



MACHAKOS UNIVERSITY

University Examinations for 2019/2020 Academic Year

SCHOOL OF PURE AND APPLIED SCIENCES

DEPARTMENT OF BIOLOGICAL SCIENCES

FOURTH YEAR SECOND SEMESTER EXAMINATION FOR

BACHELOR OF SCIENCE (BIOLOGY)

SBT 422: VIROLOGY

DATE: 26/10/2020

TIME: 8:30 – 10:30 AM

INSTRUCTIONS

1. Answer Question 1 (compulsory) and **any two** questions in Section B.
2. Use clean well labelled diagrams wherever appropriate.

SECTION A: COMPULSORY

QUESTION ONE (30 MARKS)

- a) Explain three mechanisms of virus penetration (3 marks)
- b) Describe the use morphology in virus classification (3 marks)
- c) Highlight three theories that explain the origin of viruses (3 marks)
- d) Illustrate the grouping of viruses based on strategies of their genome replication (3 marks)
- e) Describe latency in viral replication and pathogenicity (3 marks)
- f) Explain three significance of viruses (3 marks)
- g) Describe the formation of a viral envelope (3 marks)
- h) Explain why the bacteriophage morphology is considered special (3 marks)
- i) Explain the viral oncogeneity (3 marks)
- j) Describe the role of a viral envelope of a named virus (3 marks)

SECTION B: ANSWER ANY TWO QUESTIONS (40 MARKS)

QUESTION TWO (20 MARKS)

Discuss the multiplication cycle of an enveloped animal virus

QUESTION THREE (MARKS)

Discuss the methods of virus detection

QUESTION FOUR (20 MARKS)

With reference to HIV, discuss strategies of antiviral therapy

QUESTION FIVE (20 MARKS)

Discuss the methods of cultivation of viruses