GRETSA UNIVERSITY - THIKA

UNIVERSITY EXAMINATIONS
SEPTEMBER - DECEMBER 2021 SEMESTER

CERTIFICATE IN PUBLIC HEALTH

COURSE CODE: CIPH 020

COURSE TITLE: HEALTH STATISTICS

DATE: 17 NOVEMBER 2021   **TIME: 8:00 AM – 11:00 AM**

INSTRUCTIONS TO CANDIDATES
1. SECTION A IS **COMPULSORY.**
2. SECTION B: ANSWER ANY OTHER **THREE** QUESTIONS.
3. **DO NOT** WRITE ANYTHING ON THIS QUESTION PAPER AS IT WILL BE AN EXAM IRREGULARITY.
4. ALL ROUGH WORK SHOULD BE AT THE BACK OF YOUR ANSWER BOOKLET AND CROSSED OUT.

SECTION A: COMPULSORY

MULTIPLE CHOICES QUESTIONS   **[ONE MARK EACH]**

1. Which of the following statements do not elaborate on the meaning of quartile deviation?
   A. The measures are need in association with the media.
   B. It is a semi quartile range.
   C. It does not by itself permit precise interpretation of a score within a distribution like range.
   D. It provides any base for further mathematical calculations

2. The most frequent number in a data set is referred to as
   A. Mean
   B. Median
   C. Mode
   D. Range

3. Which scale uses parameters such as agree, strongly agree, very much agree?
   A. Ordinal scale
   B. Nominal scale
   C. Likert scale
   D. Normal scale

4. Which of the following is true about Ordinal Data?
   A. Order is not important
   B. Data contains two categories
   C. Order is important
   D. None of the above

5. Which of the following measures best describe a distribution that has its data arranged in descending order?
   A. Frequency
   B. Array
   C. Mode
   D. Bimodal

SHORT ANSWER QUESTIONS

1. Define the following terminologies as used in statistics   [4 Marks]

     i.   Population
     ii. Sample
     iii. Data
     iv. Variable

2. State four factors considered when choosing methods to use for data collection.   **[4 Marks]**

3. Briefly explain any three characteristics of mean as a measure of central tendency **[6 Marks]**

4. The following was collected on the number of children which each woman who visited a hospital had. Use it to calculate the mean and median number of children per woman.

   [8 Marks]

Number of children	0	1	2	3	4	5	6
Frequency	1	0	3	2	5	3	1

5. Highlight any five methods which can be used in statistical data presentation   **[5 Marks]**

6. Clearly show the difference between descriptive and inferential statistics.   **[4 Marks]**

7. Giving relevant examples, explain the following types of variables   **[4 Marks]**
   Quantitively variables
   Qualitative variables

SECTION B   **[ANSWER ANY THREE QUESTIONS**

QUESTION ONE

Data collection is the process of gathering and measuring information on variables of interest, in an established systematic fashion that enables one to answer stated research questions, test hypotheses, and evaluate outcomes.

a) Explain the five primary methods of data collection   **[10 Marks]**

b) Explain any five ways in which you can statistics in you profession.   **[10 Marks]**

QUESTION TWO

The following are masses of 30 students measured in kilograms.

Mass (kg)	10-19	20-29	30-39	40-49	50-59	60-69
No. of women	5	6	8	2	6	3

Calculate;

i. mean **[4 Marks]**

ii. lower quartile **[4 Marks]**

iii. upper quartile **[4 Marks]**

iv. inter quartile range **[2 Marks]**

v. variance **[5 Marks]**

vi. outline two characteristics of the median **[4 Marks]**

QUESTION THREE

a) Explain any six characteristics of a good and reliable statistical data for use in health institutions

[12 Marks]

b) Describe any four scales of measurement **[8 Marks]**

QUESTION FOUR

The times taken by patients to undergo a minor surgery in a clinic are recorded in the table below.

Time in minutes	10-14	15-19	20-24	25-29	30-34	35-39
Frequency	4	12	20	22	5	3

i. Mean **[5 Marks]**

ii. Median **[5 Marks]**

iii. Mode **[5 Marks]**

iv. Standard deviation **[5 Marks]**