



**JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY**

**SCHOOL OF HEALTH SCIENCES**

**UNIVERSITY EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE**

**PUBLIC HEALTH/COMMUNITY HEALTH AND DEVELOPMENT**

**2<sup>nd</sup> YEAR 1<sup>ST</sup> SEMESTER 2024/2025 ACADEMIC YEAR**

**MAIN/KISUMU/NBI CAMPUS**

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**COURSE CODE:**

**HCB 1201**

**COURSE TITLE:**

**BASIC HUMAN IMMUNOLOGY**

**EXAM VENUE: LAB 6**

**STREAM: BSc Public/ Comm. Hlth & Dev**

**DATE: 13/1/25**

**EXAM SESSION: 9-11.00 AM**

**TIME: 2.00 HOURS**

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**Instructions:**

- 1. Answer all the questions in Section A and 2 questions in Section B.**
- 2. Candidates are advised not to write on the question paper.**
- 3. Candidates must hand in their answer booklets to the invigilator while in the examination room.**

**Section A: Answer ALL Questions (Total 30 marks)**

1. a. Differentiate specific from non-specific immune responses (4 mks)  
b. Briefly describe the various units that make the *immune system*, citing examples (6 mks)
2. Briefly describe any TWO common challenges in studying *immunology* (4 mks)
3. Explain the main difference between *passive* and *active* immunity (4 mks)
4. Briefly explain the basis of *immunoglobulin* classification, naming the human antibodies (6 mks)
5. Describe briefly the three key functions of the *complement activation* (6 mks)

**Section B: Answer ANY TWO Questions**

1. Discuss any FIVE characteristics of a substance that determine its immunogenicity (20 mks)
2. Discuss any FIVE qualities of cytokines, explaining how these affect their role in immunity (20 mks)
3. With the help of a well-labeled diagram, show how IgG and IgM levels vary between primary and secondary encounter with the same antigen (20 mks)
4. Discuss immunodeficiency as a *failure of the immune system* (20 mks)