AMREF INTERNATIONAL UNIVERSITY

SCHOOL OF PUBLIC HEALTH

DEPARTMENT OF COMMUNITY HEALTH

BSc IN COMMUNITY HEALTH PRACTICE/HEALTH SYSTEMS MANAGEMENT

END OF SEMESTER EXAMINATION   MAY / AUGUST 2023

UNIT CODE: **CHP 214/HMD 131**

UNIT NAME: **EPIDEMIOLOGY AND DEMOGRAPHY**

Date: **7th AUGUST 2023**

Time: **2 Hours   Start: 4.00 PM   Stop: 6.00 PM**

INSTRUCTIONS

1. **This exam is marked out of 70 marks**
2. **Do not write on the question paper**
3. This Examination comprises TWO Sections
   Section A: Compulsory Questions (30 Marks)
   Section B: Long Answer Questions (40 Marks)
4. All questions in Section A are compulsory and 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 Learning Management System (LMS) has inbuilt integrity checks to detect cheating
11. Any aspect of cheating detected during and or after the exam administration will lead to nullification of your exam
12. In case you have any questions call the Invigilator on Tel Number:

13. For adverse incidences please write an email to:

SECTION A: SHORT ANSWER QUESTIONS

1. Using an example for each, define the following terms;
    - i.   Quarantine (2 Marks)
    - ii.   Isolation (2 Marks)
    - iii.   Primary prevention (2 Marks)
    - iv.   Zoonotic diseases (2 Marks)
    - v.   Null hypothesis (2 Marks)

2. Differentiate between necessary cause and sufficient cause in epidemiology (4 Marks)

3. Define the first 9 months of national surveillance for eosinophilia-myalgia syndrome (EMS), CDC received 1,068 case reports which specified sex; 893 cases were in females, 175 in males.

    - i.   Define x and y (2 Marks)
    - ii.   Calculate the ration in the above (2 Marks)
    - iii.   Interpret your answer above (2 Marks)

4. Highlight FOUR uses of descriptive studies (4 Marks)

5. Using an example, define the term a Carrier (2 Marks)

6. Suppose a study aims to retrospectively determine the prevalence of neonatal sepsis in a hospital, by randomly selecting patient files, estimate the sample size that would be sufficient? (Take margin of error = 4% and significant level =5%). (4 Marks)

SECTION B: LONG ANSWER QUESTIONS FOR COMMUNITY HEALTH PRACTICE STUDENTS

7. Describe FIVE applications of disease control in Epidemiology (20 Marks)

8. Explain the following Hills Criteria for causation;
    i. Strength of association (5 Marks)
    ii. Specificity (5 Marks)
    iii. Biological Gradient (5 Marks)
    iv. Analogy (5 Marks)

9. The following questions are from the surveillance section.
    i. Define the term disease surveillance (2 Marks)
    ii. Highlight FIVE key elements of disease surveillance (5 Marks)
    iii. Enumerate FOUR uses of Disease surveillance (4 Marks)
    iv. Using an example, define Sentinel Surveillance Systems (4 Marks)
    v. Highlight five examples of sentinel groups (5 Marks)

SECTION B: LONG ANSWER QUESTIONS FOR HEALTH SYSTEMS STUDENTS

COMPULSORY QUESTION (20 MARKS)

10. The following are demographic questions
    i. Highlight three components of demography (3 Marks)
    ii. State the demographic equation (2 Marks)
    iii. Using an example, differentiate between dependent and independent variables (4 Marks)
    iv. Highlight the five contemporary aspects of the importance of demography in the current world (5 Marks)
    v. Discuss the Malthusian Crisis Today (6 Marks)

CHOOSE ANY ONE QUESTION (20 MARKS)

11. Describe FIVE applications of disease control in Epidemiology (20 Marks)

12. Using an example, explain the following Hills Criteria for causation;
    i. Strength of association (5 Marks)
    ii. Specificity (5 Marks)
    iii. Biological Gradient (5 Marks)
    iv. Analogy (5 Marks)

13. The following questions are from the surveillance section.
    i.   Define the term disease surveillance (2 Marks)
    ii.   Highlight FIVE key elements of disease surveillance (5 Marks)
    iii.   Enumerate FOUR uses of Disease surveillance (4 Marks)
    iv.   Using an example, define Sentinel Surveillance Systems (4 Marks)
    v.   Highlight five examples of sentinel groups (5 Marks)