



# MERU UNIVERSITY OF SCIENCE AND TECHNOLOGY

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## UNIVERSITY EXAMINATIONS 2022/2023

SECOND YEAR, SECOND SEMESTER EXAMINATION FOR BACHELOR OF SCIENCE  
IN HEALTH SYSTEMS MANAGEMENT

### NNH 3250: RESEARCH METHODOLOGY IN HEALTH

DATE: APRIL 2023

TIME: 2 HOURS

INSTRUCTIONS: Answer question one and any other two questions

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#### QUESTION ONE (30 MARKS)

- a) Differentiate between the following terms: (4 marks)
- Sample and Population
  - Dependent Variable and Confounding Variable
  - Basic research and Applied research
  - Experimental and Control Groups
- b) The role of health managers in the health administration is more substantial in public hospitals than private hospitals. Using this statement, state the Null and Alternative hypothesis in the expected relationship between health administration and the type of hospital (2 marks)
- c) With the help of suitable examples, explain two types of:
- Random sampling techniques/methods (4 marks)
  - Non-random sampling techniques/methods (4 marks)
- d) State the 2 pros and 2 cons of the following data collection techniques in research: (4 marks)
- Face-to-face interview
  - Observation
- e) Write short notes on “Significance of Research” (3 marks)

- f) Before selecting his study participants, a researcher meets with a large group of adults and their children. He tells them about his research objectives. What ethical consideration should put in place when the parents as well as the children agree to participate in the research? (5 marks)
- g) A researcher wants to conduct a study on mental wellness of students at Meru University with a population of 5,000 undergraduate students.
- i. Calculate the sample size required under the following conditions; (4 Marks)
- Formula; 
$$n = \frac{Z^2 \times pq}{e^2}$$
- Prevalence of mental health related issues (p) =35%
- Confidence interval = 95%
- Z value at 95% interval= 1.96
- E= error based on confidence interval

### QUESTIONS TWO (20 MARKS)

You are health manager leading a project that is creating awareness among pregnant women on benefits of attending antenatal clinic. You collect baseline data at the beginning of the project. Six months after the project, you collect data to evaluate the impact of health education on antenatal care clinic attendance.

- i. What type of research will you apply to evaluate the impact of health education on antenatal clinic attendance and why? (4 marks)
- ii. Draw a problem analysis diagram with a problem in the center and at least two contributing factors grouped around the problem (5 marks)
- iii. Write one general objective and two specific objectives that will guide your research. Your objectives should be SMART (6 marks)
- iv. State five critical considerations you will consider while designing a Questionnaire/ Interview Guide for your research (5 marks)

### QUESTION THREE (20 MARKS)

You are in a research team that is determining prevalence and factors associated with rising adult cancer cases in Meru County.

- i. Write one general objective and three specific objectives that will guide your research. (6 marks)

- ii. Describe the type of study design you will recommend for your team to use and why? (4 marks)

The team has decided not to interview all adults in Meru county but rather choose a representative sample.

- iii. Describe the sampling method/strategy that best suits your study and population under investigation. (4 marks)

Your team's primary concern is that the conclusions of your study should be valid and reliable.

- iv. State three threats to validity and reliability at various stages of your research process and for each threat explain how you are going to overcome it (6 marks)

#### **QUESTION FOUR (20 MARKS)**

- i. Using a flow chart, show the research process highlighting the key areas. (10 Marks)
- ii. Describe 4 research instruments that can be used for data collections (4 marks)
- iii. State 6 ethic rules that should be considered when conducting a research (6 marks)