

CHUKA



UNIVERSITY

**UNIVERSITY EXAMINATIONS**

**EXAMINATION FOR THE AWARD OF DEGREE OF BACHELOR OF  
SCIENCE IN BIOMEDICAL TECHNOLOGY AND BACHELOR OF SCIENCE  
IN BIOCHEMISTRY**

**BMET 232: MEDICAL VIROLOGY.**

**STREAMS: BSC. (BIOC/BMET)**

**TIME: 2 HOURS**

**DAY/DATE: FRIDAY 25/04/2025**

**8.30 A.M. – 10.30 A.M.**

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**INSTRUCTIONS**

- **Answer question ONE and TWO other questions.**

**QUESTION ONE (COMPULSORY)- 30 MARKS**

- Differentiate between positive-sense and negative-sense RNA viruses (2 mark)
- Using an example in each case, describe the modes of transmission of viruses. (4 marks)
- Using Influenza virus as an example, explain why viruses do not aggregate at the cell surface during viral release. (4 marks)
- What factors determine the tropism of a virus, and how do they influence viral infection in specific tissues? (8 marks)
- Giving examples, describe how viruses are named. (6 marks)
- f). Describe any three types of viral infections. (6 Marks)

**QUESTION TWO (20 MARKS)**

- Discuss two mechanisms of entry utilized by enveloped viruses. (8 Marks)
- Define viremia and describe how viruses spread systemically in the host. (6 Marks)
- With illustrations, describe lytic and lysogenic cycles. (6 marks)

**QUESTION THREE (20 MARKS)**

- a) Discuss different types of antiviral therapies and their mode of action. (10 marks)
- b) Describe serological tests used for identification of viruses, highlighting their principles and applications. (10 Marks)

**QUESTION FOUR (20 MARKS)**

- a) Describe the requirements that must be satisfied for successful viral infection to occur in a host. (2 marks)
  - b) Describe factors that determine the efficiency of viral attachment. (4 Marks)
  - c) Describe the cytopathic changes on the cell membrane following viral infection. (4 Marks)
  - d) Explain the process of viral replication, detailing the steps involved from attachment to release. (10 marks)
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