



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: DECEMBER 2024 SERIES

TIME: 2 HOURS

DATE: DECEMBER 2024

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) List the four cardinal signs of inflammation (2 Marks)
- (ii) Describe two cellular events from acute inflammation (4 Marks)
- (iii) List four common allergens (4 Marks)
- (iv) State five properties of stem cells that make them essential for use in clinical transplantation (5 Marks)
- (v) Explain five types of transplant (5 Marks)
- (vi) State four types of vaccines administered as immunoprophylaxis (4 Marks)
- (vii) Differentiate between primary and secondary immunodeficiency (2 Marks)

(viii) Differentiate between benign and malignant tumors

(4 Marks)

SECTION B

Question Two (20 Marks)

(i) Discuss the possible outcomes of acute inflammation

(8 Marks)

(ii) With examples explain four causes of autoimmune diseases

(12 Marks)

Question Three (20 Marks)

Discuss the various types of hypersensitivity reactions

(20 Marks)

Question Four (20 Marks)

(i) Discuss cellular mediated allograft rejection

(14 Marks)

(i) Giving examples, describe three classes of autoimmune diseases

(6 Marks)

Question Five (20 Marks)

(i) Describe the run-away mechanisms of tumor cells

(15 Marks)

(ii) Explain five altered biological properties of cancer cells

(5 Marks)