



TECHNICAL UNIVERSITY OF MOMBASA

Faculty of Applied and Health Sciences

Department of Pure & Applied Sciences

UNIVERSITY EXAMINATION FOR:

BACHELOR OF TECHNOLOGY IN MICROBIOLOGY AND BIOTECHNOLOGY

AAB 4205: VIROLOGY

SUPPLEMENTARY/SPECIAL EXAMINATION: JULY 2025

TIME: 2 HOURS

DATE: JULY 2025

Instructions to Candidates

You should have the following for this examination

Answer Booklet, examination pass and student ID

This paper consists of five questions. Attempt question ONE (Compulsory) and any other TWO questions.

Do not write on the question paper.

Question ONE

- a. Using examples, explain lack of membrane receptors as barrier to viral infection
(5mks)
- b. Explain the preparation of clonal cell line for cultivation of animal viruses
(5mks)
- c. Describe the process of attachment of a virus onto its host cell.
(5mks)
- d. Name any five physical properties used in the taxonomy of viruses
(5mks)
- e. Describe the structure of a named complex virus
(5mks)
- f. Explain various ways through which viruses are released from their host cells.
(5mks)

QUESTION TWO

- a) State four potential problems of using plants that are genetically engineered using viruses.

(4mks)

- b) Discuss transmission of plant viruses by insects.

(16 (mks)

QUESTION THREE

- a. Describe the five stages through which a virus replicates

(14mks)

- b. Identify the points within the cycle that are targets of antiviral drugs.

(6marks)

QUESTION FOUR

- a. State any three methods used to estimate the size of viral particles.

(3mks)

- b. Describe classification of viruses based on Baltimore System of classification.

(17mks)

QUESTION FIVE

- a. Describe the process of monolayer preparation for cultivation of animal cells

(10mks)

- b. Discuss the use of chick embryo for cultivation of viruses.

(10mks)