

**1012106T4COH**  
**COMMUNITY HEALTH**  
**HE/CU/CH/CC/02/5/A**  
**APPLY EPIDEMIOLOGY**  
**July/August 2025**



**AMREF INTERNATIONAL TRAINING CENTER**

**WRITTEN ASSESSMENT**

**Time: 3 HOURS**

**INSTRUCTIONS TO CANDIDATE**

1. Marks for each question are indicated in the brackets.
2. The paper consists of **TWO** sections: **A** and **B**.
3. Candidates are provided with a separate answer booklet
4. **DO NOT** write on this question paper.

**This paper consists of Four (4) printed pages, candidates should check the question paper to ascertain that all pages are printed as indicated and that no questions are missing.**

**SECTION A (40 MARKS)**

*Attempt all the questions in this section.*

1. Define the meaning of the following terms (4 marks)
  - a. Pandemic.
  - b. Incidence.
2. Primary prevention in epidemiology focuses on stopping a disease before it even starts, by targeting risk factors or strengthening immunity in healthy individuals. Highlight **FOUR** components of primary prevention. (4 marks)
3. Epidemiology investigates patterns, causes, and control of health and disease in populations. Outline **FOUR** uses of epidemiology. (4marks)
4. Qualitative methods in epidemiology delve into the "why" and "how" of health issues, uncovering perceptions, experiences, and social factors that influence health outcomes. List **FOUR** qualitative data collection methods. (4marks)
5. In Kenya, certain infectious diseases are reported to health authorities to track outbreaks and control their spread. Identify **FOUR** categories of notifiable diseases. (4marks)
6. Community diagnosis is a checkup for a community, identifying health issues and strengths to guide improvement efforts. Name **FOUR** advantages of conducting a community health diagnosis. (4 marks)
7. A health needs assessment is a process that identifies the health priorities of a community or individual to guide improvement and resource allocation. Enumerate steps followed in community health needs assessment. (4 marks)
8. The natural history of a disease describes its course in an individual, from its onset to resolution, without medical intervention. Highlight the stages of natural history of disease. (4 marks)
9. In 2019 there were 1000 tuberculosis patients in one region. Out of the 1000 patients .100 died in the same year. Calculate the case fatality rate of tuberculosis. (4 marks)
10. Outline the uses each of the following reporting tools used in disease surveillance. (4 marks)
  - a. IDSR weekly form;
  - b. IDSR case based;
  - c. IDSR monthly;

- d. IDSR line list.

**SECTION B (60 MARKS)**

Answer **THREE** questions in this section

11. Disease progression process begins with exposure to or accumulation of risk factors capable of causing disease in a susceptible host.

a) Discuss the criteria used to identify notifiable diseases. (8 Marks)

b) Explain SIX phases of disease progression according to the natural history of diseases. (12 Marks)

12. An epidemiologist currently working in Coastal Counties has been authorized to conduct disease screening on the suspected cases of Corona virus that is currently happening in the region.

a) Explain FOUR factors to consider when planning for disease screening exercise (12 Marks)

b) Describe FOUR categories of biological agents that cause diseases. (8 Marks)

13. Screening process operates like a sieve, it helps to separate people who have a disease condition from those who do not.

a) Explain THREE aims of screening programs. (6 marks)

b) Discuss the SEVEN steps involved in population screening. (14 marks)

14. Surveillance is important in the identification of diseases, hazards, injuries and other health related factors of public health concern.

a) Explain the meaning of the term 'disease surveillance'. (2 marks)

b) Discuss FOUR features of a good surveillance system. (8 marks)

c) Explain FIVE characteristics of diseases that are included in the Integrated Disease Surveillance system. (10 marks)