

CBSE Class–VIII Science
NCERT SOLUTION
Chapter-14
Chemical Effects of Electric Current

1. Fill the blanks.

- (a) Most liquids that conduct electricity are solutions of _____, _____ and _____.
- (b) The passage of an electric current through a solution causes _____ effects.
- (c) If you pass current through copper sulphate solution, copper gets deposited on the plate connected to the _____ terminal of the battery.
- (d) The process of depositing a layer of any desired metal on another material by means of electricity is called _____.

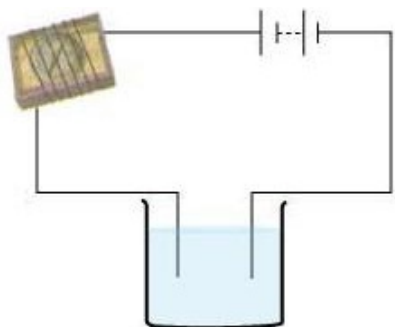
Ans. Fill the blanks.

- (a) Most liquids that conduct electricity are solutions of acids, bases and salts.
- (b) The passage of an electric current through a solution causes chemical effects.
- (c) If you pass current through copper sulphate solution, copper gets deposited on the plate connected to the negative terminal of the battery.
- (d) The process of depositing a layer of any desired metal on another material by means of electricity is called electroplating.

2. When the free ends of a tester are dipped into a solution, the magnetic needle shows deflection. Can you explain the reason?

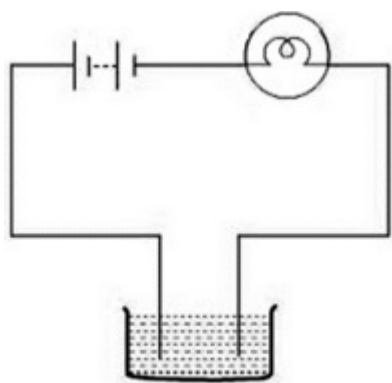
Ans. Yes, it is because the solution conducts electricity and solution plays the role of cell.

3. Name three liquids, which when tested in the manner shown in Fig.14.9 may cause the magnetic needle to deflect.



Ans. Tap water/Sodium chloride solution, copper sulphate solution and hydrochloric acid.

4. The bulb does not glow in the setup shown in fig. 14.1. List the possible reasons. Explain your answer.



Ans. The possible reasons are:

- The solution may be conducting electricity but the current produced by it not sufficient to glow the bulb.
- Bulb may be fused.
- Cells may be used up.

5. A tester is used to check the conduction of electricity through two liquids. Labeled A and B. it is found that the bulb of the tester glows brightly for liquid A while it glows very dimly for liquid B. you would conclude that

(i) Liquid A is a better conductor than liquid B

(ii) Liquid B is a better conductor than liquid A

(iii) Both liquids are equally conducting

(iv) Conducting properties of liquid cannot be compared in this manner.

Ans. (i) Liquid A is better conductor than liquid B.

6. Does pure water conduct electricity? If not, what can we do to make it conducting?

Ans. No. Pure water does not conduct electricity. But pure water can conduct electricity, if salt dissolved in it.

7. In case of fire, before the firemen use the water hoses, they shut off the main electric supply for the area. Explain why they do this.

Ans. The water used in water houses is not pure water and it conducts electricity. Firemen shuts off the main electrical supply of the area because if the supply of electricity continues there may be high risk of electrocution in the whole area due to water.

8. A child staying in a coastal region tests the drinking water and also the seawater with his tester. He finds that the compass needle deflects more in the case of seawater. Can you explain the reason?

Ans. Seawater contains higher amount of salt in comparison to drinking water, hence sea water is a better conductor of heat. This is the reason that the compass needle deflects more in case of seawater.

9. Is it safe for the electrician to carry out electrical repairs outdoors during heavy rain pour? Explain.

Ans. It is not safe for the electrician to carry out electrical repairs outside during heavy rain. Because rain water dissolves many impurities from the atmosphere, which make it impure and very conductive of electricity. So electrician may get electric shock if he works outdoor during heavy downpour.

10. Paheli had heard that rainwater is as good as distilled water. So, she collected some rainwater in a clean glass tumbler and tested it using a tester. To her surprise she

found that the compass needle showed deflection. What could be the reason?

Ans. Rain water is, of course, as good as distilled water but, when it passes through atmosphere, it dissolves a lot of dust, dirt and impurities and become conducting. So, when Paheli used a tester, its compass showed deflection.

11. Prepare a list of objects around you that are electroplated.

Ans. The objects which are electroplated are:

- Taps of water connection.
 - Parts of bicycle.
 - Body of cars, motor cycle and tractors.
 - Handles of the doors.
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12. The process that you saw in Activity 14.7 is used for purification of copper. A thin plate of pure copper and a thick rod of impure copper are used as electrodes. Copper from impure rod is sought to be transferred to the thin copper plate. Which electrode should be attached to the positive terminal of the battery and why?

Ans. The thick rod of impure copper should be attached to the positive terminal of battery. Copper ion is positively charged. It is attracted towards the plate which is connected to the negative terminal of the battery. As copper ions are transferred to the thin copper plate, this thin pure copper plate must be connected to the negative terminal of the battery. Consequently, impure copper rod is connected to the positive terminal of the battery.