

102106T4COH

COMMUNITY HEALTH LEVEL 6

HE/OS/CH/CC/03/6/A

Apply Epidemiology in Community Health

Nov/Dec 2023



**TVET CURRICULUM DEVELOPMENT, ASSESSMENT AND CERTIFICATION
COUNCIL (TVET CDACC)**

WRITTEN ASSESSMENT

Time: 3 HOURS

INSTRUCTION TO CANDIDATE

1. This paper has two sections **A** and **B**
2. You are provided with a separate answer booklet
3. Marks for each question are as indicated
4. Do not write on the question paper.

This paper consists of four (4) printed pages.

Candidates should check the question paper to ascertain that all the pages are printed as indicated.

SECTION A: (40 MARKS)

Answer all the questions in this section

1. Differentiate between epidemic and endemic. **(4 Marks)**
2. Kenya Medical Research Institute (KEMRI) would like to conduct population screening in your community. State FOUR factors that KEMRI would consider when planning for population screening activities. **(4 Marks)**
3. Notifiable diseases are of public health concern. Identify FOUR Notifiable diseases in Kenya. **(4 Marks)**
4. Population screening refers to the systematic examinations of a large groups. Highlight THREE benefits of population screening. **(3 Marks)**
5. Sampling involves the selection of several study units from a defined study population. Outline FOUR non-probability sampling methods used in epidemiological research. **(4 Marks)**
6. Health needs report can be disseminated by community health workers in several ways. Identify THREE venues in which, community health workers will use to disseminate the reports to the community members. **(3 Marks)**
7. Hypotheses serve as the foundation for designing experiments, studies and investigations. State FOUR characteristics of hypothesis in epidemiological research. **(4 Marks)**
8. Outline FOUR ways of obtaining data from the community during population screening. **(4 Marks)**
9. Data quality can be compromised by errors during data collection process. Highlight THREE ways epidemiologists use to minimizing these errors. **(3 Marks)**
10. Infectious diseases are a major public health burden in developing countries. Identify FOUR biological agents that causes infectious diseases in the population. **(4 Marks)**
11. Outline THREE roles of community health officers in integrated disease surveillance and response. **(3 Marks)**

SECTION B: (60 MARKS)

Answer any THREE questions in this section.

12. The Center for Disease Control (CDC) Kenya supports the development and implementation of population and facility-based diseases surveillance systems to assess disease burden in communities in the country.

a) Define disease surveillance. **(2 Marks)**

b) Describe SEVEN steps used by epidemiologist in investigating a disease outbreak in a region. **(14 Marks)**

c) Explain TWO determinants of health in a community. **(4 Marks)**

13. The following information about Orando community was collected by an epidemiologist in the year 2021.

- Total average population = 40,000
- Total number of live births = 4000
- Total number of deaths = 400
- Total number of deaths before the age of 28 days = 50
- Total number of infant deaths = 200
- Number of women who died from pregnancy-related causes = 160
- New cases of COVID-19 = 100
- All cases of COVID-19 = 300
- Deaths from COVID 19 = 60

Based on the information given:

a) Calculate the incidence rate of COVID-19. **(4 Marks)**

b) The period prevalence rate of COVID-19. **(4 Marks)**

c) Calculate the case fatality rate of COVID-19. **(4 Marks)**

d) Calculate neonatal mortality rate. **(4 Marks)**

e) Calculate the infant mortality rate. **(4 Marks)**

14. Most diseases have a characteristic natural history although the time frame and the specific manifestations of the disease vary from person to person.
- a) Discuss SIX stages of disease progression. **(12 Marks)**
 - b) Explain FOUR modes of transmitting infectious agents of diseases. **(8 Marks)**
15. Community health needs assessment is important in the prompt identification of diseases that are affecting the community for early and immediate interventions.
- a) Describe FIVE steps used in conducting community health needs assessments. **(10 Marks)**
 - b) Discuss FIVE health interventions the Ministry of Health in Kenya is used to prevent the spread of diseases in communities. **(10 Marks)**

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