

SARDAR PATEL UNIVERSITY
Programme: B.Sc (Chemistry)
Semester: V
Syllabus with effect from: June-2013

Paper Code: US05CCHE06	Total Credit: 3
Title Of Paper: Physical Chemistry	

Unit	Description in detail	Weighting (%)
I	<p>Phase Equilibria Phase, Component, Degree of freedom, The Gibb's phase rule, Derivation of phase rule, One component system, Water system, Sulfur system, Two component system, Simple eutectic system, Lead silver system, System in which two component forms a stable compound, Numericals.</p> <p>Basic Text & Reference Books :- ➤ Principles of Physical Chemistry (44 Edition) By Puri ,Sharma , Pathania</p>	
II	<p>Surface Phenomenon And Adsorption Introduction, Factor on which adsorption depend, Kind of adsorption, Characteristic of physical and chemical adsorption, Type of adsorption curves, Type of experimental physical adsorption isotherm, Freundlich equation of adsorption isotherm, Langmuir equation of adsorption, B.E.T. equation, Application of adsorption.</p> <p>Basic Text & Reference Books :- ➤ Advance Physical Chemistry 2nd Edition By D.N.Bajpeyee</p>	
III	<p>Gas Chromatography Introduction, Technique of Gas Liquid Chromatography, Apparatus of Gas Liquid Chromatography (Carrier Gas, Injection Port, Columns, The solid inert support, The stationary liquid phase), Detectors, Thermal Conductivity Detectors, Flame Ionization Detectors, Electron Capture Detectors, Separation Procedure, Theory and principle of Gas Liquid Chromatography, Factors affecting Separation, Miscellaneous Applications.</p> <p>Basic Text & Reference Books :- ➤ Instrumental methods of Chemical Analysis by B.K.Sharma</p>	
IV	<p>Polarography Introduction, Principle, Apparatus, Working, Brief description of polarographic measurements, Current voltage relationship, Polarogram, Interpretation of polarographic wave, Equation for polarographic waves, Half wave potential, Reversible & Irreversible wave, Explanation of polarographic wave, Different kinds of current contribution of polarographic wave (The charging current, the migration current, the diffusion current), The DME advantage and disadvantage, The capillary and its care, Removal of oxygen, Quantitative analysis, Numericals.</p> <p>Basic Text & Reference Books :- ➤ Instrumental methods of Chemical Analysis by B.K.Sharma</p>	

