



Children's University
School of Nutrition and Health
Department of Home Science
Gandhinagar

**ACADEMIC
YEAR
2020-2021**

Year	1	Course Type: Elective Compulsory Course No: NDE 104B Course Title: Nutritional Biochemistry	Credits	4
Semester	1	P.G.Diploma in Nutrition and Dietetics	Hours/wk	4
Objectives	. 1.Develop an understanding of principles of biochemistry 2.Develop an understanding of major nutrients and its physiological importance 3.To Understand mechanism of metabolic pathways			
COURSE CONTENT / SYLLABUS - THEORY				
Unit I	Carbohydrates <ul style="list-style-type: none">● Carbohydrates Definition and classification● Isomerism in mono saccharides D L form, Optical isomerism, ring structure and aldose ketoses' isomerism● Glycolysis and Krebs cycle and its energetics● Errors in metabolism of carbohydrates● Metabolic disorders Diabetes			
Unit II	Proteins <ul style="list-style-type: none">● Proteins and amino acids definition and classification● Structure and functions of Protein and amino acids● Urea cycle, Trans amination, deamination and decarboxylation● Protein Synthesis● Metabolic disorders and errors in protein metabolism			

Unit III	Fats <ul style="list-style-type: none"> ● Fatty Acids definition and classification ● Fats definition and classification ● Some important steroids ● β oxidation of fatty acids ● Ketosis and errors in fat metabolism
Unit IV	Enzyme <ul style="list-style-type: none"> ● Enzyme definition, physical and chemical properties ● Factors affecting enzyme reaction ● Nomenclature and classification of enzymes ● Enzyme Inhibitors ● Physiological importance of enzyme in disease condition
References	
<ol style="list-style-type: none"> 1. Biochemistry by A C Deb 2. Biochemistry by Lehninger 3. Biochemistry by West and Todd 4. Biochemistry by Best and Taylor 5. Biochemistry by Swaminathan 	