

**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. Describe metabolic and biochemical derangements in diabetes mellitus.
2. Discuss the metabolism of tyrosine and the significance of the specialized products and its related disorders.

**II. Short Questions:**

**(8 x 5 = 40)**

1. Reverse cholesterol transport.
2. Porphyria cutanea tarda.
3. Regulation of serum Calcium.
4. Apolipo proteins.
5. Phenyl ketonuria.
6. Gout.
7. Isoenzymes.
8. Brown adipose tissue.

**III. Reasoning Out:**

**(4 x 5 = 20)**

1. The basis of using Benzoic acid and arginine in treating urea cycle enzyme defects.
2. Zinc is an antioxidant.
3. Fluorosis is more dangerous than caries.
4. Bantu tribe in Africa is prone to Hemosiderosis.

**IV. Very Short Answers:**

**(10 x 2 = 20)**

1. Folate trap.
2. Futile cycle.
3. Fates of Glucose 6 phosphate.
4. Ceruloplasmin.
5. Biotin independent carboxylation reaction.
6. Formation of bile acids.
7. Functions of phospholipids.
8. Advanced glycation end products.
9. ATP binding cassette protein (ABC).
10. Fetal Haemoglobin.

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