



**JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND  
TECHNOLOGY**  
**UNIVERSITY EXAMINATIONS 2012/2013**  
**2<sup>ND</sup> YEAR 1<sup>ST</sup> SEMESTER EXAMINATIONS FOR THE DEGREE OF  
BACHELOR OF SCIENCE IN COMMUNITY HEALTH AND  
DEVELOPMENT & BACHELOR OF SCIENCE IN PUBLIC HEALTH  
(KISUMU LEARNING CENTRE)**

COURSE CODE: HCD 3212

COURSE TITLE: INTRODUCTION TO VIROLOGY

DATE: 16/4/2013

TIME: 11.00-13.00PM

DURATION: 2 HOURS

**INSTRUCTIONS**

1. This paper contains TWO sections.
2. Answer ALL questions in section A (Compulsory) and ANY other Two questions in section B.
3. Write all answers in the booklet provided.

**SECTION A: Answer all the Questions in this section**

- 1) Define the following:
  - a. Acute infection **[1mark]**
  - b. Latent infection **[1mark]**
  - c. Viral pathogenesis **[1mark]**
- 2) Some viruses use a cell receptor that may be widely distributed on cells, yet the tissue tropism is restricted. Briefly explain. **[3marks]**
- 3) A virus can replicate both in a living cell and a dead cell. “*True or False*”. Briefly describe your answer. **[3marks]**
- 4) State the factors that affect the host range of virus. **[3marks]**
- 5) List the methods used for viral disease diagnosis. **[3marks]**
- 6) State the possible direct cell damage that may result from viral infection. **[3marks]**
- 7) Briefly describe the origin of viral envelope. **[3marks]**
- 8) State factors that influence the mechanism of virus transmission. **[3marks]**
- 9) State possible ways in which viral infections can persist for a long time. **[3marks]**
- 10) List the portals of entry for viruses. **[3marks]**

**SECTION B: Answer ANY 2 (TWO) Questions in this section**

- 1)
  - a. Explain the main challenges with the development of antiviral chemotherapy. **[8 marks]**
  - b. Describe conventional viral vaccines. **[12 marks]**
- 2) Describe the following:
  - a. The role of cytotoxic T-lymphocyte (CTL) in viral infections. **[8 marks]**
  - b. Herd immunity and how live vaccines contribute to herd Immunity. **[12 marks]**
- 3)
  - a. Describe targets for antiviral action in the viral replication cycle **[8 marks]**
  - b. Using a specific example of a drug, describe various types of antiviral agents. **[12 Marks]**
- 4) Describe the basic principles of viral diseases outbreak investigations. **[20 Marks]**.