



MACHAKOS UNIVERSITY

University Examinations 2018/2019

SCHOOL OF PURE AND APPLIED SCIENCES

DEPARTMENT OF BIOLOGICAL SCIENCES

SECOND YEAR SPECIAL/SUPPLEMENTARY EXAMINATION FOR

BACHELOR OF EDUCATION (SCIENCE)

BACHELOR OF SCIENCE IN BIOLOGY

SBT 200:PLANT ECOLOGY

DATE: 25/9/2019

TIME: 2.00-4.00 PM

INSTRUCTIONS

1. Answer Question 1 (compulsory) and **any two** questions in Section B.
2. Use clean well labelled diagrams wherever appropriate.

SECTION A

QUESTION ONE COMPULSORY (30 MARKS)

- a) Explain briefly five ways of ameliorating the negative human impacts on the environment
- b) Highlight three requirements of a self-sustaining ecosystem
- c) Enumerate three examples of how abiotic factors act as limiting factors in the ecosystem
- d) List three shortcomings of the Raunkier's Life-Form classification
- e) Explain the following terms
 - i. Climax community
 - ii. Coevolution
 - iii. Ecological niche
- f) Explain three processes involved in the nitrogen cycle
- g) Distinguish between the following terms used in ecology
 - i. Species abundance and species dominance
 - ii. Interspecific and intraspecific competition
 - iii. Photic zone and Benthic one
- h) Briefly explain how wind and humidity affect the survival of plants in the ecosystem
- i) State three adaptations of plants which grow in afro-alpine areas
- j) Highlight the challenges faced by plant communities in the intertidal zones

SECTION B

QUESTION TWO

Discuss the various sampling methods in vegetation ecology

QUESTION THREE

Discuss forms and structure of terrestrial plant communities

QUESTION FOUR

Discuss various types of species interactions

QUESTION FIVE

Discuss the process of weathering and soil formation