



**MASINDE MULIRO UNIVERSITY OF  
SCIENCE AND TECHNOLOGY  
(MMUST)**

**MAIN CAMPUS**

**UNIVERSITY EXAMINATIONS (MAIN PAPER)**

**2023/2024 ACADEMIC YEAR**

**THIRD YEAR FIRST SEMESTER EXAMINATIONS**

**FOR THE DIPLOMA  
IN  
MEDICAL BIOTECHNOLOGY**

**COURSE CODE: BBD 317**

**COURSE TITLE: RESEARCH PROJECT I**

**DATE: 8<sup>TH</sup> DECEMBER 2023**

**TIME: 2.00-4.00PM**

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**INSTRUCTIONS TO CANDIDATES**

This paper is divided into three sections, **A B** and **C**, carrying respectively: Multiple Choice Questions (**MCQs**), Short Answer Questions (**SAQs**) and Long Answer Questions (**LAQs**). Answer all questions. **DO NOT WRITE ON THE QUESTION PAPER**

**TIME:** 2 Hours

MMUST observes ZERO tolerance to examination cheating

This Paper Consists of 5 Printed Pages. Please Turn Over.

### SECTION A: Multiple Choice Questions (20 Marks)

1. What is the primary purpose of the preliminaries in a research project?
  - A. To provide a brief overview of the study
  - B. To introduce the research problem and its significance
  - C. To present detailed data analysis
  - D. To discuss potential future research directions
2. Which one of the following parts of research project describes factors that make the stated problem a critical issue to warrant the study?
  - A. Conceptual framework
  - B. Literature review
  - C. Problem statement
  - D. Hypothesis
3. Which one of the following elements is typically included in the preliminaries section?
  - A. Research findings
  - B. Acknowledgements
  - C. Detailed methodology
  - D. In-depth literature review
4. In the preliminaries, which one of the following statements best defines the scope of the study?
  - A. It outlines the methods used in the research.
  - B. It specifies the timeline for the research project.
  - C. It delineates the boundaries within which the research was conducted.
  - D. It highlights the potential implications of the research.
5. Which one of the following terminologies should be avoided when formulating objectives of the study?
  - A. To determine
  - B. To examine
  - C. To prove
  - D. To evaluate
6. The primary goal of the introduction in a research paper \_\_\_\_\_.
  - A. To summarize the literature review
  - B. To present the research findings
  - C. To provide background information and context for the study
  - D. To discuss the limitations of the research
7. Which one of the following is an essential component of an introduction?
  - A. Detailed data analysis
  - B. Hypothesis testing
  - C. Problem statement and research objectives
  - D. Survey methodology
8. The introduction section helps readers to \_\_\_\_\_.
  - A. Understand the experiment's results.
  - B. Determine the research's relevance and context.
  - C. Analyze the statistical significance of the study.
  - D. Review the literature in-depth.
9. The primary purpose of the literature review in a research project \_\_\_\_\_.
  - A. To present original research findings
  - B. To evaluate and synthesize existing research on the topic
  - C. To discuss the limitations of the study
  - D. To outline the methodology used in the research
10. The research design that gives an in-depth investigation of a group, individual or phenomenon is known as \_\_\_\_\_

- A. Descriptive study
  - B. Correlational study
  - C. Survey study
  - D. Case study
11. Which one of the following best describes the structure of a literature review?
- A. A chronological overview of the research topic
  - B. A critical analysis of existing literature
  - C. A presentation of the raw data
  - D. A summary of the author's opinions
12. In the literature review, what is the importance of citing sources?
- A. To show the author's knowledge of the topic
  - B. To avoid plagiarism and give credit to the original authors
  - C. To increase the word count of the paper
  - D. To provide subjective opinions on the research topic
13. The methodology section of a research paper typically include \_\_\_\_\_
- A. Detailed explanation of the results
  - B. Description of the research process and techniques used
  - C. Discussion of potential future studies
  - D. Summary of the literature review
14. The term that best describes the systematic, theoretical analysis of the methods applied in the research is \_\_\_\_\_
- A. Hypothesis
  - B. Data analysis
  - C. Methodology
  - D. Conclusion
15. The significance of the methodology section in a research paper is \_\_\_\_\_
- A. To present the researcher's personal opinions
  - B. To explain how the research was conducted and how the data was gathered
  - C. To provide an analysis of existing literature
  - D. To suggest alternative research approaches
16. The section of a research paper that is dedicated to presenting and interpreting the collected data is \_\_\_\_\_
- A. Introduction
  - B. Literature review
  - C. Methodology
  - D. Data analysis
17. A small group that is representative of the total population is known as \_\_\_\_\_
- A. Variable
  - B. Sample
  - C. Target population
  - D. Accessible population
18. The purpose of data analysis in a research project is \_\_\_\_\_
- A. To highlight the researcher's biases
  - B. To summarize the literature review
  - C. To systematically interpret the collected data
  - D. To propose new research questions
19. Which one of the following is not a non-probability sampling method?
- A. Purposive sampling.

- B. Random sampling
  - C. Quota sampling
  - D. Convenient sampling
20. The statistical tool or method that is commonly used for data analysis in research projects is \_\_\_\_\_
- A. Anecdotal evidence
  - B. Qualitative analysis
  - C. Descriptive statistics, regression analysis, or hypothesis testing
  - D. Subjective observations

**SECTION B: Short Answer Questions (40 Marks)**

1. Define the term research and list down three purposes of research (5mks)
2. List five sources of a research problem (5mks)
3. Describe the following sampling designs giving relevant examples
  - a) Purposive sampling (5mks)
  - b) Snowball sampling (5mks)
4. Briefly describe TWO research instruments (4mks)
5. Differentiate between null hypothesis and alternative hypothesis giving relevant examples of each (4mks)
6. Explain the role of Justification in a research proposal (4mks)
7. Differentiate between a dependent and independent variables (4mks)
8. Enumerate TWO ethical principles that guide the conduct of research (4mks)

**SECTION C: Long Answer Questions (60 Marks)**

1. You have been asked to develop a research proposal, describe the process you would use to identify a research problem and various sources you can use to obtain literature review (20 marks)
2. Discuss various research instruments that can be used to collect data (20 marks)
3. Discuss the importance of literature review and the steps that can be used to carry out literature review (20 marks)