W1-2-60-1-6

JOMO KENYATTA UNIVERSITY OF AGRICULTURE AND TECHNOLOGY
UNIVERSITY EXAMINATIONS 2021/2022
EXAMINATION FOR THE DEGREE OF MASTER OF SCIENCE IN
MOLECULAR MEDICINE
TIM 3100: PRINCIPLES OF IMMUNOLOGY

DATE: AUGUST 2022   TIME: 3 HOURS

INSTRUCTIONS: ANSWER ANY FOUR QUESTIONS
==

1. With aid of a flow diagram, describe hematopoiesis from stem- to mature cells(25 marks)

2. (a) Discuss any six determinants of innate immunity   (12 marks)
   (b) Describe the general result of B cells antigen-induced activation   (13 marks)

3. (a) Discuss ten factors that determines antigenicity and/or immunogenicity   (20 marks)
   (b) Briefly explain how tolerance is induced and how it is both beneficial and harmful
                                                                              (5 marks)

4. You are given a piece of spleen and tasked with determining the proportion of the various
   immune cells therein. Describe how you would go about the process   (25 marks)

5. a) Draw a schematic diagram of a typical IgG molecule and label all the parts. (10 marks)
   b) Describe distinct roles played by Fc receptors   (5 marks)
   c) Give an account of the different classes of T cells.   (10 marks)

6. a) Describe therapeutic intervention against congenital immunodeficiencies   (5 marks)
   b) Briefly describe features of immediate hypersensitivity   (10 marks)
   c) Describe various ways in which tumors evade immune system   (10 marks)