CHUKA   **UNIVERSITY**

UNIVERSITY EXAMINATIONS

FIRST YEAR EXAMINATION FOR THE AWARD OF DEGREEOF BACHELOR OF SCIENCE IN MATHEMATICS

MATH 390: RESEARCH METHODOLOGY

STREAMS: **TIME: 2 HOURS**

DAY/DATE: WEDNESDAY 07/07/2021   **5.00 P.M. – 7.00 P.M.**

INSTRUCTIONS:
- **Answer question one and any other two questions**
- **Adhere to the instructions on the answer booklet.**

QUESTION ONE Compulsory.

a.   Explain the difference between primary data and Secondary data   (2 marks)

b.   State at least three assumptions of Sampling   (3 marks)

c.   List at least four Forms of Hypothesis   (4 marks)

d.   State the main parts of an abstract in a report   (6 marks)

e.   State and briefly explain at least five tools of data collection   (5 marks)

f.   Highlight five Types of Research On the basis of method of research   (5 marks)

g.   Highlight at least six Basic rules in the APA referencing style.   (5 marks)

QUESTION TWO

a.   Highlight and briefly explain 10 sources of applied   mathematics research problem.
                                                                  (10 marks)

b.   Highlight the General format of research report: (5 marks)

c.   Explain the difference between a bibliography and a reference and state at least four referencing styles   (5 marks)

QUESTION THREE

    a.   Highlight the general steps in Experimental Research Methods.   (10 marks)

    b.   State and explain at least five Purposes of a Research Design.   (10 marks)

QUESTION FOUR

    a. Briefly explain the following terms   (4 marks)

        i.   Exploratory or formative research studies.

        ii.   Descriptive research studies

        iii.   Diagnostic research studies

        iv.   Hypothesis-testing research studies

    b. Highlight the criteria to be satisfied by a scientific research   (7 marks)

    c. State at least four questions to be answered in the Evaluation of a research Problem

                (4 marks)

    d. Highlight the main characteristics of a good objective   (5 marks)

QUESTION FIVE

    a.   Explain the steps in Identification of a Research Problem: (5 marks)

    b.   Explain five Characteristics of Good Research Design: (10 marks)

    c.   List at least five types of variables in research   (5 marks)

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