



MAASAI MARA UNIVERSITY

REGULAR UNIVERSITY EXAMINATIONS

2021/2022 ACADEMIC YESR

FOURTH YEAR FIRST SEMESTER

SPECIAL/ SUPPLEMENTARY EXAMS

**SCHOOL OF NATURAL RESOURCES AND ANIMAL
SCIENCES**

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

COURSE CODE: EBH 4134

COURSE TITLE: ENVIRONMENTAL TOXICOLOGY

DATE: 7 TH APRIL,2022

TIME: 0830-1030HRS

INSTRUCTIONS TO CANDIDATES

Answer **ALL** questions in Section **A** and any other **THREE** questions from Section **B**

SECTION A: 25 MARKS

1. Define the following terms as used in environmental toxicology:
 - a) Absorption (2 marks)
 - b) Xenobiotic (2 marks)
 - c) Route of exposure (2 marks)
 - d) Biotransformation (2 marks)
 - e) Conventional Toxicity studies (2 marks)
2. Food additives can be a source of concern to human health. With specific examples, explain this statement. (3 marks)
3. With two example of a lipophilic toxicant, explain why the lipophilic nature of toxicants is a cause of concern (4 marks)
4. Explain two mechanisms by which toxic metals inhibit enzymes activity (4 marks)
5. Explain two categories of conventional toxicity studies (4 marks)

SECTION B: 45 MARKS

Answer three questions from this section

6. Discuss the factors affecting metabolic transformation of xenobiotics (15 marks)
7. Describe the Mechanisms by which toxicants pass through cell membrane (15 marks)
8. Write short notes on: (15 marks)
 - a) Percutaneous absorption of toxins (5 marks)
 - b) Bones as primary storage for toxicants (5 marks)
 - c) Dose response relationship (5 marks)
9. a) Briefly describe the phases of biotransformation of a xenobiotic (6 marks)
 - b) Explain the mechanisms used by toxicants that cannot use simple diffusion to pass through cell membranes (9 marks)

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