



TECHNICAL UNIVERSITY OF MOMBASA

FACULTY OF APPLIED AND HEALTH SCIENCES

DEPARTMENT OF PURE & APPLIED SCIENCES

UNIVERSITY EXAMINATION FOR:

BTMB

AAB 4402 : ANALYTICAL MICROBIOLOGY

END OF SEMESTER EXAMINATION

SERIES: DECEMBER 2016

TIME: 2 HOURS

DATE: Dec 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.

Question ONE

- a) Elaborate the challenges of using intact animals in experimentation (4mks)
- b) Prescribe the corrective measures for the following errors in assaying;
- i) Methodological (3mks)
 - ii) Biological (3mks)
- c) Outline the role of controls in microbiological assays. (4mks)
- d) Using a diagram explain the relationship between the MIC and zone of inhibition diameters (6mks)
- e) Outline SIX advantages of measuring potency during the early stages of product development (6mks)
- f) Give FOUR reasons microbiologists need to maintain pure cultures. (4mks)

Question TWO

- a) Explain the use of serial subculture in culture preservation (10mks)

b) Outline FIVE effects of long term preservation on microorganisms (10mks)

Question THREE

Describe the process of biological evaluation of a proposed therapeutic preparation as prescribed in pharmacopoeia. (20mks)

Question FOUR

a) Describe ONE procedure used to determine the sensitivity of a given bacterial isolate to an antimicrobial agent. (14mks)

b) Give the advantages of using the procedure described in (a) above. (6mks)

Question FIVE

In designing a microbiological assay the choice of the test organism is critical. Elaborate the characteristics to consider in choosing test organisms and their implication on the test outcome(s). (20mks)