



MERU UNIVERSITY OF SCIENCE AND TECHNOLOGY

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University Examinations 2022/2023

FIRST YEAR SECOND SEMESTER EXAMINATION FOR THE DEGREE OF MASTER OF SCIENCE IN MOLECULAR BIOLOGY

SZE 5155: PHARMACEUTICAL BIOTECHNOLOGY

DATE: APRIL 2023

TIME: 3 HOURS

INSTRUCTIONS: Answer question *one* and any other *two* questions

QUESTION ONE (20 MARKS)

- a) Discuss the role of enzymes in phase I drug metabolism (5 marks)
- b) Describe the process of protein synthesis in human genome (5 marks)
- c) Discuss RFLP procedure and its application (5 marks)
- d) Discuss the HIV life cycle (5 marks)

QUESTION TWO (20 MARKS)

- a) Discuss the modern approaches to developing vaccines for the future (10 marks)
- b) Discuss the classification of antimicrobial agents (10 marks)

QUESTION THREE (20 MARKS)

Describe in details the principle, basic steps and application of the following assays:

- i) Southern blotting (10 marks)
- ii) 2-D gel electrophoresis (10 marks)

QUESTION FOUR (20 MARKS)

- a) Describe personalised oncogenomics (8 marks)
- b) Discuss targeted therapy with reference to cancer (12 marks)