

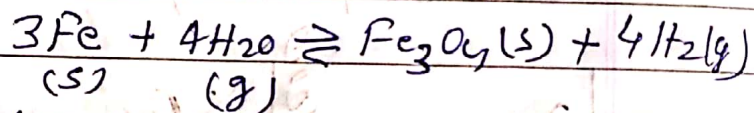
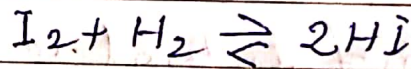
B.Sc-I (H+S), Paper-I A,

## Chemical equilibrium

Reversible reaction — When products formed in a chemical reaction reacts to form reactants, the chemical reaction is called reversible reaction.

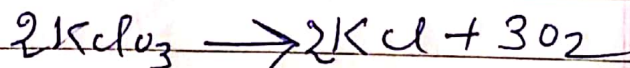
It occurs in ~~infinites~~ infinitesimal steps and never tends to completion.

Examples



Irreversible reaction : — The chemical

reaction in which products formed do not react to back reactant is called irreversible reaction. It occurs in one step.



## Chemical equilibrium : —

A chemical equilibrium is defined as a dynamic equilibrium at which forward reaction <sup>rate</sup> is equal to backward reaction rate and at any instant of time reactant and product are found.

Characteristics of chemical equilibrium  
-um :- 1

- (i) Chemical equilibrium is dynamic in nature and not static in nature. Rate of formation of product and ~~rate of~~ i.e. forward reaction and rate of conversion of products into reactant i.e. backward reaction are always in dynamic and they are same at chequilibrium.
- (ii) At constant temperature, ~~and~~ certain observable properties like pressure, concentration, density or colour remain unchanged at equilibrium.
- (iii) ~~The~~ Catalyst does not affect the final state of the equilibrium. However, it enables the system to attain equilibrium state earlier by providing an alternative path which involve lower energy of activation.
- (iv) It is reached only if process is carried out in closed vessels.