

CHUKA



UNIVERSITY

UNIVERSITY EXAMINATIONS

**EXAMINATION FOR THE AWARD OF DEGREE OF
BACHELOR OF SCIENCE IN BIOMEDICAL SCIENCE AND TECHNOLOGY**

BMED 419: IMMUNOLOGY AND IMMUNOCHEMISTRY

STREAMS: BSC (BIOMED)

TIME: 2 HOURS

DAY/DATE: MONDAY 03/12/2018

8.30 AM – 10.30 AM

INSTRUCTIONS:

Answer Question One and any other Two Questions

QUESTION ONE (30 MARKS)

- (a) Differentiate between humoral and cell-mediated immune responses and describe how each response is achieved. [4 marks]
- (b) Describe and give the function of the different types of T-lymphocytes. [5 marks]
- (c) The mechanism of antibody function can either be direct or indirect. Explain. [5 marks]
- (d) Explain the difference between the Sabin vaccine and the Salk vaccine with regard to vaccination against the poliovirus. [5 marks]
- (e) Describe how a deficiency in the classical pathway can lead to impaired handling of immune complexes. [5 marks]
- (f) Explain three (3) immunologic factors, the mechanisms through which immunologic factors can activate inflammation. [6 marks]

QUESTION TWO (20 MARKS)

- (a) Briefly describe the different classes of hypersensitivity. [10 marks]
- (b) Describe the five factors which limit anti-tumor immune responses. [10 marks]

QUESTION THREE (20 MARKS)

- (a) Describe the various ways through which T cells mediate viral immunity. [10 marks]
- (b) Describe the strategies adopted by viruses to avoid recognition by host immune defenses. [10 marks]

QUESTION FOUR (20 MARKS)

- (a) Describe the different types of ELISAs. [12 marks]
- (b) Describe how flow cytometry can be applied in lymphocyte subset enumeration for an immunodeficiency disease. [8 marks]
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