

LAIKIPIA



UNIVERSITY

UNIVERSITY EXAMINATIONS

1ST SEMESTER 2022/2023 ACADEMIC YEAR

**FOURTH YEAR EXAMINATION FOR THE DEGREES
OF BACHELOR OF SCIENCE (GENERAL)/BACHELOR
OF EDUCATION (SCIENCE)**

ZOOL 411: COMPARATIVE ANIMAL PHYSIOLOGY

STREAM: R

TIME: 2 HRS

DAY: WED [8.30AM – 10.30AM]

DATE: 07/12/2022

THIS QUESTION PAPER CONSISTS OF THREE (3) PAGES

PLEASE DO NOT OPEN UNTIL THE INVIGILATOR SAYS SO.



INSTRUCTIONS: - ANSWER ALL QUESTIONS (30MKS)

QUESTION ONE

Using examples, explain the role of Comparative Animal Physiology as a discipline.
(6 marks)

QUESTION TWO

How is the blood circulated in bodies of animals with open circulatory systems? (6 marks)

QUESTION THREE

State what gas exchange is and explain why gaseous exchange is important in animals.
(6 marks)

QUESTION FOUR

With example(s), explain how terrestrial animals protect their respiratory membranes from drying out.
(6 marks)

QUESTION FIVE

Discuss how birds and mammals adapt and strategize to minimize heat loss in cold environments.
(8 marks)

QUESTION SIX

State the organisms that use clonal fragmentation as a method of asexual reproduction, how it is achieved and give an example of animals that use it.
(4 marks)

QUESTION SEVEN

Distinguish between excretion in aquatic and terrestrial animals.
(4 marks)

SECTION B: ANSWER ANY TWO QUESTIONS (30MKS)

QUESTION EIGHT

Discuss the functions of vertebrate circulatory systems.
(15 marks)

QUESTION NINE

Using examples, discuss the various behavioral adaptations and physiological adaptations that enable ectotherms to regulate body temperature to a useful extent. (15 marks)

QUESTION TEN

Discuss the reptiles' circulatory systems. (15 marks)

