

UNIVERSITY OF JAFFNA, SRI LANKA
BACHELOR OF SCIENCE IN MEDICAL LABORATORY SCIENCES
FIRST YEAR SECOND SEMESTER EXAMINATION- FEBRUARY 2014
MLSIA 1205 INSTRUMENTAL ANALYSIS

Date: 06.03.2014

Time: 2Hours

ANSWER ALL SIX QUESTIONS

1.

- 1.1. Briefly explain the principle of a Dark field microscope. (20 Marks)
- 1.2. Enumerate how you would prepare a slide from a liquid culture to focus under Dark field microscope. (25 Marks)
- 1.3. List three applications of Dark field microscope. (15 Marks)
- 1.4. Explain how you would focus astained slide to observe bacteria under light microscope. (40 Marks)

2.

- 2.1. List the basic components of UV-visible Spectrophotometer and mention the use of each (30 Marks)
- 2.2. Give five medical application of UV-visible Spectrophotometer. (20 Marks)
- 2.3. Briefly explain the working principle of the following
- 2.3.1. Mass spectrometry. (25 Marks)
- 2.3.2. Fluorescence Spectroscopy . (25 Marks)

3.

- 3.1. Write notes on
- 3.1.1. Class II Biological safety cabinet. (30 Marks)
- 3.1.2. Rotary microtome. (30 Marks)
- 3.2. Explain the working principle and uses of a magnetic stirrer. (40 Marks)

4.

4.1. Briefly describe the principle of centrifugation. (30 Marks)

4.2. Explain the functions of different types rotors used in centrifuge. (70 Marks)

5.

5.1. Discuss the importance of incubator in laboratory. (30 Marks)

5.2. Briefly discuss the special features used in modern incubators. (70 Marks)

6.

6.1. Briefly explain with diagram to show how x-ray produced in an x-ray tube. (60 Marks)

6.2. What are the two basic setting in X-ray machine during the imaging? (10 Marks)

6.3. Explain why tungsten is chosen as a cathode and anode in X-ray tube. (30 Marks)