



UNIVERSITY OF JAFFNA, SRI LANKA
FACULTY OF ALLIED HEALTH SCIENCES
FIRST YEAR SECOND SEMESTER EXAMINATION IN BScHons (MLS)-2022

MLSBM 1262 BIOCHEMISTRY FOR MEDICAL LABORATORY SCIENCES II

(16th & 17th Batches)

PAPER-II

Date: 18.06.2024

Time: 02 Hours

Answer all the six questions.

Answer each part in separate answer books.

PART A

1. 1.1. List the hormones which regulate the blood glucose level. (10 Marks)
- 1.2. Explain how the above said hormones maintain the blood glucose level. (40 Marks)
- 1.3. Name the test is specifically used for blood glucose estimation and give its principle of the method. (20 Marks)
- 1.4. Explain how a person can be prepared for Oral Glucose Tolerance Test (OGTT). (30 Marks)

2. 2.1. 2.1.1 List the gluconeogenic enzymes. (20 Marks)
- 2.1.2 A diabetic patient taking enough calories and other nutrients was losing weight. Explain. (45 Marks)
- 2.1.3 Write short notes on
 - 2.1.3.1 Galactosemia (20 Marks)
 - 2.1.3.2 Phenylketonuria (25 Marks)

PART B

3. 3.1 List the Apoproteins of lipoproteins and their functions. (20 Marks)
- 3.2 Diagrammatically show the metabolism of Very Low-Density Lipoprotein (VLDL). (35 Marks)
- 3.3 Explain how the body deals with the lipolytic products in adipocyte. (45 Marks)

4. 4.1 4.1.1 List the conditions that lead to increase in ketogenesis. (15 Marks)
- 4.1.2 Explain how the untreated severe diabetes leads to ketoacidosis. (35 Marks)
- 4.2 A 10-year-old boy presented with mental retardation and self-mutilation having elevated serum uric acid and PRPP amidotransferase activity.
- 4.2.1 Name the most probable defect in this child. (05 Marks)
- 4.2.2 Explain the biochemical basis of the above condition. (25 Marks)
- 4.2.3 Explain how excessive alcohol consumption leads to hyperuricemia. (20 Marks)
5. 5.1 List the major nitrogen excretory products synthesized in the body. (15 Marks)
- 5.2 Diagrammatically show how the ammonia from alanine is converted to citrulline. (40 Marks)
- 5.3 Diagrammatically show the following bioconversions and list the biochemical importance of the products in each of the bioconversions.
- 5.3.1 Glutamate to γ -Aminobutyrate. (15 Marks)
- 5.3.2 Histidine to histamine (15 Marks)
- 5.3.3 Glycine to creatine phosphate. (15 Marks)

PART C

- 6 6.1 Explain the "flow of genetic information". (25 Marks)
- 6.2 Explain the post-translational modification of proteins taking collagen as an example. (40 Marks)
- 6.3 Diagrammatically show and explain how the intra-chain thymine dimmers in DNA are repaired in a normal individual. (35 Marks)