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University Examinations 2023/2024

FIRST YEAR, FIRST SEMESTER EXAMINATION FOR THE DEGREE OF MASTERS OF
SCIENCE IN EPIDEMIOLOGY

HPE 7111: RESEARCH METHODS

DATE: APRIL 2024

TIME: 2 HOURS

INSTRUCTIONS:

1. Answer Question **One** and Any Other **Two**
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QUESTION ONE: (20 MARKS)

- a) Describe what standard error in research means. (2 marks)
- b) Discuss what is meant by 95% confidence interval? (2 marks)
- c) Discuss the relationship between standard errors and confidence intervals related? (2 marks)
- d) What is partial correlation? Give an example. (2 marks)
- e) Briefly describe what df stand for? (4 marks)
- f) Describe the meaning of statistical testing and what does the p value tell you? (4 marks)
- g) What is meant by a Type II error and how is dealt with? (4 marks)

QUESTION TWO: (20 MARKS)

- a) Discuss the relation between standard errors and confidence intervals. (5 marks)
- b) What is meant by 95% confidence intervals? (5 marks)
- c) What is meant by validity (5 marks)
- d) What is experimental validity? (5 marks)



QUESTION THREE: (20 MARKS)

- a) Discuss what a pilot study is and its purpose. (5 marks)
- b) Discuss i) a cross-sectional and ii) a longitudinal research design? (5 marks)
- c) Distinguish between naturalistic and controlled observation (6 marks)
- d) What is the key purpose of a case study? (4 marks)

QUESTION FOUR: (20 MARKS)

- a) Identify one problem with case studies and explain how it can be countered. (4 marks)
- b) What is survey? Give an example
- c) Discuss the application measures of dispersion restate? (4 marks)
- d) Describe the three measures of dispersion (4 marks)
- e) What is the standard error of the mean? (4 marks)

