JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE & TECHNOLOGY

SCHOOL OF BIOLOGICAL AND PHYSICAL SCIENCES

DEPARTMENT OF BIOLOGICAL SCIENCES

UNIVERSITY EXAMINATION FOR THE DEGREE OF BACHELOR OF EDUCATION WITH IT

1ST YEAR 2ND SEMESTER 2016/2017 ACADEMIC YEAR

MAIN CAMPUS - REGULAR

COURSE CODE: SBT 104

COURSE TITLE: FUNDAMENTALS OF ECOLOGY AND CONSERVATION

EXAM VENUE: STREAM: (EDS)

DATE: EXAM SESSION:

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 question paper**
3. **Candidates must hand in their answer booklets to the invigilator while in the examination room**

SECTION A: SHORT ANSWER QUESTIONS (30 MARKS)

1. State three adaptations of organisms found in intertidal zones of marine ecosystems.

   (3 marks)

2. Briefly describe the logistic population growth model. (3 marks)

3. Explain the significance of the following microorganisms to the nitrogen cycle (3 marks)

   a. Nitrosomonas b. Nitrobacter. c. Pseudomonas

4. List and explain any two types of population dispersions. (3 marks)

5. Briefly explain the following terms. (3 marks)

   a. Pyramid of numbers. b. Pyramid of biomass c. Pyramid of energy

6. State any three implications of global warming. (3 marks)

7. Explain the impact of thermal pollution on population density of aquatic organisms.

   (3 marks)

8. Explain what you understand by the term eutrophication. (3 marks)

9. Using appropriate examples in a forest ecosystem, differentiate between food chain and food web. (3 marks)

10. List any three feeding habits by organisms inhabiting terrestrial ecosystems. (3 marks)

SECTION B: ESSAY QUESTIONS (40 MARKS)

11. Critically analyses the various methods of species conservation. (20 marks)

12. Discuss adaptation strategies employed by xerophyte plants. (20 marks)

13. Discuss the savanna ecosystem including its economic potential. (20 marks)

14. Discuss the abiotic factors influencing productivity in world ecosystems. (20 marks)