



KENYATTA UNIVERSITY

UNIVERSITY EXAMINATIONS 2010/2011

INSTITUTE OF OPEN LEARNING (IOL)

EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE IN WATER

AND ENVIRONMENTAL ENGINEERING

SET 423: ENVIRONMENTAL ECOLOGY 1

DATE: Wednesday, 6th July, 2011

TIME: 4.30 p.m. – 6.30 p.m.

INSTRUCTIONS:

Answer question **ONE** and any other **TWO** questions.

QUESTION 1

- a) Define ecology and outline its importance.
- b) Differentiate between Abiotic and Biotic factors as used in ecology and list the components of each factor.
- c) With the aid of a diagram explain the atmospheric nitrogen cycle.

(30 marks)

QUESTION 2

Differentiate the following terms:

- a) Population ecology and community ecology.
- b) Landscape ecology evolutionary ecology.
- c. System ecology and ecosystem.
- d. Organsimal ecology and behavioral ecology

(20 marks)

QUESTION 3

- a) Define natural Selection
- b) Discuss the following subtopics as outlined in the law of natural selection.
 - i) Some take natural selection to mean survival for the fittest. Discuss.
 - ii) Natural selection provides predictability.
 - iii) Evolution involves unpredictable chance.
 - iv) Natural selection can not prepare species for future needs.

(20 marks)

QUESTION 4

Discuss food webs and food chains in details.

(20 marks)

QUESTION 5

Using diagrams explain the energy flow as used in ecology.

(20 marks)