



*(Knowledge for Development)*

# **KIBABII UNIVERSITY**

## **UNIVERSITY EXAMINATIONS 2017/2018 ACADEMIC YEAR**

### **SECOND YEAR 2<sup>ND</sup> SEMESTER SPECIAL/SUPPLEMENTARY EXAMINATIONS**

**FOR THE DEGREE OF BACHELOR OF SCIENCE IN BIOLOGY,  
BACHELOR OF SCIENCE IN BIORESOURCE MANAGEMENT,  
BACHELOR OF EDUCATION SCIENCE AND BACHELOR  
AGRICULTURE EDUCATION AND EXTENSION**

**COURSE CODE:** SZL 222

**COURSE TITLE:** IMMUNOLOGY 1

**DATE:** 12<sup>th</sup> October, 2018


**TIME:** 11:30 -1:30 p.m.

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#### **INSTRUCTIONS TO CANDIDATES**

Answer Question one (1) and any other two (2) Questions. Question one is compulsory and carries 30 marks, the other Questions carry 20 marks each.

TIME: 2 Hours

This paper consists of 2 printed pages. Please Turn Over 

KIBU observes ZERO tolerance to examination cheating

**QUESTION ONE**

- a) Define the term immunology. (4 Marks)
- b) Using examples, explain the following terms as used in immunology.
  - i. Granulocytes (3 Marks)
  - ii. Complements (2 Marks)
- c) Differentiate between active and passive immunity. (4 Marks)
- d) Outline the steps involved in inflammatory reaction. (4 Marks)
- e) State three ways in which acquired immunity can be induced by immunization. (3 Marks)
- f) Enumerate four histological forms of macrophages and the location in the body. (4 Marks)
- g) Highlight three ways in which adjuvants function in an immunogenic reaction. (3 Marks)
- h) State three characteristic features of an adaptive immune system. (3 Marks)

**QUESTION TWO**

- a) Discuss the diverse chemical barriers of the non-specific immunity. (10 Marks)
- b) Classify antibodies based on their reactions with antigen. (10 Marks)

**QUESTION THREE**

- a) Discuss the chronological events that take place in an alternative pathway. (10 Marks)
- b) Describe the diversity of T-cells type. (10 Marks)

**QUESTION FOUR**

- a) Explain five different classes of immunoglobulin. (15 Marks)
- b) What is the meaning of this terminologies in immunology:-
  - i. A Hapten (1.5 Marks)
  - ii. An Immunogen (1.5 Marks)
  - iii. Antigenic determinant (2 Marks)

**QUESTION FIVE**

- a) Describe the immune cells involved in innate immunity. (20 Marks)