



**JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND
TECHNOLOGY
SCHOOL OF BIOLOGICAL AND PHYSICAL SCIENCES
UNIVERSITY EXAMINATION FOR THE DEGREE OF BACHELOR OF
EDUCATION (SCIENCE)
1ST YEAR 2ND SEMESTER 2013/2014 ACADEMIC YEAR
REGULAR**

COURSE CODE: SBT 104

COURSE TITLE: FUNDAMENTALS OF ECOLOGY AND CONSERVATION

EXAM VENUE: LAB 1

STREAM: (BSc. Science)

DATE: 20/8/14

EXAM SESSION: 2.00 – 4.00PM

TIME: 2 HOURS

Instructions:

- 1. Answer question 1 (compulsory) in Section A and any other 2 questions in Section B .**
 - 2. Candidates are advised not to write on the question paper.**
 - 3. Candidates must hand in their answer booklets to the invigilator while in the examination room.**
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SECTION A

1. Briefly explain the meaning of the following terms as used in ecology: (i) Ecology (ii) Biodiversity (iii) Population (iv) Ecosystem (v) Symbiosis (vi) Allelopathy. (3 marks)
2. Briefly describe how rainfall affects plant community distribution in Kenya. (3 marks)
3. State two laws of thermodynamics and list the avenues of energy losses at each trophic level. (3 marks)
4. State three stages involved when carrying out an ecological impact assessment. (3 marks)
5. List three reasons why tropical regions have high biological diversity compared to temperate regions. (3 marks)
6. Briefly describe biological variation in plants. (3 marks)
7. Using a well labeled diagram, illustrate the flow of energy and nutrients in an ecosystem. (3 marks)
8. Describe three criteria used when selecting a nature reserve. (3 marks)
9. State three factors that determine population size. (3 marks)
10. List three lakes in Kenya that are fresh water and three lakes that are saline. (3 marks)

SECTION B: ESSAY QUESTIONS (20 marks each)

11. a) Discuss the general processes of ecological succession. (12 marks)
b) Describe the four levels of biodiversity conservation. (8 marks)
12. Citing relevant examples, discuss five major terrestrial biomes in the world. (20 marks)
13. Using illustrations, discuss the cycling of Carbon and Nitrogen in four major systems. (20 marks)
14. Using well labeled diagrams, describe the three ecological pyramids (12 marks)
b) Giving examples, discuss four abiotic factors that determine distribution and abundance of plant communities. (8 marks)