

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

Paper Code: US03ECHE01	Total Credit: 2
Title Of Paper: Analytical Chemistry	

Unit	Description in detail	Weighting (%)
I	Chromatography-I Introduction, Classification of chromatographic techniques. Paper chromatography: Introduction, principle, Migration parameter, Types of paper chromatography, Experimental details for qualitative analysis. TLC: Introduction, superiority of TLC over other chromatographic methods, Experimental Techniques, General applications. Column Chromatography-Introduction.	
II	Chromatography-II Gas chromatography: Introduction, principle, GLC, Instrumentation, carrier gas, sample introduction system, column, Detectors (DTCD, FID, ECD), substrates, Temperature control. Evaluation of chromatogram, Retention volume, Selected Applications.	
III	Visible And Uv Spectroscopy Introduction, fundamentals of absorption spectroscopy, Lambert's and Beer's Law, Deviation from the law, theory of UV absorption, transitions associated to UV absorption spectra. Instrumentation for UV/Visible radiations: spectrophotometer, source, filter, monochromators, sample holder, slits, detector, recorder. Applications, Numerical based on Lambert-Beer's Law.	
IV	Food Analysis Introduction, Reasons for analyzing food, Food safety. Adulteration and contamination: definition. Analysis of moisture of vegetable oils, butter and ghee, honey. Analysis of ash content in spices, honey. Analysis of fat in butter. Analysis of protein content in milk, butter. Analysis of reducing. Sugar of honey. Standard content of some food material.	

Basic Text & Reference Books:-

- Analytical Chemistry by Dr. Alka Gupta, Pragati Prakashan.
- Instrumental Methods of Chemical Analysis by Chatwal and Anand

