

**UNIVERSITY OF SCIENCE AND TECHNOLOGY**

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**University Examinations 2014/2015**

THIRD YEAR, FIRST SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE IN BIOLOGICAL SCIENCES.

**SZL 2314: BASIC IMMUNOLOGY**

**DATE: APRIL 2015 TIME: 2 HOURS**

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

**QUESTION ONE (30 MARKS)**

1. Explain meaning of the following terms:- (3 marks)
2. Immunogenicity
3. Avidity
4. Antibody Affinity
5. Describe with examples, the primary and secondary lymphoid organs (4 marks)
6. State any two mechanisms of innate immunity (1 mark)
7. State four characteristics of antigens (4 marks)
8. List three functions of major histocompatibility class antigens (3 marks)
9. Explain meaning of the term adjuvant and list three types of adjuvants (5 marks)
10. State four intermolecular forces that bind antigens to antibodies (4 marks)
11. Differentiate with examples, active naturally acquired immunity and active artificially acquired immunity (4 marks)
12. State four uses of immological methods currently applied in life sciences (2 marks)

**QUESTION TWO (20 MARKS)**

Discuss the different classes of immunoglobulin

**QUESTION THREE (20 MARKS)**

Discuss the immune responses for the following infections

1. Bacterial infections
2. Viral infections
3. Parasitic infections

**QUESTION FOUR (20 MARKS**

1. Discuss T-cell generation, maturation, activation and differentiation (10 marks)
2. Discuss the microbial mechanisms of infection and survival (10 marks)

**QUESTION FIVE (20 MARKS**

Discuss citing appropriate examples different types of antigens