

**UNIVERSITY OF KABIANGA**

**UNIVERSITY EXAMINATIONS**

**2015/2016 ACADEMIC YEAR**

**FOURTH YEAR FIRST SEMESTER EXAMINATION**

**FOR THE DEGREE OF BACHELOR OF SCENCE IN BIOCHEMISTRY, MICROBIOLOGY, BACHELOR OF SCIENCE AND BACHELOR OF EDUCATION SCIENCE**

**COURSE CODE: BIO 410/ZOO 410**

**COURSE TITLE: IMMUNOLOGY**

**DATE: 8TH DECEMBER, 2015**

**TIME: 9.00 A.M-12.00 NOON**

**INSTRUCTIONS TO CANDIDATES:**

Answer **ALL** questions in **section A** and any other **TWO** in **section B**.

Illustrate your answers with suitable diagrams where necessary

**SECTION A; (40 MARKS)**

1. Explain the difference between primary and secondary antibody responses. (8 marks)
2. a) Define the term hypersensitivity. (2 marks)

b) Describe briefly Type I hypersensitivity. (6 marks)

 3. With an aid of a diagram, describe the structure of the spleen. (8 marks)

 4. Discuss the MHC and its role in cellular immunity. (8 marks)

 5. Discuss the first line of defense during an infection. (8 marks)

**SECTION B; (30 MARKS)**

1. Describe the basic structure of immunoglobulins and state the classes, their physical and biological functions. (15 marks)
2. Explain the principle of sandwich enzyme linked immunosorbent assay (ELISA) and state its role. (15 marks)
3. Discuss the classical pathway of complement system. (15 marks)