

BOWEN UNIVERSITY, IWO
COLLEGE OF AGRICULTURE, ENGINEERING AND SCIENCE
MICROBIOLOGY PROGRAMME
2021/2022 FIRST SEMESTER EXAMINATION

MCB 417: VIROLOGY AND TISSUE CULTURE (THEORY)

Answer **one** question from section A and any **two** from section B.

Time allowed: 2hrs 20mins

Section A

1. (a) Describe six factors that determine the susceptibility of host to viral infections **(6 marks)**
 - (b) With one example of viral family each, list the 7 groups of viruses as classified by David Baltimore **(7 marks)**
 - (c) Discuss briefly on following terms:
 - (i) Viral nucleic acid **(3 marks)**
 - (ii) Membrane fusion **(3 marks)**
 - (iii) Uncoating **(3 marks)**
 - (iv) Viral Envelope **(3 marks)**

2. Differentiate between the following:
 - (a) Viral Capsid and Viral Envelope **(5 marks)**
 - (b) Icosahedral and Helical viruses **(5 marks)**
 - (c) Enteric viruses and Respiratory viruses **(5 marks)**
 - (d) Vertical and Horizontal transmission of viruses **(5 marks)**
 - (e) Primary cell-lines and Continuous cell-lines **(5 marks)**

Section B

3. (a) Write short notes on the following:
 - (i) Bacteriophages **(5 marks)**
 - (ii) Temperate virus **(5 marks)**
 - (iii) Antigenic shift **(5 marks)**(b) Briefly describe how viruses may cause cancer **(10 marks)**

4. Comment on the biological importance of the following class of viruses:
 - (a) Poxviridae **(8 marks)**
 - (b) Picornaviridae **(7 marks)**
 - (c) Retroviridae **(10 marks)**

5. (a) What are Interferons? **(8 marks)**
 - (b) Explain in details the characteristics of Interferons **(17 marks)**