

UNIVERSITY EXAMINATIONS

FIRST SEMESTER 2025/2026 ACADEMIC YEAR

**THIRD YEAR EXAMINATION FOR THE DEGREE OF
BACHELOR OF BIOMEDICAL SCIENCE AND
TECHNOLOGY**

BMED 313: APPLIED MICROBIOLOGY

STREAM: R

TIME: 2 HRS

DAY:

DATE:

THIS QUESTION PAPER CONSISTS OF TWO (2) PAGES

PLEASE DO NOT OPEN UNTIL THE INVIGILATOR SAYS SO.

INSTRUCTIONS:

Answer ALL Questions in Sections A and any ONE Question from Section B.

SECTION A: 40 Marks (SHORT ANSWER QUESTIONS)**QUESTION ONE**

Explain how microbial fungi are used in the biocontrol of plant pathogenic nematodes in the soil ecosystem. (4 Marks)

QUESTION TWO

Distinguish between symbiotic and non-symbiotic nitrogen fixation. (5 Marks)

QUESTION THREE

- (a) Define biofuel? (1 Mark)
- (b) List the different types of biofuel? (3 Marks)
- (c) Outline **three** (3) advantages and three 3 disadvantages associated with biofuels. (6 Marks)

QUESTION FOUR

- (a) Explain food fermentation? (1 Mark)
- (b) Outline the health benefits of fermented foods. (10 Marks)

QUESTION FIVE

Write short notes on five causes of Food Spoilage. (10 Marks)

SECTION B: (30 MARKS)**QUESTION SIX**

‘Extrinsic and Intrinsic parameters influence the growth of microorganisms in Food’. Discuss this statement, giving specific examples. (15 Marks)

QUESTION SEVEN

Describe the stages involved in a typical sewage treatment plant. (15 Marks)

QUESTION EIGHT

- a) Explain bioremediation? (3 Marks)
- b) Describe how environmental factors influence bioremediation process. (12 Marks)