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)**