

**SARDAR PATEL UNIVERSITY**  
**Programme & Subject: M.Sc (Biomedical Science)**  
**Semester: III**  
**Syllabus with Effect from: June - 2014**

<b>Paper Code: PT03EBMC01</b>	<b>Total Credit: 4</b>
<b>Title of Paper: Clinical Biochemistry</b>	

Unit	Description in Detail	Weightage (%)
I	Basic concepts of diseases and metabolic disorders: Carbohydrate Metabolism- Diabetes Mellitus, Galactosuria, Fructosuria, Hunter's Syndrome and Glucose Tolerance Test, Glucose Storage Diseases; Lipid Metabolism- Gaucher's disease and Tay-Sacch's disease. Protein Metabolism- Albinism, Phenylketonuria, Alkaptonuria, Maple-Syrup Urine Disease (MSUD), Cystinuria and Homocystinuria.	25%
II	Disorders of nucleic acid and neuronal origin: Nucleic Acid Metabolism- Lesch-Nyhan syndrome, Van-Gierke's disease and Gout. Porphyrin diseases and diagnosis: Jaundice (different types), tests for its diagnosis and treatment. Mineral Metabolism: Anemia, Cushing's syndrome etc. Neuronal diseases: Parkinson's disease. Alzheimer's disease, drugs for their treatment. Cancer: Tumor markers and other tests.	25%
III	Body fluids: Biochemical changes in body fluids-Blood- composition, alteration in pathological conditions. Urine composition, alteration in pathological conditions. Cerebro Spinal Fluid- composition, alteration in pathological conditions.	25%
IV	Organ function tests: Kidney disorders and renal function tests; Liver disorders and liver function tests. gastric disorders and gastric function tests. Biochemical / Hospital laboratory tests; Methods of estimation for all diagnostic tests routinely used in a hospital biochemistry laboratory, diagnostic enzymes, blood parameters and urine tests. Hemogram: RBCs , leucocytes (TLC, DLC), hemoglobin, eosinophils, ESR Autoanalyzers : Semi and fully automatic Cancer Biochemistry- cancer causing agents, Mechanism of Carcinogenesis, Cancer Markers, Chemotherapy, Radiotherapy and Combination Therapy. Hormonal disorders- Pituitary, Adrenal and Thyroid glands Heart related disorders: Atherosclerosis, myocardial infarction.	25%

**Basic Text & Reference Books:-**

- Devlin, T. M., Text Book of Biochemistry with clinical Correlations, John Wiley & Sons; 7<sup>th</sup> Edition
- Campbell, M. K., Farrel, S. O., Biochemistry, Cengage Learning, 7<sup>th</sup> edition
- Beckett G., Lecture Notes: Clinical Biochemistry, Wiley-Blackwell; 7<sup>th</sup> Edition
- Voet D., Voet J. G., Pratt C. W., Fundamental of Biochemistry: Life at the molecular level, Wiley; 4<sup>th</sup> Edition
- Nelson D. L., Cox, M. M., Lehninger Principles of Biochemistry, W. H. Freeman; 5<sup>th</sup> edition

