



**NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY**

**FACULTY OF ENVIRONMENTAL SCIENCE**

**DEPARTMENT OF ENVIRONMENTAL SCIENCE**

**BACHELOR OF SCIENCE HONOURS DEGREE IN ENVIRONMENTAL SCIENCE AND  
HEALTH  
MANAGEMENT OF SOLID AND HAZARDOUS WASTE**

**ESH 2203**

**Final Examination Paper**

**April 2025**

This examination paper consists of 3 pages

**Time Allowed: 3 hours**

**Total Marks: 100**

**Special Requirements: None**

**Examiner's Name: Dr D. T.A Tapfuma**

**INSTRUCTIONS**

1. Answer all questions in **SECTION A**
2. Answer any 3 questions from **SECTION B**
3. Each question carries 25 marks

**MARK ALLOCATION**

<b>QUESTION</b>	<b>MARKS</b>
1.	25
2.	25
3.	25
4.	25
5.	25
6.	25
<b>TOTAL</b>	<b>100</b>

## SECTION A

### Question 1

- a) With the aid of relevant examples, define the following terms:
- i. Municipal solid waste (2)
  - ii. Hazardous waste (2)
  - iii. Sustainable waste management (2)
  - iv. e-waste (2)
- b) Discuss with relevant examples how solid waste is classified. (10)
- c) Briefly describe the composition of Municipal solid waste in Zimbabwe. (7)

## SECTION B

### Question 2

- a) Discuss the significance of five (5) selected articles from the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal, and discuss their impact on global environmental protection and waste management practices. (15)
- b) Assess the challenges of hazardous waste management in Zimbabwe and suggest possible recommendations. (10)

### Question 3

- a) Evaluate the ISWMP implemented by the city of Harare. (15)
- b) Discuss 5 by-laws that have been enacted by Harare City Council to regulate solid waste management in their jurisdiction. (10)

### Question 4

- a) Analyse the challenges associated with the implementation of policies associated with the management of solid and hazardous waste in Zimbabwe and suggest possibly solutions to these. (15)
- b) Identify and explain five (5) examples of hazardous waste in Zimbabwe and discuss how each type is typically managed or disposed of in the country. (10)

**Question 5**

Evaluate the initiatives that have been enacted by the City of Bulawayo, Chitungwiza and Mutare to regulate solid waste management in their respective jurisdictions.

**Question 6**

- a) Assess five (5) key characteristics of hazardous waste in Zimbabwe, providing relevant examples and identifying their sources. (10 marks)
- b) Evaluate how these characteristics contribute to environmental and public health challenges and propose potential strategies to mitigate their impact. (15 marks)