



**JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY  
SCHOOL OF HEALTH SCIENCES  
UNIVERSITY EXAMINATIONS  
FOURTH YEAR SECOND SEMESTER END OF SEMESTER EXAMS FOR DEGREE  
OF BACHELOR OF SCIENCE IN PUBLIC HEALTH**

**SPECIAL EXAMINATIONS NOV. 2020**

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**COURSE CODE: HPD 3211**

**COURSE TITLE: Human Ecology**

**EXAM VENUE:**

**STREAM:**

**DATE:**

**EXAM SESSION:**

**TIME: 2 HOURS**

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**Instructions:**

- 1. Answer all the questions in Section 'A' and ANY other two questions in Section 'B' each contain 20 marks**
- 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 (4 marks)
  - a. Carrying capacity
  - b. Eutrophication
2. What are the effects of toxins to animals at higher trophic levels? (2 marks)
3. Explain briefly why the crocodile survived in the ecosystem and not the dinosaur? (3 mark)
4. What travels through a food web or chain? (1 mark)
5. Justify why ecology is important to a public health student (4 marks)
6. Biomonitoring involves the use of? (3 marks)
7. Give **FOUR** importance of indicator organisms in food industry? (2 marks)
8. Name some of the importance of large number of organisms in the soil (4 marks)
9. Elaborate how a dominant tree species can affect forest community? (4 marks)
10. Distinguish between predation and competition of organisms (3 marks)

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

1.
  - a) Discuss briefly the effect of sulphur dioxide to the environment (10 marks)
  - b) Elaborate some of the ways of making farms function in a more ecologically sound manner (10 marks)
2.
  - a) Why is conserving our biodiversity such an important thing? (10 marks)
  - b) Describe some of the important points to remember in the evolutionary trend of organisms (10 marks)
3.
  - a) Outline briefly the calorific flow in food chain (10 marks)
  - b) Discuss the effect of oil spills to the animals in the ecosystem? (10 marks)
4.
  - a) Evaluate ways in which toxins are dispersed in the ecosystem? (10 marks)
  - b) Elaborate the abiotic factors that are likely to affect pattern of succession in aquatic community? (10 marks)