

UNIVERSITY OF SWAZILAND
Faculty of Health Sciences

(BSC) IN ENVIRONMENTAL HEALTH

FIRST SEMESTER MAIN EXAMINATION PAPER DECEMBER 2014

TITLE OF PAPER : ENVIRONMENTAL ECOLOGY
COURSE CODE : EHM315
DURATION : TWO HOURS
MARKS : 100
INSTRUCTIONS : ANSWER ANY FOUR QUESTIONS
: EACH QUESTION CARRIES 25 MARKS
: BEGIN EACH QUESTION ON A SEPARATE SHEET OF PAPER

**DO NOT OPEN THIS QUESTION PAPER UNTIL PERMISSION IS GRANTED
BY THE INVIGILATOR**

QUESTION ONE

- A. How might you use the principle of uniformitarianism to help evaluate environmental problems? (13 marks).
- B. Is it possible to use this principle to help evaluate the potential consequences of too many people on earth? Why? (12 marks).

TOTAL 25 MARKS

QUESTION TWO

- A. What environmental factors are likely to increase the chances of an outbreak of an epidemic disease in an area? (15 marks)
- B. Why is it important to consider the age structure of a human population? (10 marks)

TOTAL 25 MARKS

QUESTION THREE

- A. Early - successional species can affect what happens later in succession in three ways. Name these three ways and describe how each is achieved. (18 marks).
- B. Farming has been described as managing land to keep it in an early stage of succession. What does this mean, and how is it achieved? (7 marks).

TOTAL 25 MARKS

QUESTION FOUR

- A. What is a biome? (2 marks).
- B. State the competitive exclusion principle (2 marks).
 - i. Illustrate it by the introduction of an alien species into an area. Why have invasive species become a serious problem today? (10 marks).
 - ii. What does this principle suggest about the number of species in an ecosystem? (3 mark).
- C. Describe process of speciation through natural selection. (8 marks).

TOTAL 25 MARKS

QUESTION FIVE

- A. Describe "environmental diseases" giving three examples. (6 marks).
- B. Explain giving three examples why environmental diseases are difficult to cure but easy to prevent. (6 marks)
- C. Using the systems approach thinking, discuss the ecological statement "you cannot just do one thing". Use a scenario of developing a fish pond across a river to illustrate your discussion. (13 marks).

TOTAL 25 MARKS