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(Knowledge for Development)

KIBABII UNIVERSITY
UNIVERSITY EXAMINATIONS
2017/2018 ACADEMIC YEAR

FIRST YEAR 1ST SEMESTER
MAIN 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: WEDNESDAY 8TH August 2018

TIME: 2:00 – 4:00 p.m.

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) Describe the significance of an immune system in a living organism. (4 Marks)
- b) Write short notes on the following immunological terminologies:-
 - i. Immunity (2 Marks)
 - ii. Immunological memory (2 Marks)
 - iii. An antigen (2 Marks)
- c) Draw a well labelled diagram of an IgG. (4 Marks)
- d) Differentiate between T- suppressor cells and T-helper cells. (2 Marks)
- e) Describe the functions of secondary lymphoid organs. (4 Marks)
- f) Explain four characteristics of an immunogenic agent. (4 Marks)
- g) Distinguish between primary and secondary immune responses. (4 Marks)
- h) State the contributions of the following scientists in the field of immunology.
 - i. Edward Jenner (1 Mark)
 - ii. Land Steiner (1 Mark)

QUESTION TWO

- a) Discuss the sequential events that take place in a classical pathway. (10 Marks)
- b) Describe the mechanism through which phagocytic cells encounter an antigen. (10 Marks)

QUESTION THREE

- a) Describe phagocytosis as part of the non-specific immunity. (10 Marks)
- b) Explain three distinguishing characteristics of an innate and adaptive immunity. (6 Marks)
- c) Briefly outline how fever plays a role in the body's defense. (4 Marks)

QUESTION FOUR

- a) Using a diagram, describe the structure of an immunoglobulin. (10 Marks)
- b) Describe the following primary lymphoid organs in the body. (10 Marks)
 - i) Thymus gland
 - ii) Bursa of Fabricius and Bone marrow

QUESTION FIVE

- a) Fill the gaps in the table below. (5 Marks)

Macrophage cells	Location in the body
Kupffer	
Alveolar	
Microglial	
Osteoblast	
Sinus macrophages	

- b) Briefly outline the inflammation process as a major component of the body's defense mechanisms. (8 Marks)
- c) Explain the factors that affect the immunity. (7 Marks)