



# TECHNICAL UNIVERSITY OF MOMBASA

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FACULTY OF APPLIED AND HEALTH SCIENCES

DEPARTMENT OF PURE & APPLIED SCIENCES

**UNIVERSITY EXAMINATION FOR:**

**DIPLOMA IN INDUSTRIAL MICROBIOLOGY AND BIOTECHNOLOGY**

**ABT 2210: FUNDAMENTALS OF IMMUNOLOGY**

**PAPER TWO**

**SPECIAL/SUPPLEMENTARY EXAMINATION**

**SERIES: SEPTEMBER 2018**

**TIME: 2 HOURS**

**DATE: Sep2018**

## **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.**

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## **Question ONE**

a) Define the following terminologies:

- i. Autoimmune disease (1 mark)
- ii. Innate immunity (1 mark)
- iii. Immunogen (1 mark)
- iv. Hapten (1 mark)
- v. Antibody (1 mark)

b) State three characteristics of innate immunity (3 marks)

c) i) Name the three stages involved in Phagocytosis (3 marks)

ii) Briefly describe the process of inflammation (5 marks)

d) Describe the following cells:

- i. Neutrophiles (3 marks)
- ii. Eusinophiles (3 marks)

e) State three theories of antibody production (3 marks)

f) Outline the mechanism of immune stimulation by Adjuvants (5 marks)

### **Question TWO**

Discuss the following primary lymphoid organs:

- i. Thymus (8 marks)
- ii. Bursa of Fabricious (7 marks)

### **Question THREE**

Briefly describe the mechanisms behind the following physical /mechanical barriers involved in innate immunity:

I) Skin ( 10 marks)

II) Mucous Membrane (5 marks)

### **Question FOUR**

a) Describe three organ specific autoimmune disorders (9 marks)

b) Explain two factors affecting autoimmunity (6 marks)

### **Question FIVE**

a) Explain functions of the immune system (6 marks)

b) Discuss the presence of Normal Flora as a mechanism of innate immunity (9 marks)