BIOCHEMISTRY (BS-ADP 6th Semester)

Module Code:	**Chem-334**
Module title:	**Proteins**
Name of Scheme:	**BS-ADP 6thSemester**
Department:	**School of Chemistry**
Faculty:	**Science**
Module Type:	**Optional**
Module Rating:	**2 credits**

OBJECTIVES:

After studying this course, students will be able to understand classification, properties and importance of amino acids. Students will also learn Structural classification and biological importance of proteins, dietary proteins and their digestion. It will also help to learn general pathways of amino acid catabolism and metabolism.

SYLLABUS OUTLINES

Amino acids: Structure, Chiral Center, stereoisomerism and optical activity. Classification of amino acids; chemical, nutritional, metabolic and R group. Acid base properties of amino acids, their titration curves and importance of titration curves. Biological significance of amino acids and peptides. Proteins: Covalent structure, classification, and biological significance of proteins including Primary, Secondary, Tertiary and Quaternary structure of proteins, as Keratins, Collagens and elastin. Conformation, structure and function of Fibrous and globular proteins with special reference to Hemoglobin and Myoglobin. Digestion and Absorption of Proteins. Biosynthesis of essential amino acids and their degradation. Urea Cycle, decarboxylation, transamination and deamination reactions of amino acids and their importance. Synthesis and secretion of creatine and creatinine.

RECOMMENDED BOOKS:

1. Principles of Biochemistry by Lehninger AL, Nelson DL and CoxMN,2000 Pub: worth Publishers
2. Biochemistry by Lubert Stryer(2006) Pub: Freeman and Company
3. Harpers Biochemistry, 27th ed. (2006) McGraw Hill Inc.
4. Lippincott's Biochemistry by champ c; Harvey.R.A and Ferrie. D .R. 3rd edition., Pub: J. B. Lippincott company