UNIVERSITY OF ESWATINI

MAIN EXAMINATION PAPER 2018/2019

TITLE OF PAPER: MAMMALOGY

COURSE CODE: BIO454

TIME ALLOWED: THREE (3) HOURS

INSTRUCTIONS:
1. SECTION A IS COMPULSORY. ANSWER ALL QUESTIONS IN THIS SECTION.
2. ANSWER ANY ONE QUESTION FROM SECTION B.
3. ILLUSTRATE YOUR ANSWERS WITH LARGE AND CLEARLY LABELED DIAGRAMS WHERE APPROPRIATE.

SPECIAL REQUIREMENTS:

NONE

THIS PAPER IS NOT TO BE OPENED UNTIL PERMISSION HAS BEEN GRANTED BY THE INVIGILATORS

SECTION A

(Answer all the questions in this section)

Question 1

Single word answers (if more than one word appears then that answer will immediately be given a "zero").

A. Do the Macroscelidea have a diastema?
B. In civets, is the M^1 a carnassial tooth?
C. Are Primates included in the group 'Glires'?
D. Are bats the third-most diverse mammalian Order?
E. Are mole-rats in the Ctenohystrica clade?
F. Do open-air foraging bats have wings with low wingloading?
G. Are true moles (family Talpidae) Afrotherians?
H. Is a tooth comb present in the genus *Otolemur*?
I. Are any marsupials able to glide?
J. Do the Cingulata have a protective armour made of bony plates?
K. Do cheetahs *Acinonyx jubatus* have retractable claws?
L. Are pangolins being killed in very large numbers for traditional 'medicine'?
M. Do horses lack upper incisors?
N. Do elephants have graviportal feet?
O. Were pelycosaurs endothermic?

[15 marks]

Question 2

These two questions (**2A** and **2B**) should be answered by way of sketches or diagrams, with a minimum of writing (except for labels).

2A. Using fully labelled drawings, depict the growth and development of teeth in elephants *Loxodonta africana*.

[20 marks]

2B. Draw a fully labelled phylogeny for the order Carnivora. Make sure to include all the relevant families.

[20 marks]

Question 3
These questions should be answered by, at most, a short paragraph (i.e. short answers). Five (5) marks per question. There is no need to present any diagrams.

3A. Justify why bats may be good at suppressing insect pests in agricultural landscapes.
3B. Explain how mole-rats and springhares differ in the way they create their burrows.
3C. What is stereoscopic vision, and how does it work in Primates?
3D. Write some natural history notes on the Didelphimorphia.

[20 marks]

SECTION B

(Answer any **one** out of the two questions in this section)

Question 4

Describe the diversity and natural history of the Rodentia of southern Africa.

[25 marks]

Question 5

Write an essay entitled: "Mammalian teeth: an example of adaptation to diet". Make sure to describe in detail the various types of dentition in mammals and how these are adapted for their specific diets. Include diagrams to illustrate your answer.

[25 marks]