



MAASAI MARA UNIVERSITY

**RESITS/ SUPP UNIVERSITY EXAMINATIONS
2021/2022 ACADEMIC YEAR**

**SCHOOL OF NATURAL RESOURCES, TOURISM
AND HOSPITALITY**

**DEPARTMENT OF ENVIRONMENTAL
STUDIES, GEOGRAPHY AND AGRICULTURE**

**BACHELOR OF ENVIRONMENTAL
STUDIES(BIOLOGY AND HEALTH)**

**COURSE CODE: EBH 1103
COURSE TITLE: INTRODUCTION TO
ECOLOGY AND BIODIVERSITY**

DATE: 7TH APRIL, 2022

TIME: 1430-1630

INSTRUCTIONS TO CANDIDATES

- (a) Answer ALL the Questions in Section A**
(b) Answer ANY THREE Questions in Section B
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SECTION A (25 MARKS)

Attempt ALL questions in this section.

1. Clearly explain why primary productivity is higher during spring than during summer in a given temperate freshwater lake. **(5 MARKS)**
2. Explain 5 factors that influence distribution of genes in a population. **(5 MARKS)**
3. The population of wildebeests in Serengeti National park were estimated as follows:

1961	-----	250,000
1963	-----	350,000

 - i. Calculate r , the intrinsic rate of increase **(2 MARKS)**
 - ii. Assuming the intrinsic rate is the same as the actual rate of growth and is constant throughout the years, calculate the population after 19 years. **(3 MARKS)**
4. Clearly explain the role of fire in shaping and managing savanna vegetation **(5 MARKS)**
5. Describe 5 land use changes in the Mara River Basin and their effects on biodiversity. **(5 MARKS)**

SECTION B

Attempt ANY THREE questions.

6. Discuss the major causes of biodiversity loss in the tropics **(15 MARKS).**
- 7.i. Explain the principle of allopatric speciation **(10 MARKS).**
 - ii. Explain 5 'evidence' of evolution **(5 MARKS).**
8. Discuss the nitrogen biogeochemical cycle in terrestrial ecosystems **(15 MARKS).**
9. Discuss the major biotic factors involved in population regulation **(15 MARKS).**

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