

Curriculum Plan

(Odd Semester 2024-2025) Semester-V,

Biomolecules II

Teacher Name: Dr. Shiv Kumar

Name of Paper, B.Sc. (L) Life Science, (1 Periods Per Week)

Contents	Allocations of Lectures	Month wise Schedule to be followed	Tutorials/ Assignment/ Presentation
<p>Enzymes and correlation with drug action: Classification of enzymes and their uses (mention Ribozymes). Mechanism of enzyme action, factors affecting enzyme action, Coenzymes and cofactors and their role in biological reactions, specificity of enzyme action (including stereospecificity), enzyme inhibitors and their importance, phenomenon of inhibition (Competitive and non-competitive inhibition including allosteric inhibition). Drug action-receptor theory. Structure – activity relationships of drug molecules, binding role of –OH group, -NH₂ group, double bond and aromatic ring.</p>	-	August–10 th to October–19 th	Related Problems, Class Test, Home - Register Overview, -Related Problems, -Previous Year Qsn Papers discussion, - Assignment
<p>Concept of Energy in Biosystems: Cells obtain energy by the oxidation of foodstuff (organic molecules). Introduction to metabolism (catabolism, anabolism). ATP: The universal currency of cellular energy, ATP hydrolysis and free energy change. Agents for transfer of electrons in biological redox systems: NAD⁺, FAD. Conversion of food to energy: Outline of catabolic pathways of carbohydrate- glycolysis, fermentation, Krebs cycle. The caloric value of food, the standard caloric content of food types.</p>	-	October – 26 th to Last week of November	- Syllabus Overview - Reference Books - Problem Solving