

Student registration number.....



"Investing in Africa's Future"

**COLLEGE OF HEALTH, AGRICULTURE AND NATURAL
SCIENCES**

DEPARTMENT OF BIOMEDICAL AND LABORATORY SCIENCES

BACHELOR OF MEDICAL LABORATORY SCIENCES HONOURS DEGREE

NSHS204: RESEARCH METHODS AND ETHICS IN HEALTH CARE

END OF SEMESTER FINAL EXAMINATIONS

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DURATION: 3 HOURS

INSTRUCTIONS

- The paper comprises of three sections (A, B and C).
- Write your registration number on the spaces on top of each page

Section A (20 marks)

Answer all questions in this section.

Indicate F or T on each of the given options

Section B (20 marks)

Answer all questions in this section.

Section C (60 marks)

Choose **three** questions. Credit will be given for logical, systematic and neat presentations.

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SECTION A [20 marks]

Indicate True (T) or False (F) for each statement a,b,c,d in all questions

1. Which type of study is most suitable when there is little to no insight in a certain problem or when there is no information available on how similar problems or research issues have been solved in the past?

- a study.
- b. Descriptive study.
- c. Causal study.
- d. Experiments.

2. What cannot be the purpose of a causal study?

- a. Understanding the dependent variable.
- b. Predicting the dependent variable.
- c. sure that all relevant variables are included in the study.
- d. Explaining the variance in the dependent variable.

3. A study in which data are gathered at more than one point in time is called ...

- a. A cross-sectional study.
- b. A longitudinal study.
- c. An experimental study.
- d. A randomized study.

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

- a. Identifying the problem
- b. Formulating a hypothesis
- c. Developing the research plan
- d. Collecting and analysing the data

5. Research conducted to identify the characteristics of a group is termed as:

- (a) exploratory research
- (b) descriptive research
- (c) diagnostic research
- (d) experimental research

6. of the following is not a principle of experimental design:

- (a) principle of replication
- (b) principle of randomization
- (c) principle of local control
- (d) principle of validity

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7 The method by which a sample is chosen

- a) Unit b) design c) Random d) Census

8 Research conducted to find solution for an immediate problem is

- a) Fundamental Research b) Analytical Research
c) Survey. d) Action Research

9 Fundamental Research is otherwise called

- a) Action Research b) Survey c) Pilot study d) Pure Research

10 A research which follows case study method is called

- a) Clinical or diagnostic b) Causal
c) Analytical d) Qualitative

11 Research conducted in class room atmosphere is called

- a) Field study b) Survey
c) Laboratory Research d) Empirical Research

12. Research through experiment and observation is called

- a) Clinical Research b) Experimental Research
c) Laboratory Research d) Empirical Research

13 is a way to systematically solve the research problem

- a) Technique b) Operations
c) Research methodology d) Research Process

14. Good Research is always

- a) Slow b) Fast c) Narrow d) Systematic

15. Research method is a part of

- a) Problem b) Experiment
c) Research Techniques d) Research methodology

16. Identifying causes of a problem and possible solution to a problem is

- a) Field Study b) diagnosis tic study
c) Action study d) Pilot study

17 .A theory:

- a. Is a belief or assumption about how things relate to each other
b. Establishes a cause-and-effect relationship between variables with a purpose of explaining and predicting phenomena

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- c. Is based on inductive reasoning
- d. Applies to only quasi-experimental research designs

18. A hypothesis:

- a. Is a belief or prediction of the final outcome of the research
- b. Is a concrete, specific statement about the relationships between phenomena
- c. Is based on deductive reasoning
- d. Applies to only qualitative studies

19. All of these are ethical codes:

- a. Hippocratic Oath – 5th century BC
- b. Declaration of Geneva - 1948
- c. Universal Declaration of Human Rights-1948
- d. Helsinki Declaration -1964

20. Institutional Ethics Committees:

- a. Ensure competent review of proposals.
- b. Ensure execution free of bias and influence.
- c. Provide advice to researchers.
- d. Are composed of researchers and medical practitioners only

SECTION B: [20 MARKS]

Answer all questions in this section

1. Write short notes on descriptive studies. (5 marks)
2. Write brief notes on each of the main components of a research proposal. (5 marks)

3 In a school there are about 1800 students and the investigator wants to determine the prevalence of a certain character (eg., KAP on HIV/AIDS) by taking 450 students. The following table gives the distribution of students by grade and number of sections. a) What type of sampling technique do you use? Why? b) How do you select the subjects who will be included in your sample? (10 MARKS)

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Grade	Number of students	Number of sections
9	600	8
10	500	7
11	400	6
12	300	5
Total	1800	26

SECTION C (60 MARKS)

Answer **THREE** questions in this section

Question 1

Give a detailed analysis of 3 major historical atrocities in the history of health research ethics [20]

Question2 Discuss in detail the fundamental principles of health research ethics [20]

Question 3

Describe in detail the steps involved in conducting a health research. [10]

Discuss the advantages and disadvantages of true experimental and quasi experimental research designs. [10]

Question 4

4a) A Physician wishes to know what proportion of discharged patients are unhappy with the care received during hospitalization for TB treatment. If 95% Confidence interval is desired to estimate the proportion within 5%, how large a sample should be drawn? $n = Z^2 p(1-p)/w^2$ (10marks)

4b) List and discuss all factors that can affect its sample size. (10marks)

Question5

5a) Discuss and differentiate between case control and case study research designs with examples(10marks)

5b) Discuss Randomised Control Trials (RCT) research design(10marks)