

**W1-2-60-1-6**

**JOMO KENYATTA UNIVERSITY**

**OF**

**AGRICULTURE AND TECHNOLOGY**

**UNIVERSITY EXAMINATIONS 2015/2016**

**SECOND YEAR SECOND SEMESTER EXAMINATION FOR THE**

**DEGREE OF BACHELOR OF SCIENCE IN MEDICAL LABORATORY SCIENCES**

 **MLS 2209: PRINCIPLES OF IMMUNOLOGY**

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

**INSTRUCTIONS: ANSWER ALL QUESTIONS IN SECTION A COMPULSORY (30 MARKS), AND ANY OTHER TWO IN SECTION B**

**SECTION A (COMPULSORY)**

1. a) Explain the meaning of the following terms: [5 marks]
2. Immunity
3. Infection
4. Heptan
5. Paratope
6. Immuno genicity

b) Differentiate between the following: [6 marks]

1. Inmate immunity and Acquired immunity
2. Cytokines and Antibodies
3. T-helper and T-cytoxicity

c) Draw and label the basic immunoglobulin structure. [5 marks]

d) Name the secondary lymphoid organs and explain their

 role in immunity. [6 marks]

e) Briefly explain FOUR (4) factors that influence

 innate immunity. [4 marks]

f) State the role of antigen presenting cells and name

 TWO (2) examples. [4 marks]

**SECTION B**

1. a) Define Hematopoeisis. [2 marks]

b) Describe the formation of blood cells from the stem cells. [8 marks]

c) List FIVE (5) cells formed from above, draw the structure

 and state the role in immunity. [10 marks]

1. Describe antigen processing and presentation. [20 marks]
2. a) What is major Histo compatibility? [2 marks]

b) Describe the functions of the major Histo compatibility

 complex in defence. [18 marks]

1. a) Discuss the mechanisms of inmate immunity. [10 marks]

b) Describe the Humoral Immune Response. [10 marks]

1. Write an essay on the primary lymphoid organs and the

tertiary lymphoid tissues. [20 marks]