



TECHNICAL UNIVERSITY OF MOMBASA

FACULTY OF ENGINEERING AND TECHNOLOGY
DEPARTMENT OF BUILDING & CIVIL ENGINEERING
UNIVERSITY EXAMINATION FOR:
BACHELOR OF SCIENCE IN CIVIL ENGINEERING

ECE 2409 : RESEARCH METHODOLOGY
SPECIAL/SUPPLEMENTARY EXAMINATION
SERIES: SEPTEMBER 2018
TIME: 2 HOURS

Instructions to Candidates

You should have the following for this examination

-Answer Booklet, examination pass and student ID

This paper consists of five questions.

Attempt question ONE (Compulsory) and any other TWO questions.

Do not write on the question paper.

QUESTION ONE (COMPULSORY) 30 Marks

- a) In relation to your final year project, formulate a research topic and discuss the FOUR steps involved in conducting a literature review. (10 Marks)
- b) Discuss the precautions will you put in mind when interpreting your final year project research findings? (10 Marks)
- c) Define the following terms as used in data analysis. (10 Marks)
 - (i) Multiple regression analysis
 - (ii) Inferential statistics
 - (iii) Measures of dispersion
 - (iv) Charles Spearman's coefficient
 - (v) Partial correlation

ANSWER ANY TWO QUESTIONS

QUESTION TWO (20 Marks)

- a) Define the term processing of data as used in research methodology. (2 Marks)
- b) List down and define the four measurement scales commonly used in research giving an example for each. (12 Marks)



- c) Differentiate between the characteristics of the wording of the objectives of the following types of research studies and for each give relevant examples: (6 Marks)
- (i) Descriptive studies
 - (ii) Correlational studies
 - (iii) Hypothesis-testing studies

QUESTION THREE (20 Marks)

- a) Discuss the methods used to record data collected using observation. (8 Marks)
- b) Discuss the following terms as used in data analysis. (6 Marks)
- (i) Measures of dispersion
 - (ii) Measures of asymmetry
- c) Which criteria should one follow when selecting between an interview schedule and a questionnaire? (6 Marks)

QUESTION FOUR (20 Marks)

- a) Differentiate between correlation and regression techniques as measures of relationships in research and for each give a relevant example. (4 Marks)
- b) Explain the following research designs: (6 Marks)
- (i) Latin square design
 - (ii) Random replications design
- c) “Processing of data implies editing, coding, classification and tabulation”. Describe in brief these four operations pointing out the significance of each in context of research study. (10 Marks)

QUESTION FIVE (20 Marks)

A research project is made up of five chapters. List them down in the order in which they should appear and discuss each of their main components. (20 Marks)

