



**JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND  
TECHNOLOGY**

**SCHOOL OF AGRICULTURAL AND FOOD SCIENCES**

**FIRST YEAR SECOND SEMESTER UNIVERSITY EXAMINATION  
FOR THE DEGREE OF BACHELOR OF SCIENCE IN ANIMAL  
SCIENCE  
2017/2018 ACADEMIC YEAR**

**REGULAR**

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**COURSE COD: APT 3123**

**COURSE TITLE: ECOLOGY AND CLIMATE CHANGE**

**EXAM VENUE:**

**STREAMS: BSc. Animal  
Science**

**DATE:**

**EXAM SESSION:**

**TIME: 2 HOURS**

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**Instructions:**

1. Answer ALL questions in section A and ANY other 2 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: 30 marks**

**Instructions: Answer all questions**

**Question 1**

- a) Explain the relevance of allelopathy in ecosystem 3 marks
- b) Explain the significance of denitrification in agriculture and sewage treatments 2 marks
  
- c) Describe population density and distribution giving one advantage of each one of them 2 marks
  
- d) Briefly explain the influence of relative humidity on distribution of organisms 3 marks
  
- e) Explain the term biomagnification and give relevant examples 2 marks
- f) Differentiate the following terms; biome, ecosystem and community 3 marks
  
- g) Explain the ecological significance of eutrophication 2 marks
- h) Explain any one major disadvantage of asexual reproduction an adaptation of a given species 2 marks
- i) Describe the role of carbon cycle and nitrogen cycle on greenhouse effect 5 marks
  
- j) Comment on the effect of light on plant species adaptation and distribution in terrestrial ecosystems 3 marks
- k) Explain the a biotic and biological nitrogen fixation in ecosystems 3 marks

**Section B: 40 Marks**

**Instructions: Answer any two Questions**

**Question 2**

- (a) Discuss ex-situ conservation highlighting its major shortcomings 10 marks
  
- (b) Describe the term “community” discussing any five of its major characteristics 10 marks

**Question 3**

- (a) Citing any three relevant examples explain the concept of mutualism. 5 marks
  
- (b) As an ecology student discuss the criteria you can use to determine what to include in your conservation program 10 marks
  
- (c) Using a well labeled diagram explain the term “biosystems” 5 marks

