



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}