UNIVERSITY OF JAFFNA, SRI LANKA

BACHELOR OF SCIENCE IN MEDICAL LABORATORY SCIENCES

FIRST YEAR SECOND SEMESTER EXAMINATION- APRIL 2020

MLSIA 1264 INSTRUMENTAL ANALYSIS

DATE: 05.10.2020 **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 steps involved in serum separation from a blood sample. (35 marks)

1.2. Give the important aspects on safe handling of a centrifuge in a laboratory. (30 marks)

1.3. Briefly explain the necessary factors you would consider when purchasing a centrifuge to a laboratory. (35 marks)

2.

2.1. Briefly describe the working principle of a magnetic stirrer. (30 marks)

2.2. Draw a labelled diagram of an autoclave and give the functions of each labelled component. (40 Marks)

2.3. List the uses of an Autoclave. (30 marks)

3.

3.1. Briefly discuss the working principle of a pH meter. (20 Marks)

3.2. Briefly describe the calibration of a pH meter in a laboratory. (40 Marks)

3.3. Write short notes on Water bath. (40 Marks)

PART B

4.

4.1. Briefly explain the working principle of the following:

4.1.1. Fluorescence spectroscopy (40 marks)

4.1.2. Flame Photometer (40 marks)

4.2. List the basic components of UV/Visible Spectrophotometer and mention the use of each component. (20 marks)

5.

5.1. Briefly describe the different classes of biological safety cabinets. (70 marks)

5.2. List the use of each class of biological safety cabinet. (30 Marks)

6.

6.1. Name the parts of a light microscope and mention the function of each part. (40 Marks)

6.2. Briefly describe the principle of a Phase contrast microscope. (30 Marks)

6.3. Write notes on Rotary microtome. (30 Marks)