

UNIT 4

CHEMICAL BONDING AND MOLECULAR STRUCTURE

Types of Chemical bond:

Chemical bonds are broadly classified into four types namely ionic bond, covalent bond, coordinate covalent bond and metallic bond.

Ionic bond:

It is also named as electrovalent bond the electrostatic force of attraction between positive (cation) and negative (anion) ions is known as ionic bond.

Ex. In KCl molecule

K – Loses one electro to form K^+

Cl – Gains one electron to form Cl^-

- Cation (K^+) and anion (Cl^-) bind together by electrostatic force of attraction.

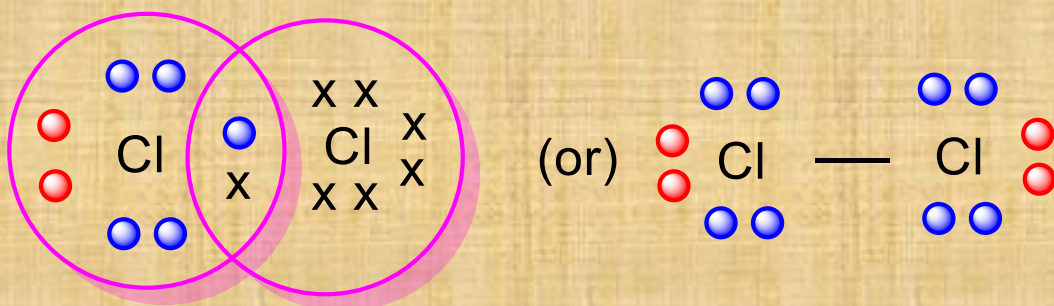
Covalent bond:

- The bond formed due to mutual sharing of electrons between the atoms is known as Covalent bond.

Ex. In Cl_2 molecule

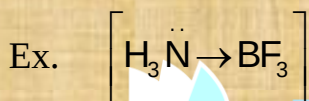
The two Cl atoms share pair of electrons,

Each atom donates one electron to make pair.



Coordinate covalent bond:

The bond formed by sharing of pair of electrons which are donated by one atom of bonded pair.



Metallic bond:

The bond formed due to movement of free electrons is known as Metallic bond.

Ex. Bonding in metals

In atoms or molecules along with chemical bond other types of Vander waal's forces also exist. These are comparatively weak. They are,

London (or) Dispersion forces,

Ion dipole interactions,

Dipole – dipole interactions,

Hydrogen bond