



TECHNICAL UNIVERSITY OF MOMBASA

Faculty of Engineering & Technology

DEPARTMENT OF MECHANICAL & AUTOMOTIVE ENGINEERING

UNIVERSITY EXAMINATIONS FOR DEGREE IN
BACHELOR OF SCIENCE IN MECHANICAL ENGINEERING

EMG 2415: RESEARCH METHODS

SUPPLEMENTARY/SPECIAL EXAMINATIONS

SERIES: MARCH 2014

TIME: 2 HOURS

INSTRUCTIONS:

- This paper consists of **FIVE** questions.
- Answer any **THREE** questions. All questions carry **EQUAL** marks.
- All symbols have their usual meaning unless specified otherwise. Use clear and neat sketches.

This paper consists of Two printed pages

QUESTION 1

- a) Coding is perhaps the most fundamental and universal element in text analysis. Discuss the significance of coding in the context of research study. **(10 marks)**
- b) Describe the factors that may affect internal validity research of a study. **(10 marks)**

QUESTION 2

- a) Whether data are gathered in an experiment, interview, observation, or survey, the respondent has many rights to be safeguarded. Discuss some of the rights of the respondents that a researcher should respect. **(10 marks)**

b) Describe any **THREE** non probability sampling techniques used in research. **(10 marks)**

QUESTION 3

a) What are the major sources of research problem? **(10 marks)**

b) The presentation of statistics in research reports is a special challenge for many writers. Discuss the **FOUR** basic ways to present data in a research report. **(10 marks)**

QUESTION 4

a) Explain the main distinguishing characteristics of a scientific research. **(10 marks)**

b) Discuss problems that you may experience when using secondary sources of data. **(10 marks)**

QUESTION 5

a) Discuss the main stages of a research process. **(10 marks)**

b) Differentiate between the following scale types:

i) Nominal scale

ii) Ordinal scale

iii) Interval scale

iv) Ratio scale

(10 marks)