



GRE TSA UNIVERSITY - THIKA

UNIVERSITY EXAMINATIONS JANUARY-APRIL 2025 SEMESTER

DIPLOMA IN HEALTH RECORDS AND IT

COURSE CODE: DIHR 033

COURSE TITLE: MEDICAL STATISTICS I

DATE: APRIL 2025

TIME: 2 HOURS

INSTRUCTIONS TO CANDIDATES

1. SECTION A IS **COMPULSORY**.
2. SECTION B: ANSWER ANY OTHER **TWO** 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.

CAUTION: All exam rooms are under CCTV surveillance during the examination period.

SECTION A: COMPULSORY

PART I: MULTIPLE CHOICES QUESTIONS

[ONE MARK EACH]

1. What are the mean, median and mode best described as?
 - A. Measures of standard deviation.
 - B. Measures of standard error.
 - C. Measures of statistical significance
 - D. Measures of central tendency
2. Which one of the following is not a basic principle of table construction?
 - A. Aim at simplicity
 - B. Must have a comprehensive explanatory.
 - C. The headings to columns and rows should be unambiguous.
 - D. Double counting should not be avoided.
3. Data concerning births, deaths, marriage and fetal deaths are known as.
 - A. Ordinal data
 - B. Vital statistics
 - C. Nominal data
 - D. Descriptive statistics
4. In a frequency distribution, the lowest value is 6 and the highest value is 16. What is the range/
 - A. 11
 - B. 6 to 16
 - C. 12
 - D. 10
5. Since the mode is the most frequently occurring data value, it
 - A. can never be larger than the mean
 - B. is always larger than the median
 - C. is always larger than the mean
 - D. must have a value of at least two

PART II: SHORT ANSWER QUESTIONS:

1. State any five benefits of computer application in medical statistics. **[5 marks]**
2. Explain the following terminologies and phrases as used in medical statistics. **[6 marks]**
 - a. Probability
 - b. Sample
 - c. Population
3. Using relevant example explain inferential statistics. **[3 marks]**
4. Giving relevant example in each, distinguish between probability and non-probability sampling techniques **[2 marks]**
5. Highlight any five uses of statistical data in health care sector. **[5 marks]**
6. Give five reasons why sampling is done. **[5 marks]**

SECTION B: CHOOSE ANY TWO QUESTIONS

Question one

In a group of 40 people, 10 are healthy and every person of the remaining 30 has either high blood pressure, a high level of cholesterol or both. If 15 have high blood pressure and 25 have high level of cholesterol, calculate

- a) How many people have high blood pressure and a high level of cholesterol? [4 marks]
- b) If a person is selected randomly from this group, what is the probability that he/she has high blood pressure [4 marks]
- c) Has high level of cholesterol [4 marks]
- d) Has high blood pressure and high level of cholesterol [4 marks]
- e) Has either high blood pressure or high level of cholesterol [4 marks]

Question two

In a school, 60% of pupils have access to the internet at home. A group of 8 students is chosen at random. Find the probability that

- a) Exactly 5 have access to the internet. [5 marks]
- b) At least 6 students have access to the internet [5 marks]
- c) Discuss any five advantages of using primary data in statistics [10 marks]

Question three

- a) Discuss the advantages of sampling when collecting statistical data [10 marks]
- b) Explain the steps which can be followed when testing hypotheses. [10 marks]

Question four

- a) Using relevant examples, explain type I and type II errors as used in statistics. [5 marks]
- b) Using a well labeled diagram, discuss the following types/shapes of data distribution
 - i. Normal distribution [5 marks]
 - ii. Negatively skewed distribution [5 marks]
 - iii. Positively skewed distribution [5 marks]