

**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 HORTICULTURE, ANIMAL
SCIENCE AND FOOD SECURITY
2016/2017 ACADEMIC YEAR**

REGULAR

COURSE CODE: AHT 3213, APT 3123, AFB 3123

**COURSE TITLE: FUNDAMENTALS OF PLANT ECOLOGY, ECOLOGY AND
CLIMATE CHANGE, ECOLOGY**

EXAM VENUE:

**STREAMS: BSc. Horticulture,
Animal Science and Food Security**

DATE:

EXAM SESSION:

TIME: 2 HOURS

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

- Q1.**
(a). Differentiate the following terms; biome, ecosystem and community **3 mks**
(b) Explain the ecological significance of eutrophication **3 mks**
- Q2.**
(a) Explain the a biotic and biological nitrogen fixation in ecosystems **3 mks**
(b) Explain the term ecology as described by Krebs (1972) **3 mks**
- Q3.**
(a) Show the relevance of studying ecology **4 mks**
(b) Using a well labeled diagram explain the term “biosystems” **5 mks**
- Q4.**
(a) Describe how temperature as a biotic factor influence distribution and abundance of organisms in ecosystems **5 mks**
- Q5.**
(a) Citing any two examples explain mutualism **2 mks**
(b) Explain the significance of dinitrification in agriculture and sewage treatments **2 mks**

Section B: 40 Marks

Instructions: Answer any two Questions

- Q6**
(a) Describe the term “community” discussing any five of its major characteristics **10 mks**
(b) Compare the tropical rain forests and deciduous forests ecosystems **10 mks**
- Q7**
(a) Discuss the carbon cycle highlighting the impact of human activities on its flow **10 mks**
(b) Describe greenhouse effect highlighting any five of its consequences **10 mks**
- Q 8.** Discuss logistic population growth model and exponential growth model giving relevance of each **20 marks**