



MACHAKOS UNIVERSITY
University Examinations for 2022/2023 Academic Year

SCHOOL OF PURE AND APPLIED SCIENCES
DEPARTMENT OF BIOLOGICAL SCIENCES
SECOND YEAR SPECIAL/SUPPLEMENTARY EXAMINATION FOR
BACHELOR OF SCIENCE IN BIOLOGY
BACHELOR OF EDUCATION SCIENCE
BACHELOR OF SCIENCE FOURTH YEAR (AGRICULTURAL EDUCATION AND
EXTENSION)

CODE:SBT 200 UNIT NAME: PLANT ECOLOGY

DATE: 10/3/2023

TIME: 2.00 – 4.00 PM

INSTRUCTIONS

Answer Question 1 (compulsory) and **any two** questions

QUESTION ONE (30 MARKS)

- (a) Outline three attributes measured in vegetation ecology (3mks)
- (b) Describe primary succession (3mks)
- (c) Distinguish between intraspecific and interspecific competition (3mks)
- (d) Explain the following as used in Primary Productivity (i)Net Primary Productivity (ii)Gross Primary Productivity (iii) Biomass (3mks)
- (e) Describe podsolization in soil maturation and profile development (3mks)
- (f) Explain the factors that bring about derived grasslands (3mks)
- (g) Describe the impact of water pollution on natural ecosystems (3mks)
- (h) Explain the reasons for unequal distribution of radiation on the earth's surface (3mks)

- (i) Describe the ozone layer depletion (3mks)
- (j) Describe endemic distribution of plants (3mks)

QUESTION TWO (20 MARKS)

Discuss the climax plant community (20mks)

QUESTION THREE (20 MARKS)

- (a) Describe Raunkier's Life-Form Classification (10mks)
- (b) Describe the sampling designs in Vegetation Ecology (10mks)

QUESTION FOUR (20 MARKS)

- (a) Describe the various devices used in measuring of humidity (10mks)
- (b) Describe the gas exchange methods in determination of productivity (10mks)

QUESTION FIVE (20 MARKS)

Discuss the following

- (a) The climate of the Afro-Alpine Zone (10mks)
- (b) Upland forests of East Africa (10mks)