



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 SECOND SEMESTER EXAMINATION MAY-AUGUST 2026

HMD 131: EPIDEMIOLOGY AND BASIC DEMOGRAPHY

Date : 5TH August 2026

TIME : Two (2) Hours Start—9:00AM-----End...11:00AM.....

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)

Read carefully the additional instructions preceding each section.

SECTION A: COMPULSORY (30 MARKS). ANSWER ALL QUESTIONS

1. Define the following terminologies as applied in Demography (4 Marks)
 - a. Population dynamics
 - b. Population Density
 - c. Population distribution
 - d. Population Structure
2. List four sources of epidemiological data (4 Marks)
3. Highlight three measures of disease frequency in epidemiology (3 Marks)
4. Outline four benefits of screening in epidemiology (4 Marks)
5. State three levels of prevention based on natural history of disease (3 Marks)
6. Highlight four purposes of sampling (4 Marks)
7. List four factors influencing a sample size (4 Marks)
8. Outline four ways of reducing bias in epidemiological studies (4 Marks)

SECTION B: ANSWER ANY TWO (2) QUESTIONS (40 MARKS)

9.
 - a) Epidemiology consists of several branches that are often used in the study of population health outcomes. Discuss any four branches of epidemiology. (10 Marks)
 - b) Various methodological approaches are applied in the study of disease patterns within populations. Describe five types of epidemiological study designs. (10 Marks)
10.
 - a) Different approaches are used in identifying health conditions among populations before symptoms appear; analyze five types of screening in health assessment. (10 Marks)
 - b) Population distribution varies across geographical areas due to multiple influencing conditions. Describe five factors influencing population distribution. (10 Marks)
11.
 - a) Fertility levels are measured using established demographic indicators. Using relevant examples, describe the key demographic indicators used in measuring fertility. (10 Marks)

- b) Demographic data plays an important role in informing health planning and evaluation processes; analyze five ways in which it supports the design of health programs. (10 Marks)

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