

**BOWEN UNIVERSITY, IWO**  
**DEPARTMENT OF BIOLOGICAL SCIENCES**

**2010/2011 FIRST SEMESTER EXAMINATION**  
**MCB 412: VIROLOGY AND TISSUE CULTURE**

Answer **TWO** Questions from Section A and **ONE** question from section B  
Time: 2hrs 20 mins

**SECTION A**

1. (a) What is Oncology?  
(b) What is a gene?  
(c) (i) What is an Oncogen? Mention **one** oncogen  
(ii) Describe fully how an oncogen performs its function. (25 Marks)
2. (a) Discuss **one** advantage of bacteriophage  
(b) Explain fully the role of bacteriophage in the emergence of resistance strains of bacteria in a community. (25 Marks)
3. Explain the medical importance of the following viruses  
(i) Measles virus  
(ii) Polio virus  
(iii) Rabies virus  
(iv) Retrovirus  
(v) Herpes simplex virus (HSV-1) (25 Marks)

**SECTION B**

4. (a) Enumerate the unique characteristics of viruses in relation to other microorganisms.  
(b) Discuss in detail the epidemiologic and pathogenic criteria of classifying viruses. (25 Marks)
5. (a) Describe the cultivation of viruses in Embryonated Hen's egg  
(i) Primary cell lines & Continuous cell lines  
(ii) Membrane Fusion & Receptor-Mediated Endocytosis  
(iii) Genetic Reassortment & Genetic Recombination. (25 Marks)