

A. Case-Based/Source Based Integrated Questions :

When electric current is passed through conducting liquids, then chemical changes take place. This is called chemical effect of electric current. A substance which conducts electricity and breaks up chemically is called electrolyte. The process of breaking of an electrolyte chemically on passing electric current through it is called electrolysis. Electrolysis has various applications. The most common of these is electroplating.

Read the above paragraph and choose the correct options :

1. An electrolyte is a
 - (a) Solid that conducts electricity
 - (b) Liquid that conducts electricity and breaks up chemically in the process
 - (c) Liquid that does not conduct electricity
 - (d) Solid that does not conduct electricity

2. On passing electricity through copper sulphate solution
 - (a) Copper is formed at anode
 - (b) Copper is formed at cathode
 - (c) Oxygen is formed at anode
 - (d) Hydrogen is formed at cathode
3. In which of these is current not conducted by electrons ?
 - (a) Copper
 - (b) Aluminium
 - (c) Tap water
 - (d) Mercury
4. Which of these metals will you electroplate on iron to protect it from rusting and to make it shine ?
 - (a) Copper
 - (b) Gold
 - (c) Zinc
 - (d) Chromium

B. Assertion & Reason Type Questions :

Instructions: Each question has an Assertion followed by Reason. Mark the correct choice.

- (A) Both Assertion and Reason are true and Reason is the correct explanation of Assertion.
- (B) Both the Assertion and Reason are true but the Reason is not the correct explanation of Assertion.
- (C) Assertion is true but Reason is false.
- (D) Both Assertion and Reason are false.

1. **Assertion :** A bulb glows when the electric current passes through it.

Reason : The filament of bulb gets heated due to heating effect of current, so bulb starts glowing.

2. **Assertion :** By the electroplating cans are coated by tin for storing food.

Reason : Tin is more reactive than iron.

3. **Assertion :** Distilled water is a poor conductor of electricity.

Reason : Distilled water is neutral substances which have no any charges.

4. **Assertion :** Chromium is used in electroplating.

Reason : Chromium is used in electroplating because it does not corrode and prevents scratches.

5. **Assertion :** The bubbles of a gas may be formed on the electrodes.

Reason : Water decomposes into hydrogen and oxygen due to a chemical reaction. Bubbles of gas be formed on the electrodes.