

UNIVERSITY OF SWAZILAND
MAIN EXAMINATION PAPER 2014/2015

TITLE OF PAPER: EVOLUTION

COURSE CODE: B403

TIME ALLOWED: THREE (3) HOURS

- INSTRUCTIONS:**
1. ANSWER ANY FOUR QUESTIONS.
 2. EACH QUESTION CARRIES TWENTY FIVE (25) MARKS.
 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**

ANSWER ANY FOUR (4) OUT OF THE SIX (6) QUESTIONS

QUESTION 1

Why are there different “species concepts” in biology? Is this due to a problem with how we define species? Elaborate, illustrating your answer with real-life examples.

[25 marks]

QUESTION 2

Explain how cladistics can be used to classify organisms.

[25 marks]

QUESTION 3

There are three methods evolutionists can use to compare the respective roles of genetic drift and natural selection in the creation of genetically-based variation. Describe these three methods, providing real-life examples to illustrate your answer.

[25 marks]

QUESTION 4

Write an essay entitled “Mass Extinctions: a modern perspective”. Illustrate your answer with relevant examples, especially from the fossil record.

[25 marks]

QUESTION 5

Why is genetic variation important for evolution? And how is this variation created?

[25 marks]

QUESTION 6

Describe in detail the process of natural selection? Include in your discussion the various modes of selection.

[25 marks]