(Knowledge for Development)

KIBABII UNIVERSITY
(KIBU)

UNIVERSITY EXAMINATIONS
2021/2022 ACADEMIC YEAR

SPECIAL/SUPPLEMENTARY EXAMINATIONS
YEAR TWO SEMESTER TWO EXAMINATIONS

FOR THE DEGREE OF
(INFORMATION TECHNOLOGY)

COURSE CODE : **BIT 224**

COURSE TITLE : RESEARCH METHODS AND TECHNICAL WRITING IN COMPUTING

DATE: 26/07/2022   **TIME: 2.00 P.M. – 4.00 P.M.**

INSTRUCTIONS TO CANDIDATES

ANSWER QUESTIONS ONE AND ANY OTHER TWO.

QUESTION ONE (COMPULSORY) [30 MARKS]

a) Explain the meaning of a research and three sources of research ideas in computing fields.

[4 marks]

b) Explain how the following activities may affect the findings of a study.

   i.   Falsification of data

[2 marks]

   ii. Fabrication of data

[2 marks]

   iii. Plagiarism

[2 marks]

c) Masomo Hodari is a village polytechnic within North Eastern Region. The administration is concerned with low enrolment in the institution. Preliminary investigation attributed the low enrolment to factors: Poor exam results, Fee increment, Exodus of teachers and Corporal Punishment being administered on students.

   i.   Identify and clearly state the research problem in this situation?   [4 Marks]

   ii. If you were the researcher tasked to carry out the study, what is the appropriate research topic would have given to the study?   [2 Marks]

   iii. As a researcher identify three specific objectives you would have focused on in the study

[3 Marks]

   iv. List the Variables in this context and clearly label them.   [4 marks]

   v.   Formulate TWO null hypotheses for this study.   [3 marks]

   vi. If you were the researcher tasked to carry out the study, describe the main steps you would follow.   [5 marks]

QUESTION TWO [20 MARKS]

A student presented a study titled: *An Enhanced Algorithm for Resources use in Multi-Tenant Cloud Computing Application Environment*

Required:

   a) Identify and briefly explain the field in which the study belongs.   [2 marks]

   b) Identify and briefly explain the solution and the problem domain of the study. [4 marks]

   c) Identify and briefly explain the study population.   [2 marks]

   d) Discuss the research design(s) that is/are suitable for the study.   [6 marks]

QUESTION THREE [20 MARKS]

a) In a presentation of a research proposal, a student was advised to make his objective **SMART**. Explain the implication of this phrase in relation to research work. **[6 marks]**

b) Briefly describe how you would undertake the following aspects in research:

i) Selection of the target population **[4 marks]**

ii) Data analysis **[4 marks]**

c) Briefly explain three ways that would help you improve the credibility of a study.

[6 marks]

QUESTION FOUR [20 MARKS]

a. Research design is a glue that holds the content of the research together. Outline and discuss various types of research design **[10 Marks]**

b. Explain the Importance of research in the field of computing. **[10 Marks]**

QUESTION FIVE [20 MARKS]

a. Using relevant examples differentiate between probabilistic and non-probabilistic sampling techniques **[10 Marks]**

b. Discuss the importance of Literature review in information Technology once you have decided on your research problem. **[5 Marks]**

c. Distinguish between quantitative and qualitative research. **[5 Marks]**