CHAPTER - 1

SOME BASIC CONCEPTS OF CHEMISTRY

FORMULAE :

(1) Mass % of an element =

$$\frac{\text{mass of the element in the compound x 100}}{\text{Moral mass of the compound}}$$

E.g. If W_B be the mass of solute (B) and W_A be the mass of solvent (A), then, Mass % of B = $\frac{W_B}{W_A \quad W_B}$ **x 100**

(2) If the solution contains two components A and B then,

$$\text{Mole fraction of A} = \frac{\text{No. of moles of A component}}{\text{No. of moles of solution}}$$

$$= \frac{n_A}{n_A + n_B}$$

Where, n_A and n_B is the number of moles of A and B respectively.

(3) No. of moles = $\dfrac{\textbf{given mass}}{\textbf{molecular mass (MW)}}$

(4) Molarity, (M) = $\dfrac{\textbf{No. of moles of solute}}{\textbf{Vol. of solution in Litres}}$

Where No. of moles of solute = $\dfrac{\text{given mass}}{\text{Molecular mass}}$

(5) Molality, (m) = $\dfrac{\textbf{No. of moles of solute}}{\textbf{Mass of solvent in Kg}}$