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University Examinations 2024/2025

FIRST YEAR, FIRST SEMESTER EXAMINATION FOR THE DEGREE OF MASTERS IN
PUBLIC HEALTH AND EPIDEMIOLOGY

MPH 5112/HPE 7113: EPIDEMIOLOGY I/ADVANCED EPIDEMIOLOGY

DATE: JANUARY 2025

TIME: 3 HOURS

INSTRUCTIONS:

Answer Question one and any other three Questions

QUESTION ONE (30 MARKS)

- a) Discuss two Analytical Study Designs contextualizing their application. (8 Marks)
- b) Describe the following types of sampling methods.
 - i. Multistage sampling Principle
 - ii. Stratified sampling
 - iii. Cluster sampling
 - iv. Simple random sampling (8 Marks)
- c) Explain the concept of randomization. Why is randomization important in clinical trials? (6 Marks)
- d) “Using relevant examples” Describe the modes of infectious disease transmission. (8 Marks)

QUESTION TWO (10 MARKS)

Discuss the following biases that can occur in case-control studies, give an example of each, and describe what you can do to control them:

- i. Selection bias
- ii. Information bias
- iii. Confounding
- iv. Misclassification (10 Marks)



QUESTION THREE (10MARKS)

Discuss epidemiologic Triad in relation to disease transmission.

(10 Marks)

QUESTION FOUR (10 MARKS)

- a) State Koch's Postulates and how they actualized in view of public health work
- b) Discuss the different measures of association used in epidemiological studies

(10 Marks)

QUESTION FIVE (10 MARKS)

In a study examining the relationship between oral contraceptives and bacterial infection one would follow women who use oral contraceptive (OC) and those who do not use contraceptives over a period. If in follow-up period of 3 years, 70 of 500 individuals who were using Oral contraceptives got bacterial infection, while 150 of 3000 individuals who did not use OC acquired bacterial infection answer the following;

- a) The study design used in the above study:
- b) Identify and calculate the appropriate measure of association for this study:
- c) Interpret the results.

(10 Marks)

