



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

**SCHOOL OF BIOLOGICAL AND PHYSICAL SCIENCES**

**DEPARTMENT OF BIOLOGICAL SCIENCES**

**UNIVERSITY SPECIAL EXAMINATION FOR THE DEGREE OF BACHELOR OF  
EDUCATION WITH IT**

**1<sup>ST</sup> YEAR 2<sup>ND</sup> SEMESTER 2019/2020 ACADEMIC YEAR**

**MAIN CAMPUS - REGULAR**

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**COURSE CODE: SBT 104**

**COURSE TITLE: FUNDAMENTALS OF ECOLOGY AND CONSERVATION**

**EXAM VENUE: STREAM: (EDS)**

**DATE: EXAM SESSION:**

**TIME: 2 HOURS**

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**Instructions:**

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

1. State six abiotic factors that determine distribution and abundance of organisms.  
(3 marks)
2. Briefly describe how rainfall affects plant community distribution. (3 marks)
3. Define symbiosis and give two examples of this phenomenon? (3 marks)
4. State the first and second laws of thermodynamics and relate them to ecology. (3 marks)
5. State three reasons why tropical regions have high species diversity compared to temperate regions. (3 marks)
6. Using illustrations, briefly describe the three ecological pyramids. (3 marks)
7. Differentiate between fundamental niche and realized niche. (3 marks)
8. Illustrate the simplified model of energy and nutrient flow in an ecosystem. (3 marks)
9. State the factors that determine population size. (3 marks)
10. Explain the importance of ecological impact assessment (3 marks)

**SECTION B: ESSAY QUESTIONS (40 marks)**

11. Write an essay on five terrestrial biomes. (20 marks)
12. Using illustrations, briefly describe Carbon and Nitrogen cycles. (20 marks)
13. Discuss the general processes of ecological succession. (20 marks)
14. a) Briefly describe the four levels of biodiversity conservation. (8 marks)  
  
b) Using relevant examples and illustrations, describe three ways of population dispersion in nature. (12 marks)