



**AMREF INTERNATIONAL UNIVERSITY
SCHOOL OF PUBLIC HEALTH
DEPARTMENT OF HEALTH SYSTEMS AND COMMUNITY HEALTH
DIPLOMA IN COMMUNITY HEALTH PRACTICE
END OF JANUARY-APRIL 2023 SEMESTER EXAMINATIONS**

UNIT CODE: HDCH 014
UNIT NAME: EPIDEMIOLOGY
DATE: 5th April 2023
TIME: TWO HOURS
START: 4.15 PM **FINISH:** 6:15 PM

INSTRUCTIONS (Online examination)

1. This exam is marked out of 60 Marks
2. This Examination comprises TWO Sections
3. This online exam shall take TWO Hours
4. Late submission of the answers will not be accepted
5. Ensure your web-camera is on at all times during the examination period
6. No movement is allowed during the examination
7. Idling of your machine for 5 min or more will lead to lock out from the exam
8. The Learning Management System (LMS) has inbuilt integrity checks to detect cheating
9. Any aspect of cheating detected during and or after the exam administration will lead to nullification of your exam
10. In case you have any questions call the invigilator the Head of Department on Tel 0720573449
11. For adverse incidences please write an email to: amiu.examinations@amref.ac.ke

SECTION A: ANSWER ALL QUESTIONS 20 MARKS

1. Explain the term epidemiology (3 Marks)
2. Highlight FIVE sources of Epidemiological Data (5 Marks)
3. Outline three Key Factors in the disease distribution (3 Marks)
4. Data from a cohort study of oral contraceptive use (OC) and bacteria among women aged 16-49 years is shown below.

Exposure status	Disease	Non disease	Total
Exposed (used OC)	27	455	482
Not exposed (did not use OC)	77	1831	1908
Total	104	2286	2390

Source: DA Evans et al., *N.Eng.J. Med* 299: 536, 1978, referenced in *Epidemiology in Medicine* Hennekens CH and Buring JE., 1987

- i. Determine the relative risk (5 Marks)
- ii. Suppose the study was a case-control study, whereby the diseases are persons found to have diseases and exposed are persons with history of exposed, determine the odds ratio (4 Marks)

SECTION B: ANSWER ANY TWO QUESTIONS (40 MARKS)

5. Using examples, describe FIVE uses of Epidemiology (20 Marks)
6. The following table provides data on the occurrence of cholera in two districts in Zimbabwe. Answer the following questions.

District	Population size	Existing cases of Malaria	New cases OF Malaria
District A	35,000	1200	100
District B	20,000	800	400
Total	55,000	2000	500

- a) Calculate the prevalence (per 1000) of cholera in
 - i. District A (3 Marks)
 - ii. District B (3 Marks)

- b) Calculate the incidence (per 1000) of cholera in;
- i. District A (3 Marks)
 - ii. District B (3 Marks)
- c) Calculate the prevalence (per 1000) of cholera in the two districts (4 Marks)
- d) Calculate the incidence (1000) of cholera in the two districts (4 Marks)
7. Using an example of COVID-19, describe the natural history of a disease (20 Marks)

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