

Chapter 14 -Chemical Effects of Electric Current

1. Boojho made the circuit given in Fig. 14.3 and observed that the bulb did not glow. On Paheli's suggestion he added one more cell in the circuit. The bulb now glows. Explain.

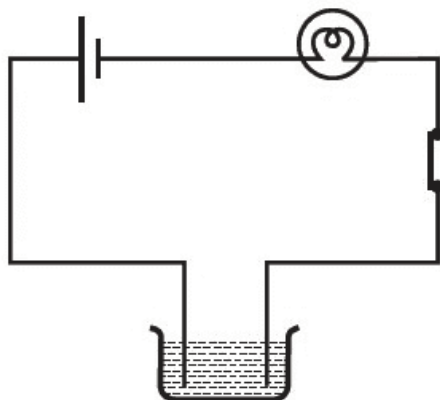


Fig. 14.3

2. Paheli set up an experiment using liquid A in the beaker as shown in Fig. 14.4. She observed that the bulb glows. Then she replaced the liquid A by another liquid B. This time the bulb did not glow. Boojho suggested replacing the bulb by an LED. They observed that the LED glows. Explain

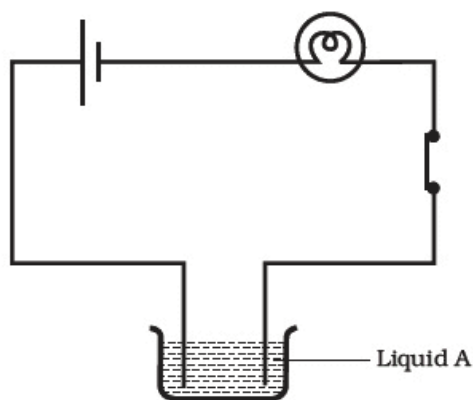


Fig. 14.4

3. Paheli wants to deposit silver on an iron spoon. She took silver nitrate (AgNO_3) solution in a beaker and setup a simple circuit for electroplating. Which terminal of the battery should the spoon be connected to? What material should the other electrode be made of?
4. Why is tin electroplated on iron to make cans used for storing food?
5. Observe Fig. 14.5.

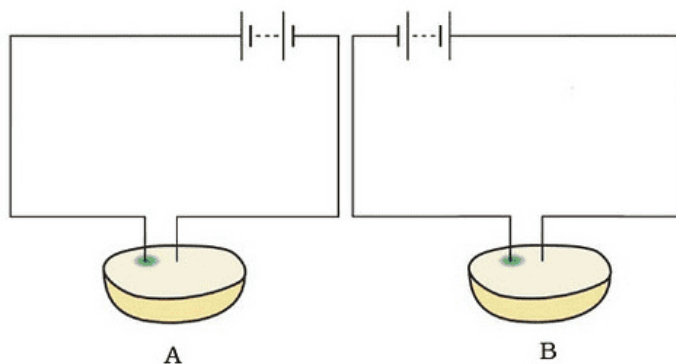


Fig. 14.5

Which of these two circuits A or B shows the correct observation?

6. Observe the following circuits carefully. In which circuit will the bulb glow. Write 'Yes' or 'No' in the blank space provided along each of the circuit given in Fig. 14.6.



Piece of coal

.....



Iron nail

.....



Eraser

.....



Steel spoon

.....

Fig. 14.6

Long Answer Type Questions

1. An electric current is passed through a conducting solution. List any three possible observations.
2. In the circuit given as Fig. 14.7, Boojho observed that copper is deposited on the electrode connected to the negative terminal of the battery. Paheli tried to repeat the same experiment. But she could find only one copper plate. Therefore she took a carbon rod as negative electrode. Will copper be still deposited on the carbon rod? Explain your answer.

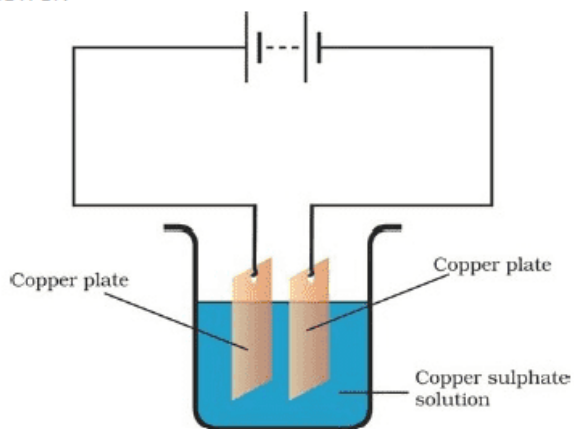


Fig. 14.7

3. Observe the circuit given in Fig. 14.8.

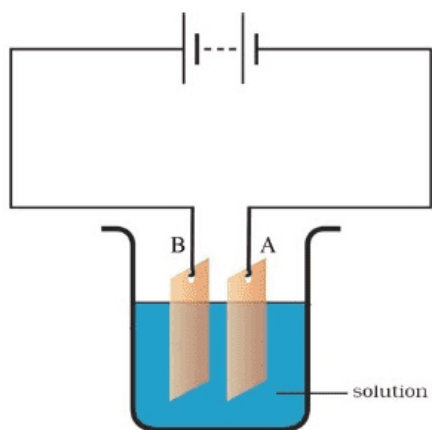


Fig. 14.8

Boojho set up this circuit for purification of copper. What will be the nature of – (i) plate A
(ii) plate B (iii) the solution.

Explain the process of purification.

4. Observe the following circuit given in Fig. 14.9.

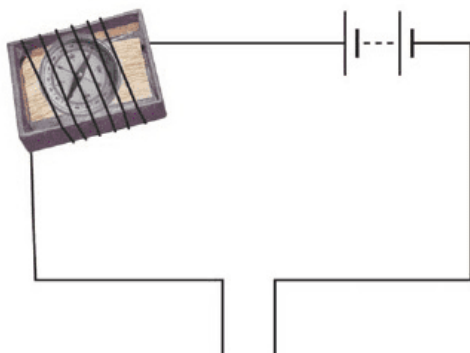


Fig. 14.9

Current does not flow in the circuit if there is a gap between the two wires. Does it indicate that air is a poor conductor of electricity? Does air never conduct electricity? Explain.

5. Boojho made the circuit shown in Fig. 14.10. He wanted to observe what happens when an electric current is passed through water. But he forgot to add a few drops of lemon juice to water. Will it make any difference to his observations? Explain.

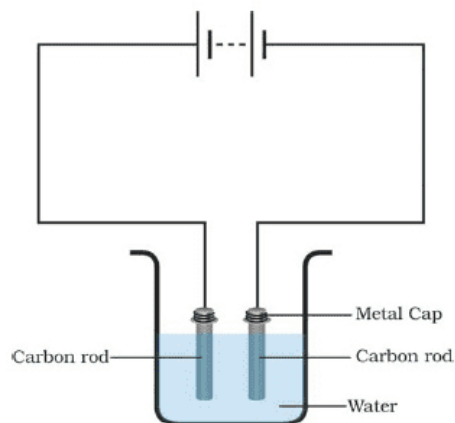


Fig. 14.10

6. Observing that the bulb does not glow in the circuit shown in Fig. 14.11 A, Boojho changed the circuit as shown in Fig 14.11 B. He observed deflection in the magnetic compass

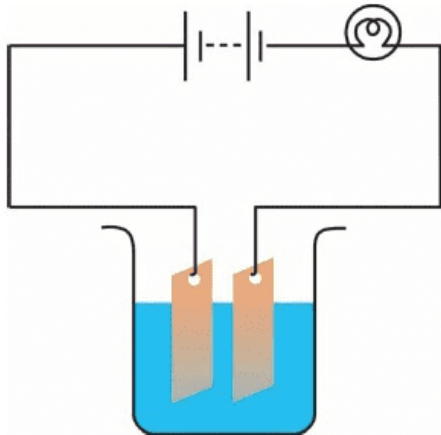


Fig. 14.11 A

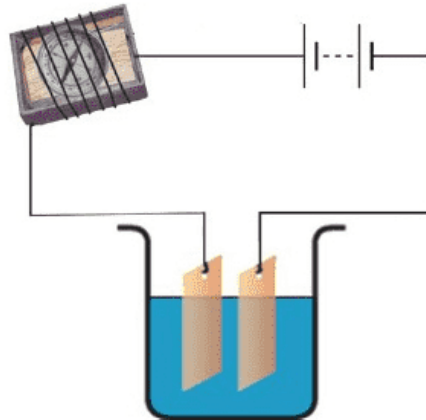


Fig. 14.11 B

- (i) What does the deflection in magnetic compass indicate?
- (ii) Why did the bulb not glow in Fig.14.11 A?
- (iii) What would be the effect of increase in the number of turns in the coil wound around the magnetic compass in Fig. 14.11B?
- (iv) What will be observed if the number of cells are increased in the circuit shown in Fig. 14.11B?

7. You are provided with a magnetic compass, an empty match box, a battery of two cells and connecting wires. Using these objects how will you make a tester for testing an electric circuit? Draw the necessary circuit diagram and explain.