MACHAKOS UNIVERSITY

University Examinations 2019/2020 academic Year

SCHOOL OF PURE AND APPLIED SCIENCES

DEPARTMENT OF BIOLOGICAL SCIENCES

FOURTH YEAR SPECIAL/SUPPLEMENTARY EXAMINATION FOR

BACHELOR OF SCIENCE BIOLOGY

SZL 407:ADVANCE IMMUNOLOGY

DATE: 20/1/2021 **TIME: 2.00-4.00 PM**

INSTRUCTIONS

1. Answer Question 1 (compulsory) and **any two** questions in Section B.
2. Use clean well labelled diagrams wherever appropriate.

SECTION A

QUESTION ONE (30 MARKS)

a) With the help of examples describe two phagocytes (3 marks)

b) Describe any two types of commited stem cells (3 marks)

c) Describe Mechanisms of helper T cell-mediated activation of B lymphocytes (3 marks)

d) Evaluate the functions of the suppressor T cells (3 marks)

e) Describe how you can distinguish different humans immunoglobulins in the laboratory (3 marks)

f) Draw and label the basic structure of an Immunoglobulin (3 marks)

g) Describe the cations and the immunoglobulins required in the classical complement pathway (3 marks)

h) Describes substance that can help initiate complement activation pathway (3 marks)

i) Briefly describe tumor cells evade antigen presentation capacity (3 marks)

j) Describe characteristics of allergens (3 marks)

SECTION B

QUESTION TWO (20 MARKS)

Discuss affinity maturation of B cells

QUESTION THREE (20 MARKS)

Describe in details the structural and functional characteristics of the following antibodies IgM, IgG and IgA

QUESTION FOUR (20 MARKS)

Discuss the process that lead to the recruitments of the leucocytes to the site of inflamations

QUESTION FIVE (20 MARKS)

Discuss in detail the classsical and the Lectin binding complement fixation pathways.