

UNIVERSITY OF JAFFNA, SRI LANKA
First Year Second Semester Examination in
BScHons (Medical Laboratory Sciences) - 2019

Allied Health Sciences

MLSMT 1213 MEDICAL LABORATORY TECHNOLOGY II

Date: 28.01.2022

Time: 2 Hour

Answer all Six Questions.

Answer Part A and B in Separate Answer Books.

Part A

1. 1.1 Explain the principle of mass spectrometry. (50 Marks)
- 1.2 Name four (4) different types of mass analysers used in mass spectrometry. (20 Marks)
- 1.3 Give the applications of fluorescence spectroscopy. (30 Marks)

2. 2.1 List the basic components and their uses of a UV-visible spectrophotometer. (20 Marks)
- 2.2 Explain a UV-visible spectrophotometer can be calibrated for the followings.
 - 2.2.1 Wavelength accuracy (20 Marks)
 - 2.2.2 Resolution power (20 Marks)
 - 2.2.3 Stray Light (20 Marks)
 - 2.2.4 Photometric accuracy (20 Marks)

- 3 Write notes on
- 3.2 Freeze drying or lyophilisation (40 Marks)
 - 3.3 Principle and applications of Infrared (IR) spectroscopy (30 Marks)
 - 3.4 Potentiometric cell pCO₂ sensor. (30 Marks)

Part B

- 4. 4.1 Give the basic Principle of electrophoresis. (20 Marks)
 - 4.2 Give the different steps used to carry out the separation of serum electrophoresis. (40 Marks)
 - 4.3 Give the labelled diagrams of serum electrophoretic patterns of
 - 4.3.1 nephrotic syndrome patient. (20 Marks)
 - 4.3.2 multiple myeloma patient. (20 Marks)
5. Explain the applications of
- 5.1 Gel permeation chromatography. (20 Marks)
 - 5.2 Gas chromatography –mass spectrometry (GC-MS). (25 Marks)
 - 5.3 Hydrophobic interaction chromatography. (30 Marks)
 - 5.4 Capillary gel electrophoresis. (25 Marks)
6. 6.1 Explain how the polyacrylamide gel electrophoresis is carried out. (60 Marks)
- 6.2 Give the applications of polyacrylamide gel electrophoresis. (40 Marks)