



MACHAKOS UNIVERSITY

University Examinations 2022/2023 academic Year

SCHOOL OF PURE AND APPLIED SCIENCES

DEPARTMENT OF BIOLOGICAL SCIENCES

SECOND YEAR FIRST SEMESTER EXAMINATION

BACHELOR OF SCIENCE IN BIOLOGY

SBT 200 : PLANT ECOLOGY

DATE:

TIME:

INSTRUCTIONS

Answer Question 1 (compulsory) and **any two** questions in Section B

SECTION A (COMPULSORY)

QUESTION ONE (30 MARKS)

- a) Describe the effect of equatorial zone heating. (3 marks)
- b) Describe the working mechanism of the Infra- Red Gas Analyzer in measurement of humidity (3 marks)
- c) Explain three causes of global warming (3 marks)
- d) Explain random sampling design in vegetation analysis (3 marks)
- e) Describe Transient climaxes in plant succession (3 marks)
- f) Explain the process of podsolization in soil maturation (3 marks)
- g) Describe the edaphic grasslands of East Africa (3 marks)
- h) Discuss the adaptations of the Afro –Alpine vegetation towards extremes in radiation (3 marks)
- i) Outline the zonation of wetland vegetation (3 marks)
- j) Explain the impact of air pollution on natural ecosystems (3 marks)

SECTION B: ANSWER ANY TWO QUESTIONS

QUESTION TWO (20 MARKS)

Describe the methods of determining productivity.

QUESTION THREE (20 MARKS)

- a) Describe the pathways for nitrogen fixation (10 marks)
- b) Explain the patterns of plant distribution (10 marks)

QUESTION FOUR (20 MARKS)

- a) Describe Raunkiers life form classification (10 marks)
- b) Discuss the changes following primary succession (10 marks)

QUESTION FIVE (20 MARKS)

- a) Discuss the physical and chemical environment of swamps (10 marks)
- b) Describe species interaction within the community (10 marks)