



**NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY**

**FACULTY OF ENVIRONMENTAL SCIENCE**

**DEPARTMENT OF ENVIRONMENTAL HEALTH**

**MASTER OF SCIENCE IN ENVIRONMENTAL HEALTH**

**NON-COMMUNICABLE DISEASES**

**EEH 6205**

**Final Examination Paper**

**April 2025**

This examination paper consists of 2 pages

**Time Allowed: 3 hours**

**Total Marks: 100**

**Special Requirements: None**

**Examiner's Name: Dr E. Mudefi**

**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**

<b>QUESTION</b>	<b>MARKS</b>
1.	<b>40</b>
2.	<b>20</b>
3.	<b>20</b>
4.	<b>20</b>
5.	<b>20</b>
6.	<b>20</b>
<b>TOTAL</b>	<b>100</b>

### **QUESTION ONE**

The Njabulo family had always enjoyed a simple, comfortable life, but over the years, things started to change. The father, Thuba, developed high blood pressure and diabetes, while his wife, Sukholuhle, struggled with obesity and chronic respiratory issues. Their teenage son, Sibulele, recently found out he has early signs of hypertension. As they faced the mounting challenges of their health, their lives became increasingly dominated by doctor visits, medication, and lifestyle changes (*Adapted from Manderson & Jewett, 2023*)<sup>1</sup>.

*Critically analyse how lifestyle, genetics, and socioeconomic factors contribute to the development and management of NCDs in a family setting.* **[40 Marks]**

### **QUESTION TWO**

Analyze the complex interplay between mental health disorders and other NCDs, focusing on asthma, diabetes, and cancer. **[20 Marks]**

### **QUESTION THREE**

“One-size-fits-all” approaches are increasingly recognized as inadequate for NCD management. Using Picker’s principles of patient-centred care, design a patient-centred framework that incorporates individual variability (genetics, lifestyle, and physical traits) to optimize NCD care. **[20 Marks]**

### **QUESTION FOUR**

Critically evaluate the applicability of Abdel Omran's (1971) theory of epidemiological transition in the context of 21st-century global health challenges, particularly in light of the worldwide surge in NCDs. **[20 Marks]**

### **QUESTION FIVE**

Compare and contrast the strengths and limitations of cohort and case-control study designs in NCD research. **[20 Marks]**

### **QUESTION SIX**

Propose a multi-faceted approach to reduce the burden of cancer in a specific population, addressing primary prevention, early detection, and access to treatment. **[20 Marks]**