

UNIVERSITY OF JAFFNA, SRI LANKA
FACULTY OF ALLIED HEALTH SCIENCES



FIRST YEAR FIRST SEMESTER EXAMINATION IN BScHons (MLS) -2022

MLSBM 1163 –BIOCHEMISTRY FOR MEDICAL LABORATORY SCIENCES-I

PAPER II

Date: 07.12.2023

Time: 2 Hours

ANSWER ALL SIX QUESTIONS ON SEPARATE ANSWER BOOK.

1. Write short notes on
 - 1.1 Salting Out. (20 Marks)
 - 1.2 Structure of Insulin. (20 Marks)
 - 1.3 Functions of Albumin. (25 Marks)
 - 1.4 Denaturation of Proteins. (15 Marks)
 - 1.5 Structure of Myoglobin (20 Marks)

2.
 - 2.1 List the contents of Oral Rehydration Salt (ORS) and the uses of the contents. (35 Marks)
 - 2.2 Explain how dietary lipids are digested and absorbed? (35 Marks)
 - 2.3 Give the functions of glycosaminoglycans with examples. (30 Marks)

3.
 - 3.1 Draw and label the structure of tRNA. (20 Marks)
 - 3.2 Write short notes on phospholipids (25 Marks)
 - 3.3 Explain how cells self-regulate energy production. (25 Marks)
 - 3.4 Explain how iron is absorbed by the intestinal mucosal cells and enters the blood stream. (30 Marks)

4. The total serum bilirubin of a new born baby was, 13 mg/dL.
- 4.1 Name the probable clinical condition. (10 Marks)
 - 4.2 List the probable causes for the above condition. (25 Marks)
 - 4.3 Explain the causes leading to the above condition. (55 Marks)
 - 4.4 Name the treatment that is commonly practiced to treat the new born babies with the above condition? (10 Marks)
5. 5.1 Show how monoclonal antibodies are formed against a protein? (40 Marks)
- 5.2 Diagrammatically show the differences in serum electrophoretic pattern of a multiple myeloma patient from that of a normal person. (20 Marks)
- 5.3 Explain how thyroid hormone is formed and secreted by the thyroid gland. (40 Marks)
6. 6.1 Explain the role of
- 6.1.1 vitamin A in dim light vision. (30 Marks)
 - 6.1.2 vitamin D in calcium homeostasis. (30 Marks)
- 6.2 Explain with an example how competitive inhibitors act. (20 Marks)
- 6.3 Explain how the $\text{HCO}_3^-/\text{H}_2\text{CO}_3$ buffer system is effective in blood pH maintenance. (20 Marks)

