TECHNICAL UNIVERSITY OF MOMBASA

Faculty of Engineering and Technology
Department of Mechanical & Automotive Engineering
UNIVERSITY EXAMINATION FOR:
Diploma in Marine Engineering
Diploma in Nautical Science
EMR 2226 & 2228 : Research Methods II
END OF SEMESTER EXAMINATION
SERIES: AUGUST 2019
TIME: 2 HOURS
DATE: Pick Date**Aug 2019**

Instruction to Candidates:
You should have the following for this examination
- *Answer booklet*

This paper consists of **FIVE** questions. Attempt any **THREE** questions.
Maximum marks for each part of a question are as shown.
Do not write on the question paper.

Question ONE
a) Define research and examine its characteristics   **(4 marks)**
b) Distinguish between;   **(8 marks)**
 i.   Pure research and applied research
 ii.   Exploratory and explanatory research
c) Differentiate between a statistical and a research hypotheses   **(4 marks)**
d) State any four problems or constraints faced by researchers when carrying out a research study   **(4 marks)**

Question TWO
a) Explain the meaning and the significance of literature review when carrying out a research study   **(4 marks)**
b) State and explain any four challenges that might affect the researcher during the formulation of a literature review   **(4 marks)**
c) In research, data is conducted for various purposes, explain   **(4 marks)**
d) Define the following terms;

i.   Primary data
ii. Secondary data

e) State and explain any four qualities of an effective research **(4 marks)**

Question THREE

a) Define data collection **(2 marks)**
b) Outline the various purposes of collecting data **(4 marks)**
c) Explain the steps in data collection **(6 marks)**
d) Explain the factors to consider during data collection **(8 marks)**

Question FOUR

a) Enumerate briefly the mechanism of report writing and underline the precaution to be taken at the time of report writing **(6 marks)**
b) Describe the following parts of report: Title page, table of contents, executive summary, problem definition, research design, data analysis, conclusions and recommendations. **(8 marks)**
c) Describe the three ways in which the researchers can present data after analysis. **(6 marks)**

Question FIVE

a) Explain the factors to consider when selecting a research problem **(12 marks)**
b) Explain the process involved in research process **(8 marks)**