



(University of Choice)

MASINDE MULIRO UNIVERSITY OF SCIENCE AND TECHNOLOGY

(MMUST)

MAIN CAMPUS

UNIVERSITY MAIN EXAMINATIONS

2022/2023 ACADEMIC YEAR

FOURTH-YEAR, SECOND-SEMESTER EXAMINATIONS

FOR THE DEGREE OF

BACHELOR OF OPTOMETRY AND VISION SCIENCES

COURSE CODE: BOV 423

COURSE TITLE: RESEARCH METHODOLOGY

DATE: 17/4/2023

TIME: 8.00-10.00 AM

INSTRUCTIONS TO CANDIDATES

Answer all Questions

Section A: Multiple choice questions (MCQ) (20 marks)

Section B: Short Answer Questions (SAQ) (30 marks)

Section C: Long Answer Questions (LAQ) (20 marks)

TOTAL 70 MARKS

TIME: 2 Hours

MMUST observes ZERO tolerance to examination cheating

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

SECTION A MULTIPLE CHOICE QUESTIONS

1. Which of the following statement is correct?
 - (A) Reliability ensures the validity
 - (B) Validity ensures reliability
 - (C) Reliability and validity are independent of each other
 - (D) Reliability does not depend on objectivity

2. What is the first step of research?
 - (A) Survey of related literature
 - (B) Searching for solutions to the problem
 - (C) Finding a problem
 - (D) Identifying a problem

3. Which statistical test does a researcher use to test null hypothesis?
 - (A) t test
 - (B) ANOVA
 - (C) X²
 - (D) factorial analysis

4. The study in which the investigators attempt to trace an effect is known as?
 - (A) Survey Research
 - (B) 'Ex-post Facto' Research
 - (C) Historical Research
 - (D) Summative Research

5. When people are readily available, volunteer, or are easily recruited to the sample, this is called:
 - (A) Snowball sampling
 - (B) Convenience sampling
 - (C) Stratified sampling
 - (D) Random sampling

6. Which technique is generally followed when the population is finite?
 - (A) Area Sampling Technique
 - (B) Purposive Sampling Technique
 - (C) Systematic Sampling Technique
 - (D) None of the above

7. Which one is called non-probability sampling?
 - (A) Cluster sampling
 - (B) Quota sampling

- (C) Systematic sampling
 - (D) Stratified random sampling
8. Which sampling method is appropriate to study the prevalence of refractive errors amongst males and females in Kenya in 1976, 1986, 1996 and 2006?
- (A) Cluster sampling
 - (B) Systematic sampling
 - (C) Quota sampling
 - (D) Stratified random sampling
9. The research that applies the laws at the time of field study to draw more and more clear ideas about the problem is identified as which type of research?
- (A) Applied research
 - (B) Action research
 - (C) Experimental research
 - (D) None of these
10. When a research problem is related to heterogeneous population, the most suitable sampling method is:
- (A) Cluster Sampling
 - (B) Stratified Sampling
 - (C) Convenient Sampling
 - (D) Lottery Method
11. The process not needed in experimental research is:
- (A) Observation
 - (B) Manipulation and replication
 - (C) Controlling
 - (D) Reference collection
12. What is the name of a variable that is presumed to cause a change in another variable?
- (A) Categorical variable
 - (B) Dependent variable
 - (C) Independent variable
 - (D) Intervening variable
13. Why it is important for a researcher to review the literature?
- (A) Because it shows time has been spent on the subject
 - (B) Because it identifies like-minded researchers
 - (C) Because it is traditional
 - (D) Because it will find if anyone has done the before
14. What is the use of Mendely software in the process of research?
- (A) To analyze data of the study
 - (B) To manage reference in the research report
 - (C) To determine the sample size of the study
 - (D) To test hypothesis

15. Research that uses qualitative methods for one phase and quantitative methods for the next phase is known as:
- (A) Action research
 - (B) Mixed-method research
 - (C) Quantitative research
 - (D) Pragmatic research
16. When is a null hypothesis accepted in a research study?
- (A) when there is no difference between the variables
 - (B) the same as research hypothesis
 - (C) subjective in nature
 - (D) when there is difference between the variables
17. The research which is exploring new facts through the study of the past is called?
- (A) Philosophical research
 - (B) Historical research
 - (C) Mythological research
 - (D) Content analysis
18. What is the name of the group that receives the placebo treatment of the condition in a research study?
- (A) Experimental group
 - (B) Control group
 - (C) Participant group
 - (D) Independent group
19. There are 20 participants in a study and one is interested to select a sample of size 5 by using a systematic random sampling technique. Which units of the population be included in the sample?
- (A) a) 2, 6, 10, 14 and 18
 - (B) b) 2, 4, 6, 8 and 10
 - (C) c) 4, 6, 8, 10 and 12
 - (D) d) 2,8,12,16 and 20
20. What is the definition of Research?
- (A) Searching again and again
 - (B) Finding a solution to any problem
 - (C) Working in a scientific way to search for truth of any problem
 - (D) Reading materials about a topic

SECTION B: SHORT ANSWER QUESTION

- (a) Describe the following types of research studies clearly showing the conditions under which each becomes applicable in public health research
- (i) Longitudinal studies 3 marks
 - (ii) Cross sectional studies 3 marks
 - (iii) Experimental studies 3 marks
- (b) Explain the limitations of exploratory designs in public health research 6 marks
- (c) Explain the factors to consider when choosing a research topic for academic research 5 marks
- (d) Clearly explain the benefits of conducting an extensive literature review before undertaking a research project 10 marks
- (e) Explain the sources of systematic bias in research 5marks
- (f) Distinguish between stratified sampling and quota sampling 5 marks

SECTION C LONG ANSWER QUESTIONS

- (a) Identify any research topic in Eye care that would use Masinde Muliro University students as the target population.
- (i) Clearly state the identified research topic 5 mark
 - (ii) Write down the general objective of the study 5 marks
 - (iii) Write short notes on the research problem identified 5 marks
 - (iv) Describe how stratified sampling design would be used to select a sample of students for the identified study 5marks

