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UNIVERSITY EXAMINATIONS 2024/2025

**SECOND YEAR, FIRST SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR
OF SCIENCE IN PUBLIC HEALTH**

HPP 3211: PRINCIPLES OF IMMUNOLOGY

DATE: JANUARY 2025

TIME: 2 HOURS

INSTRUCTIONS: Answer Question ONE and any other TWO questions.

QUESTION ONE (30 MARKS)

- a) Discuss advantages and disadvantages of immunization programs in Kenya (6 Marks)
- b) Describe the science behind autoimmune diseases in immunologic studies 4 characteristics of the specific immunity (4 Marks)
- c) Describe an inflammatory process (6 Marks)
- d) Briefly discuss role played by antigen presenting cells during an immune reaction (4 Marks)
- e) Briefly describe the role of mucous membranes in prevention of disease transmission (6 Marks)
- f) Explain the structure of immunoglobulin M (4 Marks)



QUESTION TWO (20 MARKS)

Discuss five factors under which the nonspecific immune defense mechanism operates. (20 Marks)

QUESTION THREE (20 MARKS)

The immunogenicity of various antigens is dependent on various factors. Clearly indicate factors that make antigens better immunogens. (20 Marks)

QUESTION FOUR (20 MARKS)

Discuss active immunity under the following subheadings

- a) The primary immune response (10 Marks)
- b) The secondary immune response (10 Marks)



MUST is ISO 9001:2015 and



ISO/IEC 27001:2013 CERTIFIED