



# MERU UNIVERSITY OF SCIENCE AND TECHNOLOGY

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## University Examinations 2023/2024

THIRD YEAR SECOND SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR OF BIOLOGICAL SCIENCES, BACHELOR OF BIOCHEMISTRY AND BACHELOR OF BIOTECHNOLOGY

### SZL 3350: RESEARCH METHODOLOGY

DATE: APRIL 2024

TIME: 2 HOURS

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INSTRUCTIONS: Answer question *one* and any other *two* questions

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#### QUESTION ONE (30 MARKS)

- a)
  - i) Define research (3 Marks)
  - ii) Distinguish between basic and applied research (3 marks)
- b) Explain the following research terms (6 Marks)
  - i) Treatment
  - ii) Control
  - iii) Replicate
- c) List three importance of accurate data collection (3 Marks)
- d) Describe sampling in quantitative studies (3 Marks)
- e) Explain the utility of scientific photography in scientific research (3 Marks)
- f)
  - i) Define plagiarism and explain its consequences (3 Marks)

ii) Cite any three do's or don'ts of referencing according to the APA format (3 Marks)

g) Highlight three pertinent ethical issues in research (3 Marks)

**QUESTION TWO (20 MARKS)**

Write an essay on sources of research ideas (20 Marks)

**QUESTION THREE (20 MARKS)**

Differentiate between the following common experimental designs (20 Marks)

i) Completely Randomized Design (CRD)

ii) Randomized Complete Block (RCBD)

iii) Latin Square Design (LSD)

**QUESTION FOUR (20 MARKS)**

Discuss five tools that can be used to collect primary data and five tools/instruments/sources used to collect secondary data (20 Marks)