

CHUKA



UNIVERSITY

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**EXAMINATION FOR THE AWARD OF DEGREE OF BACHELOR OF SCIENCE IN
BIOCHEMISTRY**

BMET 417: IMMUNOLOGY AND IMMUNOCHEMISTRY

STREAMS: BSC BIOCHEMISTRY Y4S1

TIME: 2 HOURS

DAY/DATE: MONDAY 22/03/2021

8.30 A.M. – 10.30 A.M.

INSTRUCTIONS:

- Answer question one and any other two questions.
- Do not write on the question paper.

QUESTION ONE (30 MARKS)

- (a) Briefly describe the cells that originate from the myeloid lineage. (6 marks)
- (b) Outline the various humoral barriers to infection that protects the body once the anatomical barriers have been breached. (6 marks)
- (c) Phagocytic cells have a variety of receptors on their cell membranes through which infectious agents bind to the cells. Explain. (6 marks)
- (d) Differentiate between the antigenic determinants recognized by B cells and those recognized by T cells in terms of composition size and number. (6 marks)
- (e) Antigen antibody reactions can also be measured by their ability to fix complement. Explain. (6 marks)

QUESTION TWO (20 MARKS)

- (a) With the aid of well labelled diagram, describe the lymphoid organs. (10 marks)
- (b) Describe in detail the basic types of vaccines. (10 marks)

QUESTION THREE (20 MARKS)

- (a) With the help of a well labelled diagram, explain in detail the basic structure of immunoglobulins. (10 marks)
- (b) The MHC gene complex contains a number of genes that control several antigens. Discuss. (10 marks)

QUESTION FOUR (20 MARKS)

- (a) Discuss the various mechanisms that contribute to the pathogenesis of autoimmune diseases. (10 marks)
 - (b) Discuss in details the Classical Pathway of complement activation. (10 marks)
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