

UNIVERSITY OF SWAZILAND**FINAL EXAMINATION PAPER 2005**

TITLE OF PAPER : DATA PROCESSING
COURSE CODE : ST302
TIME ALLOWED : 2 (TWO) HOURS
REQUIRMENTS : NONE
INSTRUCTIONS : ANSWER ANY 4 (FOUR) QUESTIONS
ALL QUESTIONS CARRY EQUAL MARKS

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

QUESTION ONE.

[15 + 10 marks]

- a. State a broader definition of Data Processing. Discuss the different types of data with respect to measurement scales; provide some examples for each of those types.
- b. Suppose you conducted a survey (using a sample of households) which considers many variables including the following variables. In what type of scale is each of the following variables measured?
 - (i) PIN (personal identification number) of the householder.
 - (ii) Room Temperature in Celsius of the household at the time of interview.
 - (iii) Occupation of the householder.
 - (iv) Number of the household.
 - (v) Income of the householder.

QUESTION TWO.

[8 + 17 marks]

- a. Discuss and compare Classical Data Analysis with Exploratory Data Analysis.
- b. The Exploratory Data Analysis approach relies heavily on graphical techniques. State some of the insights into a data set which one can gain through the EDA approach. Use a simple scatter plot as an example and list all insights that a scatter plot of a data set could suggest.

QUESTION THREE.

[15 + 10 marks]

- a. Discuss the advantages of the open-ended questions over the closed-ended questions.
- b. List the rules for developing response categories for closed-ended questions. Explain each of those rules with examples, if any.

QUESTION FOUR.

[10 + 9 + 6 marks]

- a. What is coding? Discuss how one can allocate codes to different types of variables.
- b. Explain the procedures for *multiple dichotomy method* and *multiple response method* when dealing with multiple responses to closed-ended questions.
- c. "No matter how much care is taken there will always be some errors either in coding or in entering a set of codes on to the computer." Discuss the different checking methods to minimize these types of errors.

QUESTION FIVE.

[25 marks]

Discuss the following pairs of terms:

- a. Exploratory Data Analysis and Summary Analysis of data.
- b. Consistency Test and Accuracy Test on data.
- c. Observation and Records in data collection.
- d. Adopting and Adapting in questionnaire design.
- e. Hardware and Software in computer system.