



MACHAKOS UNIVERSITY
University Examinations for 2024/2025 Academic Year
SCHOOL OF PURE AND APPLIED SCIENCES
DEPARTMENT OF BIOLOGICAL SCIENCES

**FOURTH YEAR FIRST SEMESTER EXAMINATION FOR DEGREE IN
BACHELOR OF SCIENCE IN BIOLOGY**

SZL 407 : ADVANCED IMMUNOLOGY

DATE: 20TH JANUARY, 2025

TIME: 11.00 AM - 1.00 PM

INSTRUCTIONS:

- Answer question **ONE (Compulsory)** and **any other TWO** questions
- Use clean well labelled diagrams wherever appropriate

QUESTION ONE (30 MARKS)

- Outline the secondary functions of Lymphoid systems. (3marks)
- Describe three mature T cells. (3marks)
- Describe the features of memory B cells. (3marks)
- Explain surface and determinant of CD4 T cells and its subsets. (3marks)
- Describes the immunological reactions due to Inflammation of the body's tissues. (3 marks)
- Outline three roles of CD40 in B cells activations. (3marks)
- Distinguish between Infection and Disease. (3marks)
- Describe three characteristics of IgE antibodies. (3marks)
- Describe three classes of hypersensitivities. (3marks)
- Describe hemolytic anemia. (3marks)

QUESTION TWO (20 MARKS)

Discuss the features of antibody responses and switching.

QUESTION THREE (20 MARKS)

Discuss how tumor cells evade and suppress the immune system.

QUESTION FOUR (20 MARKS)

With illustrations discuss the mechanism of DerP1 allergen reactions.

QUESTION FIVE (20 MARKS)

Discuss the immunological system that can clear pathogens that form complexes with antibodies.