



# MACHAKOS UNIVERSITY

University Examinations for 2021/2022 Academic Year

SCHOOL OF EDUCATION

DEPARTMENT OF EDUCATIONAL MANAGEMENT AND CURRICULUM STUDIES

FIRST YEAR FIRST SEMESTER EXAMINATION FOR

MASTER OF EDUCATION

ECC 800: RESEARCH METHODS IN EDUCATION

DATE: 22/1/2022

TIME: 8.30-11.30 AM

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## INSTRUCTIONS

Answer question ONE in section A and TWO questions from section B.

### SECTION A – COMPULSORY

#### QUESTION ONE (30 MARKS) (COMPULSORY)

- a) Explain the difference between reliability and validity. (4 marks)
- b) In a study evaluating the effectiveness of a new biology curriculum results are measured by an exam given at the end of the year. How would you make sure the results are valid and reliable? (6 marks)
- c) Identify and discuss **FIVE** mistakes sometimes made by the researcher during sampling. (10 marks)

### SECTION B – Answer any two questions

#### QUESTION TWO (20 MARKS)

- a) Define the following concepts;
  - i. Random sampling
  - ii. Cluster sampling
  - iii. Stratified sampling
  - iv. Convenience sampling
  - v. Purposive sampling. (15 marks)
- b) Describe **TWO** approaches in which researchers can determine the sample size? (5 marks)

**QUESTION THREE (20 MARKS)**

- a) Citing relevant examples, make a distinction between independent and dependent variables? (10 marks)
- b) In a study on single sex schools and academic achievement, what would the independent variable and what would the dependent variable? Use illustrations to explain. (10 marks)

**QUESTION FOUR (20 MARKS)**

- a) How can qualitative researchers minimize bias and enhance validity? (10 marks)
- b) What are the advantages and disadvantages of different methods of administering surveys by mail, telephone, and personal interview? (6 marks)
- c) How should survey researchers deal with non-response? (4 marks)

**QUESTION FIVE (20 MARKS)**

- a) Discuss FIVE benefits of pretesting research tools? (10 marks)
- b) When reading the results section of a quantitative research report, what are some of the **FIVE** questions you should ask yourself to ascertain the output? (10 marks)