UNIVERSITY OF SWAZILAND

MAIN EXAMINATION PAPER 2014

TITLE OF PAPER	:	RESEARCH METHODS
COURSE CODE	:	ST332
TIME ALLOWED	:	2 (TWO) HOURS
REQUIRMENTS	:	NONE
INSTRUCTIONS	:	ANSWER BOTH QUESTIONS IN PART A AND ANY THREE QUESTIONS IN PART B. ALL QUESTIONS CARRY EQUAL MARKS.

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PART I
ANSWER BOTH QUESTIONS

QUESTION ONE. [4 x 5 = 20 marks]

For each of the following problems, three possible conclusions are given. Choose the most correct one and justify your choice:

1.1 Suppose you want to conduct a survey among students of your university about their opinion on improving the existing Education System. You know that the university authority does not allow students to use their list of enrolled students in any academic year. Hence, you consulted two experts for the advice on how to select the samples. First expert suggested selecting 300 students using simple random sample and the second expert advised to draw 300 students at random without replacement. Which advice will you follow so that you can have better results?

(a) Advice of first expert.
(b) Advice of second expert.
(c) None.

1.2 In one study, the Educational Council needed a representative sample of school students. To draw the sample, they first divided up the population of all schools into four regional groups. Then, they conveniently selected two schools from each group. That created a sample of 8 schools. Each school in the sample was then asked to pick a sample of 100 students using stratified random sampling method.

(a) This sample was drawn using two-stage sampling.
(b) This sample was drawn using stratified random sampling.
(c) This sample was drawn using multi-stage non-probability sampling.

1.3 The age distribution of all students in UNISWA is unknown. Suppose we are interested to find the proportion of students over age 21. However, in a simple random sample of 200 students, it turned out the 120 were over the age of 21. Therefore, we know that

(a) 60% is the value of the parameter.
(b) 60% is the value of the statistic.
(c) 60% is the estimate of the statistic.

1.4 A researcher collected personality scores from a sample of 100 students and organized the scores in a grouped frequency table. That evening the researcher took a copy of that table home in order to use a home computer to do more detailed calculations. However, the researcher soon found that the table did not provide enough information

(a) to find the total scores of the100 students.
(b) to estimate the mean score.
(c) both (a) and (b).

1.5 A comparison of rural communities which have relatively few young men and peri-urban communities with their large numbers of young men, reveals that the peri-urban communities tend to have a higher incidence of alcoholism than the rural ones. One researcher uses this finding to demonstrate that young men are more likely than other groups within the community to abuse alcohol.

(a) The researcher correctly used the results of comparison study.
(b) The researcher is right because that more young man live in the peri-urban area and have the easy accessibility of drink.
(c) The researcher has made an error of drawing conclusions about individuals when the comparison study examines groups of people in two communities.

QUESTION TWO. [10 + 2 + 2 + 2 + 4 marks]

A study was conducted by a student body of the Faculty of Social Science to determine the gender equality (male-female ratio) of the students admitted in the 2014-15 academic year. It is known that all first year students in the faculty take a statistics and a computer foundation course. The student body decided as per their convenience to conduct the study with all students registered in the statistics course, and uses a questionnaire which includes questions about the gender and whether they are taking the course for the first time. The study found that 72 female students from a total of 143 students which includes 9 repeaters (6 were male).

Based on the above facts, answer the following questions:

2.1 State the following for the above study:
(a) What is the population in this study and state the size of the population (if known)?
(b) Which sampling method (if any) was used in this study?
(c) What is the parameter (if any) in this study and state its value (if known)?
(d) What is the statistic (if any) in this study and state its value (if known)?
(e) Which data collection mode was used in this study?

2.2 State the sampling frame used in this study.

2.3 Do you think the findings of the study could be different if the computer foundation course were chosen? Explain your answer.

2.4 Explain the reason why the question "whether they are taking the course for the first time" was included in the questionnaire.

2.5 If you were given the responsibility to conduct this study; would you do it differently? Explain why or why not.

PART II
ANSWER ANY THREE QUESTIONS

QUESTION THREE. [2 + 2 + 6 + 10 marks]

3.1 Consider the following paragraph and answer the questions as given below:

> "This study was an effort to determine whether the take-home test was a good vehicle or a better one for learning than the traditional in-class test. The results of this experiment are important because instructors are increasingly deleting the in-class tests (Gay and Gallagher, 1976), and there seems to be no empirical basis for the belief that the take-home test is as effective. Thus, the current trend toward eliminating formal written tests may actually operate against on of education's major goals: student retention of learned concepts."

What motivated the researcher to conduct this study?

a. State the main objective of the study.
b. Suppose you would like to conduct this experimental study, give an outline how you can design this experiment.

3.2 There are three important sources of problems: experience, deductions from theory and related literature. Discuss how these three sources can help you (as a new researcher) to find a research problem.

QUESTION FOUR. [10 + 10 marks]

4.1 Discuss Stratified random sampling and Cluster sampling with respect to the advantages and disadvantages.

4.2 State three important non-probability sampling techniques. Discuss, with examples, how one can use those techniques in selecting sample in some specific situation.

QUESTION FIVE. [10 + 10 marks]

5.1 Suppose you want to conduct a survey using students of your university as subjects. Outline two separate sampling plans to draw a sample of 200 students by any two probability sampling techniques. Explain which of these two techniques would be most suitable in your case.

5.2 Discuss Written Questionnaires mode and Personal Interviews mode of data collection with respect to similarities and differences.

QUESTION SIX. [10 + 10 marks]

6.1 Discuss briefly the different components of research proposal.

6.2 Discuss the importance of literature review while conducting research.

QUESTION SEVEN. [20 marks]

Compare the following pairs of terms:

7.1 Data Processing and Data Presentation.
7.2 Summary of the Study and Recommendations of the Study.
7.3 Quota Sampling and Stratified Sampling.
7.4 Research Proposal and Research Report.
7.5 Parameter and Statistic.