

CANDIDATE NUMBER .....



*"Investing in Africa's Future"*

COLLEGE OF HEALTH, AGRICULTURE & NATURAL SCIENCES  
DEPARTMENT OF BIOMEDICAL AND LABORATORY SCIENCES  
BACHELOR OF MEDICAL LABORATORY SCIENCES HONOURS  
NSHA204 RESEARCH METHODS AND ETHICS IN HEALTH RESEARCH  
END OF FIRST SEMESTER FINAL EXAMINATIONS

APRIL 2024

LECTURER: Dr S L Mutambu

DURATION: 3 HOURS

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### ***INSTRUCTIONS***

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1. Write your candidate number on the space provided on top of each page
  2. Answer **all** questions in sections A, Part I and Part II on the question paper.
  3. Answer **all** questions in section B on separate answer sheets provided.
  4. Answer any **2** questions in section C on separate answer sheets provided
  5. The mark allocation for each question is indicated at the end of the question
  6. Credit will be given for logical, systematic and neat presentations in sections B and C
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**SECTION A**

**PART I: TRUE (T) OR FALSE (F) QUESTIONS [15 MARKS]**

Answer **all questions** by encircling the correct response **T** for **TRUE** or **F** for **FALSE** for each statement in all the questions. Each correct response is allocated a quarter mark.

1. The logical steps of conceptualization of the research process can either be a systematic or cyclic series of these logical steps:

T	F	a. Identifying the problem
T	F	b. Formulating a hypothesis
T	F	c. Developing the research plan
T	F	d. Collecting and analysing the data
2. These terminologies are used in sampling:

T	F	a. Sampling Unit - If for example we select households from a list of all units in the population, the sampling unit is in this case the household
T	F	b. Sampling Universe is the population from which we are sampling
T	F	c. Respondent is the person responsible for responding to questionnaires in the field.
T	F	d. Survey Subject: Entity or person from whom we are collecting data.
3. A hypothesis:

T	F	a. Is a belief or prediction of the final outcome of the research.
T	F	b. Is a concrete, specific statement about the relationships between phenomena
T	F	c. Is based on deductive reasoning
T	F	d. Applies to only qualitative studies
4. Key Questions to be answered about a proposal include:

T	F	a. Does it specify the conditions one wishes to change?
T	F	b. Does it define the gaps in existing programs, services, or knowledge?
T	F	c. Does it include appropriate statistical data about the frequency and severity of the problem?
T	F	d. Does it clarify what will happen if nothing is done about this problem?
5. The Quantitative Research Approach has:

T	F	a. Clearly stated questions
T	F	b. Developed research procedures
T	F	c. Large samples
T	F	d. Traditional statistical analyses
6. Ethics are:

T	F	a. Moral Principles
T	F	b. What is good and bad
T	F	c. What is right and wrong
T	F	d. Based on value system
7. The following are unethical acts:

T	F	a. A doctor prescribing or dispensing secret remedial agents of which he Does not know (composition, manufacture, use, <i>etc</i> ).
T	F	b. A doctor assisting or being a party to either infliction of mental or

- physical trauma or concealment of torture by another person.
- T F c. Practising euthanasia
- T F d. Dispensing of drugs and appliances by physicians
8. These are considered Acts of Misconduct
- T F a. Violation of regulations
- T F b. Adultery or improper conduct
- T F c. Conviction in court of law
- T F d. Signing false professional certificates, reports and other documents
9. All of these are ethical codes:
- T F a. Hippocratic Oath – 5th century BC
- T F b. Declaration of Geneva - 1948
- T F c. Universal Declaration of Human Rights-1948
- T F d. Helsinki Declaration -1964
10. Institutional Ethics Committees:
- T F a. Ensure competent review of proposals.
- T F b. Ensure execution free of bias and influence.
- T F c. Provide advice to researchers.
- T F d. Are composed of researchers and medical practitioners only
11. These are types of Experimental Designs:
- T F a. Pre-Experimental
- T F b. Quasi Experimental
- T F c. True Experimental
- T F d. Ethnography Research
12. The following are true experimental designs:
- T F a. Post test only design
- T F b. Pretest-posttest only design
- T F c. Solomon four group design
- T F d. Randomised block design
13. Some of the tools used to collect data are:
- T F a. Focus group discussions
- T F b. Case studies
- T F c. Interviews
- T F d. Expert opinion
14. A data collection plan is a document that defines all the details of the data to be collected including:
- T F a. The reason for collecting the data
- T F b. Where the data will be collected
- T F c. The type of data that will be collected
- T F d. How the right data will be collected
15. The four main areas that health care providers must consider when evaluating justice are:
- T F a. Fair distribution of scarce resources
- T F b. Competing needs
- T F c. Rights and obligations
- T F d. Potential conflicts with established legislations

**PART II: MULTIPLE CHOICE MATCHING QUESTION [5 MARKS]**

Answer **all questions** by matching List I with List II. Each correct response carries one (1) mark.

<b>LIST I</b>	<b>LIST II</b>	
<b>Research concept</b>	<b>Description</b>	<b>Answer</b>
<b>A.</b> Probability sampling	<b>I</b> Systematic, controlled, empirical and critical investigation of hypothetical propositions about the presumed relations among observed phenomena.	
<b>B.</b> Inductive reasoning	<b>II.</b> Research must be conducted in a methodologically rigorous manner, to be ethical	
<b>C</b> Scientific research	<b>III.</b> Individuals must make rational and free decisions as to whether the research trials are compatible with their interests; If not, enrolling them into trials would be treating them as a means to an end that they may not endorse.	
<b>D.</b> Scientific validity	<b>IV.</b> One in which every unit in the population has a chance greater than zero of being selected in the sample.	
<b>E</b> Informed consent	<b>V.</b> Researchers observe an individual or group of individuals from a larger population and based on these observations, generalizations are made back to the larger population.	

**SECTION B**

**SHORT ANSWER QUESTIONS [20 MARKS]**

**Answer all questions in this section**

1. State five qualities of an Institutional Review Board (IRB). *(5 marks)*
  
2. Name two types of qualitative research methods and what they focus on. *(4 marks)*
  
3. Name three characteristics of qualitative data *(3 marks)*
4. State any three research issues that give rise to ethical concerns *(3 marks)*
5. List any 5 standards that govern the profession of medical laboratory scientists *(5 marks)*

**SECTION C**

**LONG ESSAY ANSWERS [40 MARKS]**

**Answer any 2 questions from this section on separate sheets provided. Each question carries 20 marks.**

1. Giving examples, compare and contrast probability sampling and non-probability sampling.
2. Give a detailed account of the types of review that protocols/proposals submitted to Ethical Review Boards may undergo.
3. You have been given the following list of values: 11, 13, 20, 25, 31, 33, 37, 39, 40, 41, 45. Using this list of values make a:
  - a) Frequency distribution table
  - b) Stem and leaf plot
  - c) Histogram
4. Giving examples, discuss how the three basic principles of Autonomy, Non Maleficence and Confidentiality are important in health care.

**END**