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University Examinations 2024/2025

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

**HPE 7111/MPH 5111: RESEARCH METHODS, ADVANCED RESEARCH
METHODOLOGY**

DATE: JANUARY 2025

TIME: 3 HOURS

INSTRUCTIONS:

Answer Question one and any other two Questions

QUESTION ONE (30 MARKS)

- a) Define and differentiate between the following types of research designs:
 - i. Cross-sectional, cohort (5 Marks)
 - ii. Case-control studies. Provide an example of a public health question suitable for each design. (5 Marks)
- b) Discuss the relationship between standard errors and confidence intervals related? (1 Mark)
- c) What is partial correlation? Give an example (1 Mark)
- d) Describe the concept of "negative findings" in research. Why are they important, and how should researchers report them? (4 Marks)
- e) Describe the concepts of validity and reliability in the context of public health measurement tools? (4 Marks)

QUESTION TWO (20MARKS)

- a) Discuss how are standard errors and confidence intervals related? (5 Marks)
- b) Discuss confidence interval? (5 Marks)
- c) Discuss validity and Reliability? (5 Marks)
- d) What is experimental validity? (5 Marks)



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QUESTION THREE (20 MARKS)

Critically evaluate a published public health study of your choice, discussing its research question, design, sample selection, data collection methods, and findings. What are its strengths and weaknesses? (20 Marks)

QUESTION FOUR (20 MARKS)

- a) Discuss the ethical principles that must be considered when conducting research involving human subjects in public health. (10 Marks)
- b) Describe a potential ethical dilemma that could arise in public health research and propose strategies to address it. (10 Marks)

