



TECHNICAL UNIVERSITY OF MOMBASA

School of Applied and Health Sciences
DEPARTMENT OF PURE AND APPLIED SCIENCES

UNIVERSITY EXAMINATION FOR:

BACHELOR OF SCIENCE IN BIOCHEMISTRY

ABT 4402: APPLIED IMMUNOLOGY

END OF SEMESTER EXAMINATION

SERIES: JULY 2025

TIME: 2 HOURS

DATE: JULY 2025

Instructions to Candidates

You should have the following for this examination

Answer Booklet, examination pass and student ID

This paper consists of **FIVE** questions. Attempt question ONE (Compulsory) and any other TWO questions.

Do not write on the question paper.

Question One (30 Marks)

- (i) State four differences between acute and chronic inflammation (4 Marks)
- (ii) Explain the mechanism of increased vascular permeability (5 Marks)
- (iii) Explain the features of acute inflammation (3 Marks)
- (iv) List the steps undergone by microbes in the process of phagocytosis (3 Marks)
- (v) State four symptoms of anaphylaxis reactions (4 Marks)
- (vi) Explain the meaning of the following terms
 - (a) Immunoprophylaxis (1 Mark)

- (b) Immunotolerance (1 Mark)
- (c) Autoimmunity (1 Mark)
- (d) Sarcomas (1 Mark)
- (vii) Describe three types of tumors (3 Marks)
- (viii) Name four classes of primary immunodeficiency diseases (4 Marks)

Section B

Question Two (20 Marks)

- (i) With examples, discuss the various causes of inflammation (10 marks)
- (ii) Discuss the process of microbial phagocytosis (10 Marks)

Question Three (20 Marks)

Discuss the mechanism of T cell immune tolerance (20 Marks)

Question Four (20 Marks)

- (i) Discuss antibody mediated allograft rejection (15 Marks)
- (ii) Explain the etiology of allergic reaction (5 Marks)

Question Five (20 Marks)

- (i) Describe four types of stems cells (8 Mark)
- (ii) Differentiate between passive and active acquired immunity (12 Marks)