

Library

UNIVERSITY OF JAFFNA, SRI LANKA
FACULTY OF ALLIED HEALTH SCIENCES
FIRST YEAR SECOND SEMESTER EXAMINATION IN BScHons (MLS) - 2019
MLSIA 1264 INSTRUMENTAL ANALYSIS

Date: 24.01.2022

Time: 2 Hours

ANSWER ALL SIX QUESTIONS

ANSWER PART A AND PART B IN SEPARATE ANSWER BOOKS

PART A

1.

1.1 Briefly describe the working principle of a centrifuge. (20 marks)

1.2 List three uses of a centrifuge in laboratory. (15 marks)

1.3 List five factors you would consider when purchasing a centrifuge to a laboratory. (20 marks)

1.4 Briefly discuss the steps involved in serum separation from a blood sample by using a centrifuge. (45 marks)

2.

2.1 Give the functions of following components of an autoclave.

2.1.1 Chamber (10 marks)

2.1.2 Pressure gauge (10 marks)

2.1.3 Whistle (10 marks)

2.1.4 Safety valve (10 marks)

2.2 Briefly explain on preparation and loading of materials in an autoclave. (40 marks)

2.3 Briefly describe the maintenance of an autoclave in a laboratory. (20 marks)

3.

3.1 Briefly discuss the working principle of a water distillation apparatus. (20 marks)

3.2 Briefly explain the calibration of a pH meter in a laboratory. (30 marks)

3.3 Write short notes on magnetic stirrer. (50 marks)

PART B

4.

4.1 Briefly describe the classes of biosafety cabinet. (70 marks)

4.2. Mention the uses of each class of biosafety cabinet. (30 marks)

5.

5.1 Write the principle of phase contrast microscope. (30 marks)

5.2 Write on the care of light microscope. (30 marks)

5.3 Compare light microscope with that of electron microscope. (40 marks)

6.

6.1 Name three (03) ways by which the molecules in the sample interact with the light waves. (15 marks)

6.2. Explain the Beer-Lambert Law. (30 marks)

6.3. List three (03) applications of flame photometer. (15 marks)

6.4. Explain the principle of flame photometer. (40 marks)