

LAIKIPIA



UNIVERSITY

UNIVERSITY EXAMINATIONS

SECOND SEMESTER 2023/2024 ACADEMIC YEAR

**FIRST YEAR EXAMINATION FOR THE DEGREES OF
BACHELOR OF EDUCATION (SCIENCE), BACHELOR OF
SCIENCE (GENERAL) AND BACHELOR OF
BIOMEDICAL SCIENCE AND TECHNOLOGY (BMED)**

BOTA 122: GENERAL MICROBIOLOGY

STREAMS: *BMED Bed (Science) & Bsc (General)*

TIME: *2 HRS*

DAY: *MONDAY [2.30P.M – 4.30P.M]*

DATE: *15/04/2024*

THIS QUESTION PAPER CONSISTS OF THREE (3) PAGES

PLEASE DO NOT OPEN UNTIL THE INVIGILATOR SAYS SO.



INSTRUCTIONS: Answer all the questions in section A and any of the two questions in B

SECTION A (40 MARKS)

QUESTION ONE

List and define any **five** scopes and relevance of microbiology (5 Marks)

QUESTION TWO

Elaborate on the germ theory of diseases demonstrated by Robert Koch (5 Marks)

QUESTION THREE

List any **five** distinguishing characteristics of the prokaryotic cell (5 Marks)

QUESTION FOUR

Outline the procedures involved in gram staining (5 Marks)

QUESTION FIVE

Evaluate the significance of microbial metabolites (5 Marks)

QUESTION SIX

Define the major **five** fine structures of protozoa (5 Marks)

QUESTION SEVEN

List and account for any **five** modes of action of an antimicrobial agent (5 Marks)

QUESTION EIGHT

Describe briefly on the stages of the lytic cycle (5 Marks)

SECTION B (30 MARKS)

QUESTION NINE

Discuss the three major mechanisms for genetic recombination in bacteria (15 Marks)

QUESTION TEN

Discuss the various types of bacterial cultures, stating their significance (15 Marks)

QUESTION ELEVEN

Describe on:

(a) Physical conditions required for microbial growth (10 Marks)

(b) Different physical methods for microbial control (5 Marks)

