NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY

FACULTY OF ENVIRONMENTAL SCIENCES

DEPARTMENT OF ENVIRONMENTAL SCIENCE

BACHELOR OF SCIENCE HONOURS DEGREE IN ENVIRONMENTAL SCIENCE AND HEALTH

ENVIRONMENTAL ECOTOXICOLOGY

ESH 4218

Final Examination Paper

March 2025

This examination paper consists of 3 printed pages.

Time Allowed: **3 hours.**

Total Marks: **100**

Special Requirements: **None**

Examiner's Name: Dr M. Ndabambi

INSTRUCTIONS

1. Answer any **FOUR** questions.
2. Each question carries 25 marks.

MARK ALLOCATION

QUESTION	MARKS
1.	**25**
2.	**25**
3.	**25**
4.	**25**
5.	**25**
6.	**25**
TOTAL	**100**

1. (a) Define the following terms:

(i) NOEC (2 marks)

(ii) LOEC (2 marks)

(iii) MTC (2 marks)

(b) Briefly describe the three models for the activity toxicants at low doses. (6 marks)

(c) Discuss the limitations of hypothesis testing in analysing toxicity data. (13 marks)

2. Explain the various transport mechanisms responsible for the global distribution of environmental pollutants.

3. Describe the steps involved in the risk management process.

4. Discuss the implications of climate change on the field of environmental toxicology.

5. Discuss the five qualities that should be considered when selecting organisms for in-situ biomonitoring.

6. Discuss the conversion of xenobiotics to reactive electrophilic species by hepatic biotransformation mechanisms and their subsequent conjugation to endogenous ligands.