



MAASAI MARA UNIVERSITY

**REGULAR UNIVERSITY EXAMINATIONS
2023/2024 ACADEMIC YEAR
FIRST YEAR FIRST SEMESTER**

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

**BACHELOR OF SCIENCE (URBAN AND
REGIONAL PLANNING) AND BACHELOR OF
SCIENCE (ENVIRONMENTAL STUDIES)
COURSE CODE: EPM 1107-1 & BES 1103-1
COURSE TITLE: INTRODUCTION TO
ECOLOGY AND CONSERVATION**

DATE: 29/1/2024

TIME: 0830-1030 HRS

INSTRUCTIONS TO CANDIDATES

ATTEMPT ALL QUESTIONS IN SECTION A AND ANY 2 IN SECTION B

Support your answers with relevant examples and illustrations and clearly show your calculations, where relevant.

This paper consists of 3 printed pages. Please turn over

SECTION A (20 MARKS)

Attempt ALL questions in this section.

1. You are undertaking research in Narok river. State two (2) physical – chemical parameters and 2 biotic parameters you would determine **(4 Marks)**
2. Explain why phosphorus is often the limiting nutrient in freshwater ecosystems **(3 marks)**
3. Explain the differences between:
 - i) Keystone and Flagship species **(1 Mark)**
 - ii) Exploitation and Assimilation efficiency **(1 Mark)**
 - iii) Net primary production and Gross primary production **(1Mark)**
 - iv) Geometric and Logistic growth curves **(1 Mark)**
4. Describe the three types of survivorship curves and give an example of organisms exhibiting the curves **(3 Marks)**
5. Describe three (3) axes along which organisms partition resources **(4 Marks)**
6. State three (3) categories in which ecosystem services can be divided and give an example of each **(3 Marks)**

SECTION B 30 MARKS (Attempt any TWO questions)

7. Discuss the concept of community based conservation and explain its application in conservation of biodiversity in the Mara river basin **(15 Marks)**
8. Write an essay on the factors that limit secondary production by herbivores **(15 Marks)**
9. a. Discuss the nitrogen cycle in terrestrial and aquatic ecosystems **(8 Marks)**
b. Explain how human activities adversely impact the cycle and show how the impacts can be mitigated **(7 Marks)**
10. Discuss the causes of biodiversity loss in East Africa **(15 Marks)**

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