



MACHAKOS UNIVERSITY

University Examinations for 2022/2023 Academic Year

SCHOOL OF HUMANITIES AND SOCIAL SCIENCES

FOURTH YEAR SECOND SEMESTER EXAMINATION FOR BACHELOR OF ARTS/ BACHELOR OF EDUCATION ARTS / BACHELOR OF EDUCATION ARTS WITH SPECIAL NEEDS

AGE 403: APPLIED BIOGEOGRAPHY

Date:

Time: *(To be fixed during exam proofreading)*

INSTRUCTIONS: Answer QUESTION ONE and any other TWO QUESTIONS.

QUESTION ONE(30 MARKS)

a) Briefly explain the following concepts:

- i. Biodiversity (2 marks)
- ii. Biotechnology (2 marks)

b) Examine the threats that endanger biodiversity. (10 marks)

c) Citing appropriate examples, discuss the concept of entropy as used in biogeography. (16 marks)

QUESTION TWO (20 MARKS)

a) Distinguish between the tropical and temperate biomes. (6 marks)

b) Assess the role of biotic and abiotic factors in species diversity and richness. (14 marks)

QUESTION THREE(20 MARKS)

a) Briefly examine the history of biotechnology development. (8 Marks)

b) Assess the application of biotechnology in various sectors. (12 Marks)

QUESTION FOUR (20 MARKS)

Citing appropriate examples, discuss the effect of human activities on the biosphere. (20 Marks)

QUESTION FIVE (20 MARKS)

a) Explain the following concepts based on the International Union for Conservation of Nature (IUCN)

i. Threatened species (3 Marks)

ii. Endangered species (3 Marks)

iii. Extinct species (2 Marks)

b) Examine the relevance of Island Biogeography in biodiversity conservation. (12Marks)