



FIRST YEAR FIRST SEMESTER B.SC. IN MEDICAL LABORATORY SCIENCES
EXAMINATION--2019

MLSBM 1163 –BIOCHEMISTRY FOR MEDICAL LABORATORY SCIENCES- I

PAPER II

Date: 19.04.2021

Time: 2 Hours

ANSWER ALL SIX QUESTIONS ON SEPARATE ANSWER BOOK.

Marks allotted to each part are given within brackets.

1. 1.1 Write short notes on
 - 1.1.1 Salting out. (20 Marks)
 - 1.1.2 Separation of proteins by electrophoresis. (30 Marks)
 - 1.1.3 Functions of plasma proteins. (25 Marks)
- 1.2 Explain how cells self-regulate energy production. (25 Marks)

2. 2.1 List the different pathological conditions which can lead to the increase in serum unconjugated bilirubin level. (20 Marks)
- 2.2 Explain the biochemical changes that you would observe in the serum and urine under the conditions mentioned in Section 2.1. (35 Marks)
- 2.3 Name the tests and give the principles of the tests that would be performed to detect the bilirubin in serum and the expected metabolite in the urine. (25 Marks)
- 2.4 Explain the causes for the changes in the faeces which you mentioned in Section 2.1. (20 Marks)



3. 3.1 Explain how the thyroid hormone is formed and secreted by the thyroid gland. (40 Marks)
- 3.3 Write Short notes on
- 3.3.1 Eicosanoids. (20 Marks)
- 3.3.2 Phospholipids. (20 Marks)
- 3.3 Explain how the haemoglobin buffer system is effective in maintaining blood pH. (20 Marks)
4. 4.1 Explain the composition of Oral Rehydration Salt and their uses. (30 Marks)
- 4.2 Show how dietary carbohydrates are digested and absorbed? (45 Marks)
- 4.3 Explain how iron is absorbed by the intestinal mucosal cells. (25 Marks)
5. 5.1 Show how monoclonal antibodies are formed against a protein? (45 Marks)
- 5.2 List 3 DNA repair mechanisms. (15 Marks)
- 5.3 Describe a simple test to differentiate monosaccharides from disaccharides. (20 Marks)
- 5.4 Give the functions of glucosaminoglycans with examples. (20 Marks)
6. 6.1 6.1.1 Explain the role of vitamin K in blood clotting? (30 Marks)
- 6.1.2 Explain how warfarin inhibits blood clot formation. (20 Marks)
- 6.2 Explain the role of vitamin E as an antioxidant. (30 Marks)
- 6.3 Explain how competitive inhibitors reduce the product formation of a reaction with an example? (20 Marks)