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**UNIVERSITY EXAMINATIONS  
2021/2022 ACADEMIC YEAR**

**SECOND YEAR SECOND SEMESTER  
SUPPLEMENTARY/SPECIAL EXAMINATIONS**

FOR THE DEGREE OF BACHELOR OF SCIENCE IN BIOLOGY

**COURSE CODE: SZL 222**

**COURSE TITLE: IMMUNOLOGY I**

**DATE: 10<sup>TH</sup> AUGUST 2023      TIME: 8.00 AM**

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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

### **QUESTION ONE**

- a) Outline the role of fever in the body's defense. (4 Marks)
- b) Describe the functions of an immune system. (4 Marks)
- c) Differentiate between T-helper and T- cytotoxic cells. (4 Marks)
- d) Enumerate two ways in which specific immunity can be triggered by immunization. (4 Marks)
- e) Distinguish between primary and secondary immune responses. (4 Marks)
- f) Illustrate the structure of an Immunoglobulin G. (4 Marks)
- g) Write short notes on the following immunological terminologies:-
  - i. Complement system (2 Marks)
  - ii. Memory (2 Marks)
  - iii. An antibody (2 Marks)

### **QUESTION TWO**

- a) Describe how phagocytic cells kill and eliminate an antigen. (10 Marks)
- b) Discuss the sequential events that take place in an alternative pathway. (10 Marks)

### **QUESTION THREE**

- a) Tabulate three distinguishing characteristics of an innate and specific immunity. (6 Marks)
- b) Describe two components of primary lymphoid organs. (4 Marks)
- c) Describe three classes of Major Histocompatibility Complex (MHC). (10 Marks)

### **QUESTION FOUR**

- a) Using a diagram, describe the structure of an immunoglobulin. (10 Marks)
- b) Describe the chemical barriers of an immune system. (10 Marks)

**QUESTION FIVE**

a) Fill the gaps below:-

**Location in the body**

- i. \_\_\_\_\_
- ii. \_\_\_\_\_
- iii. \_\_\_\_\_
- iv. \_\_\_\_\_
- v. \_\_\_\_\_

**Macrophage cells**

- Osteoblast (1 Mark)
- Sinus macrophages (1 Mark)
- Microglial (1 Mark)
- Kupffer (1 Mark)
- Alveolar (1Mark)

b) Describe the defensive functions of blood. (7 Marks)

c) Explain four factors that affect the immunity. (8 Marks)