(Knowledge for Development)

KIBABII UNIVERSITY

UNIVERSITY EXAMINATIONS 2021/2022 ACADEMIC YEAR

SECOND YEAR SECOND SEMESTER MAIN EXAMINATIONS

FOR THE DEGREE OF BACHELOR OF SCIENCE IN BIOLOGY

COURSE CODE: SZL 222

COURSE TITLE: IMMUNOLOGY I

DATE: 11TH MAY 2022   **TIME: 9.00 – 11.00 AM**

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 3 printed pages. Please Turn Over ▶

KIBU observes ZERO tolerance to examination cheating

QUESTION ONE

a) Define the term an immune response.   (4 Marks)

b) Differentiate between natural and artificial immunity.   (4 Marks)

c) Explain four characteristics of an immunogenic agent.   (4 Marks)

d) State three characteristics of adaptive immune system.   (3 Marks)

e) Using an example, describe a lymphocyte as used in
   immunology.   (4 Marks)

f) What is inflammation?   (4 Marks)

g) State four forms of macrophages and their location in the body.

                                                                 (4 Marks)

h) Highlight three roles of an adjuvant in an immune response.   (3 Marks)

QUESTION TWO

a) Discuss five physical barriers of the non-specific immunity.   (10 Marks)

b) Describe the sub-populations of T-cells.   (10 Marks)

QUESTION THREE

Describe the immune cells involved in the body immunity listed below:-

   i.   Non-phagocytic cells   (2 Marks)

   ii. Phagocytic cells   (18 Marks)

QUESTION FOUR

a) Outline the sequential events that take place in a classical pathway.

                                                                 (10 Marks)

b) Classify antibodies based on their reactions with antigen.   (10 Marks)

QUESTION FIVE

a) Explain five classes of immunoglobulins.   (15 Marks)

b) What is the meaning of:-

   i.   An Immunogen   (1.5 Marks)

   ii. A Hapten   (1.5 Marks)

   iii. An Epitope   (2 Marks)