

CHUKA



UNIVERSITY

UNIVERSITY EXAMINATIONS

FOURTH YEAR EXAMINATION FOR THE AWARD OF DEGREE OF BACHELOR OF SCIENCE IN BIOCHEMISTRY

BIOC 406: IMMUNOLOGY

STREAMS:

TIME: 2 HOURS

DAY/DATE: MONDAY 20/09/2021

8.30 A.M – 10.30 A.M

INSTRUCTIONS

- Answer question one and any other two questions

QUESTION ONE (30 MARKS)

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

QUESTION TWO (20 MARKS)

- Briefly describe the different classes of hypersensitivity. [10 marks]
- 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 application of PCR in detection of SARS -COV-2. [10 marks]
 - (b) Describe how flow cytometry can be applied in lymphocyte subset enumeration for an immunodeficiency disease. [10 marks]
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