



TECHNICAL UNIVERSITY OF MOMBASA

FACULTY OF APPLIED AND HEALTH SCIENCES

DEPARTMENT OF PURE AND APPLIED SCIENCES

UNIVERSITY EXAMINATION FOR:

DIPLOMA IN INDUSTRIAL MICROBIOLOGY AND BIOTECHNOLOGY

(DIMB YEAR 1/SEMESTER 2)

AML 2104 FUNDAMENTALS OF IMMUNOLOGY

END OF SEMESTER EXAMINATION

SERIES: DECEMBER 2024

TIME: 2 HOURS

DATE: Pick 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 Question(s). Attempt question ONE (Compulsory) and any other TWO questions.

Do not write on the question paper.

Mobile phones are NOT allowed in the examination room

SECTION A (Answer all the Questions)**(30 Marks)****QUESTION ONE**

- a) Briefly outline examples of the following. (6 marks)
- i. Immune organs.
 - ii. Immune tissues.
 - iii. Immune cells.
- b) Briefly describe the following terms using appropriate examples. (6 marks)
- i. Tolerance
 - ii. Antibody
 - iii. Antigen
- c) Briefly state the immunological mediator of inflammation produced by a mast cell during Type I hypersensitivity (4 marks)
- d) Describe characteristics and functions of IgA (5 marks)
- e) Briefly explain the differences between Primary and secondary immune responses (4 marks)
- f) Outline the numerical sequence of complement activation in the alternative pathway (5 marks)

SECTION B: Choose Any TWO Questions (30 Marks)**QUESTION TWO**

- a) Discuss factors that determine immunogenicity. (7 marks)
- b) Tabulate the differences between classical and alternative pathways of complement activation. (8 marks).

QUESTION THREE

- a) Briefly explain the types of hypersensitivity. (4 marks)
- b) Discuss the mechanisms of Type (I) hypersensitivity. (11 marks)

QUESTION FOUR

- a) Briefly describe an inflammatory response. (15 marks)

QUESTION FIVE

- a) Discuss the following barriers in innate immunity
- I. Mechanical barriers. (8 marks)
 - II. Chemical & biochemical inhibitors. (7 marks)