



W1-2-60-1-6

**JOMO KENYATTA UNIVERSITY OF AGRICULTURE AND TECHNOLOGY**  
**UNIVERSITY EXAMINATIONS 2024/2025**  
**EXAMINATION FOR THE DEGREE OF MASTER OF SCIENCE IN MEDICAL**  
**VIROLOGY**

**TMM 3119: MEDICAL VIROLOGY II**

**DATE: DECEMBER, 2024**

**TIME: 3 HOURS**

**Instructions: Attempt any four questions**

**QUESTION 1**

- Describe the four salient features of the picornavirus family? **(8 marks)**
- Discuss the pathogenesis, clinical presentation, diagnosis, and prevention of poliovirus **(12 marks)**
- What has so far prevented polio eradication globally? **(5 marks)**

**QUESTION 2**

- Discuss, with virus examples, the most common causes of acute viral gastroenteritis **(10 marks)**.
- Describe the pathophysiology of viral gastroenteritis **(5 marks)**.
- Describe the typical historical and physical exam features of acute viral gastroenteritis **(10 marks)**.

**QUESTION 3**

- What are paramyxoviruses and how are they classified? **(6 marks)**
- With relevant examples, describe the transmission, diagnosis, treatment, and prevention of viruses in the morbillivirus genus **(12 marks)**.
- Describe and differentiate the rubulavirus from pneumovirus genus giving consequences in failure of their management **(7 marks)**

**QUESTION 4**

Discuss the various methods of HPV diagnosis stating the merits and demerits of each **(25 marks)**

**QUESTION 5**

Outline the factors favoring potential of Flaviviruses emergence and re-emergence in communities **(25 marks)**

**QUESTION 6**

The county department of Health has called you to a community to investigate a strange upsurge of an infection that is characterized by rash, fever, headache, muscle aches, back pain, and swollen glands (lymph nodes). The disease has a characteristic presentation of rash (blisters or sores) on the face, palms, and sometimes feet.

- What would be your suspected virus of interest? **(3 marks)**
- Describe the transmission and pathogenesis of the said virus **(5 marks)**.
- What would be your definitive mode of diagnosis for this infection? **(10 marks)**
- What would be your suggested prevention and control measures to avoid further spread? **(7 marks)**