



AMREF INTERNATIONAL UNIVERSITY
SCHOOL OF PUBLIC HEALTH
DEPARTMENT OF COMMUNITY HEALTH
MASTER OF PUBLIC HEALTH
END OF SEMESTER EXAMINATION DECEMBER 2024

MPH 713: EPIDEMIOLOGY

DATE: FRIDAY 13TH DECEMBER 2024

TIME: THREE HOURS START: 5.00PM HOURS FINISH 8.00PM HOURS

INSTRUCTIONS

1. This exam will be graded out of 100 marks
2. This Examination comprises TWO Sections
Section A: Compulsory Question (25 marks)
Section B: Long Answer Questions (75 marks)
3. All questions in Section A are compulsory, and Answer any THREE questions in Section B
4. This online exam shall take 3 Hours
5. Late submission of the answers will not be accepted
6. Ensure your web-camera is on at all times during the examination period
7. No movement is allowed during the Examination
8. Idling your machine for 5 minutes or more will lead to a lockout from the exam.
9. The Virtual Assessment System (VAS) has built-in integrity checks to detect cheating.
10. Any aspect of cheating detected during and or after the exam administration will lead to disciplinary measures.
11. In case you have any questions, call the invigilator for this exam Dr. Tom Marwa on Tel. +254723800089 or the Head of Department Dr. Faith Muhonja on Tel +254 723 742 370 or ICT related questions Mr. Patrick Njine on +254725835496
12. For adverse incidences, please write an email to amiu.examinations@amref.ac.ke

SECTION A: COMPULSORY (25 MARKS)

1. List 5 ways in which epidemiology as a discipline can be used to evaluate the effectiveness of health programs and services in improving population health (5 Marks)
2. What are the interrelationship between Agent, Host and Environment? (5 Marks)
3. Define One Health approach to health as used in epidemiology (5 Marks)
4. Describe the following terms as used in epidemiology (5 Marks)
 - a) epidemic or outbreak
 - b) cluster
 - c) endemic
 - d) pandemic
5. Briefly describe the difference between descriptive and analytic Epidemiology (5 Marks)

SECTION B: ANSWER ANY THREE (3) QUESTIONS (75 MARKS)

6. An epidemiologist is doing a study on the sleep patterns of college students but does not provide any intervention.
 - a) What type of study would you recommend? (5 marks)
 - b) Provide 5 reasons why you would recommend that study design (15 marks)
 - c) What type of a study would you recommend to describe the eating habits of adolescents aged 13–18 years in Community X (5 marks)
7.
 - a) Describe 5 steps involved in outbreak investigations (20 marks)
 - b) To study the causes of an outbreak of aflatoxin poisoning in Africa, investigators conducted a case-control study with 40 case-patients and 80 controls. Among the 40 poisoning victims, 32 reported storing their maize inside rather than outside. Among the 80 controls, 20 stored their maize inside. The resulting odds ratio for the association between inside storage of maize and illness is? (5Marks)
 - c) In Conducting a case-control study, discuss the following (25Marks)
 - a. Selection of cases and control
 - b. Matching
 - c. Measurement of exposure
 - d. Analysis and interpretation
 - e. List down 2 disadvantages and 3 advantages of Case-Control Studies
8.
 - a) Identify 5 criteria in case definitions using malaria as Example (10Marks)
 - b) Describe 5 reasons why integrated Disease Surveillance and Response is important in Public health (15 marks)
9.
 - a). Define Bias as used in epidemiological studies and describe how you would control for the following types of biases (10 marks)
 - i. Selection Bias
 - ii. Loss to Follow Up Bias
 - iii. Control Section Bias
 - iv. Recall Bias
 - v. Information bias
 - b.) Describe 5 differences between randomized control studies, cohort studies and cross-sectional studies (15Marks)