REV-01
MMB/02/05

2025/11

SET A

M.Sc. MICROBIOLOGY
THIRD SEMESTER
VIROLOGY
MMB-302

[USE OMR FOR OBJECTIVE PART]

Duration: 1.30 hrs. **Full Marks: 35**

Objective

Time: 15 min. **Marks: 10**

1X10=10

Choose the correct answer from the following:

1. Which of the following causes Mad Cow Disease
   a. Viruses
   b. Prions
   c. Bacterium
   d. Viroids

2. The first virus discovered was:
   a. TMV
   b. Polio virus
   c. Smallpox virus
   d. Rabies virus

3. Lytic phages are also called:
   a. Temperate phages
   b. Virulent phages
   c. Prophages
   d. Retroviruses

4. Viruses can only be grown in:
   a. Cell-free media
   b. Living cells
   c. Sugar solution
   d. All of the above

5. The integrated viral DNA in the lysogenic cycle is called:
   a. Virion
   b. Provirus
   c. Prophage
   d. Capsid

6. The term 'mode' in virus transmission refers to
   a. the path taken
   b. the destination
   c. exit of virus
   d. entry of virus

7. Horizontal virus transmission involves
   a. from one person to another
   b. From the mother to the newborn
   c. from animal to a human
   d. all of the above

8. What is the mode of transfer of HIV in humans
   a. sexual contact
   b. mother to the child
   c. blood transfusion
   d. all of the above

9. 5-hydroxy methyl cytosine modification in phage DNA is to protect against
   a. environmental destruction
   b. endonuclease destruction
   c. Protease destruction
   d. none of the above

10. Bacteriophages infects
   a. humans
   b. pigs
   c. bacteria
   d. fungi

-- --- --

(Descriptive)

Time : 1 hrs. 15 min. **Marks : 25**

[Answer question no.1 & any two (2) from the rest]

1. Explain lytic cycle of a virus with neat labeled diagram **5**

2. Briefly describe the theories of viral origin. **10**

3. Discuss the virus cultivation method in embryonated eggs with neat diagrams. **10**

4. Define 'route' mode of viral transmission. What is the difference between vertical horizontal virus transmission? Explain in brief. Write in brief about unusual bases in TMV. What are overlapping genes and explain how this modification helps hepatitis B viruses. **1+3+3+3=10**

5. What is the meaning of Alternative splicing and what is the significance? Explain how alternative splicing helps HIV. Explain in brief the mode of nucleic acid replication of Baltimore viral classification. **1+4+5=10**

= = *** = =