

Govind Guru University

B.Sc. Semester IV

Chemistry-205 [Analytical Chemistry]

Unit : I

(A) Basic concept of Qualitative and Quantitative Analysis : (Marks-8)(Lec.-8)

Introduction, solubility product principle, common ion effect, separation of Cations of each groups and separation of anion (acid radicals), Introduction of volumetric titration based on normality of the solution, condition for Volumetric analysis and types of titrimetric analysis.

(B) Conformation and Estimation : (Marks-6)(Lec.-6)

Estimation of Acid (-COOH), 1°-Amine (-NH₂), Aldehyde(-CHO) And Ketone (->C=O)

Unit : II

(A) Acid Base Titration: (Marks-8)(Lec.-8)

Theory of acid-base titration, Ways of locating the end point of acid-base Titration of strong acid with strong base, Titration of weak base With strong acid, Titration of weak acid with strong base, Factors determining the exact form of a P^H curve.

(B) Redox titration: (Marks-6)(Lec.-4)

Theory of redox titration, study of redox titration by electrochemical Potential Method (only).

Unit : III

Complexometric Titration: (Marks-14)(Lec.12)

Theory of Complexometric titration involving EDTA, Study of EDTA Complex formation taking disodium salt of EDTA and effect of PH , Way of locating the end point by visual process and Instrument Process.

Unit : IV

Precipitation Gravimetric and volumetric: (Marks-14)(Lec.-12)

Introduction, Precipitation, Digestion, Filtration, Washing of precipitate, Drying and/or incineration of the precipitate, Weighing, Organic precipitants, Masking or sequestering agent, Problems involved in precipitation gravimetric. Mohr, Volhard and Fajan's Methods.

REFERENCES

1. DhrubaCharan Dash, ***“Analytical Chemistry”***, PHI Learning Pvt. Ltd., New Delhi, 2011.
2. R.A.Day, A.L.Underwood, ***“Quantitative Analysis”***, Prentice-Hall of India Pvt.Ltd., New Delhi, 2004. (Sixth edition)
3. Gary D. Christian, ***“Analytical Chemistry”***, John Wiley & Sons, INC, New York, 1994. (Fifth edition)
4. Douglas A. Skoog, Donald M. West, F.James Holler, ***“Analytical Chemistry An Introduction”***, Saunders College Publishing, Harcourt Brace College Publishers, Philadelphia, 1994. (Sixth edition)
5. Y.Anjaneyulu, K.Chandrasekhar, ValliManickam, ***“A Textbook of Analytical Chemistry”***, Pharma Book Syndicate, Hyderabad, India, 2006.