

(6 pages)

Reg. No. : .....

Code No. : 30420 E Sub. Code : AEMI 51

B.Sc. (CBCS) DEGREE EXAMINATION,  
NOVEMBER 2022.

Fifth Semester

Microbiology

VIROLOGY – Major Elective – I

(For those who joined in July 2020 onwards)

Time : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. A structural component that is found in all viruses is  
(a) The envelope (b) DNA  
(c) Capsid (d) Spikes
2. Which of the following is NOT a cytopathic effect?  
(a) Transformation (b) Cell fusion  
(c) Mono nucleated cell (d) Inclusion bodies

8. The influenza virus has complicated genetics mainly characterized by \_\_\_\_\_.  
(a) Genetic reassortment among 8 genes  
(b) High levels of recombination  
(c) Rapid adsorption and fusion from without via hydrophobic peptide  
(d) High fidelity RNA replicase enzyme
9. The first scientifically approved vaccine was \_\_\_\_\_.  
(a) Oral polio vaccine (b) Small pox vaccine  
(c) MMR vaccine (d) Influenza vaccine
10. Which of the following is easily blocked by antiviral drugs?  
(a) Virus penetration  
(b) Nucleic acid replication  
(c) Virus absorption  
(d) Removal of the virus from the cell

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).  
Each answer should not exceed 250 words.

11. (a) Write note on symmetry of viruses.

Or

- (b) With neat diagram explain virus cultivation using embryonated eggs.

3. Measles virus belongs to the family \_\_\_\_\_.  
(a) Paramyxoviridae (b) Filoviridae  
(c) Bunyaviridae (d) Flaviviridae
4. Which of the following has responsibility for the assignment of new viruses to specific groupings?  
(a) ICC (b) ICTV  
(c) ITC (d) RCM
5. TMV is a \_\_\_\_\_.  
(a) DNA virus (b) RNA virus  
(c) SS DNA virus (d) DS DNA virus
6. What are sticky ends?  
(a) Ends of M13 vector  
(b) 12 nucleotide stretch in lambda phage  
(c) The replicated product of phage DNA  
(d) Ends of two sides of origin
7. Which of the following antigenic types of hepatitis B virus is present in envelope?  
(a) HBs Ag (b) HBc Ag  
(c) HBe Ag (d) HBx Ag

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12. (a) Outline and explain the features of LHT system of classification of viruses.  
Or  
(b) Note on the structural organization of SSDNA phages.
13. (a) Elaborate the structure, infectivity pattern and symptoms of viroid infection.  
Or  
(b) Write the causative agent, symptoms, transmission and control of bunchy top of banana.
14. (a) Define prions. Write their characteristics and diseases caused by them.  
Or  
(b) Give a short note on foot and mouth disease.
15. (a) Write the mode of action and dosage of  
(i) Acyclovir (ii) Ribovirin.

Or

- (b) Write the vaccination schedule to prevent viral infections in man.

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**PART C — (5 × 8 = 40 marks)**

Answer ALL questions, choosing either (a) or (b)

Each answer should not exceed 600 words.

16. (a) Briefly explain about general properties of viruses.

Or

- (b) Write about different serological diagnostic methods to diagnose viral infections.

17. (a) Describe the ICTV system of virus classification.

Or

- (b) Explain what are the different properties used to classify viruses.

18. (a) With well labeled diagrams describe structure and life cycle of T<sub>4</sub> phage.

Or

- (b) Write the causative agent, symptoms, transmission and control of TMV.

19. (a) Describe the morphology, pathogenesis and laboratory diagnosis of influenza virus.

Or

- (b) Briefly explain about the structure, pathogenesis and laboratory diagnosis of Hepatitis B virus.

20. (a) Write a brief note on purification and quantification of viral components.

Or

- (b) Define vaccine. How vaccines are prepared and used to prevent viral infections?