

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

Paper Code: US05CBCH06	Total Credit: 3
Title Of Paper: Bio Instrumentation.	

Unit	Description in detail	Weightage (%)
I	Advance Analytical Methods in Biochemistry Colorimeter <ul style="list-style-type: none"> • Principle and derivation of law, • Working of Colorimeter Spectrophotometer , Visible Spectrophotometer , IR spectroscopy U.V Spectrophotometer Variation in the elements and principle of each techniques and application of each instruments.	25%
II	Centrifugation Techniques Basic principle of Sedimentation Types of Rotors: <ul style="list-style-type: none"> • Swing out rotor • Vertical rotor • Angular rotor • Rate zonal rotor • Continuous rotor Preparative Centrifuge- Methods Application of Preparative methods for Biomolecules Ultracentrifuge- principle, Working and Application.	25%
III	Electrophoretic Methods in Separation & Biological Constituents Basic principle Agarose gel electrophoresis 2-D gel electrophoresis PAGE SDS PAGE Isoelectric focusing	25%
IV	Separation & Purification of Biomolecules Principle of Column Chromatography. Stationary and mobile phases Principle, methods and application for <ul style="list-style-type: none"> • Adsorption Column Chromatography, • Ion Exchange Chromatography Gel filtration Chromatography Liquid Chromatography-HPLC Gas Chromatography	25%

Basic Text & Reference Books:

- Practical biochemistry by Willson Walker

