



**NATIONAL OPEN UNIVERSITY OF NIGERIA  
UNIVERSITY VILLAGE JABI, ABUJA  
FACULTY OF SCIENCE  
OCTOBER/NOVEMBER, 2016 EXAMINATION**

**COURSE CODE: BIO 415**

**COURSE TITLE: VIROLOGY AND TISSUE CULTURE**

**TIME ALLOWED: 2 Hours**

**INSTRUCTION: ANSWER QUESTION ONE (1) AND ANY OTHER THREE (3) QUESTIONS**

1. (a) Define the term virology (3 marks)  
(b) Describe the chemical composition of viruses (12 marks)  
(c) In a tabular form, list 10 medically important viruses and infection caused by each of them (10 marks)
2. (a) Enumerate **any 6** characteristics of viruses (6 marks)  
(b) Describe the various modes of infection transmission by viruses (9 marks)
3. (a) What do you understand by the term viral replication? (3 marks)  
(b) Write **short notes** on the following stages of viral replication:
  - i. Morphogenesis (3 marks)
  - ii. Transcription (3 marks)
  - iii. Maturity and release (3 marks)
4. In a tabular form, list 10 medically important viruses. indicating their characteristic symmetry and shapes (15 marks)
- 5(a) Outline the conditions that are necessary for a good diagnosis of virus infections. (8 marks)  
(b) Distinguish between DNA and RNA viral genomes (4 marks)  
(c) An RNA virus contains the following sequence: T A G G G C T T A. What will be the sequence on the complementary strand in its cDNA? (3 marks)
6. The future prospects in vaccination is bright through the combination of molecular biology and modern technologies. Discuss (15 marks)