		Children's University **School of Nutrition and Health** **Department of Home Science** **Gandhinagar..**		**ACADEMIC YEAR 2020-2021**
M.Sc. - FN				
Year	**II**	**Course Type: Elective Compulsory** **Course No: ECFN 304-B** **Course Title: Instrumentation**	**Credits**	**4**
Semester	**III**		**Hours/wk**	**4**
Objectives		1. To enable the students to be familiar with routinely used laboratory instruments 2. To know the principles and applications of different techniques available for pathological estimations		
COURSE CONTENT / SYLLABUS - THEORY				
Unit I		**Basics of Instrumentation** 1. Colorimetry & Spectrophotometry 2. Fluorimetry 3. Atomic Absorptiometry 4. Flame Photometry		
Unit II		**Chromatography** 1. Paper 2. Thinlayer 3. Column 4. Ion-exchange 5. Gas-liquid High performance liquid chromatography		
Unit III		**Electrophoresis** 1. Gel 2. Disc gel and sledge 3. Immuno electrophoresis and various blotting techniques		
Unit IV		**Principles and applications of the following techniques** 1. Dialysis 2. Centrifugation 3. Auto Analyzer 4. Elisa 5. RIA and radioisotopes in biology and medicine 6. NMR and its applications 7. MRI and CT scan Ultra sound and sonography		
References				
		1. Boyer R (2000). Experimental Biochemistry (3rd ed.). Modern Person education, Asia 2. Dawes EA (1980). Quantitative Problems in Biochemistry		

	(6th ed.). LongmanGroup Ltd. 3. Khosla BD, Garg VC and Khosla A (1987). Senior Practical Physical Chemistry(5th ed.). R.Chand& Sons, New Delhi 4. Oser BL (1965). Hawk's Physiological chemistry (14th ed.).Tata McGraw-HillPublishing Co. Ltd 5. Raghuramulu N, Nair M and Kalyanasundaram KS (1983). A manual oflaboratory techniques. NIN, ICMR. 6. Sharma BK (1999). Instrumental methods of chemical Analysis Gel (8th ed.).PublishingHouse 7. Srivastava AK and Jain PC (1986). Chemical Analysis. An InstrumentalApproach (2nd ed.). S.Chand Company Ltd.	