

BS (4 Years) for Affiliated Colleges



Code	Subject Title	Cr. Hrs	Semester
CHEM-437	Biochemistry (Sp. Theory-I)	4	VIII
Year	Discipline		
4	Chemistry		

SYLLABUS OUTLINE:

1. Metabolism of Amino acids and Proteins:

Digestion and Absorption of Proteins. Biosynthesis of essential amino acids. Degradation of amino acids, Urea Cycle Decarboxylation, transamination and deamination reactions of amino acids and their importance. Creatine and creatinine synthesis and secretion.

2. Metabolism of Nucleic Acids:

Biosynthesis and Catabolism of Purines and Pyrimidines. Biosynthesis of nucleotides. Disorders linked to serum urate levels. Synthesis of RNA and splicing.

3. Industrial Biochemistry:

Use of Prokaryotes and Fungi in industry. Industrial production of Ethyl Alcohol, Vinegar, Lactic acid and monosodium Glutamate (MSG) using microorganisms. Bacterial application in food industry i.e. use of bacteria in processing and preserving of milk and meat. Bacterial use in other industries as washing powders,

4. Minerals:

Discussion of micro, macro and alien metals; their occurrence, physiological functions, deficiency symptoms, daily requirement and their metabolism.

RECOMMENDED BOOKS:

1. Principles of Biochemistry by Lehninger AL, Nelson DL and Cox MN, 2000 Pub: worth Publishers
2. Biochemistry by Lubert Stryer(2006) Pub: Freeman and Company
3. Principles of cell and Molecular Biology by Kleinsmith.L. J. and Kish. V. M. 2nd ed. 1995, Pub: Harper Collins
4. Harpers Biochemistry, 27th ed. (2006) McGraw Hill Inc