



MACHAKOS UNIVERSITY

University Examinations for 2018/2019

SCHOOL OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF COMPUTING AND INFORMATION TECHNOLOGY

SECOND YEAR SECOND SEMESTER EXAMINATION FOR

BACHELOR OF SCIENCE (MATHEMATICS)

SMA 468: COMPUTATION INTERACTIVE STATISTICS

DATE: 3/5/2019

TIME: 2.00-4.00 PM

INSTRUCTIONS

Answer **question ONE** and any other **TWO** questions.

QUESTION ONE (30 MARKS)

- a) Define the term SPSS. (2 marks)
- b) Distinguish between the following features of SPSS
 - i output window and frequency dialog box
 - ii data view and variable view (8 marks)
- c) Briefly explain how to define variables in SPSS (4 marks)
- d) Briefly explain how you perform the following tests using SPSS
 - i Select cases in SPSS (4 marks)
 - ii Split a data file (4 marks)
- e) Using an appropriate example explain the following terms
 - i) Nominal ii) Ordinal iii) Ratio iv) interval (8 marks)

QUESTION TWO (20 MARKS)

- a) Distinguish between null hypothesis and Alternative hypothesis (4 marks)
- b) Briefly explain the procedure you would use to a multiple response cross tabulation (4 marks)
- c) Explain the following elements of variable view
 - i) Variable name ii) Variable type iii) Variable labels (6 marks)
- d) Define the term cross tabulation (3 marks)

- e) Explain the procedure used in extracting a report in SPSS (3 marks)

QUESTION THREE (20 MARKS)

- a) Briefly explain the following types of sampling
- i. Random Sampling (2 marks)
 - ii. Stratified Sampling (2 marks)
 - iii. Systematic Sampling (2 marks)
 - iv. Convenience Sampling (2 marks)
- b) Briefly explain how to perform the following tests using SPSS
- i. Paired-samples t test (2 marks)
 - ii. Independent-samples t test (2 marks)
- c) Briefly explain the steps you would use to run a pearson correlation test in Spss (4 marks)
- d) **Questionnaire design**

This survey is designed to investigate relationships between internet access and academic success. It consists of three parts: questions related to the background information of the respondent, questions about internet use patterns, and several open-ended questions. You are required to design a questionnaire and to select appropriate answers that best describe your activities on the internet as truthfully as possible. (4 marks)

Write your variable Definition layout that enters data.

QUESTION FOUR (20 MARKS)

- a) Using a suitable example of **three** questions explain how research questions leads to a questionnaire. Write your variable Definition layout that enters data. (6 marks)
- b) Explain the following the following terms,
- i. Simple Regression
 - ii. Scatter plot (3 marks)
- c) Explain briefly the procedure of how to perform a scatter plot. (3 marks)
- d) Distinguish between Linear regression and Time series analysis. (4 marks)
- e) Explain how you can use linear regression to predict the values of dependent variables (4 marks)

QUESTION FIVE (20 MARKS)

- a) Explain the functions of the major windows in SPSS platform (4 marks)

Window	Function
Variable view	
Data View	
Output View	
Syntax View	

- b) Discuss the functions of the following characteristics that are specified under the columns of the variable view (4 marks)

- i. Type
- ii. Width
- iii. Missing
- iv. Measure

- c) Explain any two options that are available to edit bar charts in SPSS (4 marks)

Create an appropriate variable definition table from the Questionnaire provided below.

SURVEY QUESTIONS

1. What is your name ?
2. What is your sex ?
3. What is your GPA ?
4. What is is your age
5. How much do you make per month?.
1.Less than \$1000 2. \$1000-\$1499 3. \$1500- -\$1999 4. \$2000-\$2499 5. Over \$2500
- 6.What is your class standing /or year in the university
1. Fresh man 2. Sophomore 3. Junior 4. Senior. 5 graduate
- 7.What kind of device do you own ?
1. Tablet 2. Mac. 3. PC. 4. Smartphone 5 Other
8. What color do you like to have for your device .?
1. Black 2. Silver 3. Navy Blue 4. Whiite. 5 Other. (6 marks)