# EMBU UNIVERSITY COLLEGE

**(A Constituent College of the University of Nairobi)**

**2015/2016 ACADEMIC YEAR**

**SECOND SEMESTER EXAMINATION**

**SECOND YEAR EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE (AGRICULTURAL EDUCATION AND EXTENSION)**

**AEX 204: ECOLOGY**

**DATE: APRIL 12, 2016** **TIME: 08:30-10:30**

**INSTRUCTIONS:**

**Answer Question ONE and ANY Other TWO Questions**

## QUESTION ONE

a) Briefly highlights the composition of the physical environment. (3 Marks)

b) A student found a bare rock with some lower plants developing on it. Describe this type of ecological processes. (3 Marks)

c) State 3 ecological importance of a wetland ecosystem. (3 Marks)

d) Highlights the three dynamics of a given population. (3 Marks)

e) By use of a simple diagram, define the various types of survivorship curves. (3 Marks)

f) Differentiate gross primary production from net primary production. (3 Marks)

g) The human population of the earth is growing at approximately 1.8%per year. The population at the start of 2001 was approximately 6 billion. If nothing were to slow the rate of population growth, what would the population be in the year 2101? (3 Marks)

h) Differentiate: Commensalism, predation and parasitism. (3 Marks)

i) Explain the variation between the pyramid of energy and the pyramid of biomass. (3 Marks)

j) Differentiate between ecological habitat and ecological niche. (3 Marks)

**QUESTION TWO**

With the use of a well labeled diagram, discuss the flow and recycling of Nitrogen element in nature. (20 Marks)

**QUESTION THREE**

Discuss the application of capture recapture method in determining the population size. Citing the procedure followed and the assumptions made. (20 Marks)

**QUESTION FOUR**

Explain the concept of an ecosystem with their structure and function. (20 Marks)

**QUESTION FIVE**

a) Discuss the various characteristics of a desert biome. (10 Marks)

b) Briefly discuss the three types of competion below: (10 Marks)

i) Apparent competition

ii) Interference competition

iii) Exploitation competition

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