

**MERU UNIVERSITY OF SCIENCE AND TECHNOLOGY**

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**University Examinations 2016/2017**

FOURTH YEAR, FIRST SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE IN BIOCHEMISTRY.

**SHC 3400: BIOCHEMISTRY OF IMMUNOLOGY**

**DATE: DECEMBER, 2016 TIME: 2 HOURS**

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

**QUESTION ONE (30 MARKS)**

1. Explain autoimmune diseases using at least three examples (3 marks)
2. Distinguish type I and type II and type III hypersensitivity (6 marks)
3. Describe briefly the basic steps involved in the process of extravasation (4 marks)
4. Outline three common features of autoimmune diseases (2 marks)
5. Explain the fundamental signs of an inflammatory response (5 marks)
6. Distinguish between humoral and cell-mediated immune responses (5 marks)
7. Describe:
8. Three changes that occur to the immune system following HIV infection
9. The features that enable the HIV virus to survive in the face of a powerful immunological invasion (5 marks)

**QUESTION TWO (20 MARKS)**

1. Illustrate the process of phagocytosis (10 marks)
2. Discuss the antibody mediated effector functions (10 marks)

**QUESTION THREE (20 MARKS)**

Discuss four vaccine strategies (20 marks)

**QUESTION FOUR (20 MARKS)**

1. Describe mechanisms employed to kill phagocytosed microbes (10 marks)
2. Illustrate the antibody structure (10 marks)