UNIVERSITY OF FORT HARE

ANIMAL DIVERSITY AND CONSERVATION 2
ZOO 315

EXAM

JUNE

2025

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Time: 3 HRS

Subject: ZOO 315

Marks: 100

This paper consists of three pages including the cover page

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INSTRUCTIONS

Answer ALL QUESTIONS

Mark allocation for each question is indicated by the number in [square brackets]

QUESTION 1

1.1. List and describe **four** types of mating systems found in primates and provide an example. **[12]**

1.2. Name three primate species endemic to Madagascar and briefly describe one major threat to their survival. **[5]**

1.3. Describe one specific gut morphological adaptation found in primates with a primarily folivorous (leaf-eating) diet and explain its function. **[4]**

1.4. Several hypotheses, based on different morphological observations, have been proposed to explain the origins of primates. List and discuss the **FOUR** major hypotheses proposed by earlier scholars of primate origins **[8]**

QUESTION 2

2.1. Considering the assessments that led to the publication of "*Primates in Peril*", provide three of the most commonly used conservation interventions along with their expected outcome, highlighting potential limitations in their implementation. **[9]**

2.2. How could frugivore foraging patterns potentially shape the canopy and ultimately the associated plant community of a particular area and/or habitat? **[3]**

2.3. Considering continental drift and the theory of island biogeography, explain how these have contributed to the high primate diversity and endemism observed in certain regions, providing a specific biogeographical example. **[9]**

QUESTION 3

3.1. How might the body size of a primate species be related to its primary dietary category and include a brief example for each. **[4]**

3.2. As a field primatologist, you have collected faecal samples from a wild primate population in the Great Fish River Nature Reserve. Describe **a laboratory analysis** you could perform on these samples to gain an understanding of the population's diet, explaining what each analysis would reveal, with a limitation of each. **[5]**

3.3. Name **one** common non-invasive field method you could use to study primate behaviour in the wild. **[1]**

QUESTION 4

4.1. Using annotated diagrams, compare and contrast the differences in the shape of the thermal performance curves of a thermal generalist versus thermal specialist. **[10]**

4.2. Explain how and why the thermal performance curves may differ in the same species that is found in two different habitats, one that occurs in a cold climate and the other that can be found in an arid desert. Briefly discuss to what extend these responses may buffer the species to climate change, with an emphasis on warmer summer temperatures. Use an annotated diagram to aid in your written explanation. **[10]**

QUESTION 5

5.1. Referring to Figure 1, discuss which organism can be best described as an osmoconformer, and an osmoregulator and why. **[4]**

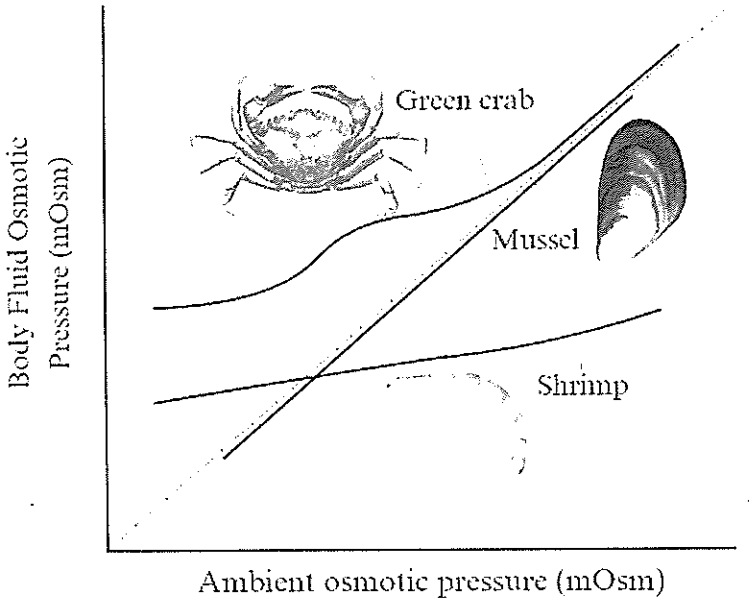

Figure 1: Comparison of the osmotic pressure (mOsm) of the body fluid of a green crab, a mussel, and a shrimp, across a range of ambient osmotic pressure (mOsm).

5.2. Describe how an organism identified as an osmoregulator found in a marine environment actively balances their osmotic pressure. Use diagrams to aid your explanation. **[6]**

5.3. Climate change poses a great threat to all life on Earth. Write a short essay describing some of the physiological and associated challenges organisms from hot and arid environments are faced with if their environment increases in temperature as predicted. **[10]**