

UNIVERSITY OF SWAZILAND
MAIN EXAMINATION PAPER 2006

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 FOUR (4) OUT OF SIX (6) QUESTIONS**QUESTION 1**

Discuss the different genetic modes of speciation.

[25 marks]

QUESTION 2

1. What are *Mass Extinctions*? [10 marks]
2. Explain, using a real-life example, how simple experiments can be conducted to illustrate what happened during the Permian mass extinction. [15 marks]
[25 marks]

QUESTION 3

There are three ways (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

Describe in detail the system of Cladistic classification.

[25 marks]

QUESTION 5

Describe what is meant by a “novel feature”. Do we need special explanations to account for the existence of these novel features?

[25 marks]

QUESTION 6

Write explanatory notes on the following:

- a) Directional selection.
- b) Selectively neutral characters.
- c) Rates of speciation.
- d) Founder effect.
- e) Pleiotropy.

[5 marks each]

[25 marks]