



MACHAKOS UNIVERSITY

University Examinations for 2019/2020 Academic Year

SCHOOL OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF COMPUTING AND INFORMATION TECHNOLOGY

THIRD YEAR SECOND SEMESTER EXAMINATION FOR

BACHELOR OF SCIENCE (COMPUTER SCIENCE)

SCO 309: RESEARCH METHODS

DATE: 11/11/2020

TIME: 8.30-10.30 AM

INSTRUCTIONS

Answer question ONE and any other TWO questions.

QUESTION ONE (30 MARKS)

- a) Define the term structured observation and discuss five techniques utilized in recording observation in research. (10 marks)
- b) Outline three types of research methods with examples. (6 marks)
- c) Describe five characteristics of a research problem. (10 marks)
- d) Differentiate between the following terms in research:
 - i. Research Question and Research Objective.
 - ii. Research Design and Research Hypothesis. (4 marks)

QUESTION TWO (20 MARKS)

- a) Discuss the factors determining utilization of primary data in an inquiry. (6 marks)
- b) Discuss two types of research designs. (4 marks)
- c) According to Duncan (1984) there are four measurement levels in research. Define the term measurement and discuss the measurement levels. (10 marks)

QUESTION THREE (20 MARKS)

Given the Case Study below:

Most organizations value employee job performance. Kenya police service is no different from other security agencies worldwide in terms of striving for performance in order to attain global excellence. The Kenyan situation, however, is incredibly complex as many police officers do not undertake their duties effectively due to various factors including bureaucratic hierarchies mixed with modern approaches to management

Required:

- a) From the above statement of the problem formulate an effective title (2 marks)
- b) What would be the objectives of your study? (6 marks)
- c) Formulate research questions for the study (6 marks)
- d) Why is pilot study important? (4 marks)
- e) Specify the appropriate design to be adopted by the research. Why? (2 marks)

QUESTION FOUR (20 MARKS)

- a) James was given the task of explaining the concept of project proposal to his colleagues. Explain five components of a proposal he is likely to have discussed. (10 marks)
- b) Data collection is normally done during research from selected people and for various purposes. Discuss five methods that can be used to select the people from a population who can assist the researcher in his/her work. (10 marks)

QUESTION FIVE (20 MARKS)

- a) Discuss five sources of literature that can be used by a researcher to put together his/her related literature in the research. (10 marks)
- b) State and explain five sample SMART objectives that can be used in a typical research. (10 marks)