

**UGANDA MARTYRS UNIVERSITY
NKOZI**

**UNIVERSITY EXAMINATION
FACULTY OF SCIENCE**

SEMESTER I, 2023/ 2024

**SECOND YEAR EXAMINATION FOR BACHELOR OF SCIENCE WITH
EDUCATION**

BIOS 1102: VERTEBRATE ZOOLOGY

DATE: 12/12/2023

TIME: 9:30am-12:30pm

DURATION: 3HRS

Instructions:

- 1. Carefully read through ALL the questions before attempting*
- 2. Answer 2 questions in section A and 3 questions from B*
- 3. No names should be written anywhere on the examination booklet.*
- 4. Ensure that your Registration number is indicated on all pages of the examination answer booklet.*
- 5. Ensure your work is clear and readable. Untidy work shall be penalized*
- 6. Any type of examination Malpractice will lead to automatic disqualification*

SECTION A (Attempt 2 Questions)

1. Using the necessary illustrations, discuss the origin and evolution of early vertebrates.
(10 marks)

2. A) Outline the general characteristics of vertebrates. (5 marks)

b) Define the following;
 - i. Oviparous (2 marks)
 - ii. Ovoviparous (2 marks)
 - iii. Viviparous (2 marks)

3. Discuss the ascendancy of the following vertebrates;
 - a) Fish to amphibians (5 marks)
 - b) Amphibians to reptiles (5 marks)
 - c) Reptiles to birds (5 marks)
 - d) Reptiles to mammals (5 marks)

4. Discuss the general characteristics of the following mammals;
 - a) Monotremes (4 marks)
 - b) Marsupials (4 marks)
 - c) Ungulates (4 marks)
 - d) Aboreals (4 marks)

SECTION B (Attempt 3 questions – Each has 20 marks)

5. Fish is categorized into two major divisions, osteichthyes and chondrichthyes. Compare and contrast. (20 marks)
6. a) Outline the general characteristics of the following; (5 marks)
- i. Amphibians (5 marks)
 - ii. Reptiles
- b) Amphibians are sub-divided into three major orders; make a detailed delineation between them. (10 marks)
7. a) Compare the respiratory apparatus between fish and amphibians. (10 marks)
- b) Discuss the life cycle of anurans. (10 marks)
8. a) Using the necessary illustrations, discuss the musculo-skeletal system of birds. (10 marks)
- b) Discuss the mechanisms used by birds during flight. (10 marks)

END