MAASAI MARA UNIVERSITY

REGULAR UNIVERSITY EXAMINATIONS

2022/2023 ACADEMIC YEAR

SECOND YEAR SECOND SEMESTER

SCHOOL OF PURE APPLIED AND HEALTH SCIENCES
BACHELOR OF EDUCATION (SCIENCE)

COURSE CODE: ZOO 2207-1

COURSE TITLE: INTRODUCTION TO ECOLOGY AND BIOANALYSIS

DATE: 18/4/2023   TIME: 1100-1300 HRS

<u>INSTRUCTIONS:</u>

Answer any ten questions. Illustrate where appropriate

ANSWER ANY 10 (TEN)QUESTIONS (50 MARKS)

1. Define and relate the following to ecology:-
   a. Shelford's law   **(1.5 marks)**
   b. Liebig's law   **(1.5 marks)**
   c. Laws of Thermodynamics.   **(2 marks)**

2. Describe any FIVE methods of estimating population density. **(5 marks)**

3. Give the impacts of plastic-derived litter on marine environments. **(5 marks)**

4. Describe any five major biomes of our planet.   **(5 marks)**

5. Discuss the methods used by species to overcome competition under limiting

   environmental factors.   **(5 marks)**

6. With illustrations account for the energy flow in the ecosystem. **(5 marks)**

7. Citing examples, describe the interactions that occur between macro and

   microorganisms.   **(5 marks)**

8. Show how Nitrogen cycles in a terrestrial ecosystem.   **(5 marks)**

9. Write short notes on the ecological pyramids.   **(5 marks)**

10. Give the unique traits that a population possesses.   **(5 marks)**

11. Describe the major components of an ecosystem.   **(5 marks)**

12. Account for the main causes of loss of biological diversity. **(5 marks)**

13. Explain the typical features of the age pyramids of an expanding, pulsing and

    collapsing population.   **(5 marks)**

14. Write a short essay on the factors that affect the distribution of organisms.

                                                               (5 marks)

15. Discuss the merits and demerits of wildfire as a disturbance. **(5 marks)**

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