

UNIVERSITY EXAMINATIONS

FIRST SEMESTER 2025/2026 ACADEMIC YEAR

**FIRST YEAR EXAMINATION FOR THE DEGREE OF
BACHELOR OF AGRICULTURAL EDUCATION AND
EXTENSION**

BOT/BOTA 122: GENERAL MICROBIOLOGY

STREAM: AGED

TIME: 2 HRS

DAY: MONDAY [11.30 – 13.30 P.M]

DATE: 02/02/2026

THIS QUESTION PAPER CONSISTS OF THREE (3) PAGES

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INSTRUCTIONS:

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

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

With the aid of well-labelled diagrams, distinguish between prokaryotic and Eukaryotic cells.

(3 Marks)

QUESTION TWO

Outline the contributions of Robert Koch in microbial studies.

(3 Marks)

QUESTION THREE

Write short notes on the following types of bacterial flagella. Use well-labelled diagrams.

- (a) Monotrichous
- (b) Amphitrichous
- (c) Lophotrichous
- (d) Peritrichous

(6 Marks)

QUESTION FOUR

Distinguish between gram positive from gram-negative bacteria.

(5 Marks)

QUESTION FIVE

a) Draw and label the structure of a typical bacterial phage.

(3 Marks)

b) State the function of any four (4) parts labelled above.

(4 Marks)

QUESTION SIX

“Although viruses are classified as micro-organisms, they differ from all other microbes”. Explain.

(5 Marks)

QUESTION SEVEN

a) Give a brief history of COVID-19. **(4 Marks)**

(b) State 3 symptoms associated with COVID-19. **(3 Marks)**

QUESTION EIGHT

List **four** (4) beneficial effects of microbial fungi. **(4 Marks)**

SECTION B: ESSAY QUESTIONS (30 MARKS)

QUESTION NINE

Describe the physical and chemical methods of sterilization. **(15 Marks)**

QUESTION TEN

“Bacteria can be classified according to pH requirements”. Justify. **(15 Marks)**

QUESTION ELEVEN

Give an account of the History of Microbiology. **(15 Marks)**