

**TECHNICAL UNIVERSITY OF MOMBASA**

Faculty of Applied and Health Sciences

**DEPARTMENT OF ENVIRONMENT AND HEALTH SCIENCES**

UNIVERSITY EXAMINATION OF DEGREE

BACHELOR OF SCIENCE IN COMMUNITY HEALTH (BSCH14S)

AML 4121: FUNDAMENTALS OF IMMUNOLOGY (SUPPLEMENTARY)

END OF SEMESTER EXAMINATIONS

SERIES: JANUARY 2016

TIME: 2 HOURS

INSTRUCTION TO CANDIDATE

This paper consists of **FIVE QUESTIONS**.

Answer QUESTION 1 (COMPULSORY) and any OTHER two.

**QUESTION ONE (30marks)**

- a) State the ways in which immunoglobulin are expressed (2marks)
  
- b) State the major functions of major histocompatibility complex (2marks)
  
- c) Name the four functions of antibody mediated cells (5marks)
  
- d) Name the major functions of the cells of the macrophage (3marks)

- e) Define the terms;
  - i. Hapten (2marks)
  - ii. Antigenicity (2marks)
  - iii. Adjuvant (2marks)
  - iv. Epitope (2marks)
  - v. Cytokines (2marks)
- f) Differentiate between localized or systematic inflammation responses (4marks)
- g) Give examples of diseases of major groups of human viruses and bacteria pathogens (4marks)

## **QUESTION TWO**

- a) Discuss the different types of transplants (8marks)
- b) Discuss the four types of hypersensitive reactions (12marks)

## **QUESTION THREE**

Discuss the primary organs of the immune system (20marks)

## **QUESTION FOUR**

With the aid of diagram, discuss the three types of granulocytes and their roles (20marks)

## **QUESTION FIVE**

- a) Explain the major characteristics of the adaptive immune response (8marks)
- b) Discuss the process of B cell development (12marks)