

U.G. 5th Semester Examination - 2021**MICROBIOLOGY****[HONOURS]****Discipline Specific Elective (DSE)****Course Code : MB-H-DSE-L-01****(Virology)**

Full Marks : 40

Time : $2\frac{1}{2}$ Hours*The figures in the right-hand margin indicate marks.**Candidates are required to give their answers in their own words as far as practicable.*

1. Answer any **five** of the following: $2 \times 5 = 10$
- i) What is prion? Name the pioneer person who contributed a lot initially in prion research.
 - ii) What is terminal redundancy?
 - iii) Name two unusual bases found in virus.
 - iv) What should be the criteria for selecting any antiviral drugs?
 - v) Give example one each of viruses having segmented and non-segmented genome.
 - vi) What is phage induction?

vii) Why is phage virus considered as good cloning vector?

viii) What is the uniqueness of retroviruses?

2. Answer any **two** from the following: $5 \times 2 = 10$

i) What is the basic principle of the Baltimore Classification System? Mention the scheme.

1+4

ii) How are interferons produced in host cells? How do they contribute in host defenses?

3+2

iii) What is a one-step growth curve? Why is it important for the study of viruses?

3+2

iv) Describe RNA-virus replication.

5

3. Answer any **two** from the following: $10 \times 2 = 20$

i) What is oncogene? Describe the difference between cellular and viral oncogenes, and their involvement in cell transformation.

2+8

ii) a) Describe different hypothesis on origin of virus.

b) Write the replication strategy followed by Picorna virus.

5+5

iii) What is "capping"? What is its significance in relation to viral attachment? How can capping be demonstrated? 2+3+5

iv) How does Cro protein regulate viral life cycle. How does viral repressor work? What is the role of operator in controlling viral life cycle? 3+2+5
