Course IV: Biochemistry (MSCZO-504)

Syllabus:

Chemical Equilibrium: Concepts of thermodynamics, High energy compounds (ATP), oxidation and reduction and buffering mechanism of the body. Enzymes: Nomenclature, classification, action mechanism and factors affecting enzyme activity. Chemical structure and classification, sources and deficiency state of vitamins. Carbohydrates: Structure, classification sources and metabolism. Proteins: Chemical structure, classification, sources, metabolism and defects of protein nutrition. Lipids: Structure, classification and sources, Biosynthesis of fatty acids, Cholesterol, Porphyrins and bile pigments. Glycolysis, Gluconeogenesis, Glycogenesis, Glycogenolysis, Electron Transport Chain and Hexose–Monophosphate Shunt.

Biological Chemistry

Block I

Unit 1: Chemical Equilibrium
Unit 2: Enzymes
Unit3: Vitamins
Unit4: Carbohydrates

Block II

Unit 5: Proteins
Unit 6: Lipids
Unit 7: Biochemical Oxidation

Course IV: Bio-chemistry (MSCZO -504)
UNIT WISE CONTENTS (MSCZO-504)

Course IV: Biochemistry (MSCZO-504)

Block I

Unit 1: Chemical Equilibrium

1.1 Objectives
1.2 Introduction
1.3 Concepts of Thermodynamics
1.4 High Energy Compounds with Special Reference to ATP
1.5 Concepts of Oxidation and Reduction
1.6 Buffering Mechanism
1.7 Summary
1.8 Terminal Questions and Answers

Unit 2: Enzymes

2.1 Objectives
2.2 Introduction
2.3 Nomenclature and Classification
2.4 Enzyme Kinetics
2.5 Mechanism of Enzyme Action
2.6 Factors Influencing Enzyme Activity
2.7 Chemical Structure and Significance of Coenzyme and their Specificity