SOUTH EASTERN KENYA UNIVERSITY

UNIVERSITY EXAMINATIONS 2016/2017

SECOND YEAR SECOND SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE IN RANGE MANAGEMENT

ARM 202: RANGE ECOLOGY II

DATE: 19TH APRIL 2017 **TIME: 1.30 -3.30 PM**

INSTRUCTIONS TO CANDIDATES

- Answer **ALL** Questions in section **A** and any **two** in section **B**
- Use appropriate illustrations and diagrams where possible.

SECTION A (30 MARKS)

Q1. Using examples where possible, state what is meant by the following terms

i). Ecotone species (2 Marks)

ii). Ecological succession (3 Marks)

Q2. i). In biogeochemistry, list any three (3) major stores of carbon and briefly explain how the carbon moves from one store to the other. (6 Marks)

ii). Enumerate the importance of the hydrological cycle in nature (4 Marks)

Q3. Discuss briefly the biotic components of the environment under the following headings

i). Producers (2 Marks)

ii). Consumers (2 Marks)

iii). Decomposers (2 Marks)

Q4. i). Briefly describe the characteristics of a climax community (4 Marks)

ii). Define the following terms in relation to energy flow in communities,

a). Consumption Efficiency (CE) (2 Marks)

b). Assimilation Efficiency (AE) (3 Marks)

SECTION B (40 MARKS)

Q5. i). Using an illustration, discuss the energy flux and nutrient flow in an ecosystem (10 Marks)

ii). Discuss the consequences of absence of the primary consumers in an open grassland ecosystem (10 Marks)

Q6. i). Discuss briefly the factors limiting primary productivity in a forested ecosystem (12 Marks)

ii). Highlight the different interspecific interactions in the open grassland ecosystem (8 Marks)

Q7. i). briefly discuss the Nitrogen cycle and its importance, in the terrestrial ecosystems (14 Marks)

ii). Highlight the reasons contributing to a species becoming very common in an ecosystem. (06 Marks)