



TECHNICAL UNIVERSITY OF MOMBASA

FACULTY OF APPLIED AND HEALTH SCIENCES

DEPARTMENT OF PURE & APPLIED SCIENCES

UNIVERSITY EXAMINATION FOR:

BTMB

AAB 4206 : MICROBIAL GENETICS PAPER 2

END OF SEMESTER EXAMINATION

SERIES: APRIL 2016

TIME: 2 HOURS

DATE: Pick Date 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.

Question ONE (30 Marks)

- (a) Define the following terms (3mks)
- (i) Genetic recombination
 - (ii) Genomics
 - (iii) Exogenote
- (b) Give the full meaning of the following abbreviations (5mks)
- (i) NA
 - (ii) DNA
 - (iii) RNA
 - (iv) ORI
 - (v) MCS
- (c) List any five (5) types of mutagens (5mks)
- (d) Outline the importance of plasmids (5mks)
- (e) Distinguish between noncompetitive and competitive inhibition (4mks)
- (f) Highlight the importance of transposable elements in microorganisms (4mks)
- (g) Describe the structure of bacterial chromosome (4mks)

Question TWO

- (a) Describe the process of transduction involving a lytic phage (10mks)
(b) Describe the experiment that led to the discovery of transformation as a means of genetic exchange in bacteria (10mks)

Question THREE

Outline the types of point mutations (20mks)

Question FOUR

Discuss the types of transposable genetic elements in bacteria (20mks)

Question FIVE

Describe the three types of Ribonucleic Acid (RNA) (20mks)