



**JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY**  
**SCHOOL OF HEALTH SCIENCES**  
**UNIVERSITY EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE IN**  
**PUBLIC HEALTH/ COMMUNITY HEALTH**  
**4<sup>TH</sup> YEAR 2<sup>ND</sup> SEMESTER 2018/2019 ACADEMIC YEAR**  
**KISUMU CAMPUS**

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**COURSE CODE: HPD 3211**

**COURSE TITLE: HUMAN ECOLOGY**

**DATE: 12/08/2019**

**EXAM SESSION: 9.00 – 11.00 AM**

**TIME: 2 HOURS**

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**Instructions:**

- 1. Answer all the questions in Section 'A' and ANY other two 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.**

**SECTION A: ANSWER ALL THE QUESTIONS IN THIS SESSION (30 MARKS)**

1. Define the following terms using examples (3 marks)
  - a. Ecosystem
  - b. Carrying capacity
  - c. Detritivores
2. Why is human ecology important to a student? (2 marks)
3. How is succession categorized? (2 marks)
4. Name **FOUR** compounds that can be grouped as pesticides. (2 marks)
5. What are some of the characteristics of an indicator organism? (3 marks)
6. Name major sources of sulphur dioxide in the atmosphere. (3 marks)
7. Use a diagram to show details of a food chain. (3 marks)
8. Giving examples differentiate between predation and competition in organisms (4 marks)
9. Note some of the ways in which nitrogen returns to the soil. (4 marks)
10. How does an abiotic factor affect or impact on biotic factor. (4 marks)

**SECTION B: ANSWER ONLY TWO QUESTIONS IN THIS SESSION (40 MARKS)**

1. a) Discuss the flow of calories in a food chain. (10 marks)  
b) What do you understand by the carbon cycle? (10 marks)
2. a) As a student of ecology why is it important to conserve our biodiversity? (10 marks)  
b) The natural ecosystem performs a number of functions that benefit humans called ecosystem services. Discuss these services? (10 marks)
3. a) Discuss ways in which biomonitoring measures can be done. (10 marks)  
b) Elicit in details the impact of agricultural chemicals to the ecosystem. (10 marks)
4. a) Discuss ways in which we can use ecology to improve our farms. (10 marks)  
b) Discuss methods in which toxins can be dispersed in the environment? (10 marks)