



NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY

FACULTY OF ENVIRONMENTAL SCIENCE

DEPARTMENT OF ENVIRONMENTAL HEALTH

**BACHELOR OF ENVIRONMENTAL SCIENCE HONOURS DEGREE IN PUBLIC
HEALTH**

**SAFETY, HEALTH, ENVIRONMENT AND QUALITY MANAGEMENT SYSTEMS AND
TOOLS**

EPH 3201

Final Examination Paper

April 2025

This examination paper consists of 3 pages

Time Allowed: 3 hours

Total Marks: 100

Special Requirements: Scientific calculator

Examiner's Name: Mr Gumbo N

INSTRUCTIONS

1. Answer **QUESTION 1** and any **other Three** questions
2. Question 1 carries 40 marks and questions 2 to 6 carry 20 marks each.

MARK ALLOCATION

QUESTION	MARKS
1.	40
2.	20
3.	20
4.	20
5.	20
6.	20
TOTAL	100

Question 1

(a) An employee is exposed to a hazardous substance at varying concentrations during their shift:

2 hours at 150 ppm

2 hours at 75 ppm

4 hours at 50 ppm

Calculate the 8-hour Time Weighted Average (TWA) and interpret your findings

Or 1(b) A worker is exposed to two hazardous substances:

Contaminant 1: Concentration (C^1) = 100 ppm, Exposure Limit (L_1) = 200 ppm.

Contaminant 2: Concentration (C^2) = 50 ppm, Exposure Limit (L_2) = 100 ppm

Calculate the combined exposure and give a prudent interpretation **(40 Marks)**

Question 2

Craft a comprehensive checklist for ISO comparable program that can be used as a model for green production. **(20 Marks)**

Question 3

Environmental Social Governance is the catch phrase for sustainability, underscore this statement underpinning Zimbabwe as a key player. **(20 Marks)**

Question 4

Discuss the methodological data driven approaches embracing Safety, Health and Quality under the connotations of risk management. **(20 Marks)**

Question 5

Unpack and disprove the discourse on air pollution, cite the implications of unresolved contexts in environmental issues. **(20 Marks)**

Question 6

Discuss how a local state university can reduce carbon footprint on its day to day operations.
(20 Marks)