

# TECHNICAL UNIVERSITY OF MOMBASA Faculty of Applied & Health Sciences

DEPARTMENT OF ENVIRONMENT AND HEALTH SCIENCES

# DIPLOMA IN COMMUNITY HEALTH (DCH 14M)

## AML 2104: FUNDAMENTALS OF IMMUNOLOGY

SPECIAL/SUPPLEMENTARY EXAMINATIONS SERIES: FEBRUARY 2015 TIME: 2 HOURS

#### **INSTRUCTIONS:**

- This paper consists of **FIVE** questions.

- Answer question **ONE (Compulsory)** in Section **A** and any other **TWO** questions in **B**. *This paper consists of Three printed pages.* 

### SECTION A (Compulsory) 30 Marks

### **QUESTION 1**

a)	State the <b>TWO</b> main subdivisions of the immune system.	(2 marks)
b)	Tabulate any differences between the <b>TWO</b> main forms of immunity in (a) above.	(4 marks)
c)	List any FOUR organs of the immunological apparatus.	(4 marks)
d)	Give any FOUR characteristics of IgM.	(4 marks)
e)	Outline the basic functions of the immune system.	(3 marks)
f)	Differentiate between humoral and cellular immune responses.	(4 marks)
g)	Distinguish between active and passive immunity.	(4 marks)
h)	Classify the immunoglobulin classes based on their heavy chains.	(5 marks)

### **SECTION B** (Answer any TWO questions)

#### **QUESTION 2**

a) Give the types of hypersensitivity.

b) Describe the characteristics and functions of the following immunoglobulin molecules				
	i)	Igh	(4 marks)	
	ii)	Igm	(3 marks)	
c)	Giv	ve an example for the following types of acquired immunity.	(4 marks)	
	i)	Natural passive		
	ii)	Natural active		
	iii)	Artificial passive		
	iv)	Artificial active		

## **QUESTION 3**

a) Briefly ex	plain the following terms as used in immunology:	
i) Specif	icity	(3 marks)
ii) Memo	ry	(2 marks)
b) i) Define	the term hypersensitivity.	(2 marks)
ii) Choose	e from the following to answer question $(I - viii)$ .	(8 marks)
A. I gm		
B. I Gg		
C. IgA		
D. IgE		
i) Crosse	es the placenta	
ii) Found	in milk of lactating women.	
iii) Binds	firmly to most cells and triggers anaphylaxis.	

- iv) Is a pentamere
- v) Present in highest concentration in serum
- vi) Present in highest concentration in secretions
- vii) Contains 10 heavy and 10 light chains.
- viii) Present in lowest concentration in serum

## **QUESTION 4**

a)	Draw a labelled diagram of an immunoglobulins.	(9 marks)
b)	Outline the differences between primary and secondary immune responses.	(6 marks)
QI	JESTION 5	
a)	Outline the following methods by which non-specific immunity operates;	
	i) Physical barriers	(4 marks)
	ii) Chemical barriers.	(4 marks)
b)	Explain how the body's natural microbial flora helps in preventing the establishment of pa	athogens. ( <b>3 marks</b> )
c)	Explain the immunological role of the IgE.	(4 marks)