

UNIVERSITY OF SWAZILAND

FINAL EXAMINATION PAPER DECEMBER 2010

TITLE OF PAPER: ECOLOGY

COURSE CODE: B304

TIME ALLOWED: THREE HOURS

INSTRUCTIONS:

1. ANSWER ANY FOUR QUESTIONS
2. EACH QUESTION CARRIES TWENTY FIVE (25) MARKS
3. ILLUSTRATE YOUR ANSWERS WITH LARGE AND CLEARLY LABELLED DIAGRAMS WHERE APPROPRIATE

SPECIAL REQUIREMENTS:

NONE

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

Question 1

- a) Describe the various sections of a lotic system and indicate the differences between lotic and lentic systems of the fresh water habitats. (10 marks)
- b) Briefly describe with examples the periphyton, plankton, and benthos of aquatic ecosystems. (15 marks)

[TOTAL MARKS = 25]

Question 2

- a) Distinguish between Eutrophic and oligotrophic lakes and noting the importance of these lakes to man. (12 marks)
- b) Describe the formation and the significance of thermal stratification in aquatic habitats. (13 marks)

[TOTAL MARKS = 25]

Question 3

- a) Distinguish between light and heavy soils. (6 marks)
- b) What are the differences between gravitational and capillary waters of soil? Highlight the functions of each parameter within a soil. (10 marks)
- c) Briefly explain the formation and significance of humus in soils. (9 marks)

[TOTAL MARKS = 25]

Question 4

Write an essay on the climate, plant and animal communities of The tropical savanna of Africa and include in the essay the types and effects of fire in this habitat. (25 marks)

[TOTAL MARKS = 25]

Question 5

- a) What are exponential and logistic growth curves of populations? (10 marks)
- b) Give your understanding of the following:
- i) the carrying capacity of an environment,
 - ii) k-selected species/strategist
 - iii) density-dependent factors. (15 marks)

[TOTAL MARKS = 25]

Question 6

Write concise essays on any TWO of the following

- a) succession (12 ½ marks)
- b) competition (12 ½ marks)
- c) green house effects and global warming (12 ½ marks)

[TOTAL MARKS = 25]