

**MERU UNIVERSITY OF SCIENCE AND TECHNOLOGY**

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**University Examinations 2015/2016**

THIRD YEAR, FIRST SEMESTER EXAMINATION FOR BACHELOR OF SCIENCE BIOCHEMISTRY AND BACHELOR OF SCIENCE BIOLOGICAL

**SZL 2314: BASIC IMMUNOLOGY**

**DATE: NOVEMBER, 2015 TIME:** $2 $**HOURS**

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

**QUESTION ONE – (30 MARKS)**

1. Describe the structure and function of each of the following blood cells. (10 Marks)
2. Monocytes
3. Mast cells
4. Macrophages
5. Basophils
6. Eosinophils
7. Explain the meaning of the following terms; (6 Marks)
8. Antigen
9. Adjuvant
10. Hypersensitivity
11. Humoral immunity
12. Discuss briefly the following; (10 Marks)
13. Structure of the secreted form of Ig A dimer
14. Fundamental features of the immune response
15. The central (primary) and peripheral (secondary)lymphoid organs
16. (i) State the function of the Fc portion of an antibody. (2 Marks)

 (ii) Distinguish between isotype, allotype and idiotype. (2 Marks)

**QUESTION TWO (20 MARKS**)

1. Describe the term hypersensitivity. (2 Marks)
2. Discuss the various types of hypersensitivity reactions. (18 Marks)

**QUESTION THREE (20 MARKS)**

1. Compare and contrast B cells and T-cells with respect to their formation, structure and roles in immune response. (15 Marks)
2. Outline the forces involved in antibody antigen interactions. (5 Marks)

**QUESTION FOUR (20 MARKS)**

1. Discuss the main differences between innate and adaptive immune response.(10 Marks)
2. Describe the protective immune response likely to be mounted against a virus, extracellular bacteria and extracellular protozoa. (10 Marks)

**QUESTION FIVE (20 MARKS)**

Compare and contrast humoral and cell-mediated immunity. (20 Marks)