

B.Sc. MEDICAL LABORATORY TECHNOLOGY
THIRD YEAR
PAPER II – BIOCHEMISTRY – II

Q.P. Code: 725032

Time: Three Hours

Maximum: 100 Marks

Answer all questions

I. Elaborate on: **(3 x 10 = 30)**

1. The various steps involved in eukaryotic translation and the machinery involved in protein synthesis. Add a small note on post translational modifications.
2. Describe the significance and the various types of tests involved in 'renal function test' (RFT). Add a note on the effect of tests on pre-renal, renal and post renal types of renal failure.
3. The various "inborn errors of metabolism" with a special note on Galactosemia and Hereditary fructose intolerance.

II. Write notes on: **(8 x 5 = 40)**

1. Principle, short procedure and the clinical significance of estimation of calcium in biochemistry laboratory.
2. The technique and clinical applications of Southern blotting method.
3. Low density lipoprotein (LDL): chemistry, metabolism and its clinical significance.
4. Liver transaminases (Aspartate transaminase and Alanine transaminase) and Alkaline phosphatase in diseases.
5. Hallmark features of the genetic code and codon.
6. The biochemistry and investigations in Respiratory acidosis.
7. Splicing of mRNA.
8. Tumor markers of importance in biochemistry.

III. Short answers on: **(10 x 3 = 30)**

1. Competitive immunoassay.
2. Types and significance of various dyslipidemias with a special mention on familial hypercholesterolemia.
3. Principle of total bilirubin estimation using kit method.
4. Different phases in cell cycle.
5. Various Deoxy-ribo nucleic acid (DNA) repair mechanisms.
6. Technique and significance of Polymerase chain reaction (PCR).
7. Components of a usual Arterial Blood Gas (ABG) analysis report.
8. Role of histones in the structure of Deoxy-ribo nucleic acid (DNA).
9. Significance of urine protein estimation.
10. Beta 2-microglobulin and its clinical significance.
