



UNIVERSITY EXAMINATIONS

SECOND SEMESTER 2023/2024 ACADEMIC YEAR

**SECOND YEAR EXAMINATION FOR THE DEGREE OF
BACHELOR OF BIOMEDICAL SCIENCE AND
TECHNOLOGY (BMED)**

BMED 223: MICROBIAL PHYSIOLOGY AND GENETICS

STREAM: R

TIME: 2 HRS

DAY: MONDAY [8.30A.M – 10.30A.M]

DATE: 15/04/2024

THIS QUESTION PAPER CONSISTS OF THREE (3) PAGES

PLEASE DO NOT OPEN UNTIL THE INVIGILATOR SAYS SO.

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

SECTION A (40 MARKS)

QUESTION ONE

List **five** major characteristics of prokaryotes **(5 Marks)**

QUESTION TWO

Highlights on the bacterial growth curve **(5 Marks)**

QUESTION THREE

List any **five** types of bacterial culture methods **(5 Marks)**

QUESTION FOUR

Outline the production of ATP through phosphorylation process **(5 Marks)**

QUESTION FIVE

Define any five types of plasmids **(5 Marks)**

QUESTION SIX

Outline the basic principles of genetic constitution **(5 Marks)**

QUESTION SEVEN

List any **five** differences between DNA and RNA **(5 Marks)**

QUESTION EIGHT

Outline of the relationships between the genes and proteins **(5 Marks)**



SECTION B (30 MARKS)

QUESTION NINE (15 MARKS)

Discuss the nutritional requirements of bacteria **(15 Marks)**

QUESTION TEN (15 MARKS)

Account for bacterial production of secondary metabolites and their relationship to their growth **(15 Marks)**

QUESTION ELEVEN (15 MARKS)

Discuss the bacteria's various ways of transmitting genetic material **(15 Marks)**

