(*University of Choice*)

MASINDE MULIRO UNIVERSITY OF SCIENCE AND TECHNOLOGY (MMUST)

SCHOOL OF NURSING MIDWIFERY AND PARAMEDICAL SCIENCES

MAIN UNIVERSITY EXAMINATIONS 2022/2023 ACADEMIC YEAR

FOR THE DEGREES OF BACHELOR OF SCIENCE IN OCCUPATIONAL SAFETY & HEALTH; MEDICAL SOCIAL WORK; PARAMEDICAL SCIENCE; GLOBAL HEALTH AND TRAVEL MEDICENE

COURSE CODE: NCG 420 / NC0 327
COURSE TITLE: RESEARCH PROPOSAL WRITING/ RESEARCH METHODOLOGY

DATE: 13TH APRIL, 2022 TIME: 11.00 AM – 2.30 PM

INSTRUCTIONS TO CANDIDATES

All questions are compulsory
Mobile phones not allowed in the examination room
DURATION: 3 Hours

MMUST observes ZERO tolerance to examination cheating

This paper consists of six (6) printed pages. Please turn over.

PART I: MULTIPLE CHOICE QUESTIONS (20MARKS)

1. Qualitative research involves looking at _____ data.
   A. numerical
   B. emotional
   C. non-numerical
   D. categorical
2. Dr. Omondi does an experiment in which he shows college students either a pet happy movie, a sad movie, or no movie in a classroom. Then, he asks them to fill out a survey assessing their feelings about whether they want to adopt a pet from the animal shelter. In this experiment, what is the INDEPENDENT variable?
   A. How long the movie lasts
   B. Their feelings about pet adoption
   C. The classroom location
   D. The type of movie viewed
3. Why is it important that the research procedures be conducted in sequential order?
   A. To prepare materials ahead of time.
   B. So the research assistants learn the procedures.
   C. So that the study can be replicated.
   D. To inform research participants.
4. Dr. Kamau does a study in which she observes parents and their children interacting at home. She finds that the more supportive parents are, the less aggressive their children are. What conclusion can Dr. Kamau make?
   A. This study has low ecological validity.
   B. Children being aggressive causes parents to be less supportive.
   C. Parents being more supportive causes children to be less aggressive.
   D. Level of support and aggression are negatively correlated
5. Which of the following factors keeps researchers from having a large sample size?
   A. Cost
   B. Time
   C. Practical considerations
   D. All are correct.
6. Which of the following best describes sampling error?
   A. Inaccuracy due to the difference between the sample and the population
   B. Inaccuracy due to the size of the sample
   C. Inaccuracy due to the cost of gathering data
   D. None are correct.
7. Jane wants to study the effect of running on a person's weight. Jane's hypothesis is as follows: The longer the distance a person runs each day, the lower that person's weight will be. Which of the following would be the null hypothesis in this study?
   A. Distance run negatively affects weight

B. Distance run does not affect weight
C. Distance run positively affects weight
D. Distance run definitely affects weight

8. A teacher wants to compare the reading comprehension scores of children with learning difficulties and children without learning difficulties. Which statistical test should she use to make this comparison?

A. t-test
B. Analysis of Variance (ANOVA)
C. Regression
D. p-test

9. Which one of the following correlation coefficients indicates the strongest relationship between two variables while remaining within the possible range of correct calculations?

A. -0.83
B. 0.00
C. +4.50
D. -2.78

10. As part of your course at MMUST, you are required to conduct research and your research question is: 'What is the effect of television viewing on Kenyans?' What is the PROBABLE reason that this question would need some revision.

A The question does not center on specific concerns or issues.
B The question is too broadly focused.
C The question does not lend itself to research easily.
D The question is too narrowly focused.

11. For the results of a study to be thought to support a hypothesis, researchers must prove that the results have _____.

A. central tendency
B. mean, median and mode
C. statistical significance
D. both descriptive and inferential statistics

12. A researcher will be testing to see if a new type of therapy will be helpful, but due to ethical reasons, he will have to enter all of his subjects into one therapeutic group. Which of the following is the best explanation for why this is a non-experimental design?

A. There is a lack of intervention and control groups
B. Any ethical issues make a study a non-experimental study.
C. There is no laboratory to perform this in.
D. Therapy is a non-experimental design.

13. Mark is trying to create a sample for his study. He decides to use non-probability sampling. Which of the following best describes how Mark will choose the subjects for his study?

A. Flipping a coin
B. Non-randomly
C. Systematically
D. Randomly

14. Which of the following is NOT a reason why formulating a research question is one of the first steps in a research project?
    A. It helps the researcher formulate and identify important aspects of their research.
    B. It helps refine what is being researched.
    C. It helps in choosing a topic for research.
    D. It helps lay the groundwork for the research.
15. Which of the following best describes a limitation of qualitative research?
    A Qualitative research cannot look more in-depth at situations.
    B Qualitative research cannot examine complex issues and relationships.
    C Qualitative research only gives numerical data.
    D Qualitative research might not generalize to the population as a whole.
16. Which of the following is the mean of the set of data below? 3, 6, 2, 8, 6, 6, 2, 8, 4
    A. 4
    B. 6
    C. 5
    D. 8
17. Why do researchers collect data?
    A To meet people.
    B To see if their hypotheses are true or not.
    C To better understand themselves.
    D To make money.
18. Which of the following will not help a researcher ensure that their research is representative?
    A Doing what they can to increase participation within the sample.
    B Increasing the sample diversity.
    C Choosing a random sample.
    D Using a large sample size.
19. What are the conditions in which Type-I error occurs?
    A. Both the null hypotheses as well as alternative hypotheses are rejected
    B. The null hypotheses get rejected even if it is true
    C. The null hypotheses get accepted even if it is false
    D. None of the above
20. All the following are strengths of focus groups EXCEPT:
    A. They can generate a collective perspective
    B. Discussion allows for the validation of ideas and views
    C. They help maintain confidentiality
    D. They allow access to a wide range of participants

PART II: SHORT ANSWER QUESTIONS (40MARKS)

1. Differentiate between the following;
    i. Case-control studies and cohort studies [4 marks]
    ii. Systematic sampling and simple random sampling [4 marks]

1. a. What is the relationship between sample and population [6 marks]
   b. Discuss why sampling is important in research [14 marks]

2. Identify and briefly describe the content of the various components of a research proposal [20 marks]
   OR (*Note*: only either number 2 or number 3)

3. Discuss the applications of principles of ethics in research [20 marks]

2. Distinguish between primary, secondary and tertiary data as used in research work [6 marks]
3. There has been reported cases of increased unintended pregnancies among secondary school students in Kakamega County, as a researcher you decide to conduct research on this subject and come up with relevant recommendations to reduce the cases.
    a) Identify a suitable research title for the study (2marks)
    b) Develop three (3) smart objectives for your study (3 marks)
    c) Discuss a suitable research design to employ (5 marks)
4. Consider the following case study and answer the questions below:

    A fitness instructor wants to test the effectiveness of a performance-enhancing herbal supplement on students in her exercise class. To create experimental groups that are similar at the beginning of the study, the students are assigned into two groups at random (they cannot choose which group they are in). Students in both groups are given a pill to take every day, but they do not know whether the pill is a placebo (sugar pill) or the herbal supplement. The instructor gives Group A the herbal supplement and Group B receives the placebo (sugar pill). The students' fitness level is compared before and after six weeks of consuming the supplement or the sugar pill. No differences in performance ability were found between the two groups suggesting that the herbal supplement was not effective.

    i. What makes study experimental? [2 marks]
    ii. What type of information might the investigator collect to see if the treatment (i.e. herbal supplement) is effective? [3 marks]
    iii. How would the fitness instructor allowing the participants to take other herbal supplements in addition to the supplements being tested influence the study results? [3 marks]

5. i. What is a variable? [2 marks]

    ii. Identify the dependent and independent variables in the following scenarios/situations:

    a. Lung cancer and smoking [2 marks]
    b. Salt intake and blood pressure [2 marks]
    c. Consuming energy drinks and end of semester score [2 marks]

PART III: LONG ANSWER QUESTIONS (40 MARKS)