



# MERU UNIVERSITY OF SCIENCE AND TECHNOLOGY

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## University Examinations 2023/2024

THIRD YEAR, SECOND SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR  
OF HUMAN RESOURCE INFORMATION MANAGEMENT

### HPR 3324: APPLIED EPIDEMIOLOGY

DATE: APRIL 2024

TIME: 2 HOURS

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#### INSTRUCTIONS:

1. Answer Question ONE, and any other TWO
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#### QUESTION ONE: (30 MARKS)

- a) Define public health surveillance and state four essential activities of surveillance (6 marks)
- b) Describe briefly the measures used in cohort and case control studies and their interpretation (8 marks)
- c) Distinguish between the web of causation and the wheel of causation (4 marks)
- d) Explain the calculation and interpretation of the following
  - i. Relative risk (4 marks)
  - ii. Odds ratios (4 marks)
- e) Using an example of diseases of your choice, describe the rothman's casual pies of diseases (4 marks)

#### QUESTION TWO: (20 MARKS)

- a) Describe what is meant by multi-factorial causation of diseases (2 marks)
- b) Discuss the Bradford hill criteria relating to the casual relationship between a factor and diseases (18 marks)



**QUESTION THREE: (20 MARKS)**

- a) Differentiate between emerging and re-emerging diseases (4 marks)
- b) Discuss four major factors that influence the emergence of diseases (16 marks)

**QUESTION FOUR: (20 MARKS)**

Discuss the influence of gender on infectious diseases occurrence and how the one health approach can be used in the prevention and control of these diseases.

