



**W1-2-60-1-6**

**JOMO KENYATTA UNIVERSITY OF AGRICULTURE AND TECHNOLOGY**  
**UNIVERSITY EXAMINATIONS 2022/2023**  
EXAMINATION FOR THE DEGREE OF MASTER OF SCIENCE IN  
MEDICAL VIROLOGY

**TMM 3122: VACCINOLOGY AND IMMUNIZATIONS**

DATE: FEBRUARY 2023

TIME: 3 HOURS

**INSTRUCTIONS TO CANDIDATES**

**This paper consists of six questions 25 marks each. Answer any four questions.**

**Question 1**

With relevant examples, describe five (5) well-proven strategies for the prevention and control of viral diseases (25 marks).

**Question 2**

- a) The COVID-19 vaccination was rolled out in Kenya in March 2021. Why is it necessary to conduct post-introduction monitoring of the COVID-19 vaccine in the country? (10 marks).
- b) Discuss the obstacles to the quest for an AIDS vaccine (15 marks).

**Question 3**

With relevant examples, describe five (5) different types of virus vaccines (25 marks).

**Question 4**

Discuss all the stages of vaccine development (25 marks).

**Question 5**

With relevant examples, discuss five (5) mechanisms that viruses utilize to avoid or "escape" the host protective immune responses (25 marks).

**Question 6**

- a) Describe the roles played by various organizations and institutions in introducing and promoting COVID-19 vaccination in Kenya (15 marks).
- b) Discuss the societal issues and controversies regarding COVID-19 vaccination in Kenya (10 marks)