

UNIVERSITY OF JAFFNA, SRI LANKA  
BACHELOR OF SCIENCE IN MEDICAL LABORATORY SCIENCES  
FIRST YEAR SECOND SEMESTER EXAMINATION- JANUARY 2013

**MLSIA1205 INSTRUMENTAL ANALYSIS**

**Date: 31.01.2013**

**Time: 2 Hours**

**ANSWER ALL SIX QUESTIONS.**

**ANSWER EACH PART IN SEPARATE ANSWER BOOKS**

**PART A**

**1.**

- 1.1 Describe class II biological safety cabinet. **(40Marks)**
- 1.2 Enumerate the advantages of using class II biological safety cabinet. **(30 Marks)**
- 1.3 Briefly describe Class III biological safety cabinet. **(30 Marks)**

**2.**

- 2.1 Briefly describe Fluorescence microscopy. **(40 Marks)**
- 2.2 Enumerate the advantages of Electron microscope. **(30 Marks)**
- 2.3 List the parts of a Light microscope and mention the use of each part. **(30 Marks)**

**3.**

Write notes on

- 3.1 Rotary microtome **(30 Marks)**
- 3.2 Microtome knives **(30 Marks)**
- 3.3 Draw a labeled diagram of simple distillation apparatus and give the function of each component. **(40 Marks)**

- 4.
- 4.1 Briefly describe the operating principles of the different technologies used in weighing machines. **(50 Marks)**
- 4.2.
- 4.2.1 Explain the working principle of a pH meter. **(20 Marks)**
- 4.2.2 Briefly discuss the calibration of a pH meter in laboratory. **(30 Marks)**
- 5.
- 5.1 List the uses and disadvantages of an autoclave. **(40 Marks)**
- 5.2 Briefly describe the functions of different temperature control devices (sensors) used in laboratory equipments. **(60 Marks)**

### **Part B**

- 6.
- 6.1 How would you prepare a patient for an ultra sound scan? **(25 Marks)**
- 6.2 List the items that should be available in an Emergency Trolley. **(25 Marks)**
- 6.3 How to prepare a patient for the intravenous Ureterogram (IVU)? **(25 Marks)**
- 6.4 What are the actions to be taken incase if an anaplastic shock while giving intravenous Contrast (Omnipaque) for IVU? **(25 Marks)**