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

SUPPLEMENTARY AND SPECIAL 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 O NE

a) State the two main subdivisions of the immune system (2 marks)
b) Outline types of hypersensitivity as classified by Gell and Coombs (4 marks)
c) Describe any four soluble factors of innate immunity (4 marks)
d) List any four organs involved with the immune system (4 marks)
e) Briefly describe characteristics of IgM (6 marks)
f) Explain factors that determine immunogenicity (5 marks)
g) Distinguish between active and passive immunity. (4 marks)

SECTION B: Choose Any TWO Questions (30 Marks)

Question TWO

a) Outline the following methods by which non-specific immunity operates
   I. Physical barriers. (6 marks)
   II. Chemical barriers. (6 marks)

b) Explain how the body's natural microbial flora helps in preventing the establishment of pathogens. (3 marks)

Question THREE

Discuss the hemolytic disease of the newborn. (15 marks)

Question FOUR

a) Using appropriate illustrations describe the classical and alternative pathway of complement activation. (7 marks)

b) Outline the differences between primary and secondary immune responses. (8 marks)

Question FIVE

Describe the process of phagocytosis. (15 marks)