Brainbox learn easy

Chapter 4

STRUCTURE OF ATOM

Valency:

Combining capacity of an element is known as Valency.

Valence electrons:

The no of elections present to outermost shell of an atom are called valence electrons.

Core electrons:

Except valence electrons, remaining electrons are called Core electrons.

- If no of valence electrons are eight, the atoms will be stable.
- If not so atom tries to get eight electrons by losing, gaining or sharing electrons.
- No of electrons lost (or) gained is known as combining capacity on valency.
- It no. of valence electrons are 4 or less,
  Valency = No of valence electrons
- If no. of valence electrons are more than 4
  Valency = 8 - No of valence electrons

Atomic Number (Z): The no. of protons present in the nucleus of given atom. It is indicated by Z.

Atomic no. can be even defined in terms of no. of electrons.

The total no of electrons present in the nucleus of a neutral atom is atomic number.

Mass number (A):

The total no. of protons and neutrons is known as Mass number.

(or)

The total no of nucleons (Protons & Neutrons) is known as Mass number. It is indicated by A.

- To represent any element(X) with atomic number Z and mass number A, it is represented as ${}_{Z}X^{A}$.

Ex: ${}_{17}Cl^{35}$

17 = Z = atomic number.

35 = A = Mass number.

$\Rightarrow$ Z = 17 = No. of protons as atom 'Cl' is neutral.

As given atom 'Cl' is neutral.

17 = No. of electrons.

A = 35 = No. of neutrons + No of protons.

$\Rightarrow$ A = No. of neutrons + Z.

$\Rightarrow$ No of neutrons = A – Z.

For given element, ${}_{Z}X^{A}$.

Z = No. of protons = No. of electrons.

A – Z = No of neutrons.