



**UNIVERSITY OF JAFFNA, SRI LANKA**  
**FACULTY OF ALLIED HEALTH SCIENCES**  
**FIRST YEAR FIRST SEMESTER EXAMINATION IN BSc HONS (MLS)- 2020**

**MLSMT1132 MEDICAL LABORATORY TECHNOLOGY 1**

**Date: 14.02.2022**

**Time: 2 Hours**

**ANSWER ALL SIX QUESTIONS.**

1. 1.1 Explain the working principle of an autoclave. (20 Marks)
- 1.2 Briefly explain the causes leading to malfunctioning of an autoclave. (30 Marks)
- 1.3 Describe the methods to confirm a successful sterilization process. (20 Marks)
- 1.4 Explain the working principle of a laboratory digital pH meter and give the steps in calibration. (30 Marks)
  
2. 2.1 Explain the factors that affect the accuracy of an analytical balance. (30 Marks)
- 2.2 Explain the applications and maintenance of the following equipment.
  - 2.2.1 Centrifuge (30 Marks)
  - 2.2.2 Water bath (20 Marks)
  - 2.2.3 Water distillation apparatus (20 Marks)
  
3. 3.1 Write short notes on
  - 3.1.1 Types of fire extinguishers and their respective applications. (30 Marks)
  - 3.1.2 Material Safety Data Sheet (MSDS). (20 Marks)
- 3.2 3.2.1 Categorize the different biomedical wastes in a clinical laboratory. (20 Marks)
- 3.2.2 Explain the methods which could be used to dispose the above-mentioned categories of wastes. (30 Marks)

4. 4.1 Name three blood borne viruses. (15 Marks)
- 4.2 Describe the ways by which the above viruses can be transmitted in a clinical laboratory. (30 Marks)
- 4.3 Describe the preventive measures to be taken in a laboratory to prevent the blood borne virus infection. (35 Marks)
- 4.4 List five (5) factors which can lead to infection in a person due to accidental exposure to blood borne viruses. (20 Marks)
5. 5.1 List the different classes of biosafety cabinet. (15 Marks)
- 5.2 Give the working principle of each class of biosafety cabinet mentioned in Section 5.1. (30 Marks)
- 5.3 Write two uses of each class of biosafety cabinet mentioned in Section 5.1. (25 Marks)
- 5.4. What precautionary measures should an operator take before, while and after using the biosafety cabinet. (30 Marks)
6. 6.1 6.1.1 Describe how an image is formed in a phase-contrast microscope. (30 Marks)
- 6.1.2 Give three applications of phase contrast microscope in a clinical laboratory. (20 Marks)
- 6.2 6.2.1 List the precautionary measures which should be taken to maintain a binocular light microscope. (20 Marks)
- 6.2.2 Justify the precautionary measures mentioned in Section 6.2.1. (30 Marks)

