



THE CATHOLIC UNIVERSITY OF EASTERN AFRICA

A. M. E. C. E. A

MAIN EXAMINATION

JANUARY – APRIL 2015 TRIMESTER

FACULTY OF SCIENCE

DEPARTMENT OF NATURAL SCIENCES (BIOLOGY)

SCHOOL FOCUSED PROGRAMME

BIO 102: INTRODUCTION TO ECOLOGY AND BIOANALYSIS

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Date: April 2015	Duration: 2 Hours
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Instructions: Answer Question ONE and any other TWO Questions.

- Q1. a) Differentiate between the following: -
i) Population and community
ii) Primary and secondary production
iii) Standing state and standing crop. **(6 marks)**
- b) Explain the structural components of a named ecosystem. **(4 marks)**
- c) Describe two methods used to determine population size of animals. **(4 marks)**
- d) Explain the term trophic efficiency. **(2 marks)**
- e) Explain the role of microorganisms in the nitrogen cycle. **(4 marks)**
- f) Explain the following terms: -
i) Succession
ii) Primary production
iv) Limit of Tolerance
v) Allelopathy
vi) Secondary production **(10 marks)**
- Q2. Describe the processes in the nitrogen and carbon cycles. **(20 marks)**
- Q3. Explain energy flow in a named ecosystem. **(20 marks)**

Q4. Describe the attributes of a population.

(20 marks)

Q5. Describe the methods that can be used to determine primary production in aquatic ecosystems.

(20 marks)

END