



MERU UNIVERSITY OF SCIENCE AND TECHNOLOGY

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University Examinations 2023/2024

**THIRD YEAR FIRST SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR
OF SCIENCE IN BIOCHEMISTRY, BACHELOR OF BIOTECHNOLOGY AND
BACHELOR OF EDUCATION SCIENCE**

SZL 3302/SZA 3100: BASIC IMMUNOLOGY /IMMUNOLOGY I

DATE: DECEMBER 2023

TIME: 2 HOURS

INSTRUCTIONS: *Answer question **one** and any other **two** questions*

QUESTION ONE (30 MARKS)

- a) Define the following terms
 - i. Immunogenicity (2 marks)
 - ii. Avidity (2 marks)
 - iii. Affinity (2 marks)
- b) Give two examples each of primary and secondary lymphoid organs (4 marks)
- c) Describe briefly the main features of antigen binding sites (3 marks)
- d) Draw a well labelled diagram of the basic structure of immunoglobulin (5 marks)
- e) List three antigen presenting cell (APC) involved in immune response (3 marks)
- f) Explain briefly the difference between humoral and adaptive cell mediated immune responses (4 marks)
- g) State two immunological functions of immunoglobulins (2 marks)



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h) Name various type of T-cell and important markers they possess (3 marks)

QUESTION TWO (20 MARKS)

Discuss the evasive mechanisms employed by the parasites, bacteria and viruses in mammalian hosts (20 marks)

QUESTION THREE (20 MARKS)

Describe four types of vaccines commonly used in Kenyan children (20 marks)

QUESTION FOUR (20 MARKS)

Discuss the various types of antigens (20 marks)



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