



“Investing in Africa’s Future”

COLLEGE OF HEALTH, AGRICULTURE AND NATURAL SCIENCES

DEPARTMENT OF PUBLIC HEALTH AND NURSING [DPHN]

MASTERS OF PUBLIC HEALTH [MPH]

NSPH 545 APPLIED EPIDEMIOLOGY

END OF FIRST SEMESTER EXAMINATIONS

NOVEMBER/DECEMBER 2023

LECTURER: DR T GOTO

DURATION: 3 HOURS

INSTRUCTIONS

Answer **ALL** Questions in **Section A** and **ANY 3** questions from **Section B**

The mark allocation for each question is indicated at the end of the question

Credit will be given for logical, systematic and neat presentations.

SECTION A ANSWER ALL QUESTIONS

[40 Marks]

QUESTION 1

Assuming you are the epidemiologist in the health department of a local authority. You have been requested by the Director of Health to design a Tuberculosis surveillance.

- a) State and describe the steps you will follow in designing the surveillance system. **[10 Marks]**
- b) State and describe the protocols you would develop in order to operationalize the surveillance system. **[10 Marks]**

QUESTION 2

You are the District Medical Officer for Mawungwe district and you receive a message of suspected anthrax outbreak from Rukweza clinic. Cattle have been dying on their own and the villagers have been skinning and consuming meat from the dead cattle.

- a) Outline and discuss in logical sequence ALL steps that you would take in investigating this outbreak. **[8 Marks]**
- b) What immediate measures would you put in place and why? **[4 Marks]**
- c) What long term measures would you propose in order to avert future outbreaks of a similar nature? **[8 Marks]**

SECTION B [60 Marks]

Answer ANY THREE [3] Questions from this section

QUESTION 3

The Hiroshima and Nagasaki bombing, in Japan during the Second World War opened an opportunity for researchers to analyse the effects of radiation on a number of health outcomes.

Describe the study design which is appropriate for this situation highlighting the pros and cons. **[20 marks]**

QUESTION 4

Write brief notes to demonstrate your understanding of the following:

- a) Herd immunity **[5 mark]**
- b) Natural history of disease **[5 marks]**
- c) Diagnostic test sensitivity, specificity and predictive values **[10 marks]**

[20 marks]

QUESTION 5

Discuss how each of the following factors have influenced health care delivery in a country of your choice in Africa

- a) National cultural orientation [5 marks]
- b) National resources and cost of health care services [5 marks]
- c) National morbidity and mortality trends [5 marks]
- d) Globalization [5 marks]

QUESTION 6

- a) Community involvement is a key component of Primary Health Care (PHC) approaches. How would you ensure that PHC is made accessible to all within a district?
[10 marks]
- b) What are the main drivers to success of the immunization programme according to PHC approaches? [10 marks]

End Of Examination