



W1-2-60-1-6

JOMO KENYATTA UNIVERSITY OF AGRICULTURE AND TECHNOLOGY
University Examinations 2018/2019
END OF SEMESTER EXAMINATION FOR THE DEGREE OF MASTER OF SCIENCE IN
MEDICAL VIROLOGY

TIM 3102 : IMMUNITY AND DISEASE

DATE: MARCH 2019

TIME: 3 HOURS

INSTRUCTIONS: ANSWER ANY FOUR QUESTIONS

1. a) Discuss the immunopathology of Schistosomiasis (15 marks)
b) Describe the immune evasion mechanisms by schistosomes (10 marks)
2. Describe the etiology, symptoms and management/treatment of Three organ specific and Two systemic autoimmune diseases (25 marks)
3. a) In immune regulation, discuss how T-helper subsets and regulatory T cells influence allergic reactions (15 marks)
b) Describe the causes, manifestations and treatment of the following allergic reactions (10 marks)
 - i) Asthma
 - ii) Urticaria
4. a) Discuss the various bacterial virulence factors used to cause disease, giving specific examples of bacterial pathogens (15 Marks)
b) Discuss two main causes of extensive genetic diversity of HIV-1 (10 marks)
5. a) Describe the immune responses to Malaria Parasites and the evasion mechanisms applied by these parasites to avoid being detected by the host immune systems (20marks)
b) Outline the use of tumor markers in diagnosis and treatment of cancer (5marks)
6. a) Outline eight characteristics of an ideal vaccine (8 Marks)
b) Using three specific examples, discuss the potential risks associated with vaccination and their implications in disease control (9 Marks)
c) Outline two main issues addressed in each of the following stages of evaluation of a vaccine preparation; pre-clinical, phase 1, phase 2 and phase 3 (8 Marks)