

M.D. DEGREE EXAMINATION
BRANCH XIII – BIOCHEMISTRY
PAPER III – INTERMEDIARY METABOLISM, MACRO AND MICRO
NUTRIENTS AND INBORN ERRORS OF METABOLISM

Q.P.Code: 202045

Time: Three Hours

Maximum: 100 Marks

I. Essay Questions:

(2 x 10 = 20)

1. Write in detail about sources, RDA, biochemical functions and deficiency manifestations of Vitamin D.
2. Explain the synthesis of Glucose from various amino acids.

II. Short Questions:

(8 x 5 = 40)

1. Theories explaining the mechanism of action of Enzymes.
2. Megavitamin therapy.
3. Mitochondrial encephalomyopathy lactic acidosis stroke like episodes (MELAS).
4. Digestion and Absorption of Carbohydrates.
5. β oxidation of Fatty acids.
6. Metabolic Adaptation in Starvation.
7. Metabolism in Lens of Eye.
8. Metal activated Enzymes.

III. Reasoning Out:

(4 x 5 = 20)

1. Caloric values of Fats is about twice that of Sugars.
2. Cellular concentration of Pyruvate and α Keto Glutarate increase in BeriBeri.
3. Pentose Phosphate pathway is described as Shunt pathway.
4. Free redox – active metal ion complexes are dangerous in biological systems.

IV. Very Short Answers:

(10 x 2 = 20)

1. Active site of Enzyme.
2. Competitive Inhibition of Enzyme.
3. Complex I of Electron Transport Chain.
4. ATP synthase.
5. Fructose Intolerance.
6. Malignant Hyperthermia.
7. Fatty acid Synthase.
8. Non Ketotic Hyper glycinemia.
9. Functions of Serotonin.
10. Propionyl CoA Carboxylase.
