

**SARDAR PATEL UNIVERSITY**  
**Programme: B.Sc**  
**Semester: IV**  
**Syllabus with effect from: November - 2012**

<b>Paper Code: US04CBCH02</b>	<b>Total Credit: 3</b>
<b>Title of Paper: Biophysical Biochemistry</b>	

Unit	Description in detail	Weightage (%)
<b>I</b>	<p><b>pH Measurement &amp; Isotopes in Biology</b>            Introduction of isotopes-atomic no., mass number, isotopes, Radioisotope, Units of Radioactivity, Half-lives of isotopes, Techniques used in measurement of radioactivity.            Principle and method of Geiger-Muller counter, Autoradiography, scintillation counting.            Biological hazards of radiation and its safety.            Importance of isotopes in biological science.            pH measurement methods.            Glass electrode &amp; calomel electrode.</p>	<b>25%</b>
<b>II</b>	<p><b>Separation &amp; Purification Techniques - I</b>            General principle and classification of chromatography.            Principle, Method and Application of chromatography - Paper chromatography, TLC, column chromatography, Adsorption &amp; Affinity chromatography.</p>	<b>25%</b>
<b>III</b>	<p><b>Photometric Techniques</b>            Light electromagnetic spectrum, the laws of light absorption-Ber's, Lambert's law, chromophore concepts, instrumentation,            Principle, Instrumentation and Application of: (Colorimeter, Visible and UV Spectrophotometer)            Radiant energy sources, wave length selection, sample containers, detection devises for Colorimeter, Visible and UV Spectrophotometer)            Principle, Instrumentation (Block diagram) and Application of flurometer.</p>	<b>25%</b>
<b>IV</b>	<p><b>Concept of Biostatistics</b>            Biostatistics            Terminology of biostatic, application.</p> <ul style="list-style-type: none"> <li>• Presentation of statistical ungrouped data</li> <li>• tabulation, graphical and frequency distribution</li> </ul> <p>Measures of Variance            measurement of central tendency -mean, Mode, Median deviation, Standard deviation, Coefficient Of variation with two examples of each.</p>	<b>25%</b>

**Basic Text & Reference Books:**

- Biophysical Chemistry by Upadhyay, Upadhyay & Nath
- Instrumental methods in chemical analysis by B.K.Sharma
- Introduction of Biostatistics-Pranab K Banerje
- Methods in biostatistics-B K Mahajan

