

**SARDAR PATEL UNIVERSITY**  
**Programme: B.Sc (Chemistry)**  
**Semester: III**  
**Syllabus with effect from: JUNE 2012**

<b>Paper Code: US03ECHE05</b>	<b>Total Credit: 2</b>
<b>Title Of Paper: Basic Analytical Chemistry</b>	

Unit	Description in detail	Weighting (%)
I	Data Analysis: Analytical data evaluations: Errors, Accuracy and precision, Normal distribution curve, Mean and standard deviation, Comparison of results (students-t-test, f-test) paired t-test, Linear regression and correlation coefficient.	
II	Titrimetric Methods of Chemical Analysis, General principle of titrimetry, Types of reactions in titrimetry, Standard solution, Basic requirements of titrimetry, Equivalence point and end point. Aqueous Acid Base Titrations. Concept of acid base titration, Titration curves, Acid-base indicators, Titration Feasibility and its applications.	
III	Redox Titrations Introduction, Redox systems, Equilibrium constant, Titration curve & Feasibility, Redox indicators, Iodometric and iodimetric titrations., Complexometric Titrations: Introduction, Stability constant, Ways of detecting end point, Titration curves, Types of EDTA titrations	
IV	Precipitation Titrations: Introduction, Feasibility and end point detection, Indicators, Volhard, Fajan and Mohr's methods, Factors affecting solubility of precipitates., Gravimetric Methods of Analysis: Principle of gravimetry, Requirements of precipitates.	

**Basic Text & Reference Books :-**

- Analytical Chemistry: Principles-by J.H.Kennedy, Saunders college publishers, 2<sup>nd</sup> edition,1990
- Introduction to Chemical Analysis-by R.D.Braun, Mc-Graw Hill Book Co. 2<sup>nd</sup> edition 1995
- Vogel's Textbook of Quantitative Chemical Analysis- by G.H.Jeffory, J.Mendham, R.C.Denney, 5<sup>th</sup> edition,1998
- Analytical Chemistry-by G.D.Christian, Jhon Willey & Sons, 3<sup>rd</sup> edition
- Quantitative Analysis-by R.A.Day, Prantice hall of India(P) Ltd., New Delhi,6<sup>th</sup> edition,1993
- Modern Analytical Chemistry, By David Harvey, Mc Graw-Hill (USA).
- Principles of instrumental analysis-by D.A.Skoog & F.J.Holler & T.A.Nieman Saunders college Publishers, 5<sup>th</sup> edition, 1998.

