

QUESTION 4

- a) Define a research problem. (2 Marks)
- b) Citing FOUR reasons, explain the purpose of a problem statement in research. (8 Marks)
- c) Explain FIVE desirable attributes of problem statements. (10 Marks)

QUESTION 5

- a) State the purpose of the methodology section in a research. (2 Marks)
- b) Distinguish between method and methodology as applied in research. (4 Marks)
- c) Discuss FIVE key aspects of an effectively written methodology section. (10 Marks)
- d) Describe TWO things that should be avoided when writing the methodology section. (4 Marks)

~~~~~ END OF EXAM ~~~~~

**SECTION A      COMPULSORY QUESTION**

**(30 MARKS)**

**QUESTION 1**

- a) Explain the meaning and purpose of research. (5 Marks)
- b) Identify SIX characteristics of a good research. (6 Marks)
- c) Outline SEVEN basic steps of the scientific process. (7 Marks)
- d) Distinguish between the following:
  - i). Applied Research and Basic research (4 Marks)
  - ii). Dependent and Independent Variable (4 Marks)
  - iii). Primary and Secondary sources (4 Marks)

**SECTION B      ATTEMPT ANY TWO QUESTIONS      (20 MARKS EACH)**

**QUESTION 2**

- a) State FOUR reasons for conducting a literature review. (4 Marks)
- b) While undertaking a review of literature, a researcher can adopt an approach depending on the type of analysis underpinning a given study. Discuss FOUR types of possible literature reviews. (8 Marks)
- c) Evaluating the authority, usefulness, and reliability of resources is a crucial step in conducting a review of the literature. Describe FOUR things a researcher is likely to do while evaluating sources for literature review. (8 Marks)

**QUESTION 3**

- a) Define research design. (2 Marks)
- b) Outline EIGHT possible types of research designs. (8 Marks)
- c) Taking the time to develop a thorough research design helps to organize your thoughts, set the boundaries of your study, maximize the reliability of your findings, and avoid misleading or incomplete conclusions. Describe FIVE research design flaws that should be avoided to improve the quality and reliability of your final results. (10 Marks)





## CIR 201: RESEARH METHODS AND TECHNICAL WRITING

Date: 23<sup>rd</sup> January, 2025

Time: 12.00 - 3.00pm

## INSTRUCTIONS:

- Do not write anywhere on this Question paper
- Answer ALL Questions in Section A and any other TWO in Section B.

MASENO UNIVERSITY

ISO 9001:2015 CERTIFIED



ACE Scanner

## SECTION A

{30 MARKS}

- Q1. (a) Precisely outline the major difference between research hypothesis and research question. [6 marks]
- (b) Briefly, outline any THREE forms of unethical behaviour in research undertaking. [6 marks]
- (c) State the THREE perspectives from which types of research can be classified. [6 marks]
- (d) Briefly discuss how experience and creativity are two major factors that influence the choice of a researchable question [6 marks]
- (e) Clearly and precisely give a definition of the term **research** from academic view point. [3 marks]
- (d) Briefly outline the main difference between Applied and Basic Research with respect to their main goals. [3 marks]

## SECTION B

{20 MARKS EACH}

- Q2. As a student researcher, you have a task to come up with a research problem. Briefly outline FIVE
- (a) Sources from where you can identify a researchable problem [10 marks]
- (b) Qualities of what is considered as good research. [10 marks]
- Q3. Imagine you are a student researcher and at the end of your research undertaking you are expected to prepare a research project report that is considered standard for presentation before a Project Panel. In order to prepare such a report
- (a) Briefly discuss the key factors to take into consideration. [10 marks]
- (b) Give an outline of its structure [10 marks]
- Q4. (a) With the aid of a well-labelled diagram, show the key steps in undertaking any research work [10 marks]



- (c) State the THREE perspectives from which types of research can be classified. [6 marks]
- (d) Briefly discuss how experience and creativity are two major factors that influence the choice of a researchable question [6 marks]
- (e) Clearly and precisely give a definition of the term **research** from academic view point. [3 marks]
- (d) Briefly outline the main difference between Applied and Basic Research with respect to their main goals. [3 marks]

**SECTION B****{20 MARKS EACH}**

- Q2. As a student researcher, you have a task to come up with a research problem. Briefly outline FIVE
- (a) Sources from where you can identify a researchable problem [10 marks]
- (b) Qualities of what is considered as good research. [10 marks]
- Q3. Imagine you are a student researcher and at the end of your research undertaking you are expected to prepare a research project report that is considered standard for presentation before a Project Panel. In order to prepare such a report
- (a) Briefly discuss the key factors to take into consideration. [10 marks]
- (b) Give an outline of its structure [10 marks]
- Q4. (a) With the aid of a well-labelled diagram, show the key steps in undertaking any research work [10 marks]
- (b) As a student researcher briefly explain how a computer system in your own view is considered a handy tool for any research undertaking. [10 marks]
- Q5. (a) Briefly outline the FIVE main chapters that constitute a typical research project report. [15 marks]
- (b) Give reasons why by and large, the idea of Bibliographic Citations and Referencing has become one of a great significance in research works as well as in other technical writings generally. [5 marks]



ACE Scanner



**MASENO UNIVERSITY**  
**UNIVERSITY EXAMINATIONS 2024/2025**

**SECOND YEAR FIRST SEMESTER EXAMINATION FOR THE  
 DEGREE OF BACHELOR OF SCIENCE IN MATHEMATICS  
 & COMPUTER SCIENCE**

**MAIN CAMPUS**