



**JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY
SCHOOL OF HEALTH SCIENCES
UNIVERSITY EXAMINATION FOR DEGREE OF MASTER
3RD YEAR 2ND SEMESTER 2018/2019 ACADEMIC YEAR
KLC**

COURSE CODE: HCD 3325
COURSE TITLE: BASIC IMMUNOLOGY
EXAM VENUE: STREAM: BSc. Community Health & Development
DATE: EXAM SESSION:
TIME: 2.00 HOURS

Instructions:

- 1. Answer ALL Questions in section A and ANY other TWO 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. Differentiate:
 - a) Monoclonal antibody from polyclonal antibody
 - b) Immunological tolerance from hypersensitivity
 - c) Immunogen from adjuvant (3 marks)
2. Write short notes on immunoglobulin class switch, giving examples (3 marks)
3. Describe the differences in recognition and binding of antigens to B and T cells (3 marks)
4. Averagely, antibodies have a half-life of about three weeks yet the body fights off infection over life time using antibodies. Briefly describe how the body continually acquire antibodies for defense against pathogens over time (3 marks)
5. Outline six properties of cytokines (3 marks)
6. Formulate three policies on disease control, prevention and management basing your argument on immunology discipline (3 marks)
7. Briefly describe the general functions of immunoglobulin (3 marks)
8. As a public health officer, you are tasked to offer an explanation as to why individuals living in a given area, endemic for malaria infections are often able to fight off repeated malaria infection (3 marks)
9. Briefly describe three ways through which complement system offers protection to the human body (3 marks)
10. Highlight three differences between innate and adaptive immunity (3 marks)

Section B: Answer ANY TWO Questions (Total 40 marks)

1. a) Briefly describe three general characteristics of antibody responses (3 marks)
b) Differentiate between primary and secondary immune responses (2 marks)
c) With the aid of well labeled diagrams, describe kinetics of both primary and secondary antibody responses to T-dependent antigen (15 marks)
2. a) Describe the principle of immunotherapy, citing example (6 marks)
b) Describe anatomical barriers and innate mechanisms of host defense (14 marks)
3. Pathogens have evolved mechanisms for host immune response evasion. Discuss. (20 marks)
4. a) Identify three major malfunctions of immune response (3 marks)
b) Describe the causes and pathogenesis of the immune response malfunctions (9 marks)
c) Discuss the prevention, control measures and treatment options for disorders resulting from the immune response malfunctions (8 marks)