



# TECHNICAL UNIVERSITY OF MOMBASA

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## INSTITUTE OF COMPUTING AND INFORMATICS

### DEPARTMENT OF COMPUTER SCIENCE & INFORMATION TECHNOLOGY

#### UNIVERSITY EXAMINATION FOR:

BSIT2013S/BTIT2013S

BIT2301/EIT4309: RESEARCH METHODS

END OF SEMESTER EXAMINATION

**SERIES: APRIL 2016**

**TIME: 2 HOURS**

**DATE: 10 May 2016**

#### Instructions to Candidates

You should have the following for this examination

-Answer Booklet, examination pass and student ID

This paper consists of **FIVE** questions. Attempt question ONE (Compulsory) and any other **TWO** questions.

**Do not write on the question paper.**

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#### Question ONE (Compulsory)

- a) Define the term 'research' (2 marks)
- b) Explain the term research contribution (4 marks)
- c) Outline the difference between a theory and a hypothesis (4 marks)
- d) State the role of theory building (4 marks)
- e) Outline the characteristics of science (4 marks)
- f) State three reasons for building an artifact (3 marks)
- g) Differentiate between inductive methods and deductive methods of research (4 marks)
- i) Outline the general research process (5 marks)

## Question TWO

Discuss the following data collection tools:

- Records and Secondary Data: by stating the sources of data and the pros and cons:
- Observation: when is it applicable; advantages and challenges
- Surveys: types of surveys; comparison of the types; modes of surveys; and challenges. (20 marks)

## Question THREE

a) Describe the following types of research methods:

- Exploratory,
- Descriptive,
- Causal, and
- Explanatory (20 marks)

## Question FOUR

- a) Explain the differences between quantitative research approach and qualitative research approach (10 marks)
- b) Discuss the statement “triangulation increases accuracy of data (10 marks)

## Question FIVE

- a) Explain the reasons for citing information (3 marks)
- b) Explain the term plagiarism (2 marks)
- c) Given the three statements compare each with the original and statement, explain whether or not it has been plagiarized and state possible improvement in each statement to overcome plagiarism (15 marks)
- **Original:** During the last 60 years the development of effective and safe drugs to deal with bacterial infections has revolutionized medical treatment, and the morbidity and mortality from microbial disease has been dramatically reduced.
  - **Statement 1:** The development of safe and effective drugs to deal with bacterial infection has dramatically reduced the death rate arising from microbial diseases.
  - **Statement 2:** During the post-war years, the development of effective and safe drugs to deal with bacterial infection has transformed medical treatment, and death and illness resulting from microbial disease has been dramatically reduced.
  - **Statement 3:** The availability of antimicrobial compounds has transformed healthcare in the period since the Second World War. People are far less likely to die or even be seriously ill than they had been prior to the introduction of these drugs.