



'সমানো মন্ত্র: সমিতি: সমানী'

UNIVERSITY OF NORTH BENGAL
B.Sc. Honours 2nd Semester Examination, 2022

CC4-MICROBIOLOGY

VIROLOGY

Time Allotted: 2 Hours

Full Marks: 40

The figures in the margin indicate full marks.

1. Answer any **five** of the following: 1×5 = 5
 - (a) What are prions?
 - (b) What are concatemers?
 - (c) What is cytopathic effect?
 - (d) What is the function of CI protein in lambda phage?
 - (e) Name one vector used for cloning.
 - (f) Define virion.
 - (g) Give an example of ss positive sense RNA virus.
 - (h) What is multiplicity of infection (MOI)?

2. Answer any **three** of the following: 5×3 = 15
 - (a) Give a general account with diagram of how non-enveloped viruses enter their host cells. 5
 - (b) What are oncogenic viruses? Give one example each of DNA and RNA oncogenic virus mentioning their genes responsible for tumour formation. 2+3
 - (c) What is the mode of replication of Picornavirus? Explain in detail. 5
 - (d) Discuss the Baltimore classification system of viruses. 5
 - (e) What is concept of early and late proteins? Write briefly about the genes and proteins involved in regulation between lytic and lysogenic cycle. 3+2

3. Answer any **two** of the following: 10×2 = 20
 - (a) Describe briefly how viruses can be isolated and cultivated. 4+6
 - (b) Describe with proper diagram the structure of T4 phage. Explain the maturation and assembly of phi X 174. 6+4
 - (c) Give a detailed account of Genome structure of Influenza virus and unusual bases of T4 phages. 5+5
 - (d) Describe in detail the replication strategies of Retrovirus. Write down the mode of action of interferons. 5+5

—x—