



WI-2-60-1-6

JOMO KENYATTA UNIVERSITY OF AGRICULTURE AND TECHNOLOGY

UNIVERSITY EXAMINATIONS 2023/2024

**EXAMINATION FOR THE DEGREE OF MASTER OF SCIENCE IN MOLECULAR
MEDICINE**

TIM 3102: IMMUNITY AND DISEASE

DATE: AUGUST, 2024

TIME: 3 HOURS

INSTRUCTIONS: ANSWER ANY **FOUR** QUESTIONS

1. Describe the secondary lymphoid organs and their role in immunity. (25 marks)
2.
 - i. With the aid of a diagram, discuss how the products of the specific immune response can enhance the efficiency of innate immune mechanism. (13 marks)
 - ii. Describe: -
 - a. Molecular mechanism of Natural Killer Cells Function. (6 marks)
 - b. Its importance in Cancer immunotherapy. (6 marks)
3.
 - i. Design the assembly of MHC class 1 peptide cleavage by the proteasome and peptide transport by TAP (13 marks)
 - ii. Describe the mechanisms by which IgA protects mucosal surfaces. (12 marks)
4. Discuss immunological evasion and resistance to parasitic infections. (25 marks)
5.
 - i. Describe the mannose binding lectin pathway of the complement system. (13 marks)
 - ii. Discuss the key major functions of the complement system. (12 marks)
6. Discuss immunity to bacterial infections and how bacteria evade the immune system. (25 marks)