



# 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**

P.O. Box 62157  
00200 Nairobi - KENYA  
Telephone: 891601-6  
Fax: 254-20-891084  
E-mail: academics@cuea.edu

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

- 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)**

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