



MACHAKOS UNIVERSITY

University Examinations for 2020/2021 Academic Year

SCHOOL OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF BUILDING AND CIVIL ENGINEERING

FOURTH YEAR FIRST SEMESTER EXAMINATION FOR

BACHELOR OF SCIENCE (MECHANICAL ENGINEERING)

ECU 400: RESEARCH METHODOLOGY

DATE: 13/8/2021

TIME: 2.00-4.00 PM

INSTRUCTIONS

1. This paper comprises of five questions. Answer **three** questions
2. Question one is **compulsory** and carry 30 marks
3. Answer any other **two** questions

QUESTION ONE (COMPULSORY) (30 MARKS)

- a) Define the following terms as used in research methodology
 - i. Raw data (2 marks)
 - ii. Qualitative Research (2 marks)
 - iii. Abstract (2 marks)
 - iv. Sampling (2 marks)
 - v. Statistic (2 marks)
- b) Discuss importance of materials and methods section of an academic proposal (8 marks)
- c) Proper interpretation of research findings is a basic component of research process. Describe FOUR reasons to support this assertion. (12 marks)

QUESTION TWO (20 MARKS)

- a) Show the significance of a research report (5 marks)
- b) Discuss Three traits that secondary data must possess before a researcher uses it in a research (15 marks)

QUESTION THREE (20 MARKS)

- a) Differentiate between sample and sampling in research process (5 marks)
- b) Literature review in research is very important, briefly outline six reasons to support this assertion (15 marks)

QUESTION FOUR (20 MARKS)

- a) Describe the main purpose of justification section in academic proposal. (5 marks)
- b) Describe exhaustively the term research processes with the aid of a schematic diagram. (15 marks)

QUESTION FIVE (20 MARKS)

- a) Describe two basic approaches to research (5 marks)
- b) Briefly outline six functions of data analysis in research work (15 marks)