



JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE & TECHNOLOGY
DEPARTMENT OF BIOLOGICAL SCIENCES
UNIVERSITY EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE IN
BIOLOGICAL SCIENCES
2ND YEAR 1ST SEMESTER 2021/2022 ACADEMIC YEAR
MAIN CAMPUS - REGULAR

COURSE CODE:	SBB 1208
COURSE TITLE:	PRINCIPLES OF ECOLOGY 1
EXAM VENUE:	STREAM: (BSC BIO)
DATE: 20/12/2022	EXAM SESSION: 9.00-11.00AM
TIME: 2 HOURS	

Instructions:

- 1. Answer ALL questions in Section A and ANY 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**
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SECTION A: SHORT ANSWER QUESTIONS (30 MARKS)

1. Explain the following ecological concepts (3 marks)
 - a) Biome
 - b) Ecosystem
 - c) Niche breadth
2. Explain the ecological importance of indicator species (3 marks)
3. List factors that determine the diversity of organisms on an island (3 marks)
4. Differentiate between Synecology and Autecology (3 marks)
5. With relevance to energy flow, describe two laws of thermodynamics. (3 marks)
6. State any three population characteristics that are important in population ecology studies (3 marks)
7. Outline components of an ecosystem (3 marks)
8. Explain the meaning of the term species diversity (3 marks)
9. Describe symbiotic relationship in nature (3 marks)
10. Explain why organism decline from the equator towards the poles (3 marks)

SECTION B: ESSAY QUESTIONS (40 MARKS)

11. Explain five environmental factors that affect the distribution and abundance of organisms in a terrestrial ecosystem. (20 marks)
12.
 - a) Explain the general key stages of vegetation succession (5 marks)
 - b) Write an essay on vegetation succession in aquatic ecosystems (15 marks)
13. Explain five ecological principles of nature (20 marks)
14. Using diagrams, describe the processes of nitrogen and carbon cycling (20 marks)