



MACHAKOS UNIVERSITY

University Examinations 2019/2020 academic Year

SCHOOL OF PURE AND APPLIED SCIENCES

DEPARTMENT OF BIOLOGICAL SCIENCES

**FOURTH YEAR SPECIAL/SUPPLEMENTARY EXAMINATION FOR
BACHELOR OF SCIENCE IN AGRICULTURAL EDUCATION AND EXTENSION
SCB 407: BIODIVERSITY AND CONSERVATION BIOLOGY**

DATE: 20/1/2021

TIME: 2.00-4.00 PM

INSTRUCTIONS

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

SECTION A

QUESTION ONE (COMPULSORY) (30 MARKS)

- a) Describe three ecosystem services supported by biodiversity (3 marks)
 - b) Describe the following terminologies as used in conservation studies (3 marks)
 - i. Biodiversity hotspot
 - ii. Genetic diversity
 - iii. Ecosystem diversity
 - c) Describe three factors leading to habitat loss. (3 marks)
 - d) Explain three flavors of Ecosystem services (3 marks)
 - e) Distinguish between Intraspecific and interspecific diversity (3 marks)
 - f) Explain three ways through which biotechnology assists the conservation of plant and animal genetic resources (3 marks)
 - g) Describe three features of wildlife sanctuary (3 marks)
 - h) Explain the steps required to conserve forest cover in Kenya (3 marks)
 - i) Describe three international agreements that commit countries to conserve biodiversity, develop resources for sustainability and share the benefits resulting from their use (3 marks)
 - j) Explain the role of genetic pollution in threatening endemic species with extinction (3 marks)
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SECTION B: CHOOSE AND ANSWER ANY TWO QUESTIONS.

QUESTION TWO (20 MARKS)

Discuss five uses and values of biodiversity

QUESTION THREE (20 MARKS)

Discuss five biodiversity –related conventions on biological diversity

QUESTION FOUR (20 MARKS)

- a) Giving appropriate examples explain how global warming is a major potential threat to biodiversity (10 marks)
- b) Explain how biotechnology is applied to biodiversity describing its impacts (10 marks)

QUESTION FIVE (20 MARKS)

- a) Discuss the role of indigenous knowledge on biodiversity conservation (12 marks)
- b) Explain how farmers can be excellent conservators of biodiversity (8 marks)