



MERU UNIVERSITY OF SCIENCE AND TECHNOLOGY

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University Examinations 2020/2021

SECOND YEAR, SPECIAL/SUPPLEMENTARY EXAMINATION FOR THE DEGREE OF
BACHELOR OF SCIENCE IN ANIMAL HEALTH PRODUCTION

AAP 3305: VIROLOGY

DATE: AUGUST 2023

TIME: 2 HOURS

INSTRUCTIONS: Answer question *one* and any other *two* questions

QUESTION ONE (30 MARKS)

- a) Give FOUR examples of viruses with an icosahedral shape (4 marks)
- b) Outline the process of virus replication (5 marks)
- c) What does (+) and (-) strand RNA mean? (4 marks)
- d) Explain the difference between lytic and lysogenic bacteriophage infections (4 marks)
- e) Name TWO families of viruses with
 - i) dsDNA (2 marks)
 - ii) ssDNA (2 marks)
- f) State FOUR properties of interferons (4 marks)
- g) Describe the characteristics typical to all Poxviruses (5 marks)

QUESTION TWO (20 MARKS)

- a) Discuss the classification of viruses in the family Paramyxoviridae (10 marks)
- b) Discuss the principles underlying vaccination against viral diseases (10 marks)

QUESTION THREE (20 MARKS)

- a) Describe the basic components of a virus (10 marks)
- b) Describe characteristics of viruses in the family Rhabdoviridae (10 marks)

QUESTION FOUR (20 MARKS)

- a) Discuss classification of viruses under the following headings:
 - (i) ICTV classification (4 marks)
 - (ii) Baltimore classification (6 marks)
- b) Discuss the following methods of detecting viral growth in cell culture:
 - (i) Viral plaques (5 marks)
 - (ii) Haemadsorption (5 marks)