Titrimetric Analysis : Quantitative Chemical analysis carried out by determining the volume of a solution of accurately known concentration which is required to react quantitatively with measured volume of the substance to be determined.

Titration : The process of adding the standard solution until the reaction is just complete is termed as titration.

Unknown solution : The solution whose strength is not known i.e. whose strength is to be determined.

End point : When the reaction between two solutions is just complete, it is called a neutral point or the end point.

Standard solution : The solution whose strength is known i.e. a solution containing a known weight of solute in a known volume is called standard solution.

Indicator : An indicator is a substance, which indicates the end point of a chemical reaction by the change of color.

Concentration terms :

Amount of solute dissolved in unit volume or unit weight of solution or solvent is known as strength of solution. It is expressed in following ways:

Molarity : Number of moles of solute dissolved in one liter of solution is termed as molarity. A mole of solute dissolved in one liter of solution is known as molar solution. It is denoted by 'M'.

$$\text{Molarity} = \frac{\text{number of moles of solute}}{\text{volume of solution (liter)}}$$

Since, number of moles = $\frac{\text{weight of solute (g)}}{\text{molecular weight of solute}}$

$$\text{Molarity} = \frac{\text{wt. of solute (g)}}{\text{molecular weight} \times \text{volume of solution (liter)}}$$

Molality : The molality of solution is defined as the number of moles of the solute present in unit kilogram of the solvent. If a mole of solute is dissolving in one kg of solvent, the strength of solution is one molal. It is denoted by 'm'.

$$\text{Molality} = \frac{\text{number of moles of solute}}{\text{volume of solution (kg)}}$$

$$\text{Since, number of moles} = \frac{\text{weight of solute (g)}}{\text{molecular weight of solute}}$$

$$\text{Molality} = \frac{\text{wt. of solute (g)}}{\text{molecular weight} \times \text{weight of solvent (kg)}}$$

Mole fraction: It is the ratio of the number of moles of solute or solvent to the total number of moles of the solution.

$$\text{Mole fraction of solute} = \frac{n}{n + N}$$

$$\text{Mole fraction of solvent} = \frac{N}{n + N}$$

Where, n = number of moles of solute

N = number of moles of solvent

Normality: Number of gram equivalent of a substance dissolved in one liter of solution is termed as normality. This is denoted by 'N'.

$$\text{Normality} = \frac{\text{number of gram equivalent of solute}}{\text{volume of solution (liter)}}$$

$$\text{Since, number of gram equivalent} = \frac{\text{weight of solute (g)}}{\text{equivalent weight of solute}}$$

$$\text{Normality} = \frac{\text{wt. of solute (g)}}{\text{equivalent weight} \times \text{volume of solution (liter)}}$$

Gram-equivalent: Gram equivalent is the equivalent weight. expressed in grams.

Grams per liter: Amount of solute in grams present in one liter of its solution is called grams per liter. It represents strength of a solution.

$$\text{Normality} \times \text{eq. wt.} = \text{strength (g/l)}$$

Strength factor: The ratio of the actual weight of solute dissolved to the calculated weight to prepare a given strength of a solution is known as strength factor or simply 'factor'.

$$\text{Strength factor (f)} = \frac{\text{actual weight of solute}}{\text{calculated weight of solute}}$$