



**FACULTY OF ALLIED HEALTH SCIENCES, UNIVERSITY OF RUHUNA**  
**Department of Medical Laboratory Science**  
**Second End Semester Examination – July 2023 – 2020/2021 Batch**  
**MLS 1252 Enzyme, Bioenergetics and Hormone Action–SEQ**

Date: 10<sup>th</sup> July 2023

Time: 2.30 p.m. - 3.30 p.m.

Duration: 1 hour

Answer all questions

Index Number: .....

**1.**

- 1.1 List **four** (04) characteristics of enzymes. (10 marks)
- 1.2 List **five** (05) factors affecting the enzymatic activity. (15 marks)
- 1.3 Briefly explain the active site of an enzyme. (20 marks)
- 1.4 Explain the biochemical basis of ethanol administration for methanol detoxification. (20 marks)
- 1.5
- 1.5.1 What are isozymes? (05 marks)
- 1.5.2 Name **two** (02) examples for clinically important isozymes. (10 marks)
- 1.5.3 Briefly explain why isozyme are useful in the clinical diagnosis. (20 marks)

**2.**

- 2.1 List **two** (02) types of preformed Vitamin A. (10 marks)
- 2.2 List **five** (05) causes for Vitamin A deficiency leading to childhood blindness. (10 marks)
- 2.3. Explain the synthesis of Vitamin D in the human body. (30 marks)
- 2.4
- 2.4.1 Name **three** differences between hormone receptors and plasma carrier proteins. (15 marks)
- 2.4.2 Using a clearly labelled diagram, explain the molecular mechanism involved in the action of thyroid hormone. (35 marks)