



Delhi Public School Guwahati

"Under the aegis of the Delhi Public School Society, Delhi"

CYCLE 4

Class VIII

Date: 3rd June to 2nd August'21

No. of Working Days: 14

Subject: Chemistry

Name of the Chapter: Chemical Effects of Electric Current

<u>1st Period: Recapitulation</u>	
Step – I	The teacher will recapitulate and discuss all the important topics of the chapter with the help of the bullet points already given and discussed with the students before summer vacation. <ul style="list-style-type: none">• Introduction• Do liquids conduct electricity?• Chemical Effects of electric current
<u>End of 1st Period</u>	

<u>Period 2 : Pg.:178 -179</u>	
Step – I	Study the following topic from textbook: <ul style="list-style-type: none">• 14.3 Electroplating• Activity 14.7
Step – II	Study the same topics in the following part of Extra mark app and the given YouTube links. Chapter: Chemical Effects of Electric Current → Detailed learning → Understanding concepts https://www.youtube.com/watch?v=d86t5h71KH0 https://www.youtube.com/watch?v=Wa4-Nxo2H5k
Step – III	Clear your doubts (if any) from the subject teacher
Step – IV	Revise using following Bullet points: <ul style="list-style-type: none">• The process of depositing a layer of desired metal on another material by means of electricity is known as electroplating.

Prerequisite for Electroplating

- The electrolyte must contain the metal which needs to be electroplated.
- The electrode to which electroplating requires to be done must always be connected to the negative terminal (Cathode) of the battery.
- The metal to be deposited must be connected to the positive terminal (Anode) of the battery.
- The electrodes must be properly cleaned.

Example: Using Copper Sulphate solution as electrolyte and copper electrodes. Copper is electroplated on the negative electrode. The Cu in the solution is replenished due to the addition of copper ions from the positive electrode.

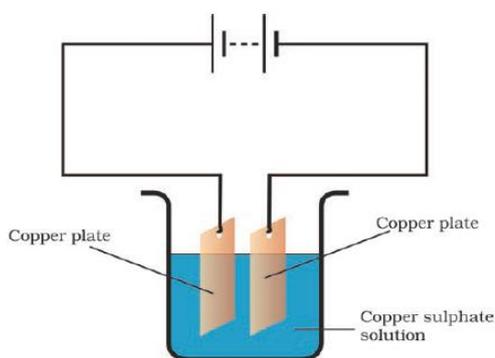


Fig. 14.7

Applications of electroplating

- Many kitchen equipment, bath taps, parts of cars etc. are covered with chromium coating. Chromium is an expensive metal hence the objects are created with the cheaper metal and chromium coating is provided. Thus, to bring a shining over the objects and prevent them from corrosion chromium coating is used.
- Jewellery makers often make ornaments of less expensive metals and provide a coating of gold or silver upon them.
- The tin cans that are used to store food are actually made up of iron and have a coating of tin on them. Iron can easily react with food and spoil it, however, tin prevents the food from getting reacted with iron and therefore helps in preventing it from getting spoiled easily.
- Bridges and various parts of automobiles are made up of iron because it provides strength. However, in order to prevent iron from getting rusted a coating of zinc is provided over it. This method is also called galvanization of iron.

Step V

Solve the following questions given in the text book

Question 1.
Fill in 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 _____

Answer:

- (a) acids, bases, salts
- (b) chemical
- (c) negative
- (d) electroplating

Question 9.

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

Answer:

No, it is highly dangerous to carry out the electrical repairs outdoors during the heavy downpour. It can cause electrocution, as water is a good conductor of electricity.

Question 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 reasons?

Answer:

Rainwater is pure water which is an insulator but it gets mixed with air pollutants like sulphur dioxide and nitrogen oxides and form acidic solution, which is a good conductor of electricity. So, the compass needle showed deflection.

Question 11.

Prepare a list of objects around you that are electroplated.

Answer:

Objects that are electroplated are door handles, taps, rims of cycles, showers, the handlebar of cycles and bikes, gas burner, tin cans, metallic almirahs, buckles of belts, etc.

End of 2nd period