



**NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY**

**FACULTY OF ENVIRONMENTAL SCIENCE**

**DEPARTMENT OF ENVIRONMENTAL HEALTH**

**MASTER OF SCIENCE IN ENVIRONMENTAL HEALTH**

**ONE HEALTH**

**EEH 6204**

**Examination Paper**

**April 2025**

This examination paper consists of 3 pages

**Time Allowed: 3 hours**

**Total Marks: 100**

**Special Requirements:**

- None

**Examiner's Name: Mr T. Chirigo**

**INSTRUCTIONS**

1. Each question carries 25 marks
2. Answer One question in Section A and ANY three (3) questions in Section B.
3. Where a question contains subdivisions, the mark value for each subdivision is given in brackets.
4. Illustrate your answer where appropriate with large, clearly labelled diagram.

**MARK ALLOCATION**

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

**SECTION A: Answer any One (1) Question (25 marks)**

**Question 1**

International, regional, national and local instrumentalities have greatly supported One Health approaches with respect to potential threats from zoonoses. With specific reference to Zimbabwe and using verifiable case examples, discuss how named players at the local, national, regional and international levels have played active roles against the threats of a named novel infectious disease arising at the human-animal-environment interface. (25)

**Question 2**

*"In Zimbabwe conversations on Antimicrobial Resistance (AMR) must happen every day and everywhere starting from the community that demands and consumes the antimicrobials, in the street and market vendors and across border traders who avail antimicrobials with little information on their health risks,"* (Dr Portia Manangazira, MoHCC). To what extent do you agree with the statement. Discuss this statement with particular reference to the burden of AMR and the milestone achievements towards addressing this threat in Zimbabwe. (25)

**SECTION B: Answer Any three (3) Questions (75 marks)**

**Question 3**

- a. With the aid of a diagram identify One Health domains and discuss the relationship that exist between them. (20)
- b. State any five characteristics of a One Health intervention. (5)

**Question 4**

- a. Discuss the following concepts as they relate to One Health:
  - i. Perfect microbial storm (5)
  - ii. Global mixing bowl (5)
  - iii. Wicked problems (5)
- b. Identify any two (2) challenges that can be faced when implementing One Health. For each identified challenge, discuss how such a challenge may be overcome. (10)

**Question 5**

- a. As an Environmental Health practitioner, describe how you would design and implement a One Health action. (15)
- b. Identify three (3) barriers to effective One Health surveillance. For each barrier, describe how to overcome it. (6)
- c. Describe any two (2) efforts to combat climate change from a One Health perspective (4)

**Question 6**

- a. The Provincial Medical Director (PMD) of Province X is worried about the increasing incidence of Antimicrobial resistance (AMR) in livestock. As an Environmental Health

Practitioner (EHP) you have been tasked to give a presentation on AMR to graduating EHPs. Describe how you will accomplish this task outlining, but not limited only to: definition, whether AMR is a fact or fiction (with justification), how this problem might have arisen, whether it is something to worry about, how this issue of AMR may be tackled from a One Health perspective, etc. **(15)**

- b. One Health is increasingly gaining importance as an approach to prevention and control of infectious diseases because of its shift from a siloed approach to one that is collaborative, integrated, cross-sectoral and multidisciplinary. Justify the rationale for this paradigmatic shift towards emerging and re-emerging infectious diseases. **(10)**