

**UNIVERSITY OF SWAZILAND  
Faculty of Health Sciences**

**(BSC) IN ENVIRONMENTAL HEALTH**

**FIRST SEMESTER MAIN EXAMINATION PAPER DECEMBER 2014**

**TITLE OF PAPER** : ENVIRONMENTAL ECOLOGY I  
**COURSE CODE** : EHS 555  
**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**