



TECHNICAL UNIVERSITY OF MOMBASA

FACULTY OF APPLIED AND HEALTH SCIENCES

DEPARTMENT OF PURE & APPLIED SCIENCES

UNIVERSITY EXAMINATION FOR:

**BACHELOR OF TECHNOLOGY IN INDUSTRIAL MICROBIOLOGY AND
BIOTECHNOLOGY**

AAB 4301: RESEARCH METHODOLOGY

END OF SEMESTER EXAMINATION

SERIES: DECEMBER Pick year

TIME: 2 HOURS

DATE: Pick Date Dec 2016

Paper 1

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.

Question ONE

- Outline sources of information for literature review in research (6mks)
- Explain the advantages of randomized complete block design (4mks)
- Highlight 4 typical characteristics of scientific research (4mks)
- Differentiate between basic and applied research (6mks)
- Highlight the difference between a working and a final title of a research proposal (4mks)
- Explain why researchers should review literature in their fields of study (4mks)
- Name any 2 references/citation styles used in scientific writing (2mks)

Question TWO

Discuss the key elements that should be contained in the following parts of a research proposal

- An abstract (10mks)
- Statement of the problem (10mks)

Question THREE

Using appropriate examples in each case, describe 4 types of research (20mks)

Question FOUR

Describe the following sampling procedures

- a) Simple random sampling (10mks)
- b) Systematic sampling (10mks)

Question FIVE

Discuss the key principles in designing an effective questionnaire (20mks)