



A Constituent College of Kenyatta University

**UNIVERSITY EXAMINATIONS 2011/2012 ACADEMIC YEAR**

**INSTITUTIONAL BASED PROGRAMME**

**3<sup>RD</sup> YEAR EXAMINATION FOR THE DEGREE OF BACHELOR OF  
SCIENCE**

**COURSE CODE/TITLE: SZL 307: INTRODUCTION TO IMMUNOLOGY**

**END OF SESSION:I**

**DURATION: 3 HOURS**

**DAY/TIME:WED.: 4.00 TO 5.00 P.M. DATE:07.12.2011(Room H1)**

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**INSTRUCTIONS**

Answer **ALL** questions in Section **A** and any **TWO** questions in Section **B**.

**Question One**

Briefly explain why the immune system in vertebrates is complex. (8 marks)

**Question Two**

Briefly distinguish between macrophages and neutrophils in vertebrates. (8 marks)

**Question Three**

Briefly describe the Natural Killer (NK) cells. (5 marks)

**Question Four**

- i) Giving examples, briefly describe interferons. (5 marks)
- ii) Give the main functions of interferons. (3 marks)

**Question Five**

Briefly describe how antibody diversity is generated. (7 marks)

**Question Six**

Briefly describe an epitome and a binding site (4 marks)

**SECTION B: (ANSWER ANY TWO QUESTIONS: 30 MARKS)**

**Question Seven**

Discuss the physical, chemical and biochemical barriers against pathogen infections in human. (15 marks)

**Question Eight**

Discuss the four(4) stages of phagocytosis as a process against pathogen infections in vertebrates. (15 marks)

**Question Nine**

Describe how B-lymphocytes are produced and how they differentiate into antibody producing cells. (15 marks)