



TECHNICAL UNIVERSITY OF MOMBASA

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FACULTY OF APPLIED AND HEALTH SCIENCES

DEPARTMENT OF MEDICAL SCIENCES

UNIVERSITY EXAMINATION FOR:

BMLS15S

AML 4311: RESEARCH METHODS

END OF SEMESTER EXAMINATION

SERIES: APRIL 2016

TIME: 2 HOURS

DATE: Pick Date Select Month Pick Year

Instructions to Candidates

You should have the following for this examination

-Answer Booklet, examination pass and student ID

This paper consists of TWO Section(s). Attempt ALL questions.

Circle the correct answer in section A.

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Section A

1. Why do you need to review the existing literature?
  - a. To make sure you have a long list of references
  - b. Because without it, you could never reach the required word-count
  - c. To find out what is already known about your area of interest
  - d. To help in your general studying
  - e. For data analysis
2. What is a research design?
  - a. A way of conducting research that is not grounded in theory
  - b. The choice between using qualitative or quantitative methods
  - c. The style in which you present your research findings, e.g. a graph
  - d. A framework for every stage of the collection and analysis of data
3. What is a cross-sectional design?
  - a. A study of one particular section of society, e.g. the middle classes
  - b. One that is devised when the researcher is in a bad mood
  - c. The collection of data from more than one case at one moment in time
  - d. A comparison of two or more variables over a long period of time

4. People who are available, volunteer, or can be easily recruited are used in the sampling method called \_\_\_\_\_.
  - a. Simple random sampling
  - b. Cluster sampling
  - c. Systematic sampling
  - d. Convenience sampling
  - e. Snow ball sampling
5. A good qualitative problem statement:
  - a. Defines the independent and dependent variables
  - b. Conveys a sense of emerging design
  - c. Specifies a research hypothesis to be tested
  - d. Specifies the relationship between variables that the researcher expects to find
  - e. Shows how to analyze data
6. One step that is not included in planning a research study is:
  - a. Identifying a researchable problem
  - b. A review of current research
  - c. Statement of the research question
  - d. Conducting a meta-analysis of the research
  - e. e. Developing a research plan
7. The research participants are described in detail in which section of the research plan?
  - a. Introduction
  - b. Method
  - c. Data analysis
  - d. Discussion
  - e. Budget
8. Sources of researchable problems can include the following except:
  - a. Researchers' own experiences as educators
  - b. Practical issues that require solutions
  - c. Theory and past research
  - d. All of the above
  - e. None of the above
9. A review of the literature prior to formulating research questions allows the researcher to do which of the following except?
  - a. To become familiar with prior research on the phenomenon of interest
  - b. To identify potential methodological problems in the research area
  - c. To develop a list of pertinent problems relative to the phenomenon of interest
  - d. All of the above
  - e. None of the above
10. A study is conducted to determine the lack of exercise on cardiovascular disease. In this study, the dependent variable is the
  - a. Cardiovascular disease.
  - b. Lack of exercise
  - c. Exercise
  - d. Both A and B
  - e. None of the above

11. In an experimental design, the independent variable is:
  - a. The one that is not manipulated and in which any changes are observed
  - b. The one that is manipulated in order to observe any effects on the other
  - c. A measure of the extent to which personal values affect research
  - d. An ambiguous concept whose meaning depends on how it is defined
  - e. Is constant
12. What type of the interview that is in which questions are already prepared?
  - a. Telephonic interview
  - b. Personal interview
  - c. Unstructured interview
  - d. Structured interview
  - e. None of the above
13. If a nominal scale is used, it is permissible to calculate which of the following statistics?
  - a. Mean
  - b. Range
  - c. Percentile
  - d. Mode
  - e. None of the above
14. When may a participant withdraw from a study?
  - a. When the study is complete
  - b. With the permission of the researcher
  - c. At any time they feel they wish to withdraw
  - d. As soon as they have provided enough data for conclusions to have been made
  - e. A participant can never withdraw
15. An experimental research design normally involves
  - a. Manipulating the independent variable
  - b. Manipulating the dependent variable
  - c. A number of repeated measures
  - d. Data collected over an extended time period
  - e. Descriptive analysis only
16. Which of the following is a non probability sampling method?
  - a. Random sampling
  - b. Systematic sampling
  - c. Stratified sampling
  - d. Snowball sampling
  - e. Cluster sampling
17. Determining the sample interval (represented by  $k$ ) and including each  $k$ th element in your sample are the steps for which form of sampling?
  - a. Simple Random Sampling
  - b. Stratified Random Sampling
  - c. Systematic Sampling
  - d. Cluster sampling
  - e. Purposive sampling

18. What is a type 1 error?
- When you reject the null hypothesis when it is true
  - When you accept the null hypothesis when it is true
  - When you reject the null hypothesis when it is false
  - When you accept the null hypothesis when it is true
  - When the P value is less than 0.005
19. What p value is normally used to identify a statistically significant result?
- 0.01
  - 0.05
  - 0.1
  - 0.5
  - 100
20. What will normally be the last of the following sections to be written?
- Abstract
  - Literature review
  - Results
  - Conclusion
  - Data analysis
21. What should be the content of an abstract?
- The topic under examination and the research question or hypothesis
  - The topic under examination, the research question or hypothesis, objectives, and methods of the study
  - The topic under examination, the research question or hypothesis, objectives and a brief résumé of the conclusions
  - The topic under examination, the research question or hypothesis, objectives, and methods of the study, a brief résumé of the conclusions
  - The topic under discussion, data analysis

22. What should not be included in the introduction?
- The aim of the research
  - A statement justifying the importance of the research
  - An indication of the key findings
  - An outline of the structure of the report
  - Conclusion of research
23. What should not be included in a research proposal?
- A summary of existing work in the area
  - The proposed methods to collect data
  - The results that will be obtained
  - An acknowledgement of any ethical issues
  - The objective of the study
24. You would like to repeat a study that has just been published. Which would not be an appropriate way to make such a study original?
- Geographically
  - Temporally
  - Socially
  - Contextually
  - None of the above
25. When assessing Internet based literature, which of the following is NOT important?
- The credibility of the author
  - The purpose of the site
  - The intended audience of the site
  - The layout of the site
  - None of the above
26. Peer-reviewed literature
- Is assessed by the readers of the journal to ensure quality
  - Is assessed before publication to ensure quality
  - Is not available on the internet
  - Is unlikely to be of better quality than non-peer reviewed literature
  - Is never assessed

27. Which of the following is NOT a function of referencing?
- To demonstrate breadth of reading
  - To attribute a quotation
  - To ensure a sufficiently long reference list
  - To justify your approach
  - All of the above
28. If we took the 500 people attending a school in Mombasa, divided them by gender and then took a random sample of the males and a random sampling of the females, the variable on which we would divide the population is called the \_\_\_\_\_.
- Independent variable
  - Dependent variable
  - Stratification variable
  - Sampling variable
  - Cluster variable
29. The process of drawing a sample from a population is known as \_\_\_\_\_.
- Sampling
  - Census
  - Survey research
  - None of the above
  - Snow ball sampling
30. Hypothesis refers to
- The outcome of an experiment
  - A conclusion drawn from an experiment
  - A form of bias in which the subject tries to outguess the experimenter
  - A tentative statement about the relationship
  - The objectives used in the study

## Section B

- Discuss the following techniques:
  - Random sampling (10 mks)
  - Stratified random sampling (10 mks)
- Compare between pure and applied research (10 mks)
  - Outline the advantages and disadvantages of questionnaires (10 mks)