



*(Knowledge for Development)*  
**KIBABII UNIVERSITY**

**UNIVERSITY EXAMINATIONS  
2021/2022 ACADEMIC YEAR**

**FIRST YEAR SECOND SEMESTER  
MAIN EXAMINATIONS**

**FOR THE DEGREE OF BACHELOR OF SCIENCE IN BIOLOGY**

**COURSE CODE: SZL 123**

**COURSE TITLE: FUNDAMENTALS OF ECOLOGY**

**DATE: 12<sup>th</sup> MAY 2022**

**TIME: 2.00 – 4.00 PM**

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**INSTRUCTIONS TO CANDIDATES**

Answer Question one (1) and any other two (2) Questions. Question one is compulsory and carries 30 marks, the other Questions carry 20 marks each.

TIME: 2 Hours

This paper consists of 2 printed pages. Please Turn Over



### QUESTION ONE

- a) Explain how rangeland rehabilitation can be achieved in Kenya (5 marks)
- b) Describe five types of abiotic factors that influence plant species diversity and distribution (5 marks)
- c) Discuss how high population density can be of benefit to organisms in an ecosystem (5 marks)
- d) Explain how conservation of wetlands can be achieved in Kenya (5 marks)
- e) Name 5 environmental problems caused by invasive species (5 marks)
- f) Explain the best practices on how to deal with invasive species (5 marks)

### QUESTION TWO

By use of well labeled diagrams describe how the following cycles takes place in the environment:

(20marks)

- a) Nitrogen cycle
- b) Hydrological cycle
- c) Carbon cycle

### QUESTION THREE

Discuss 5 types of negative relationships between and among organisms in an ecosystem

(20 marks)

### QUESTION FOUR

Explain the economic and ecological roles of forests in an environment

(20 marks)

### QUESTION FIVE

Discuss the ecological mechanisms that contribute to the maintenance of species richness and diversity in plant communities

(20 marks)