



JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE & TECHNOLOGY

SCHOOL OF BIOLOGICAL AND PHYSICAL SCIENCES

**UNIVERSITY EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE
(BIOLOGICAL SCIENCES)**

3RD YEAR 1ST SEMESTER 2016/2017 ACADEMIC YEAR

MAIN CAMPUS - REGULAR

COURSE CODE: SBI 3312

COURSE TITLE: PRINCIPLES OF ECOLOGY II

EXAM VENUE: CHEM LAB

STREAM: (BIO)

DATE: 25/04/16

EXAM SESSION: 2.00 – 4.00 PM

TIME: 2 HOURS

Instructions:

- 1. Answer ALL questions in Section A and Any two questions in Section B**
- 2. Candidates are advised not to write on question paper**
- 3. Candidates must hand in their answer booklets to the invigilator while in the examination room**

SECTION A: ANSWER ALL QUESTIONS (30 MARKS)

1. Differentiate between spatial and temporal structure of a community (3 marks)
2. Describe your understanding of the following terms: a) Community, b) Ecosystem engineers, c) Species diversity (3 marks)
3. List three adaptations of plants in a River. (3 marks)
4. Briefly describe three models that explain the mechanisms of succession in natural communities. (3 marks)
5. State three differences between integrated and individualistic hypothesis of community structure. (3 marks)
6. Species richness generally declines along an equatorial-polar gradient. Explain. (3 marks)
7. Intermediate levels of disturbance promote higher species diversity. Explain. (3 marks)
8. Using diagrams, describe horizontal vegetation structure in a community. (3 marks)
9. Briefly describe the general hypothesis of island biogeography. (3 marks)
10. Describe three measures of species abundance. (3 marks)

SECTION B: ANSWER ANY TWO QUESTIONS (40 MARKS)

11. Discuss the evolution of modern higher plants. (20 marks)
12. Citing relevant examples describe five major biomes in the world. (20 marks)
13. Describe local, regional and global environmental backlash resulting from human exploitation of natural resources. (20 marks)
14. a) Describe five classifications of wetlands in East Africa. (10 marks).
b) Using a well labeled diagram, describe Lake and Oceanic zones. (10 marks)