



**FACULTY OF ALLIED HEALTH SCIENCES, UNIVERSITY OF RUHUNA**  
**Department of Medical Laboratory Science**  
**First End Semester Examination – December 2023 – 2021/2022 Batch**  
**MLS 1154 Medical Laboratory Practice – SEQ**

Date: 12<sup>th</sup> December 2023

Time: 8.00 a.m. – 9.30 a.m.

Duration: 01 hour & 30 minutes

Answer all questions

Index Number: .....

- 1.**
- 1.1** Write **two** precautions to be taken while handling each of the following instruments. (10 marks)
- a) pH meter
  - b) Centrifuge
- 1.2** Write **two** uses for each of the following instruments. (10 marks)
- a) Micropipette
  - b) Fume cupboard
- 1.3** Draw standard symbols to denote the following dangers. (10 marks)
- a) Oxidizing
  - b) Explosive
- 1.4** Calculate the volume of the stock solution that needs to prepare 300 mL of 1M HCl. The stock solution has a specific gravity of 1.189 g/mL, 38% purity and 36.46 g/mol molecular weight. (15 marks)
- 1.5** Define the Beer-Lambert law. (15 marks)
- 1.6** Compare and contrast the electrical balance and the analytical balance. (20 marks)
- 1.7** Discuss the methods that are used to monitor the activity of an autoclave. (20 marks)
- 2.**
- 2.1** You have been appointed as the in-charge person of the sample reception unit of a private laboratory.
- 2.1.1 A patient came with a request form for urine full report (UFR). (15 marks)  
How would you instruct the patient on proper urine sample collection for the above test?
- 2.1.2 Describe the actions need to be taken at the receipt of specimens for microbiology assessments. (25 marks)
- 2.1.3 Discuss the essential steps need to be taken when receiving samples for histopathology assessments (specific for histopathology). (15 marks)

- 2.2 State **four** steps of the health waste management procedure. (10 marks)
- 2.3 A blood sample of an infectious patient was spilled on the bench top while performing ESR test at the haematology laboratory. Describe how you would clean this area. (20 marks)
- 2.4 Describe how you would apply the principles of ethics while working at a medical laboratory. (15 marks)

3.

- 3.1 List **three** components in analytical phase. (15 marks)
- 3.2 List **three** pre-analytical errors which could affect the analytical results of plasma glucose concentration. (15 marks)
- 3.3 List **four** impacts of analytical errors. (20 marks)
- 3.4 Define accuracy and precision. (20 marks)
- 3.5 Briefly describe the importance of having standard operating procedures (SOPs) in a medical laboratory. (30 marks)