



TECHNICAL UNIVERSITY OF MOMBASA

FACULTY OF APPLIED AND HEALTH SCIENCES

DEPARTMENT OF PURE & APPLIED SCIENCES

UNIVERSITY EXAMINATION FOR:

BACHELOR OF TECHNOLOGY IN MICROBIOLOGY AND

BIOTECHNOLOGY

ABT 4209: IMMUNOCHEMISTRY SPECIAL/SUPPLEMENTARY PAPER

SPECIAL/SUPPLEMENTARY EXAMINATION

SERIES:SEPTEMBER2018

TIME:2HOURS

DATE:Pick DateSep2018

Instructions to Candidates

You should have the following for this examination

-Answer Booklet, examination pass and student ID

This paper consists of **FIVE** questions. Attemptquestion ONE (Compulsory) and any other TWO questions.

Do not write on the question paper.

Question ONE

(a) Define the following terms (**1 marks each**)

- (i) Isogenic antigens
- (ii) Thymus gland
- (iii) Anti-Idiotypic vaccine
- (iv) Xenogenic antigens

(b) Describe the structure and functions of the following isotypes of antibodies

- (i) Ig M **(3 marks)**
- (ii) Ig D **(3 marks)**

(c) Outline five features of antigenicity. **(5 marks)**

(d) Describe the respiratory burst/ bacteriocidal mechanism during bacterial infection. **(5 marks)**

(e) Substantiate the following: **(2 marks each)**

- (a) Aids patients are prone to acquire secondary bacterial infections than tumors.
- (b) A living vaccine is more effective than a dead vaccine

(f) Pathogenic organisms have evolved various defense mechanisms to evade destructions by the host immune systems. Using specific examples, explain the different mechanism evolved by the following pathogens to evade host immune response

- (i) Bacteria (2 marks)
- (ii) Viruses (2 marks)
- (iii) Protozoa (2 marks)

Question TWO

Describe the cell mediated Immunity (T- cells) response to antigens. **(20 marks)**

Question THREE

(a) Describe the process of response of B lymphocytes to Antigens. **(10 marks)**

(b) Explain the activation of the complement system by the classical pathway giving the immunological importance of the system. (10 marks)

Question FOUR

Describe the following immunological test

- (i) The Widal test (6 marks)
- (ii) Complement Fixation test (7 marks)
- (iii) Western blotting (7 marks)

Question FIVE

(a) Distinguish between

- (i) Active immunity and Passive immunity (2 marks)
- (ii) Naturally acquired immunity and artificially acquired immunity. (2 marks)

(b) Show with the aid of examples, how these different form of immunity mention above play a part in protection of animals from infection diseases. **(16 marks)**