PGDMLT-2003: CLINICAL BIOCHEMISTRY

Semester: II	
Course (subject) Code	**PGDMLT-2003**
Subject Title	**Clinical Biochemistry**
Course Type	Core Compulsory
Teaching Time	15×4=60 Hours
Subject Outcome	At the end of the course, the students will get knowledge of • Regulation and significance of blood glucose level, Metabolic changes occur in Diabetes and its diagnostic profile tests • Plasma proteins, its functions and separation methods and clinical significance • Clinical significance of serum cholesterol level, types of lipoproteins and its metabolism and its pathological variation • Different tests to check the function of Kidney, Liver, Heart and Thyroid

Course Content:

Unit No.	Content	Teaching Hours
Unit-1	**Carbohydrate**	**15 Hr.**
1.1	Definition, Classification and Function	
1.2	Regulation of blood glucose	
1.3	Blood Glucose Estimation and GTT	
1.4	Glycosylated Haemoglobin and its determination	
1.5	Diabetes mellitus and Diabetic profile test	
Unit-2	**Protein and Enzyme**	**15 Hr.**
2.1	Definition, Classification and Function	
2.2	Plasma Proteins estimation, its clinical significance and A:G ratio	
2.3	Electrophoretic pattern of protein fractions in health and disease	
2.4	Introduction to Clinical Enzymology	
2.5	Iso-Enzyme: LDH, CK and ALP	
Unit-3	**Lipid and Lipoprotein**	**15 Hr.**
3.1	Definition, Classification and Function	
3.2	Factors influencing and Pathological variations of blood cholesterol level	
3.3	Lipoprotein: Introduction, Classification and Separation	
3.4	Metabolism and Clinical Disorder of Lipoprotein	
3.5	Lipid Profile Tests- Cholesterol, Triglyceride & Lipoproteins	
Unit-4	**Diagnostic Biochemistry**	**15 Hr.**
4.1	Determination of Electrolytes: Sodium, Potassium, Chloride & Calcium	
4.2	Determinations of Enzymes: SGPT, SGOT, ALP, Lipase, Amylase	
4.3	Determination of Vitamins: B_{12}, D_3	
4.4	Determination of Hormones: T_3, T_4 & TSH	
4.5	Organ function test - Renal, Liver, Cardiac, Thyroid: Function and Classification	

Reference Books:

Sr. No.	Title/Edition	Authors	Publisher
1	Textbook of Medical Biochemistry/ 8th	Chatterjae M. N. and Shinde R. (2012)	JaypeeBrothers Publishers
2	Textbook of Medical Laboratory Technology/ 3rd	Godkar P. B. (2014)	Bhalani Publishing house
3	Textbook of Biochemistry/ 4th	Vasudevan D. & Sreekumari S. 2005	JaypeePublishers
4	Biochemistry/4th	Satyanarayana U. & Chakrapani U.	Arunabha Sen and Allied (P) Ltd.