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

**UNIVERSITY EXAMINATIONS  
2021/2022 ACADEMIC YEAR**

**FIRST YEAR SECOND SEMESTER**

**MAIN EXAMINATION**

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

**COURSE CODE: SBT 221**

**COURSE TITLE: PLANT ECOLOGY 1**

**DATE: 19<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) Define the following terms (5 marks)
- i. Biosphere
  - ii. Biomes
  - iii. Ecosystem
  - iv. Key stone species
  - v. Niche
- b) Explain how the line-intercept method is used in sampling of plant species in the field (5 marks)
- c) Differentiate between food chain and food web (2 marks)
- d) Outline the importance of pyramid of energy in an ecosystem (5 marks)
- e) What are the **ecological** role of forests in an ecosystem (5 marks)
- f) Explain the best practices on how to deal with invasive species (5 marks)
- g) Discuss how biotic factors influence distribution and abundance of plant communities (3 marks)

### QUESTION TWO

Discuss how ecological succession and colonization takes place in terrestrial ecosystems (20 marks)

### QUESTION THREE

Discuss the various methods used in *in-situ* and *ex-situ* conservation (20 marks)

### QUESTION FOUR

By use of well labelled diagrams, describe the various ecological pyramids and trophic levels found in a forest ecosystem (20 marks)

### QUESTION FIVE

Discuss the various ecological methods of vegetation sampling and analysis (20 marks)