

U.G. 5th Semester Examination - 2020**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 the following questions : $1 \times 10 = 10$
- i) What are viroids?
 - ii) What is the nature of genome in ϕ X174 virus?
 - iii) What are inclusion bodies?
 - iv) What is oncogene?
 - v) Viruses evolved from complex molecules of protein and nucleic acid before cells first appeared on earth. Is it true?
 - vi) What is the full form of ICTV?
 - vii) Why is Stanley Prusiner so famous?
 - viii) What is a regular icosahedron?

- ix) What is satellite virus?
 - x) What is prophage?
2. Answer any **five** from the following: $2 \times 5 = 10$
- i) What characteristics of the host and of a particular virus contribute to an infection becoming established in the first place?
 - ii) What is prion?
 - iii) Why there are few antiviral drugs for human use?
 - iv) Why is phage virus considered as good cloning vector?
 - v) Mention the main scheme of the Baltimore Classification System.
 - vi) What is phage induction?
 - vii) Give example one each of viruses having segmented and non-segmented genome.
3. Answer any **four** from the following: $5 \times 4 = 20$
- i) What is a one-step growth curve? Why is it important for the study of viruses? $3+2$
 - ii) What are the similarities and differences between Retroviruses and RNA-virus replication?
 - iii) What is interferon? How are they produced in host cells? $2+3$

- iv) Describe on the different hypothesis about origin of virus.
 - v) What is "capping" and what is its significance in relation to viral attachment? How can capping be demonstrated? 1+2+2
 - vi) Describe the difference between cellular and viral oncogenes, especially in terms of function.
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