

Qth. Chemical Effect of Electric Current

(1.) What is an electrode?

Ans: A conductor used to make electrical contact with non-metallic things like a liquid or gas. like cathode and anode.

2. What is an ion?

Ans: Electrically charged atoms are called ions. eg Cl^- , O^{2-} , Mg^{2+} etc.

3. Mercury is a liquid that conduct electricity, what constitutes a current through it.

Ans: By the flow of electrons. Liquid other than Mercury conduct electricity because they have ions.

4. A metal is released in the electrolysis of a salt. At which electrode will it be deposited

Ans: at Cathode.

5. Why is an acid or an ionic salt added to water in electrolysis of water.

Ans: This help in conducting electricity

6. Metals are good Conductor of electricity.
Why?

Ans: This is because metals have free electrons which help in electrical conductivity.

Q.7. What are electrolytes?

Ans. A liquid that splits up into ions when electricity passes through it. E.g. NaCl, NaOH etc.

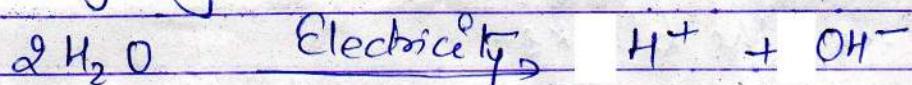
Q.8. What happens when a voltage is applied across electrodes placed in an electrolyte?

Ans. Electrolytes split up into positive and negative ions. Positive ion moves towards Cathode (negative electrode) and negative ions moves towards the anode (positive electrodes).

Q.9. Explain electrolysis. What happens in the electrolysis of water?

Ans:- When electric current passes through an electrolyte, a chemical change takes place. This chemical change is called electrolysis.

When current passes through water, it splits up into H^+ and OH^- ions and moves towards Cathode and anode respectively to gain and lose electrons to become neutral. The gas evolved at Cathode is hydrogen and that at anode is oxygen.



We see more bubbles at the Cathode because the volume of hydrogen liberated at cathode is twice that of oxygen at anode.

Q.10. Write the uses of Electrolysis?

- Ans: (i) Extraction of Metals from ores
(ii) Refining metals like copper and zinc.
(iii) Electroplating
(iv) Manufacture of chlorine gas.

Q.11. What is electroplating? How are steel spoons plated with silver.

Ans. The process of Coating costly metal over inferior metal is called electroplating.

For electroplating silver over steel spoon, a solution of silver salt is taken as electrolyte. Silver and steel spoon made as electrodes and connected to positive and negative terminal respectively. The positively charged silver ion moves to negative electrode (spoon) and form a deposit of silver on it.

12. Fill in the blanks.

- (i) An electrode connected to the negative terminal of a battery is called - Cathode.
- (ii) In the electrolysis of water, hydrogen is "formed at" cathode.
- (iii) In electrolysis of potassium iodide, iodine is formed at the _____ anode.
- (iv) The electrolyte and electrode used in electrolysis form an electrolytic Cell.