

Roll No. : .....

Total No. of Questions : 15 ]

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# SEM2017

M.Sc. (IInd Semester) Examination, 2021

## MICROBIOLOGY

Paper - MB-201

(Virology)

*Time : 1½ Hours ]*

*[ Maximum Marks : 40*

**Note :-** The question paper contains three Sections.

### Section-A

**(Marks : 1 × 10 = 10)**

**Note :-** Answer all the *ten* questions carries 1 mark each. The answer should not exceed 50 words.

### Section-B

**(Marks : 3 × 5 = 15)**

**Note :-** Answer *five* questions by selecting at least *one* question from each Unit. Each question carries 3 marks. Answers should not exceed 200 words.

### Section-C

**(Marks : 5 × 3 = 15)**

**Note :-** Answer *three* questions by selecting *one* question from each Unit. Each question carries 5 marks. The answer should not exceed 500 words.

### Section-A

1. Answer in brief *or* one line :

- (i) What is difference between variolation and vaccination ?
- (ii) What is Cytomegalovirus ?

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- (iii) What is Genetic Material of Potato Virus X ?
- (iv) Define Viroids.
- (v) Write name of any *two* virus infect mammals containing double stranded DNA as genetic material.
- (vi) What is Cosmid ?
- (vii) Define reverse Transcription.
- (viii) What are the *two* types of rabies ?
- (ix) Write name of fixative used for viruses.
- (x) What is the chemical nature of capsomere ?

### **Section-B**

#### **Unit-I**

- 2. Describe in brief the Baltimore classification of viruses.
- 3. What is the most commonly used techniques for virus cultivation ?
- 4. Give distinctive properties of viruses.

#### **Unit-II**

- 5. Explain the properties and structure of M13 phage.
- 6. Write short note on lysogenic cycle of bacteriophage.
- 7. Explain the luciferase reporter assay of viral infectivity.

#### **Unit-III**

- 8. Write short notes on the following :
  - (i) Toga Virus
  - (ii) Herpes Virus
- 9. Write brief note on transmission of Hepatitis variants.
- 10. Describe the structure of HIV.

## **Section-C**

### **Unit-I**

11. Describe the replication mechanism in SS RNA viruses.
12. Write detail note on sequential discovery of viruses.

### **Unit-II**

13. Describe the modern uses of electron microscopy for detection of viruses.
14. Describe the methods for measurement of viral concentration.

### **Unit-III**

15. Explain the morphology and chemical structure of the following viruses :
  - (i) Toga virus
  - (ii) TMV