



MACHAKOS UNIVERSITY

University Examinations for 2022/2023 Academic Year

SCHOOL OF PURE AND APPLIED SCIENCES

DEPARTMENT OF BIOLOGICAL SCIENCES

SECOND YEAR SUPPLEMENTARY/SPECIAL EXAMINATION FOR
BACHELOR OF EDUCATION (SPECIAL NEEDS & AGRICULTURAL EDUCATION
AND EXTENSION)

SZL 200: VERTEBRATE ZOOLOGY

DATE: 6/3/2023

TIME: 2.00 – 4.00 PM

INSTRUCTIONS

1. Answer question 1 (compulsory) and **any two** questions
2. Use clean well labelled diagrams wherever appropriate.

QUESTION ONE (30 MARKS)

- a) Describe briefly the origin of Amphibia (3 marks)
- b) Describe briefly the main features of Amphioxus (3 marks)
- c) Explain how agnathans differ from other fishes (3 marks)
- d) Describe gaseous exchange in class Osteichthyes (3 marks)
- e) Describe briefly the Amniotic egg found in reptiles and how it is adapted for terrestrial life (3 marks)
- f) Discuss briefly the presence of swim-bladder in fresh water bony fishes (3 marks)
- g) State the reptilian adaptations for a terrestrial existence (3 marks)
- h) Describe the marsupial group of mammals (3 marks)
- i) Explain the endothermy in mammals (3 marks)
- j) Describe briefly the structure and functions of placoid scales (3 marks)

QUESTIONS TWO (20 MARKS)

Describe in detail the different types of glands and derivatives of mammalian skin (20 marks)

QUESTIONS THREE (20 MARKS)

Discuss the comparative anatomy and physiology of vertebrate digestive system (20 marks)

QUESTIONS FOUR (20 MARKS)

Describe the digestive systems of Amphibians (20 marks)

QUESTION FIVE (20 MARKS)

Describe the vertebrate modes of feeding (20 marks)