

UNIVERSITY OF SWAZILAND
MAIN EXAMINATION PAPER 2010/2011

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?

[25 marks]

QUESTION 2

“Phenetics is subjective and unnatural, and should not be used to classify organisms”. Discuss this statement, elaborating on what constitutes an objective and natural classification system.

[25 marks]

QUESTION 3

- a) What are adaptations? And how do they arise? [5 marks]
- b) Two methods (comparative and experimental) have been employed to test whether a feature is an adaptation or not. Discuss these two methods and provide real-life examples to illustrate your answer. [20 marks]

[25 marks]

QUESTION 4

Discuss and give FIVE reasons why most populations are polymorphic.

[25 marks]

QUESTION 5

Describe **post-mating isolating mechanisms**, using examples to illustrate your answer.

[25 marks]

QUESTION 6

Write explanatory notes on the following:

- a) Disruptive selection.
- b) Selectively-neutral characters.
- c) Hybrid zone.
- d) Linkage disequilibrium.
- e) Pleiotropy.

[5 marks each]

[25 marks]