JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY

SCHOOL OF HEALTH SCIENCES

UNIVERSITY EXAMINATION FOR DEGREE OF BACHELOR OF SCIENCE PUBLIC HEALTH / COMMUNITY HEALTH AND DEVELOPMENT

2ND YEAR 1ST & 2ND SEMESTER 2023/2024 ACADEMIC YEAR

MAIN/KISUMU CAMPUS

COURSE CODE: HBB 9204

COURSE TITLE: INTRODUCTORY VIROLOGY

EXAM VENUE: **STREAM: (BSc. Env. Hlth/ Comm Hlth & Dev)**

DATE: **EXAM SESSION:**

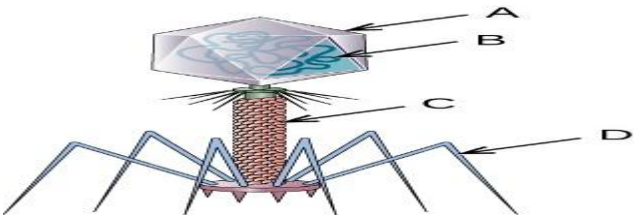
TIME: 2.00 HOURS

Instructions:

1. **Answer all the questions in Section A and ANY other 2 questions in Section B.**
2. **Candidates are advised not to write on the question paper.**
3. **Candidates must hand in their answer booklets to the invigilator while in the examination room.**

SECTION A: ANSWER ALL QUESTIONS 30 MARKS

1. Explain THREE ways viruses differ from cellular organisms (3 marks)
2. Briefly describe THREE characteristics of viral genomes (3 marks)
3. Explain giving examples, THREE modes of non-vector transmission of vertebrate viruses (3 marks)
4. Explain THREE factors that determine whether virus infection results in disease (3 marks)
5. Describe THREE factors that may increase the likelihood of virus emergence and re-emergence (3 marks)
6. Describe THREE possible consequences of viral infection for the host cell (3 marks)
7. Differentiate persistent viral infections from latent viral infections and give an example of each (3 marks)
8. List TWO characteristics of viruses and viral diseases that may complicate generation of effective vaccines. How does this influence Public Health? (3 marks)
9. Explain post exposure prophylaxis of viral infections and give TWO instances when it can be applied (3 marks)
10. Which type of virus is presented below? Name each labeled part of the illustration below (3 marks)



SECTION B: ANSWER ANY TWO QUESTIONS 20 MARKS

1. Describe the principal events of attachment, entry, uncoating, biosynthesis, maturation, and release of an enveloped DNA-containing virus (20 marks)
2. a. Why are viral diseases more difficult to treat than bacterial diseases? (1 mark)
   b. List THREE modes of action of common antiviral drugs (3 marks)
   c. Discuss FOUR types of vaccines used in medical virology (16 marks)
3. Discuss classification of viruses under;
   a. Biologic properties (10 marks)
   b. Baltimore classification system (10 marks)
4. Discuss FOUR techniques used in identification of viruses in laboratories (20 marks)