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Reg. No. :

Code No. : 10557 E Sub. Code : CMMI 52

B.Sc. (CBCS) DEGREE EXAMINATION,
NOVEMBER 2024.

Fifth Semester

Microbiology – Core

VIROLOGY

(For those who joined in July 2021-2022 only)

Time : Three hours Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. Which of the following is the most common capsid shape of the virus?
- (a) Cone
 - (b) Icosahedron
 - (c) Cube
 - (d) Rod

2. Which of the following is not a category of the method of virus detection?
- (a) Nucleic acid detection
 - (b) Serology
 - (c) Hematology
 - (d) Multiplication
3. Which is of the following has responsibility for the assignment of new viruses to specific groupings?
- (a) ICC
 - (b) ICTV
 - (c) ITC
 - (d) RCM
4. According to Baltimore classification, viruses having ssDNA as their genome can be put in which group number?
- (a) Group I
 - (b) Group II
 - (c) Group III
 - (d) Group IV
5. The genetic material in TMV is _____
- (a) ss DNA
 - (b) ss RNA
 - (c) ds DNA
 - (d) ds RNA
6. The cycle which is completed quickly in the infection by a phage is _____
- (a) Lysogenic
 - (b) Lytic
 - (c) Replication
 - (d) Capsid formation

7. Which form of hepatitis could be passed via contaminated water or food?

- (a) A and E (b) C
(c) B (d) All of the above

8. The most common test to detect corona virus?

- (a) Patchy test (b) Antibody test
(c) RT - PCR (d) Both (b) and (c)

9. Purification of viruses can do by _____?

- (a) Density gradient centrifugation
(b) Precipitation
(c) Both (a) and (b)
(d) (a) only

10. Most viral vaccines are produced by which of the following technique?

- (a) Traditional cell culture
(b) Molecular Biology
(c) Animal tissue in vitro
(d) Virus like particles (VLPs)

PART B — (5 × 5 = 25 marks)

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

11. (a) With neat diagram explain the structural characteristics of viruses.

Or

(b) Explain cytopathic effects with examples.

12. (a) Discuss the properties used in virus classification.

Or

(b) Outline the classification of Bacteriophages.

13. (a) Write short notes on satellite virus.

Or

(b) Write about Bunchy top of banana.

14. (a) Explain about genomic shift and drift in influenza.

Or

(b) Write about the structure of rabies virus with neat diagram and add notes on the symptoms of hydrophobia.

15. (a) Explain the process of purification of viruses.

Or

(b) Write a short note on recombinant vaccines.

PART C — (5 × 8 = 40 marks)

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

Each answer should not exceed 600 words.

16. (a) Write in detail about the cultivation methods of viruses.

Or

(b) Elaborate the serological diagnostic techniques used to diagnose viral diseases.

17. (a) Briefly explain the ICTV system of virus classification.

Or

(b) Outline the classification of plant viruses.

18. (a) Describe the disease caused by TMV and write about its symptoms and control.

Or

(b) Write neat diagram explain lytic cycle of Bacteriophages.

19. (a) Brief out the pre exposure and post exposure prophylactic measure of rabies.

Or

(b) Write in detail about the morphology, pathogenesis and laboratory diagnosis of influenza virus infection.

20. (a) Write in detail about the methods used in quantification of viruses.

Or

(b) Elaborate antiviral agents and their mode of action.