



# **MURANG'A UNIVERSITY OF TECHNOLOGY**

## **SCHOOL OF PURE, APPLIED AND HEALTH SCIENCES**

### **DEPARTMENT OF HEALTH SCIENCES**

#### **UNIVERSITY ORDINARY EXAMINATION**

**2023/2024 ACADEMIC YEAR**

**SECOND YEAR SECOND SEMESTER EXAMINATION FOR BACHELOR**

**OF EDUCATION (SCIENCE)**

**AZL 203: BASIC IMMUNOLOGY**

**DURATION: 2 HOURS**

#### **INSTRUCTIONS TO CANDIDATES:**

1. Answer question one and any other two questions.
2. Mobile phones are not allowed in the examination room.
3. You are not allowed to write on this examination question paper.

**SECTION A: ANSWER ALL QUESTIONS IN THIS SECTION**

**QUESTION ONE (30 MARKS)**

- a. i. Define immunology. (1 mark)
- ii. Explain its significance in field of biology. (4 marks)
- b. Describe the process of phagocytosis in the context of immune systems. (5 marks)
- c. Differentiate between innate and adaptive immunity. (5 marks)
- d. Highlight how antibodies contribute to the immune response. (5 marks)
- e. Explain how vaccines work in preventing infection diseases. (5 marks)
- f. Highlight on the primary lymphoid organs and their role in the immune systems. (5 marks)

**SECTION B – ANSWER ANY TWO QUESTIONS IN THIS SECTION**

**QUESTION TWO (20 MARKS)**

Describe the factors that influence antigenicity. (20 marks)

**QUESTION THREE (20 MARKS)**

Discuss the concept of immunology memory. (20 marks)

**QUESTION FOUR (20 MARKS)**

Discuss inflammation and its role in the immune system. (20 marks)