



OFFICE OF THE DEPUTY PRINCIPAL  
ACADEMICS, STUDENT AFFAIRS AND RESEARCH

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## UNIVERSITY EXAMINATIONS

### 2020 /2021 ACADEMIC YEAR

THIRD YEAR SECOND SEMESTER MAIN EXAMINATION

**FOR THE DEGREE OF BACHELOR OF  
EDUCATION SCIENCE**

**COURSE CODE: SBT311**

**COURSE TITLE: ECOLOGY II**

**DATE: 14<sup>TH</sup> JULY, 2021**

**TIME: 01.00 PM – 04.00 PM**

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### **INSTRUCTIONS TO CANDIDATES**

- SEE INSIDE

**THIS PAPER CONSISTS OF 3 PRINTED PAGES**

**PLEASE TURN OVER**

**REGULAR – MAIN EXAM**

**SBT 311: ECOLOGY II**

**STREAM: BED (SCIENCE)**

**DURATION: 3 Hours**

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**INSTRUCTIONS TO CANDIDATES**

- i. Answer ALL questions from section A and any **THREE** from section B.*
  - ii. Diagrams should be used whenever they serve to illustrate the answer.*
  - iii. Do not write on the question paper.*
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**SECTION A (24 MARKS)**

**Question One**

- a) Define the following: (6 Marks)
- i. Biodiversity.
  - ii. Biomes
  - iii. Habitat
  - iv. Net primary productivity
  - v. Zonation.
  - vi. Succession.
- b) What are the similarities and differences between ecology, climate and sustainability? (6 Marks)

**Question Two**

- a) Explain three economic values of savannah vegetation. (6 Marks)
- b) Explain the negative influence of relief on the distribution of vegetation. (3 Marks)
- c) Explain the patterns of energy flow, productivity and mineral cycling during succession. (3 Marks)

**SECTION B (36 MARKS)**

**Question Three**

- a) Examine any two aspects of light that are essential for plant growth. (4 Marks)
- b) How can plants compensate for low light intensities? (3 Marks)
- c) Explain the significance of soil density in the growth of plants. (2 Marks)
- d) Explain how humic substances are categorized. (3 Marks)

**Question Four**

- a) Explain the concept overgrazing. (2 Marks)
- b) Illustrate the relationship between overgrazing and rangeland degradation. (10 Marks)

**Question Five**

- a) Discuss the role of the various biological inhabitants of the soil influencing the nature and properties of soils. (6 Marks)
- b) Illustrate how climate influences decomposition. (6 Marks)

**Question Six**

- a) Using four examples, discuss why it is difficult to tackle the threats caused by human activities on the environment. (8 Marks)
- b) Outline economic value of swamp vegetation. (4 Marks)

**Question Seven**

- a) Describe the common land capability classes and show their impact on plant growth. (8 Marks)
- b) Enumerate four features of the mangrove vegetation. (4 Marks)

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