored properly.

11. Differentiate between magnetic and non-magnetic materials.

**Magnetic Materials** – The substances which get attracted by the magnet such as steel, nickel and cobalt are called magnetic materials.

**Non-Magnetic Materials** – The substances which are neither attracted nor repelled by the magnet such as wood, rubber and plastic are called non-magnetic materials.

**12. A tailor was stitching buttons on his shirt. The needle has slipped from his hand on to the floor . How can he find the needle?**

**With the help of a bar magnet , we can find the needle.**

**13. You are provided with two identical metal bars . Out of the two one is magnet. How will you find out which one is magnet? Take some iron fillings and move the bars over these iron fillings one by one. If iron fillings are attracted very strongly at the poles , then it is a magnet and if it is not attracted , then it is simply an iron bar.**

**14. Explain how will you test that the tea dust is not adulterated with iron powder. We can do simple experiment for this:-**

- 1. Take tea dust on a paper.**
- 2. Take a bar magnet in your hand.**
- 3. Shake the bar magnet over this dust.**
- 4. If some particles are attracted strongly towards the magnet , then definitely tea dust will have iron powder.**

**15. Explain the term natural magnet.**

**The substance having the property of attracting iron are known as magnets. Magnet was discovered incidently from the rock magnetite , which is an ore of iron. It is also called natural magnet. These rocks have the property of attracting pieces of iron.**

**16. Give some examples of artificial magnets.**

**Some examples of artificial magnets are :-**

- 1. Horse – Shoe magnet**
- 2. Bar magnet**
- 3. Ball- ended magnet**
- 4. Cylindrical magnet**

**17. Through an activity show the attraction and repulsion between magnets.**

**Take small toy cars and label them P and Q. Place bar magnet at the top of each car and fix it. When we move one car towards other and if in case , they have similar poles facing each other , then the car moves away and if opposite poles facing each other , then car moves towards the another car.**

**Conclusion – 1. Opposite poles attract each other.**

- 2. Similar poles repel each other.**

