

(6 pages)

Reg. No. : .....

Code No. : 7195

Sub. Code : PMBM 23

M.Sc. (CBCS) DEGREE EXAMINATION,  
APRIL 2018.

Second Semester

Microbiology

VIROLOGY

(For those who joined in July 2017 onwards)

Time : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. The envelope of an virus is derived from

- (a) The mitochondrion of the cell
- (b) The cell membrane
- (c) The endoplasmic reticulum of the cell
- (d) None of these

- 2. The capsomeres consist of a number of protein subunits or molecules called
  - (a) Protomer's
  - (b) Caproprotein
  - (c) Procapside
  - (d) None of these
- 3. The phage component's begin to assemble into mature phage only offer the synthesis of
  - (a) structural protein
  - (b) Nucleic acid
  - (c) Both (a) and (b)
  - (d) Amino acid
- 4. Which of the following is an example of rod shaped viruses having their capsomers arranged halically are not in the stacked ring?
  - (a) Bacteriophage M<sub>13</sub>
  - (b) λ bacteriophage
  - (c) T<sub>2</sub> bacteriophage
  - (d) T<sub>4</sub> bacteriophage
- 5. A change from lysogeny to lysis is generally induced by
  - (a) Ultraviolet light
  - (b) Chemical
  - (c) Irradiation
  - (d) All of these
- 6. The Tobacco Mosaic virus is approximately \_\_\_\_\_ in size
  - (a) 300 × 18 n.m
  - (b) 3000 × 5 n.m
  - (c) 800 × 10 n.m
  - (d) 70 × 30 n.m

7. Which of the following oncogenic viruses was first detected?
- (a) Rous sarcoma virus
  - (b) Epstein – Barr virus
  - (c) Herpes simplex virus type – 2
  - (d) Human T-cell leukemia virus
8. Which of the following is the largest virus
- (a) Herpes virus            (b) Arbo virus
  - (c) Mumps virus            (d) Pox virus
9. Viroids have
- (a) D.S – DNA enclosed by protein
  - (b) S.S – DNA not enclosed by protein
  - (c) S.S – RNA not enclosed by protein
  - (d) D.S – RNA enclosed by protein
10. Measles vaccine is administered
- (a) Intravenously            (b) Intramuscularly
  - (c) Intradermally            (d) Subcutaneously

PART B — (5 × 5 = 25 marks)

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

Each answer should not exceed 250 words.

11. (a) Write short notes on evolution of virus.

Or

- (b) Explain in detail about envelope and nonenveloped viruses.

12. (a) Write in detail about M<sub>13</sub> phages.

Or

- (b) Given an account of structural organization lifecycle and replication of phages.

13. (a) Describe the ethiology, symptoms, transmission and control of virus diseases of sugarcane.

Or

- (b) Write in detail about the replication of TMV and how it differ from Ca MV.

14. (a) Explain the structure and replication of influenza virus.

Or

- (b) Add notes on symptoms, diagnosis and control of herpes virus.

15. (a) Write the difference between viroids and virosoids.

Or

- (b) What are mycophycophages. Explain in detail.

PART C — (5 × 8 = 40 marks)

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

Each answer should not exceed 600 words.

16. (a) Give a detailed account on classification of viruses, and notes on nomenclatural rules.

Or

- (b) Write note on

(i) Symmetry

(ii) Spikes

(iii) Fimbrills, Nucleic acid.

17. (a) Differentiate the lytic and lysogenic life cycle of bacteriophage.

Or

- (b) Write a detail account of structure and replication of T<sub>4</sub> bacteriophage.

18. (a) Give a detailed account of viral infections of tomato.

Or

- (b) Explain the common viral diseases of agricultural crops, and explain the viral diseases of any one of the crop.

19. (a) Describe the structure and replication of Para influenza virus add notes on pathogenesis, diagnosis and control of diseases caused by para influenza virus.

Or

- (b) Explain the structure of mumps virus, how mumps is caused in man. Give diagnostic methods and control of mumps.

20. (a) What are virus related agent? Explain its different groups?

Or

- (b) What are vaccins, how are they prepared and used to prevent viral infections.