

CHUKA



UNIVERSITY

Knowledge is wealth (Sapientia divitia est)

**UNIVERSITY EXAMINATIONS
FIRST YEAR EXAMINATION FOR THE AWARD OF MASTERS IN APPLIED
MATHEMATICS**

MATH 890: RESEARCH METHODOLOGY
DAY/DATE:

TIME: 3HOURS

INSTRUCTIONS:

Answer any other **THREE** Questions

QUESTION ONE (20 MARKS)

- a) Explain **FOUR** objectives of research (4 marks)
- b) Give **SIX** characteristics of a good research (6 marks)
- c) Distinguish between the following basic types of research (6 marks)
 - i) Descriptive vs Analytical
 - ii) Applied vs Fundamental
 - iii) Quantitative vs Qualitative
- d) State the characteristics of a good problem statement (4 marks)

QUESTION TWO (20 MARKS)

- a) Give a detailed analysis of the **FOUR types** of research design (8 marks)
- b) Research proposal is of great significance both to the researcher and the reader. Highlight **SEVEN** importance of a good research proposal. (7 marks)
- c) Explain purposes of a research design (5 marks)

QUESTION THREE (20 MARKS)

- a) Thesis is an organized format of research work done. It is viewed in three main categories. Highlight the components of the three main categories (15 marks)
- b) Highlight the characteristics of a good sample design (5 marks)

QUESTION FOUR (20 MARKS)

- a) Researchers have an ethical responsibility to their team's safety as well as their own and also protecting the anonymity of both the sponsor and the respondent. Discuss (8 marks)
- b) Give the characteristics a full blown consent statement, according to Neuman and Wiegand (2000) (7 marks)
- c) Outline steps steps are to be followed in identifying a research problem (5 marks)

QUESTION FIVE (20 MARKS)

- a) Explain the meaning of the following terms (8 marks)
 - i) Objectives
 - ii) Theory
 - iii) Problem statement
 - iv) Hawthorne effect.
 - iv) Halo effect
 - v) Plagiarism
 - Vii) Research design
 - ix) Research problem
- b) Highlight the characteristics of a good hypotheses (7 marks)
- c) Highlight the types of error during data collection (5 marks)