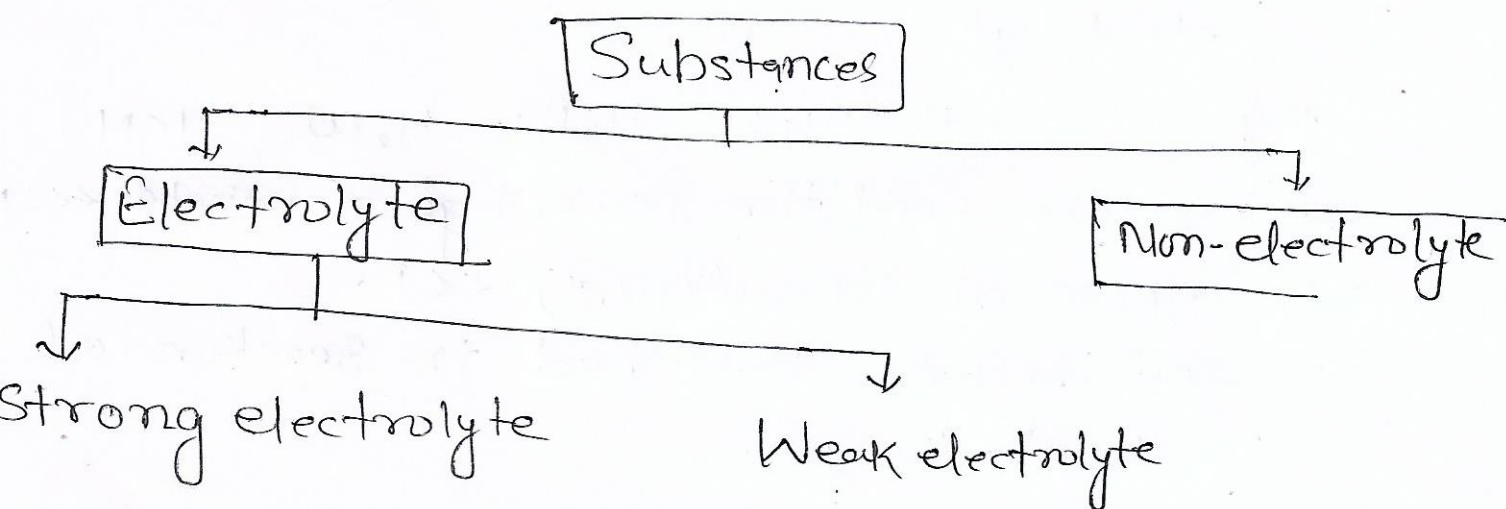


ELECTROCHEMISTRY (LECTURE-1)

Electro $\Rightarrow$ Electricity
chemistry $\rightarrow$ chemical reaction

- $\rightarrow$ Branch of physical chemistry which deals about electrical energy and chemical energy as well as mutual relation between these two energy.
- $\rightarrow$ In this chapter we ~~do~~ study of production of electrical energy by chemical reaction and reaction carried out by passing electricity



Electrolyte $\Rightarrow$ Substances which conduct electricity in their molten state or aqueous solution are called electrolyte.
It is of two types:-

Strong electrolyte $\Rightarrow$ Those electrolytes which completely dissociate (100%) in aqueous solution are called strong electrolyte.

e.g., HCl, HNO₃, H₂SO₄, NaOH, KOH, NaCl, Na₂SO₄ etc.

* In case of strong electrolyte percentage of ionisation is 100%.

* In strong electrolyte equilibrium does not exist

* For strong electrolyte degree of ionisation $\alpha = 1$



$$\boxed{\alpha = 1}$$

α = Degree of ionisation.

Weak electrolyte

→ Those electrolytes which ionise partially in aqueous solution are called weak electrolyte.

e.g.: CH_3COOH , NH_4OH , H_3PO_4 , H_2CO_3 , HCN

→ In this condition percentage of ionisation $\ll 100\%$

→ Degree of ionisation $(\alpha) \ll 1$.

→ Equilibrium established in reaction of weak electrolyte.

Non-electrolyte

→ Those substances which do not conduct electricity in a molten state or in aqueous solution are called non-electrolyte.

e.g.: Sugar, glucose, urea, chloroform etc.