

CLASS: X

Subject: CHEMISTRY
Topic: ELECTROLYSIS
Time:40 MNTS

Date: 18/05/2020

Worksheet No. :5

*[Copy the questions and solve them on a sheet of paper date wise.
Keep the worksheets ready in a file to be submitted on the opening
day.]*

Good day children, today I am going to teach you the SIXTH CHAPTER of your book "ELECTROLYSIS".

ELECTROLYSIS

The process of decomposition of a chemical compound in aqueous solutions or in molten state accompanied by a chemical change by using direct electric current.

ELECTROLYTES

The substances which furnish ions in aqueous solution or on melting are called ELECTROLYTES.

Example :

- Acids - H_2SO_4 , HNO_3 , HCl , CH_3COOH .
- Bases - NaOH , KOH , NH_4OH .
- Salts - NaCl , CaCl_2 , CuSO_4 .

CLASSIFICATION OF ELECTROLYTES

- Strong electrolytes.
- Weak electrolytes.
- Non-electrolytes.

DIFFERENCE BETWEEN STRONG & WEAK ELECTROLYTES

<u>PROPERTY</u>	<u>STRONG ELECTROLYTE</u>	<u>WEAK ELECTROLYTE</u>
Conductivity	Good conductor of electricity	Poor conductor of electricity
Molecular state	Completely dissociated into ions when dissolved in water	Partially ionised into ions when dissolved in water
Nature compounds	Electrovalent compounds	Polar covalent
Particles present	In solutions only free mobile ions	In solutions contain ions as well as molecules
	E.g.- H_2SO_4 , HNO_3 NaOH , NaCl	E.g.- H_2CO_3 , NH_4OH CH_3COONa

NON-ELECTROLYTES

Compounds which neither conducts electricity in pure molten state nor in their solutions are called NON-ELECTROLYTES.

They contain only molecules.

E.g.- Distilled water, Alcohol, Sugar, Urea.

SOME IMPORTANT TERMS RELATED TO ELECTROLYSIS

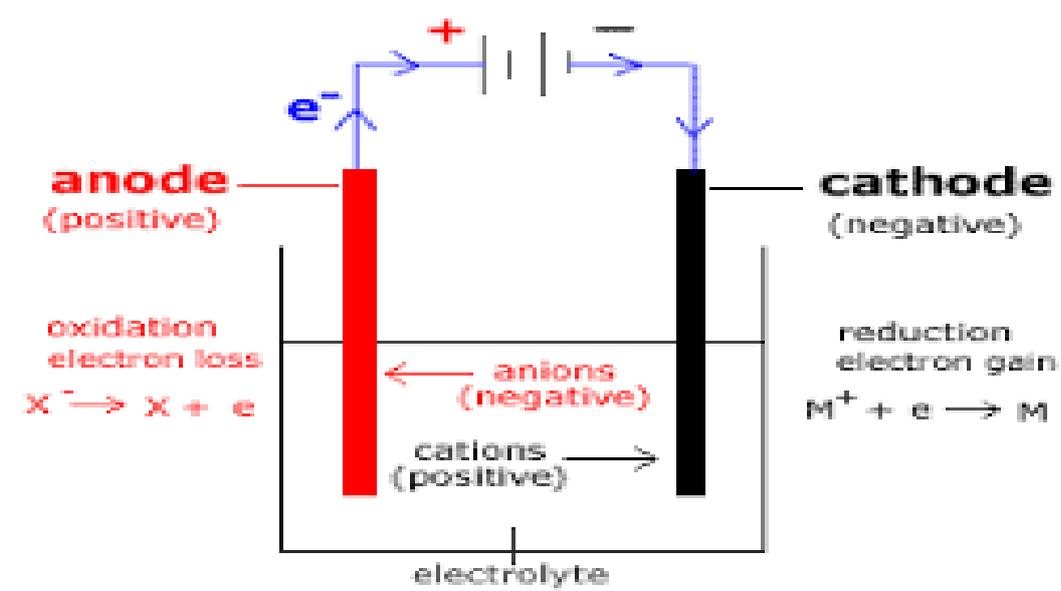
ELECTRODES :- The plate, rod or wire of a metal, graphite rods or gas carbon through which the current enter & leaves the electrolytic cell.

They are of two types :-

a) **ANODE**- The electrode connected to the positive terminal of the battery. It is an oxidising electrode.

b) **CATHODE** - The electrode connected to the negative terminal of the battery. It is a reducing electrode.

ELECTROLYTIC CELL (VOLTAMETER) :- A non conducting vessel fitted with two electrodes immersed in electrolytic solution to bring about a chemical reaction.



SIMPLE ELECTROLYTIC CELL

IONS :- An atom or group of atoms carrying a positive or negative charge is called an **ION**.

It is of two types :

a) **ANIONS**- They are negatively charged ions which migrate to the anode. E.g.- Cl^- , OH^-

b) **CATIONS**- They are positively charged ions which migrate to the cathode. E.g.- Na^+ , Ca^{++} .

After going through the explanation answer the following questions

:

1. Define ELECTROLYSIS.
2. Differentiate between Strong & Weak Electrolytes.
3. What is CATHODE ? How it is different from ANODE?
4. What is the purpose of Electrolytic cell?
5. Show the Electrolytic dissociation of HCl, KOH, AgNO_3 ?
