

**UNIVERSITY OF SWAZILAND
DEPARTMENT OF GEOGRAPHY, ENVIRONMENTAL SCIENCE AND
PLANNING**

SUPPLEMENTARY EXAMINATION:

JULY 2006

TITLE OF PAPER : BIOGEOGRAPHY

COURSE NUMBER : GEP 312

TIME ALLOWED : THREE (3) HOURS

**INSTRUCTIONS : SECTION A IS COMPULSORY
ANSWER ANY TWO QUESTIONS FROM
SECTION B
ILLUSTRATE YOUR ANSWERS WITH
APPROPRIATE DIAGRAMS**

**MARKS ALLOCATED : QUESTION 1 CARRIES 40 MARKS
THE OTHER QUESTIONS CARRY 30
MARKS EACH**

**THIS PAPER IS NOT TO BE OPENED UNTIL PERMISSION HAS BEEN GRANTED
BY THE INVIGILATOR**

SECTION A

QUESTION 1 (COMPULSORY)

- (a) 'Ecosystems are frequently referred to as dynamic and capable of responding or adjusting to any external environmental change'. Discuss. (20 Marks)
- (b) Compare and contrast physical and biological factors affecting the characteristics and development of an ecosystem. (20 Marks)

(40 Marks)

SECTION B

Answer any two questions from this section.

QUESTION 2

- (a) 'Organisms are better classified on the basis of their feeding strategies in an ecosystem'. Discuss. (15 Marks)
- (b) Compare and contrast gross primary productivity (GPP) and net primary productivity (NPP) in an ecosystem. (15 Marks)

(30 Marks)

QUESTION 3

Elucidate the effects of prescribed fire on vegetation and soil in a microclimate environment.

(30 marks)

QUESTION 4

(a) Compare and contrast negative and positive feedback in the study of ecosystems.
(15 marks)

(b) Evaluate how autotrophs and heterotrophs manufacture energy and matter for their sustainability.
(15 marks)
(30 marks)

QUESTION 5

In any one of the gaseous cycles, discuss the major processes involved in the movement of energy and matter.
(30 marks)