

TENDER HEART HIGH SCHOOL, SEC-33B, CHD.

CLASS - IX

CHAPTER - 2

SUBJECT - CHEMISTRY

TEACHER - ANAMIKA

4.11.24

Coordinate bond:-

The bond formed between two atoms by sharing of a pair of electron, provided by one of the combining atom but shared by both is called coordinate bond.

Conditions for formation of Co-ordinate bond:-

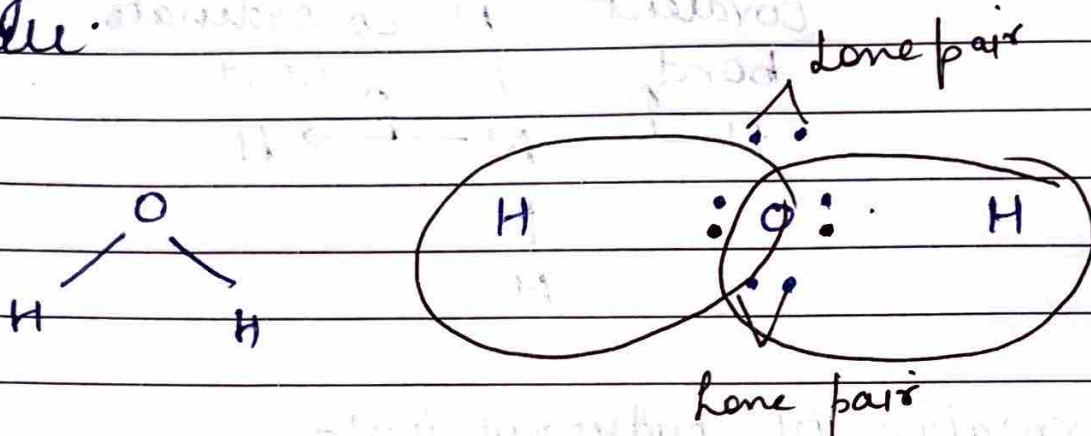
1. One of two atoms must have at least one lone pair of e^- e.g. NH_3 , H_2O
2. Another atom should be short of at least a pair of e^- .

The atom which provides the e^- pair for the formation of co-ordinate bond is known as donor and atom or ion sharing of the e^- pair known as acceptor.

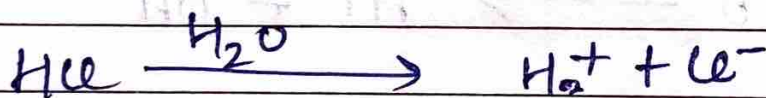
Coordinate bond is represented by " $\longrightarrow$ ".

Formation of H_3O^+ ion and lone pair effect of oxygen atom.

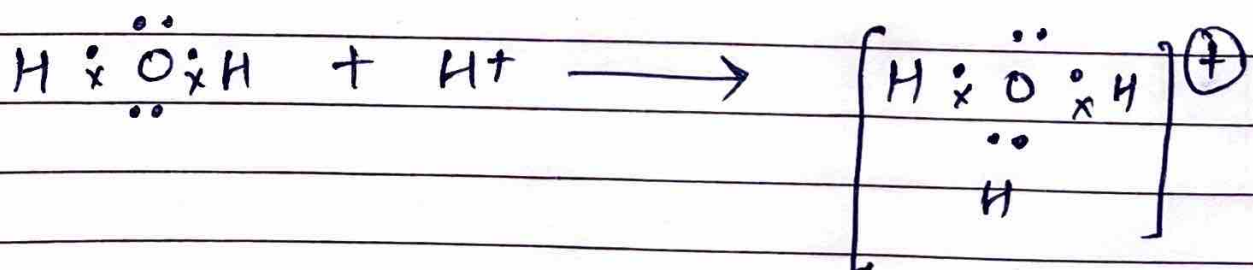
Water contain two hydrogen atom and one oxygen atom. The hydrogen atom has one e^- in its valance shell while oxygen atom has 6 e^- in its valance shell.



when an acid is added to water, strong dipole attraction occurs b/w polar molecule.

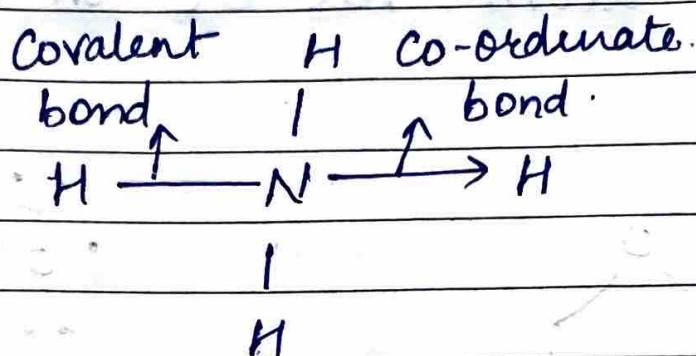


The hydrogen ion spontaneously adds on to one of two lone pair of e^- of oxygen atom of water molecule forming co-ordinate bond.



Formation of Ammonium ion

NH_3 molecules combine with H^+ which has no e^- in its outermost orbit in such a way that lp of e^- on the nitrogen atom is shared by hydrogen ion.



Formation of hydroxyl ion:-

It is formed when H^+ removed from H_2O .

