



# TECHNICAL UNIVERSITY OF MOMBASA

FACULTY OF APPLIED AND HEALTH SCIENCES

DEPARTMENT OF PURE & APPLIED SCIENCES

**UNIVERSITY EXAMINATION FOR:**

**INDUSTRIAL MICROBIOLOGY AND BIOTECHNOLOGY (BIMB)**

**YEAR II SEMESTER II**

**AAB 4205: VIROLOGY PAPER II**

**END OF SEMESTER EXAMINATION**

**SERIES: APRIL 2016**

**TIME: 2 HOURS**

**DATE:** Pick Date Select Month Pick Year

## **Instructions to Candidates**

You should have the following for this examination

-Answer Booklet, examination pass and student ID

This paper consists of Choose No questions. Attempt Choose instruction.

**Do not write on the question paper.**

## **Question ONE**

- a) i) List TWO functions of the virus capsid {2}  
ii) TWO chemical agents used in inactivation of viruses. {2}
- b) Outline FOUR ways of preventing transmission of viral infections {4}
- c) Describe the disease that is caused by each of the following viruses {6}
- i) human herpes virus
  - ii) adenoviruses
  - iii) rift valley fever virus
  - iv) calciviruses
  - v) Marburg viruses
  - vi) measles virus
- d) Briefly describe HIV post exposure prophylaxis (PEP) {4}
- e) Identify;
- i) THREE viruses transmitted from animals to humans. {3}
  - ii) Outline THREE potential applications of viruses. {3}

- f) Differentiate between the following serological procedures:
- i) Neutralization tests {3}
  - ii) Complement fixation tests {3}

**Question TWO**

- a) Outline the modes of transmission of pathogenic viruses {10}
- b) Explain ways by which community spread of HIV can be prevented. {10}

**Question THREE**

- a) Describe the methods used for purification of viruses {10}
- b) Describe the conditions under which the following infections would occur;
  - i) Abortive {2}
  - ii) Latent {4}
  - iii) Persistent {4}

**Question FOUR**

- a) Explain the following tissue culture techniques:
  - i) Fragment cultures {4}
  - ii) Cell cultures {6}
  - iii) Organ cultures {4}
- b) Describe TWO other systems in which viruses may be cultivated {6}

**Question FIVE**

- a) 'Virus multiplication is cyclic' Discuss. {14}
- b) Identify the points within the cycle that are targets of antiviral. {6}