

JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY
BSC COMMUNITY HEALTH AND PUBLIC HEALTH (Y2S2)
SEMESTER EXAMINATION, APRIL 2014
HCD 3221: PRINCIPLES OF EPIDEMIOLOGY

KISII LEARNING CENTRE

TIME: TWO (2) HOURS

Answer all questions in section A

SECTION A

1. Define epidemiology (3 marks)
- 2.) State two (2) uses of epidemiology (3 marks)
- 3.) Explain the meaning of the term "disease determinants" as used in epidemiology (3 marks)
- 4.) Briefly explain the following terms as commonly used to describe disease occurrences in population (3Marks):
 - a) Endemic
 - b) Outbreak
 - c) Pandemic
- 5.) Name three measures of central location (central tendency) commonly used in epidemiological statistics (3 marks)
- 6.) a) Explain the meaning of the term "measures of spread" as used in epidemiological statistics (1 mark)
 - b) List two (2) measures of spread (2 marks)
7. Explain the meaning of the following terms that are commonly used in measures of disease frequency in a population
 - a) Ratio (1 mark)
 - b) Proportion (1 mark)
 - c) Rates (1 mark)
- 8.) Briefly discuss what the numerator and denominator represent in disease frequency measures in a population (3 marks)

- 9.) Briefly give concise difference(s) between disease prevalence and disease incidence (3 marks)
- 10.) State one (1) major difference between clinical medicine and epidemiology (3 marks)

SECTION B

Answer any two questions in this section

- 1.) a) Name three (3) observational studies used in epidemiology (6 marks)
- b) Briefly discuss two (2) of the observational studies named in (1a) above (10 marks)
- c) Briefly explain the difference between observational study and experimental study in epidemiology (4 marks)
- 2.) a) Briefly explain the major difference between descriptive epidemiology and analytical epidemiology (5 marks)
- b) Name two analytical epidemiological studies (5 marks)
- c) Briefly discuss the following:
- i) Prospective study (5 marks)
 - ii) Retrospective study (5 marks)
- 3.) a) Define molecular epidemiology (5 marks)
- b) Briefly discuss use(s) of molecular epidemiology (5 marks)
- c) State one (1) advantage and one (1) disadvantage of randomized controlled trials (experimental study) (10 marks)
4. a) Briefly explain the term 'association' in epidemiology (5 marks)
- b) State two (2) types of measures of strength of association in epidemiology (5 marks)
- c) Which one of the observational studies one would be able to calculate Risk Ratio (RR) or Relative Risk (RR) (5 marks)
- d) Explain what it means when Risk Ratio (RR) is:
- i) Less than one (i.e. Risk Ratio < 1) (2.5 marks)
 - ii) Equal to one (i.e. Risk Ratio = 1) (2.5 marks)