



THE CATHOLIC UNIVERSITY OF EASTERN AFRICA

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MAIN EXAMINATION

JANUARY – APRIL 2017 TRIMESTER

FACULTY OF SCIENCE

DEPARTMENT OF BIOLOGY

REGULAR PROGRAMME

BIO 102: INTRODUCTION TO ECOLOGY AND BIOANALYSIS

Date: April 2017

Duration: 2 Hours

INSTRUCTIONS: Answer Question ONE and any other TWO Questions

- Q1. a) Briefly describe the structural components of an ecosystem. **(4 marks)**
- b) Differentiate between
- i) Natural and artificial ecosystems. **(2 marks)**
 - ii) Crude density and ecological density **(2 marks)**
 - iii) Primary and secondary succession **(2 marks)**
 - iv) Standing crop and standing state **(2 marks)**
- b) i) Illustrate the types of survivorship curves. **(3 marks)**
- ii) Outline the categories of plants based on soil types. **(2 Marks)**
- iii) Name the major processes that occur in a ecosystem? **(2 Marks)**
- vi) Briefly describe the levels of organization studied in ecology. **(5 Marks)**
- vii)
- v) Differentiate between maximum natality and ecological natality. **(2 marks)**
- c) Briefly explain the following ecological terms.
- i) Biotic potential
 - ii) Carrying capacity
 - iii) Symbiosis

iv) Succession (4 marks)

Q2. Explain the methods used to determine population size in ecosystems. (20Marks)

Q3. Describe energy flow in a named ecosystem. (20 marks)

Q4. Briefly explain the attributes of a biotic community. (20 marks)

Q5. Describe the characteristics of a population. (20 marks)

END