AMREF INTERNATIONAL UNIVERSITY

SCHOOL OF PUBLIC HEALTH

DEPARTMENT OF COMMUNITY HEALTH

DIPLOMA IN COMMUNITY HEALTH PRACTICE

END OF SEMESTER EXAMINATION APRIL 2024

UNIT CODE: DCHP 128
UNIT NAME   Basic Statistics
DATE: **8ᵗʰ April**, 2024
TIME: TWO Hours   **Start: 9.00 AM**   **Finish 11.00 AM**

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)

SECTION A: COMPULSORY (20 MARKS)

1) Highlight one reason why median is a better measure of central tendency (2 Marks)

2) The owner of a small company has 15 employees. Five employees earn $25,000 per year, seven earn $30,000, three earn $40,000, and all the owner's annual salary is $153,000.

   a. Calculate the mean and median salaries (2 Marks)

   b. If the owner's salary is increased by $80,000, find the mean and median salaries (3 Marks)

3) Using an example, differentiate between ratio and interval (3 Marks)

4) Define the term conditional probability (2 Marks)

5) Highlight using a diagram, **TWO** properties of a histogram (4 Marks)

6) Outline FOUR conditions of a probability (4 Marks)

SECTION B: ANSWER <u>ANY TWO (2)</u> QUESTIONS (40 Marks)

7) The following data consists of tenants in 45apartments.

Test scores	No of students
5-15	2
15-25	0
25-35	8
35-45	36
45-55	110
55-65	78
65-75	66

Construct a cumulative frequency distribution table (5 Marks)

Calculate Mean (3 Marks)

Calculate Median (6 Marks)

Calculate Mode (6 Marks)

8) Describe FIVE reasons why we study biostatistics (20 Marks)

9) Two hundred (200) businessmen were asked to indicate their qualifications and the type of news they generally prefer to read. The results cross-classified data by level of education and the type of news preferred were found as tabulated below;

Type of News	Undergraduate (U)	Graduate (G)	Postgraduate (P)	Total
Political news (A_1)	10	15	5	30
General News (A_2)	25	10	15	50
Business news (A_3)	20	50	10	80
Sports and other (A_4)	5	25	10	40
Total	60	100	40	200

Find;

    a. $P(U)$ (3 Marks)
    b. $P(A_3)$ (3 Marks)
    c. $P(GUP)$ (4 Marks)
    d. $P(A_3 U G)$ (5 Marks)
    e. $P(A_2 \cap P)$ (5 Marks)