FACULTY OF SCIENCE AND TECHNOLOGY

END OF SEMESTER EXAMINATIONS - MAY 2024/2025

PROGRAMME: BSEM

YEAR/SEM: YEAR 2/SEMESTER 2

COURSE CODE: RES2203

NAME: RESEARCH METHODS AND DATA MANAGEMENT

DATE: 2025-08-05

TIME: 2:00-5:00PM

INSTRUCTIONS TO CANDIDATES:

1. Read the instructions very carefully

2. The time allowed for this examination is STRICTLY three hours

3. Read each question carefully before you attempt and allocate your time equally between all the Sections

4. Write clearly and legibly. Illegible handwriting cannot be marked

5. Number the questions you have attempted

6. Use of appropriate workplace examples to illustrate your answers will earn you bonus marks

7. Any examination malpractice detected will lead to automatic disqualification.

DO NOT WRITE ANYTHING ON THE QUESTION PAPER

Section A Answer all questions in this section (compulsory)

Question 1:

The Nakivubo Wetland in Kampala, Uganda, is critical for flood control and water purification but faces severe degradation due to urban encroachment, pollution, and agricultural expansion. A research project aims to evaluate the effectiveness of recent conservation policies (2020–2024) on wetland ecological health and community livelihoods.a)   Propose THREE specific research objectives for this study. (6 marks)b)   Justify ONE key research problem arising from wetland degradation in an urban context. (4 marks)c)   Outline FOUR thematic sections for the literature review. (6 marks)d)   Identify TWO theoretical frameworks relevant to analyzing policy effectiveness in wetland management. (4 marks)e)   Specify data types, sampling strategy (e.g., stratified random sampling of water quality sites), and ONE analytical tool (e.g., GIS overlay). (6 marks)f)   Propose a method to capture community perspectives (e.g., focus groups) and justify its relevance. (6 marks)g)   Discuss TWO ethical considerations. (4 marks) h)   Suggest TWO practical recommendations for the Kampala City Council Authority (KCCA). (4 marks)

Section B Attempt only three (3) questions from this section

Question 1:

a) Outline the key components of a research proposal. (10 marks)b) Explain the significance of the literature review in a research proposal. (10 marks)

Question 2:

a) Explain how researcher bias and resource constraints can impact a study on urban air quality. (10 marks)b) Discuss the roles of academic journals and policy briefs in communicating research outcomes to different stakeholders. (10 marks)

Question 3:

a) Differentiate between qualitative and quantitative research methods. (10 marks)b)Define the concept of research and explain its significance in academic and practical contexts. (10 marks)

Question 4:

Compare the roles of *academic journals* and *policy briefs* in communicating research outcomes to different stakeholders.

Question 5:

a) Discuss the advantages and disadvantages of using interviews as a data collection method in research. (10 marks)b) Discuss the challenges in research and explain how each challenge can be overcome (10 marks)

Question 6:

a) Identify FOUR credible academic databases for environmental science. (8 marks)b) Discuss strategies to evaluate source credibility. (12 marks)