



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

**ACADEMIC  
YEAR  
2020-20**

**M.Sc. - FN**

<b>Year</b>	<b>I</b>	<b>Course Type: Elective Compulsory</b> <b>Course No: ECFN204B</b> <b>Course Title: Nutritional Biochemistry</b>	<b>Credits</b>	<b>4</b>
<b>Semester</b>	<b>II</b>		<b>Hours/wk</b>	<b>4</b>
<b>Objectives</b>	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			
<b>COURSE CONTENT / SYLLABUS- THEORY</b>				
<b>Unit I</b>	<b>Carbohydrates</b> <ul style="list-style-type: none"><li>● Carbohydrates Definition and classification</li><li>● Isomerism in monosaccharides D L form, Optical isomerism, ring structure and aldose ketose isomerism</li><li>● Glycolysis and krebs cycle and its energetics</li><li>● Errors in metabolism of carbohydrates</li><li>● Metabolic disorders Diabetes</li></ul>			
<b>Unit II</b>	<b>Proteins</b> <ul style="list-style-type: none"><li>● Proteins and amino acids definition and classification</li><li>● Structure and functions of Protein and amino acids</li><li>● Urea cycle, Trans amination, deamination and decarboxylation</li><li>● Protein Synthesis</li><li>● Metabolic disorders and errors in protein metabolism</li></ul>			
<b>Unit III</b>	<b>Fats</b> <ul style="list-style-type: none"><li>● Fatty Acids definition and classification</li><li>● Fats definition and classification</li><li>● Some important steroids</li><li>● <math>\beta</math> oxidation of fatty acids</li><li>● Ketosis and errors in fat metabolism</li></ul>			

<b>Unit IV</b>	<b>Enzyme</b> <ul style="list-style-type: none"><li>● Enzyme definition, physical and chemical properties</li><li>● Factors affecting enzyme reaction</li><li>● Nomenclature and classification of enzymes</li><li>● Enzyme Inhibitors</li><li>● Physiological importance of enzyme in disease condition</li></ul>
<b>References</b>	
<ol style="list-style-type: none"><li>1. Biochemistry by A C Deb</li><li>2. Biochemistry by Lehninger</li><li>3. Biochemistry by West and Todd</li><li>4. Biochemistry by Best and Taylor</li><li>5. Biochemistry by Swaminathan</li></ol>	