

UNIVERSITY OF SWAZILAND
FINAL EXAMINATION PAPER 2005

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**

Contrast the phenetic and evolutionary (phylogenetic) systems of classification. What are the pros and cons of the two systems?

[25 marks]

QUESTION 2

“In a natural population, dominant alleles become more common due to their dominance.”
Critically discuss this statement, using a mathematical model to illustrate your answer.

[25 marks]

QUESTION 3

Discuss the significance of systematics to the conservation of biological diversity.

[25 marks]

QUESTION 4

Discuss the role of pre- and post-mating isolating mechanisms in the maintenance of species' boundaries. Provide real-life examples to illustrate your argument.

[25 marks]

QUESTION 5

How do translocations and inversions affect speciation? Give real-life examples to illustrate your answer.

[25 marks]

QUESTION 6

Discuss and give **FIVE** reasons why most populations are polymorphic.

[25 marks]