

79

DEPARTMENT OF BIOCHEMISTRY
LTM Medical College, Sion, MUMBAI: 22
1st M.B.B.S First Semester Examination 2024-2025
Total Duration: 3 hours (10.00A.M. to 1.00 P.M.)

Date – 05/ 04/2025

Marks (A+B) =100

- Instructions:
- 1) All questions are compulsory.
 - 2) The number to the right indicates full marks.
 - 3) Draw diagrams wherever necessary.

SECTION B

Q 2) Long answer question

(12 x 1=12 marks)

- a) Discuss regulation of blood glucose. Add a note on lab diagnosis of Diabetes Mellitus
(8+4)

Q.3.Reasoning Questions

(5X4 = 20 Marks)

- a) Why vitamin B12 deficiency causes i) Ischemic heart disease.
ii) Neurological manifestations
- b) Why chronic alcoholism leads to i) Fatty liver
ii) Lactic acidosis ✓
- /c) Why in Von Gierke's disease i) Hypoglycemia occurs
ii) Gout is seen
- d) Why in obstructive jaundice i) Hypercholesterolemia seen
ii) Vitamin D deficiency seen
- e) Why in Leish Nyhan syndrome
i) Self mutilation observed
/ ii) Hyperuricemia observed

Q. 4Write short note on (any 4 out of 5)

(4X5 = 20 Marks)

- i) Write 2 functions and 3 deficiency manifestations of vitamin pyridoxine. (2+3)
- ii) Galactosemia.
- / iii) What are the causes of hepatic jaundice and write its lab diagnosis. (1+4)
- ' iv) A 25 years old executive was admitted with complaints of severe chest pain. ECG showed changes of myocardial infarction. Blood investigations reveals:

Cholesterol 450 mg%, LDL cholesterol 350 mg% and HDL cholesterol 26 mg%. Family history reveals father dying at young age.

- ✓ 1. What is the type of lipoproteinemia? (1 Mark)
- ✗ 2. What is the biochemical cause of Tangier's disease? (2 Marks)
- ✓ 3. Name lipoprotein fractions elevated in following hyperlipoproteinemias (2 Marks)
 - I. Type I
 - II. Type V

✓ v). A new born male neonate on the day 3 of life threw convulsions. On clinically evaluating the neonate it was noted that his urine had burnt sugar odor and his urine examination gave Rothera's test positive. On enquiry mother revealed that the earlier sibling died at day 15 of life

- a) What is the probable diagnosis? (1 mark)
- b) Name the deficient enzyme in the above disorder and the reaction it catalyzes. (2 marks)
- c) Which vitamin needs to be supplemented in the mild variant form of this disease and why? (2 marks)

Q.5 Write short answer questions. (Any 4 out of five)

(4X7 = 28 Marks)

- ✓ a. Classify Kidney function tests & describe clearance test (2+5)
- ✓ b. Discuss Beta oxidation of fatty acids. Add a note on its energetics. (5+2)
- ✓ c. Describe the metabolic adaptations during prolonged starvation. (7)
- d. Urea cycle disorders. (7)
- e. Add a note on
 - (i) Purine salvage pathway & its importance. (3)
 - (ii) Orotic Aciduria (4)