



# MACHAKOS UNIVERSITY

University Examinations for 2019/2020 Academic Year

SCHOOL OF ENVIRONMENT AND NATURAL RESOURCES MANAGEMENT

DEPARTMENT OF ENVIRONMENTAL SCIENCES

THIRD YEAR SPECIAL/SUPPLEMENTARY EXAMINATION FOR

BACHELOR OF SCIENCE (COMMUNITY RESOURCE MANAGEMENT)

BACHELOR OF ENVIRONMENTAL STUDIES (COMMUNITY DEVELOPMENT)

**ESU 304: RESEARCH METHODS**

**DATE: 20/1/2021**

**TIME: 2.00-4.00 PM**

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## **INSTRUCTIONS:**

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

### **QUESTION ONE (30 MARKS)**

Suppose you were the executive officer of Water and Environment in Machakos county and 100 cases of Cholera are reported in one of the urban settlements in the County.

- a) Describe the type of research you will commission to be carried out to address the issue. (5 marks)
- b) Provide a short title for such kind of study (5 marks)
- c) Formulate a general objective and hypothesis for this study. (5 marks)
- d) Explain the limitations of this type of study. (5 marks)
- e) Briefly describe two methods of data collection for this study. (5 marks)
- f) Explain the ethical considerations that should be taken into account in this study. (5 marks)

### **QUESTION TWO (20 MARKS)**

- a) Describe the reasons for reviewing literature and other information during preparation of a research protocol. (10 marks)
- b) Describe five attributes that you will consider in ensuring that an experiment is well designed. (10 marks)

**QUESTION THREE (20 MARKS)**

- a) Describe the ways that you could use to increase reliability and validity of data generated in a study. (10 marks)
- b) Discuss the purpose and characteristics of a good quality research. (10 marks)

**QUESTION FOUR (20 MARKS)**

Discuss the information and key features of the following components of a research proposal.

- a) Abstract (5 marks)
- b) Introduction (5 marks)
- c) Materials and Methods (5 marks)
- d) References (5 marks)

**QUESTION FIVE (20 MARKS)**

Sampling methods fall into two broad categories, probability and non-probability. Name and describe in detail three probability sampling methods and two non-probability sampling methods that you can use in conducting environmental research.