

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

**JOMO KENYATTA UNIVERSITY OF AGRICULTURE AND TECHNOLOGY**

# **UNIVERSITY EXAMINATIONS 2014/2015**

**SPECIAL/SUPPLEMENTARY EXAMINATION FOR THE DEGREE OF SCIENCE IN PUBLIC HEALTH**

**IPH 2304 : PRINCIPLES OF IMMUNOLOGY**

**DATE: OCTOBER 2014 TIME: 2 HOURS**

**INSTRUCTIONS:**

**SECTION A: ATTEMPT ALL QUESTIONS**

1. Describe the anatomical features of a lymph node using a well labeled diagram. [6 marks]

2. Outline the anatomical barriers of innate immunity system. [6 marks]

3. Outline the broad classification of T-cells. [6 marks]

4. Define and differentiate the following terminologies [6 marks]

(i) Antigen

(ii) Immunogen

5. Outline the defining characteristics of adaptive immunity. [6 marks]

6. Describe ecotype or class switch during the generation of antibodies. [6 marks]

7. What are the defining characteristics of IgM [6 marks]

8. How does antigen blocking influence the regulation of generation of antibody production. [6 marks]

**SECTION B : ATTEMPT ANY ONE QUESTION**

9. Give a brief description of the protocol tests during the pre-clinical and clinical experimental trials of candidate vaccine product. [22 marks]

10. Describe the principle of inflammation highlighting the carotidal signs.

11. Using a well labeled diagram outline the features of an immunological. [22 marks]