



# MERU UNIVERSITY OF SCIENCE AND TECHNOLOGY

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University Examinations 2024/2025

FIRST YEAR, FIRST SEMESTER EXAMINATION FOR THE DEGREE OF DOCTOR OF  
PHILOSOPHY IN EPIDEMIOLOGY

**HPE 8115: DISEASE OUTBREAK INVESTIGATION**

**DATE: JANUARY 2025**

**TIME: 3 HOURS**

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**INSTRUCTIONS:**

Answer all Questions in Question one and any other two Questions

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**QUESTION ONE (20 MARKS)**

- a) Briefly discuss the factors that drive non-communicable diseases epidemics (5 Marks)
- b) Describe the ethical and legal consideration for specimen collection and shipment during disease outbreak (5 Marks)
- c) Explain the role of real-time data sharing and communication among public health agencies during an outbreak. (5 Marks)
- d) Outline the role of community engagement and communication during an outbreak (5 Marks)
- e) Briefly discuss role of vaccines in disease prevention (5 Marks)

**QUESTION TWO**

- a) Discuss the steps employed in outbreak investigation (10 Marks)
- b) Giving examples, discuss different types of case definitions and their application for outbreak management and control (10 Marks)



MUST is ISO 9001:2015 and



ISO/IEC 27001:2013 CERTIFIED

Page 1

### QUESTION THREE

- a) Forecasting is an integral part of outbreak management, discuss how you would take this activity as the epidemiologist incharge of a given community know to have cholera outbreak every 2 years (10 Marks)
- b) Outline the responsibilities of a rapid response team during an outbreak (10 Marks)

### QUESTION FOUR

- a) Discuss the concept of three pronged approach in outbreak investigation (10 Marks)
- b) Discuss the objective of epidemic preparedness and response and how you would apply the in outbreak management (10 Marks)

