

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

**UNIVERSITY EXAMINATIONS (MAIN PAPER)
2019/2020 ACADEMIC YEAR**

THIRD YEAR SECOND SEMESTER EXAMINATIONS

**FOR THE DEGREE
OF
BACHELOR OF SCIENCE IN MEDICAL LABORATORY
SCIENCES**

COURSE CODE: BML 327

COURSE TITLE: RESEARCH METHODOLOGY

DATE: 10TH DECEMBER 2020

TIME: 8.00 -10.00AM

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.

TIME: 2 Hours

MMUST observes ZERO tolerance to examination
cheating

This Paper Consists of 4 Printed Pages. Please Turn Over

SECTION A: 20 MARKS

Answer all questions in SECTION A

1. Research problems in which participants rights and study demands are put in direct conflict pose
 - A. Ethical misconduct
 - B. Ethical dilemmas
 - C. High risk/benefit ratio
 - D. Ethical negligence
2. The _____ is one of the first internationally recognized efforts to establish ethical standards
 - A. Nuremberge code
 - B. Declaration of Helsinki
 - C. Nazi atrocities
 - D. Tuskegee syphilis study
3. The principle of Beneficence states that
 - A. Right to self-determination and right to full disclosure
 - B. Voluntary participation
 - C. Above all do not harm
 - D. Fair treatment of study participants
4. Which of the following is a probability sampling design
 - A. Convenience sampling
 - B. Snow-ball
 - C. Quota sampling
 - D. Simple random sampling
5. Which of the following refers to a report that may be required by an IRB
 - A. Application for initial review
 - B. Application for continue review
 - C. Deviation from an approved study
 - D. Amendments or modifications
6. Which of the following is **NOT** important in achieving research control
 - A. Allowing for no variation
 - B. Generalization of research findings
 - C. Specifying allowable variation
 - D. Distributing variation equally
7. _____ is a series of actions that are necessary to effectively conduct research
 - A. Research design
 - B. Research protocol
 - C. Research process
 - D. Research problem
8. _____ refers to the subject, issue or area under discussion
 - A. Topic
 - B. Title
 - C. Problem
 - D. Abstract
9. _____ analysis provides statistical support for the answer to research question
 - A. Descriptive
 - B. Data
 - C. Inferential
 - D. Empirical
10. The type of research that aims at gaining familiarity with a phenomenon is known as
 - A. Descriptive
 - B. Diagnostic
 - C. Hypothesis testing
 - D. Exploratory
11. Which of the following approaches to research is considered objective
 - A. Quantitative Research

- B. Analytical Research
 - C. Qualitative Research
 - D. Fundamental research
12. The type of research that results in general knowledge and understanding nature and its laws is
- A. Applied research
 - B. Exploratory research
 - C. Basic research
 - D. Descriptive research
13. Which of the following is NOT a category of quantitative research approach
- A. Inferential
 - B. Measurement
 - C. Experimental
 - D. Simulation
14. Naturalistic inquiry or field studies refers to
- A. Quantitative research
 - B. Feelings and insights of participants
 - C. Qualitative research
 - D. Interviews and focused group discussions
15. The techniques the researcher uses in conducting research activities is referred to as:
- A. Research methodology
 - B. Research methods
 - C. Research technology
 - D. Research techniques
16. Persons who provide information by way of filling out a questionnaire are called
- A. Subjects
 - B. Study participants
 - C. Respondents
 - D. Investigators
17. Which of the following is an element of a research problem:
- A. Theoretical framework
 - B. Central points
 - C. Literature review
 - D. Concessions
18. Control refers to the control of variables under study and other variables that may potentially affect the study. The following can be used to achieve control EXCEPT?
- A. Collecting a random sample
 - B. Allowing for no variation
 - C. Specifying for the variation to be allowed
 - D. Distributing the variation equally
19. Which of the following should be considered when preparing a research design:
- A. The means of obtaining the information
 - B. Number of potential participants available
 - C. The availability and skills of the researcher and his staff
 - D. The cost of the research
20. Which of the following is NOT a dimension in the Principle of Beneficence:
- A. Freedom from harm
 - B. Justice
 - C. Freedom from exploitation
 - D. Benefits from research

SECTION B: SHORT ANSWER QUESTIONS (40 MKS)

Instructions

- This section has a total of **EIGHT** short answer questions
- Answer all questions

Write your answers on the provided university examination booklet

1. Evans has been studying the penguins of Madagascar for the last 30 years. In performing his research, he goes to the sea shores to look at the behaviour of the penguins recording in his data collection tool.
 - a) Identify the type of research Evans is engaged in [2 Marks]
 - b) Elaborate any three key features of this type of research [3 Marks]
2. There are two research approaches namely qualitative and quantitative. Explain why you would choose one approach and not the other in your research [5 Marks]
3. Using your knowledge on continuous and categorical variables, formulate two specific objectives that incorporate one such variable [5 Marks]
4. Design a 3 by 2 factorial design for a selected research problem [5 Marks]
5. A measurement can be reliable and not valid, explain [5 Marks]
6. Giving specific examples, explore two sources of research problems [5 Marks]
7. Demonstrate how you will apply stratified sampling to select your study participants [5 Marks]
8. Identify the key things that must be included in an abstract of a completed research project [5 Marks]

SECTION C: LONG ANSWER QUESTIONS (60 MKS)

Instructions

- This section has TWO long answer questions (LAQs), totalling a maximum of forty (60) marks
- Answer all questions

Write your answers on the provided university examination booklet

1. Using a research topic of your choice
 - a. Write a problem statement of 200 words [10 Marks]
 - b. Derive three research questions from the problem [6 Marks]
 - c. Derive three specific objectives from the questions above [6 marks]
 - d. Coin the title for the research study [4 Marks]
 - e. Write a justification of 100 words for this study [4 Marks]
2. Literature review is a very important step in the research process. Its primary purposes include a) Orientation to what is known b) Provision of a conceptual or theoretical framework and c) indication of a research approach. Using a research problem of your choice, demonstrate how you will conduct an effective literature review [30 Marks]