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MASINDE MULIRO UNIVERSITY OF
SCIENCE AND TECHNOLOGY
(MMUST)
MAIN CAMPUS

UNIVERSITY EXAMINATIONS
2023/2024 ACADEMIC YEAR

FIRST YEAR FIRST SEMESTER EXAMINATIONS
FOR THE DEGREE
OF
BACHELOR OF SCIENCE IN PUBLIC HEALTH

COURSE CODE: PPE 115

COURSE TITLE: HEALTH INFORMATICS

DATE: 6/12/2023

TIME: 8:00-10:00AM

INSTRUCTIONS TO CANDIDATES

- Answer Questions ONE and ANY OTHER TWO.

TIME: 2 Hours

MMUST observes ZERO tolerance to examination cheating

This Paper Consists of 3 Printed Pages. Please Turn Over.



QUESTION ONE (30 MARKS)-COMPULSORY

Consider sample questionnaire shown below

1. Name of the University (Institution).....
2. Gender: Male Female
3. How many years have you been using computers?
 - Less than 1 year
 - 1-2 years
 - 2-4 years
 - 4-6 years
 - More than 6 years
4. Did you receive any training in information and communication technology (ICT) over the past 3 years?
 - Yes No
5. What are your main reasons for attending computer training?
 - Financial
 - Prestige
 - Career enhancement
 - Personal growth
 - Training is required
 - Others (please specify
 - a. Explain how you are going to perform coding of the various variables for the Questionnaire [8 Marks]
 - b. State 4 examples of Bivariate analysis [4 Marks]
 - c. Different diseases, in different communities, show different patterns of expected occurrence or above expected occurrences. Identify and briefly describe at least any FOUR levels of occurrences. [8 Marks]
 - d. Identify the various data collection techniques that can be used in epidemiological study and enumerate each of their advantages and disadvantages. [6 Marks]
 - e. What measures are used to compare the frequency of disease in populations and what information do they provide? [4 Marks]

QUESTION TWO (20 MARKS)

- a. During the previous year, nine residents of a community died from the same type of cancer. List and briefly explain any FOUR reasons that might justify an investigation [10 Marks]

- b. Compare and contrast descriptive and analytical Epidemiology [10 Marks]

QUESTION THREE (20 MARKS)

In the early 1980's, epidemiologists recognized that AIDS occurred most frequently in men who had sex with men and in intravenous drug users.

Describe how this information might be used for each of the following:

- a. Population or community health assessment [5 Marks]
- b. Individual decisions [5 Marks]
- c. Search for causes [5 Marks]
- d. Completing the clinical picture [5 Marks]

QUESTION FOUR (20 MARKS)

- a. If you were a district health officer, how would you monitor the occurrence of measles and detect an epidemic in your district? [4 Marks]
- b. Explain the difference between descriptive and analytic epidemiology. Give examples of how both types of study designs can be applied in the field of public health. [6 Marks]
- c. Describe the types of public or environmental health problems that prevail in the developing world (give at least three examples). [5 Marks]
- d. List the reasons why epidemiology is important to research studies of environmental health [3 Marks]
- e. Identify the different methods of data collection for demographic [2 Marks]

QUESTION FIVE (20 MARKS)

- a. Identify any **FOUR** sampling methods; enumerate each of their advantages and limitations. [8 Marks]
- b. Explain the meaning and application of statistical significance. [4 Marks]
- c. Explain the meaning and application of P – values [4 Marks]
- d. Describe the different types of statistical tests used when samples are large and small [4 Marks]

Handwritten marks and scribbles in the top right corner.