



AMREF INTERNATIONAL UNIVERSITY
SCHOOL OF PUBLIC HEALTH
DEPARTMENT OF HEALTH SYSTEMS MANAGEMENT AND DEVELOPMENT
BACHELOR OF SCIENCE IN HEALTH SYSTEMS MANAGEMENT AND DEVELOPMENT

END OF SEMESTER EXAMINATION APRIL 2025

UNIT CODE: HMD 131 / CHP 214 EPIDEMIOLOGY AND DEMOGRAPHY

DATE: 17th APRIL, 2025

TIME: Two Hours

Start: 4:30 pm

Finish: 6:30 pm

INSTRUCTIONS

1. This exam is marked out of 70 marks
2. This Examination comprises TWO Sections
Section A: Compulsory Question (30 marks)
Section B: Long Answer Questions (40 marks)

SECTION A: COMPULSORY QUESTION (30 MARKS)

QUESTION 1

- i. Define Epidemiology **2 marks**
- ii. State any TWO (2) aspects of importance in Epidemiology in Public Health. **2 marks**
- iii. Define the three key variables (time, place, and person) used in descriptive Epidemiology. **3 marks**
- iv. Outline primary, secondary, and tertiary prevention. **3 marks**
- v. Specify the three main variables used to define the stage of demographic transition of a country. **3 marks**
- vi. State the three main types of population policies **3 marks**
- vii. Define Demography **2 marks**
- viii. Outline any FIVE (5) uses of Epidemiology. **5 marks**
- ix. What are the FIVE (5) main Modes of Intervention in Epidemiology **5 marks**
- x. Specify any TWO (2) components of Demography **2 marks**

SECTION B: ANSWER ANY TWO QUESTIONS

(40 MARKS)

QUESTION 2

- i. Describe the three main components of the epidemiologic triangle (agent, host, and environment) and provide an example of how they interact in the spread of a disease. **8 marks**
- ii. Explain the difference between incidence and prevalence, and provide an example of when each measure would be more useful in public health planning. **8 marks**
- iii. Calculate the incidence rate of a disease given the following data: 50 new cases in a population of 10,000 over one year. **4 marks**

QUESTION 3

(20 MARKS)

- i. Explain the concept of "necessary" and "sufficient" causes in disease causation, and provide an example of each. **6 marks**
- ii. Explain the difference between active and passive surveillance, and provide an example of when each method would be used. **6 marks**
- iii. Compare and contrast cohort studies and case-control studies, highlighting their strengths and weaknesses. **8 marks**

QUESTION 4

(20 MARKS)

- i. Compare and contrast pro-natalist and anti-natalist population policies, and provide an example of a country that has implemented each type of policy. **6 marks**
- ii. Discuss the role of migration policies in shaping population dynamics, and provide an example of a country that has used migration policies to address population challenges. **6 marks**
- iii. Explain how the demographic transition model applies to Kenya, and discuss the challenges the country might face as it moves through the stages. **8 marks**