



# TECHNICAL UNIVERSITY OF MOMBASA

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FACULTY OF APPLIED AND HEALTH SCIENCES

DEPARTMENT OF PURE & APPLIED SCIENCES

**UNIVERSITY EXAMINATION FOR:**

BTAC

AAB 4301: RESEARCH METHODOLOGY

END OF SEMESTER EXAMINATION

**SERIES: APRIL 2016**

**TIME: 2 HOURS**

**DATE:**

## **Instructions to Candidates**

You should have the following for this examination

*-Answer Booklet, examination pass and student ID*

This paper consists of 5 questions. Attempt question ONE compulsory and any other two questions.

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

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## **Question ONE**

a) Differentiate the following terms as used in research

- (i) Research and scientific method (2 marks)
- (ii) Applied and fundamental research (2 marks)
- (iii) Reliability and Validity (2 marks)

b) Define the following terms in the context of research

- (i) Control (1 mark)
- (ii) Research Hypothesis (1 mark)
- (iii) Treatments (1 mark)

c) Explain **Two** types of research instruments (2 marks)

d) Explain the **Main** sources of literature review (3 marks)

- e) Describe the types of rating scales used in research (3 marks)
- f) Explain the important measures of central tendency used in research (3 marks)
- g) Describe **Two** techniques used in collecting qualitative data (4marks)
- h) Highlight the **Six** norms of scientific research (6marks)

### Question TWO

- a) Describe the different steps involved in a research process (10 marks)
- b) Discuss the purposive sampling technique clearly highlighting its advantages, disadvantages and its instances of application in research (10 marks)

### Question THREE

Write short notes on the following as used in the context of research

- (i) Cross tabulation (4marks)
- (ii) Multivariate relationships (4 marks)
- (iii) Pearson's moment product correlation (4 marks)
- (iv) Spearman's rank correlation (4 marks)
- (v) Regression analysis (4 marks)

### Question FOUR

- a) Describe **three** types of research designs (6 marks)
- b) Discuss **four** ways used to obtain reliability co-efficient in research (8 marks)
- c) Outline the considerations in selecting a research problem (6 marks)

### Question FIVE

- a) Discuss **four** characteristics of a good research (4 marks)
- b) Describe **three** experimental designs used in research (6 marks)
- c) Outline **five** factors considered before selecting a research design (5 marks)
- d) State five major weaknesses of the survey data collection method in research (5 marks)