



MACHAKOS UNIVERSITY

University Examinations 2018/2019

SCHOOL OF HEALTH SCIENCES

DEPARTMENT OF PUBLIC AND COMMUNITY HEALTH

SECOND YEAR SPECIAL/SUPPLEMENTARY FOR

BACHELOR OF SCIENCE IN PUBLIC HEALTH.

HEH 200: INTRODUCTION TO EPIDEMIOLOGY

DATE: 25/9/2019

TIME: 8.30-10.30 AM

INSTRUCTIONS

This paper consists of two sections A and B

SECTION A

- This section has one question
- The question is compulsory
- The question is 30 marks

SECTION A: COMPULSORY

QUESTION ONE (30 MARKS)

- Define epidemiology (3 marks)
- In reference to epidemiology, differentiate between validity and reliability (3 marks)
- Outline the qualities of a good disease screening test (3 marks)
- Explain the following terms as used in epidemiology:-
 - Determinants (1.5 marks)
 - Distribution (1.5 marks)
- Briefly explain behavioral interventions that can be used to lower risk of hypertension onset (3 marks)
- Briefly explain why John Snow is considered the father of epidemiology (3 marks)
- Using the data provided below find the following:
 - Mode (1.5 marks)
 - Median (1.5 marks)

22, 27, 31, 31, 15, 30, 24 and 31 days

- h) Discuss the factors that contribute to epidemics (3 marks)
- i) Morbidity data are often helpful in clarifying the reasons for particular trends in mortality. State some common sources of morbidity data (3 marks)
- j) Briefly explain the importance of the following;-
- i. Prevalence of disease (1.5 marks)
 - ii. Incidence of disease (1.5 marks)

SECTION B:

- This section has four (4) questions
- Answer any two (2) questions
- Each question is 20 marks

QUESTION TWO (20 marks)

- a) Suspected outbreak of cholera has been reported at Mathare slums in Nairobi. As an epidemiologist discuss the procedure you would use to investigate the outbreak of the disease and interventions that you would recommend to contain the situation. (10 marks)
- b) Discuss the key components of the epidemiologic triad. (10 marks)

QUESTION THREE (20 MARKS)

- a) Describe the different levels of disease prevention. (10 marks)
- b) Communicable diseases occur as a result of interaction of various factors. Discuss (10 marks)

QUESTION FOUR (20 MARKS)

- a) Explain the various approaches in expressing prognosis of disease. (10 marks)
- b) You are recruited as a research assistant in a cross-sectional study on factors contributing to diabetes among women in Nyeri County Kenya. Discuss ethical principles that are relevant in the study. (10 marks)

QUESTION FIVE (20 MARKS)

- a) Screening is important for early disease detection and treatment. As an Epidemiologist explain characteristics of a disease that would prompt you to initiate a screening programme. (10 marks)
- b) Discuss the risk factors that are common to occurrence of non-communicable diseases. (10 marks)