

VIVA QUESTIONS ON VOLUMETRIC ANALYSIS

1 What is standard solution?

The solution of accurately known strength is called the standard solution and it contains known weight of the solute in a definite volume of the solution.

2. What is meant by titration?

The process of adding a standard solution to a solute in solution until the reaction is just complete is termed as titration.

3 Distinguish b/w titrant & titrate?

The reagent of known concentration is called the titrant & the substance being titrated is termed as titrate.

4 Differentiate b/w equivalence & end point in titrations?

The point at which the reaction b/w titrant & titrate is just complete is called equivalence point or theoretical point. The point at which a clear visual change is observed after the reaction b/w titrant & titrate is practically complete is end point. Thus there exists a very small difference b/w the end point & equivalence point.

5. In volumetric analysis, KMnO_4 versus Mohr's salt solution Titration it is advisable to add H_2SO_4 not any other acid like HCl or HNO_3 . Why?

Because HCl is a strong reducing agent, it forms Cl_2 & HNO_3 is a strong oxidizing agent, oxidises Fe^{+2} to Fe^{+3} .

6. what is meant by equivalent weight of an acid?

Equivalent weight of an acid is defined as the number of parts by mass of an acid that is neutralised completely by one equivalent weight of base.

OR Equivalent weight of an acid = molecular weight / basicity

7. what is meant by equivalent weight of a base?

Equivalent weight of a base is defined as the number of parts by mass of a base that is required to neutralise completely one equivalent weight of an acid.

OR Equivalent weight of a base = molecular weight / acidity

E.g. Equivalent weight of NaOH = $40/1=40$

8. How is 250 cm³ of 0.25N HCl prepared? given the normality of conc. HCl= 11.8

$$N_1V_1 = N_2V_2$$

$$0.25 * 250 = 11.8 * V_2$$

$$V_2 = 5.3 \text{ cm}^3$$

5.3 cm³ of the given conc. HCl on dilution upto 250 cm³ with water gives 0.25N HCl solution.

9. Will you read upper or lower meniscus of KMnO₄ solution in a burette?

Upper Meniscus in case colored solution.

10. What is auto-catalyst in KMnO₄ vs oxalic acid titration?

Mn⁺² produced in the reaction catalyses the reaction, it is called auto-catalyst.