

**UNIVERSITY OF SWAZILAND**

**MAIN EXAMINATION PAPER 2013**

**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.**

**THIS PAPER IS NOT TO BE OPENED UNTIL PERMISSION HAS  
BEEN GRANTED BY THE INVIGILATOR**

**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 In one study, a civil society needed a representative sample of high school students in Swaziland. To draw the sample, they first divided the nation into five regions: west, north, east, south, and central region. Then, they used their judgment to choose two representative high schools from each region. That created a sample of 10 high schools. Each school in the sample was then asked to pick a simple random sample of 100 students, so that they have total 1000 students in the sample.

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

1.2 A box contains 500 arbitrarily numbered tickets. Two people want to estimate the average of the ticket numbers in the box. They agree to take a sample of 50 tickets, and use the sample average as their estimate. Person A wants to draw the tickets one at a time without replacement and person B wants to draw 50 tickets at one time.

- (a) Person A will get more accurate estimate.
- (b) Person B will get more accurate estimate.
- (c) Both will get estimate with same accuracy.

1.3 A researcher is studying the relationship between the two variables; the “region of college students” and their “performance at the year-end examination”. Assume that the first variable uses 1 for Hhohho region, 2 for Manzini, 3 for Lubombo, and 4 for Shiselweni and performances are measured by the average marks of all the courses taken at the year-end examination. The researcher found a correlation coefficient of  $-1.07$  between these two variables. With this result, one can conclude that:

- (a) the researcher made an error in computing correlation coefficient.
- (b) the researcher chose variables which are not suitable for computing a correlation coefficient.
- (c) both (a) and (b) are correct.

1.4 A CEO reports the results of an employee satisfaction survey, stating that 47% of employees say they are either “satisfied” or “extremely satisfied” with their jobs, and then says “the margin of error is plus or minus 4%.” By including margin of error in the report, what he wanted to mean:

- (a) His unhappiness about the study that the majority of the employees are dissatisfied with their jobs.
- (b) The value of the population parameter is within 4% of his estimate.
- (c) The value of the sample statistic within 4% of his estimate.

1.5 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 this year. It is known that all first year students in the faculty take a mathematics, 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. About this study, we can conclude that

- (a) the findings of the study are not good, because the sample size was not mentioned.
- (b) the findings of the study are not acceptable, because the study uses a convenience sampling.
- (c) the study produced the perfect results of the ratio.

**QUESTION TWO.**

[ 8 + 6 + 3 + 3 marks ]

In a study aimed at identifying the performance measures of small ventures in the tourism industry, you decided to collect the list of all small ventures registered in all twelve regional tourism associations of the country. The list contains 562 small ventures all over the country.

You randomly selected 10 small ventures from each region and mailed a questionnaire to conduct the study. Your friend decided to select five regions randomly and drew 20 small ventures using simple random sampling from each selected region; then he visited all those selected ventures and collected information using a questionnaire.

Assume that your proposed sampling method is Method A and that of your friend is Method B. Based on the above facts, answer the following questions:

- 2.1 State the following for the above two sampling methods A and B, separately:
- (a) Population and its sizes.
  - (b) Sampling methods.
  - (c) Sample sizes.
  - (d) Data collection modes.
- 2.2 State the sampling frame of the above survey. Is it possible to draw a sample in each of those two methods using this sampling frame? Explain briefly, why or why not?
- 2.3 Are both methods probability sampling? Explain.
- 2.4 Which sample you consider more representative sample? Explain why?

**PART II**  
**ANSWER ANY THREE QUESTIONS**

**QUESTION THREE.**

[10 + 10 marks]

3.1 Once the research data have been collected and the statistical analysis has been made, the researcher can proceed to the challenging task of interpreting the results. Discuss the principles of interpretation of the results.

3.2 Discuss all the general components of a research report.

**QUESTION FOUR.**

[10 + 10 marks]

4.1 State and discuss several important non-probability sampling techniques involved in selecting the sample in different situation.

4.2 Discuss Stratified random sampling and cluster sampling with respect to the advantages and disadvantages.

**QUESTION FIVE.**

[10 + 10 marks]

5.1 Suppose you want to conduct a survey among students of your university about their awareness of environmental pollution in Swaziland. Discuss how you can use each of the three modes of data collection methods for that survey. Explain which method would be most suitable in your case.

5.2 Compare Telephone Interviews mode over Personal Interviews mode of data collection with respect to advantages and disadvantages.

**QUESTION SIX.**

[10 + 10 marks]

6.1 Discuss the six common weaknesses in research proposal.

6.2 Discuss the importance of literature review while writing a research proposal.

**QUESTION SEVEN.**

[20 marks]

Compare the following pairs of terms:

- 7.1 Statement of the Problem and Objective of the Study.
- 7.2 Conclusions of the Study and Recommendations of the Study.
- 7.3 Data Processing and Data Analysis.
- 7.4 Quota Sampling and Accidental Sampling.
- 7.5 Experimental Research and Descriptive Research.