

UNIVERSITY OF FORT HARE

**ANIMAL DIVERSITY AND
CONSERVATION 1
ZOO 314**

DEGREE EXAMINATIONS

SPECIAL EXAM: JANUARY

2019

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Time: 2 HRS

Subject: ZOO 314

Marks: 100

**This paper consists of TWO pages including the
cover page**

Internal Examiners

**Dr C Tambling
Dr D Forbanka
Mr M Stemele**

External Examiners

Dr S Edwards (Rhodes University)

INSTRUCTIONS

Answer ALL QUESTIONS

Read all question carefully

1. Explain the FIVE (5) different ways in which fossils can be formed and explain the process of fossilization by permineralization. [10]
2. Describe the THREE (3) main arguments that Wagener used as evidence for continental drift. Explain why these were rejected. [10]
3. Define a molecular clock and discuss the rates of molecular evolution. [10]
4. Discuss the significance of species divergence time. [5]
5. Identify and describe FIVE (5) challenges of reconstructing phylogeny based on morphological data. [10]
6. Compare and contrast the advantages and the disadvantages of molecular and morphological methods in phylogenetic reconstruction. [10]
7. Choose any FIVE (5) molecular techniques applicable in phylogeny reconstruction and describe how each works. [10]
8. Explain the relationship between species richness and latitude. List and briefly discuss FIVE (5) hypotheses that could be used to explain this relationship. [17]
9. How would you explain to your friends that the conservation of biodiversity is important from an inherent/intrinsic viewpoint? [6]
10. As a conservation scientist, you have been asked by the International Union for the Conservation of Nature (IUCN) to assess which animal species should be allowed entrance into South Africa. What are the characteristics of the species that you will not allow into the country? [6]
11. You are in charge of environmental law enforcement for the local municipality. Discuss THREE (3) types of over-exploitation of natural resources that you might be interested in combatting. [6]