

**MAJOR BASED ELECTIVE II : CLINICAL BIO-CHEMISTRY**

**UNIT – I**

Level of Blood glucose innormal and abnormal conditions – Maintenance of blood glucose level – Hyps and Hyperglyeaemia – (Benedict’s method) - Diabetes Mellitus – Ketosis – Diabetic coma – Urniary reducing substances – Pentosuria, Galactosaemia, glycosuria and Glycogen storage diseases – Glucose Tolerance test-oral and intravenous.

**UNIT – II**

- a. Level of lipids in blood – separation of serum lipoproteins – (Electrophoresis) – Disorder of lipoproteins – Determination of serum cholesterol (Zak’s method) – Hyper and Hypo – Cholesterolaemia Atherosclerosis – inborn errors of fat metabolism () Glucher’s disease; Niemann-picks disease, Fabry’s disease, Tay-sach’s disease, metachromatic leukodystrophy, Krabe’s disease and Refsum’s disease.
- b. Determination of Total plasma proteins (Biuretty method) – Separation of plasma proteins (electrophoresis) – functions. Clinical significance of plasma proteins – Test for proteins inurine – Albuminuria – Inborn errors of amino acids metabolism – Phenyl Ketonuria – Albuminuria – Inborn errors of amino acids metabolism – Phenyl Ketonuria - Albinism – Alkaptonuria – Hartnup disease – Cystinuria and maple syrup disease-Bence Jons proteins.

**UNIT – III**

Formation of Bible acids and bile salts – functions, formation of bile pigments from Haemoglobin – Tests for bile pigments and bile salts in Urine-Tests for Liver function – Determination of serum bilirubing – Jaundice – Types of Jaundice-Icteric index-Galactose tolerance test-Hippuric acid Test-Bromo-Sulphthalein test. Enzymes inliver disease – Congenital Hyperbilirubin – semias – Gilbert’s, Criglar-Najjar, Dubir Johnson and leucy-Driscoll syndrome.

**UNIT – IV**

Test for Gastric function – Collection of Examination on stomach contents – Determination of free acidity – Fractional test meal-moral and abnormal curves – Examination of duodenal contents- Determination of serum amylase and lipase significance – Tests for Malabsorption – Examination of faeces- Determination of fat content to faeces – Fat balance studyxylulose excretion test – Vitamin A absorption Test.

**UNIT – V**

Urine examination-their significance in health and disease – Tests for kidney function – glearance test – Urea clearance, inulin clearence and creatine clearance – Dye test – Dilution test – Dialysis.

**Reference:**

1. Clinical Bio-Chemistry by Latner, Al.W.B.Saunder’s C., 1975.
2. Clinical Bio-Chemistry by Cantrow. A and Trumper, M.W.B., Saunders Co., - 1975.
3. Hawk, Physiological Chemistry Ed., by Bernar, L.Oser, Tata Mc.Graw Hill, Publishing Co. Ltd., New Delhi.
4. Bio-Chemistry for medical students by M.Swaminathan.
5. Clinical Bio-Chemistry by Harold Varley.