



**AMREF INTERNATIONAL UNIVERSITY  
SCHOOL OF PUBLIC HEALTH  
DEPARTMENT OF COMMUNITY HEALTH  
HIGHER DIPLOMA IN COMMUNITY HEALTH  
END OF SEMESTER EXAMINATION DECEMBER 2024**

**UNIT CODE:** HDCH 014

**UNIT NAME:** EPIDEMIOLOGY

**DATE:** TUESDAY 3<sup>RD</sup> DECEMBER, 2024

**TIME:** TWO HOURS      **START:** 4.30PM      **FINISH** 6.30PM

**INSTRUCTIONS**

1. This exam is marked out of 60 marks
2. This Examination comprises TWO Sections  
**Section A:** Compulsory Question (20 Marks)  
**Section B:** Long Answer Questions (40 Marks)
3. All questions in Section A are compulsory
4. Answer any TWO questions in Section B
5. This online exam shall take 2 Hours
6. Late submission of the answers will not be accepted
7. Ensure your web-camera is on at all times during the examination period
8. No movement is allowed during the examination
9. Idling of your machine for 5 min or more will lead to lock out from the exam
10. The Virtual Assessment System (VAS) has inbuilt integrity checks to detect cheating
11. Any aspect of cheating detected during and or after the exam administration will lead to disciplinary measures.
12. In case you have any questions call the unit Lecturer Dr. Fransisca KamaKama on +254704537514 or Head of Department Dr. Faith Muhonja on +254723742370 or ICT related question Mr. Patrick Njine on +254725835496
13. For adverse incidences please write an email to: [amiu.examinations@amref.ac.ke](mailto:amiu.examinations@amref.ac.ke)

**SECTION A: COMPULSORY (20 MARKS). SHORT ANSWER QUESTIONS**

1. Highlight five major reasons why public health surveillance is important in health care system (5 marks)
2. Outline the three characteristics of descriptive epidemiology (5 marks)
3. List five environmental factors that may affect community health (5 marks)
4. Discuss three examples of reservoirs that you may know (5 marks)

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

5. In the concept of the disease causation, explain the concept of epidemiologic triad.
  - a. Illustrate your answer by giving concrete examples (10 marks)
  - b. In a county with 2300 inhabitants there have occurred 4 cases of leukemia. What is the prevalence of leukemia in this population. (5 marks)
  - c. In a malaria-free population of 1000 there are 7 new cases of malaria within one year. What is the incidence of malaria in this population? (5 marks)
6. Ebola Virus disease was first identified in the Democratic Republic of Congo in 1976. Research showed that the Ebola virus originated from wild animal.
  - a. Discuss the mode of transmission of this virus from its natural reservoir to a susceptible host. (10 marks)
  - b. Explain the portal of entry in the chain of infection. (5 marks)
  - c. Assume you have travelled to Kisumu for a period of one month. After about 14 days you start feeling unwell and you decide to go to the hospital. The lab tests confirm that you have malaria. Using your own words, explain the process of malaria infection (5 marks)
7. a) When carrying out an outbreak investigation, discuss any three steps involved in an outbreak investigation. (15 marks)
  - b) In an outbreak of cough among prison inmates in Oyo State in 2006, 29 of 160 inmates residing in dormitory A developed cough, compared with 5 of 140 inmates residing in dormitory B (isolation room).
    - (i) Draw a two-by-two table (2 marks)
    - (ii) Calculate the Risk Ratio (3 marks)