



(University of Choice)

**MASINDE MULIRO UNIVERSITY OF
SCIENCE AND TECHNOLOGY
(MMUST)**

**MAIN CAMPUS
MAIN EXAMINATIONS**

**UNIVERSITY EXAMINATIONS
2021/2022 ACADEMIC YEAR**

**THIRD YEAR SECOND SEMESTER EXAMINATIONS
FOR THE DEGREE
OF
BACHELOR OF SCIENCE IN BIOLOGY**

COURSE CODE: SZL 322

COURSE TITLE: COMPARATIVE ANIMAL PHYSIOLOGY

DATE: MONDAY, 25TH APRIL 2022

TIME: 8:00 – 10:00 A.M.

INSTRUCTIONS TO CANDIDATES

Answer ALL questions in section A and ANY TWO questions in section B

TIME: 2 Hours

MMUST observes ZERO tolerance to examination cheating

This Paper Consists of 2 Printed Pages. Please Turn Over.

SZL 322: COMPARATIVE ANIMAL PHYSIOLOGY

SECTION A (SHORT ANSWER QUESTIONS, 40 MARKS)

1. Highlight any five fields of physiology. (5 marks)
2. Outline major anatomical and physiological differences between ruminant and monogastric digestive systems. (5 marks)
3. Name one substrate for each of the following enzymes: (5 marks)
 - a) Enterokinase
 - b) Nucleotodases
 - c) Lipases
 - d) Renin
 - e) Salivary amylase
4. Compare the structure and functioning of a fish circulatory system with that of a mammal (5 marks)
5. State and explain the factors associated with respiratory efficiency in birds compared with mammals. (5 marks)
6. Define parthenogenesis and explain the two types of parthenogenesis. (5 marks)
7. Compare osmoregulatory adaptations of marine and fresh water fishes. (5 marks)
8. Explain adaptations that the polar bear has gone through to survive against excessive heat loss. (5 marks)

SECTION B (ESSAY QUESTIONS, 30 MARKS)

9. Write an essay on major glands of the mammalian digestive system. (15 marks)
10. Discuss any three nutritional deficiency diseases in man. (15 marks)
11. Give a comparative account of the open and closed circulatory systems. (15 marks)