



TECHNICAL UNIVERISTY OF MOMBASA

Faculty of Engineering & Technology

UNIVERSITY EXAMINATION FOR:
BACHELOR OF TECHNOLOGY IN INFORMATION TECHNOLOGY
(BTIT 13J)

EIT 4309: RESEARCH METHODS

END OF SEMESTER EXAMINATION

SERIES: APRIL 2014

TIME: 2 HOURS

Instructions to Candidates:

You should have the following for this examination

- Answer Booklet

This paper consists of **FIVE** questions.

Attempt question **ONE (COMPULSORY)** and any other **TWO** questions

Maximum marks for each part of a question are as shown

This paper consists of **THREE** printed pages

Question One (Compulsory)

- a) Define the term “Research Methods” (3 marks)
- b) Describe the benefits of research to an organization. (4 marks)
- c) Explain the following terms: (6 marks)
- (i) Population
 - (ii) Sampling
 - (iii) Data
- d) Discuss FOUR qualities of good research. (4 marks)
- e) Define the term “research hypothesis” and give ONE example. (4 marks)
- f) Compare and contrast “conceptual” versus “Empirical” research. (4 marks)

- g) Discuss FOUR outcomes of a successful research. **(5 marks)**

Question Two

- a) Outline THREE major chapters in a research proposal. **(6 marks)**
- b) Describe TWO different methods of conducting literature review. **(3 marks)**
- c) Explain the term “conceptual framework” describing one that may be applied to the field of ICT-related research. **(3 marks)**
- d) Discuss THREE data-collection methods and instruments that may be used to conduct an ICT-related research. **(5 marks)**
- e) Explain the role historical research can play in conducting a study on factors affecting the expansion of scientific research in Africa. **(3 marks)**

Question Three

- a) Describe the importance of literature review in a research proposal. **(6 marks)**
- b) Discuss, with the use of examples from the field of information and communication technology (ICT) the role of the following techniques in data collection:
(i) Case studies **(3 marks)**
(ii) Interviews **(3 marks)**
- c) You have been asked to conduct a study into the impact of the implementation of the Integrated Financial Management System (IFMIS) of the Government of Kenya’s Finance Ministry. Required: Propose and outline briefly a research proposal for this study; generate an appropriate problem statement and two objectives of the study. State clearly any assumptions and limitations of your study. **(8 marks)**

Question Four

- a) Discuss TWO qualities expected of a well written research report. **(4 marks)**
- b) Differentiate between the following terms as used in research, giving appropriate examples of each.
(i) Pure research and applied research
(ii) Cross-sectional research and longitudinal research **(8 marks)**
- c) Explain the significance of scientific research to a nation such as Kenya. **(8 marks)**

Question Five

- a) Define the term “plagiarism” and explain TWO different types of plagiarism that may occur during the course of a research project. **(4 marks)**
- b) You have been told that there is an organization that is funding research projects in your area of study. Required propose a general area of research and: Explain FOUR questions that you are likely to ask yourself while justifying the proposed research problem. **(6 marks)**

- c) USAID has indicated a willingness to fund the investment in ICT for Mombasa-based universities. You have been employed as a consultant to ascertain the level of ICT-deployment in each of the universities in Mombasa that will guide USAID in allocation of funding. Write a short proposal indicating:
- (i) Title of the study
 - (ii) Statement of the problem
 - (iii) Classify the type of research you will conduct

State clearly any assumptions you have made and any potential limitations of your study

- d) Common areas for information systems research include the internet, networking, robotics, artificial intelligence, computing and computer security, among others. Discuss whether a quantitative approach or a qualitative approach is best suited to this field and explain the relevance of the same. **(6 marks)**