**SOUTH EASTERN KENYA UNIVERSITY**

**UNIVERSITY EXAMINATIONS 2016/2017**

**FIRST SEMESTER EXAMINATIONS FOR DEGREE OF BACHELOR OF**

**SCIENCE IN BIOLOGY, BACHELOR OF EDUCATION SCIENCE & BACHELOR**

**OF SCIENCE IN BIOCHEMISTRY & MOLECULAR BIOLOGY**

**SBL 310: IMMUNOLOGY II**

**DATE: 16THDECEMBER, 2016**

**TIME: 4.00-6. 00P.M**

**INSTRUCTIONS TO CANDIDATES**

**(a) Answer ALL questions in Section A**

**(b) Answer ANY TWOquestions in Section B**

**(c) Illustrate your answers with well labeled diagrams where appropriate**

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**SECTION A (30 marks)**

1. State the three defining characteristics of the immune system.

2. List four differences between T-cell and B-cell receptors.

3. State thegeneral immune effector mechanisms.

4. Briefly describe the process of opsonization.

5. Outline the role of cytokines in the immune system.

6. Describe immune tolerance and regulation of the immune response.

7. State themechanisms of virus immune evasion.

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**(3 marks)**

**(4 marks)**

**(3 marks)**

**(3 marks)**

**(4 marks**)

**(4 marks**)

**(4 marks)**

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8. State the antigen receptors for:

(a) B-cells

(b) Helper T-cells

(c) Killer T-cells

9. Define ‘toll like receptors’.

**SECTION B(40 marks)**

10. Discuss hypersensitivity and allergies.

11. Discuss the role of major histocompatibility complex.

12. Describe the hostimmune responses to bacteria.

13. Discuss cancer immunotherapy.

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**(1 mark)**

**(1 mark)**

**(1 mark)**

**(2 Marks**)

**(20 Marks)**

**(20 marks)**

**(20 marks)**

**(20 Marks)**

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