

2022

MICROBIOLOGY

[Honours]

(B.Sc. Second Semester End Examination-2022)

PAPER-C4T

Full Marks: 40

Time: 02 Hrs

The figures in the right hand margin indicate marks

Candidates are required to give their answers in their own words as far as practicable

Illustrate the answers wherever necessary

Group-A

Answer any five questions from the following: 5x2= 10

1. What are oncogenic viruses?
2. What are cohesive ends?
3. What is meant by Phage display?
4. Write down the general Principles of viral vaccination.
5. Write down the technique of different types of gene therapy.
6. What are virulent and temperate phages?
7. Give example of one ds RNA virus and one ss DNA virus.
8. Write down the function of retrovirus long terminal repeat sequence.

(2)

Group-B

Answer any four questions from the following: 4x5 = 20

1. a) Describe the method of chick embryo for the cultivation of viruses.
b) What do you mean by (+) sense RNA viruses? And give example. 3+2
2. a) Write an assay on antiviral drugs.
b) Briefly describe the assembly of λ phage. 2+3
3. a) What are killed or inactivated vaccine?
b) What are meant by overlapping genes of Hepatitis-B virus? 2+3
4. a) What are interferons?
b) Classify interferons and mention their significances.
5. a) Describe the one step multiplication curve of bacteriophage T₄.
b) What is by 5¹-Cap? How it is produced? 2+(1+2)
6. a) Schematically represent the alternative splicing mechanism of the retrovirus HIV.
b) Give a detailed account of viroids 3+2

Group -C

Answer any one question of the following: 1x10 = 10

1. a) Write down the features of Proto-oncogenes?
b) Briefly describe alternate splicing taking HIV as model.

(3)

- c) Classify viruses according to David Baltimore.
- d) Distinguish between viroid and prion. 2+3+3+2
2. a) Write the common mechanism of action of antiviral drugs
b) Write the mode of regulation of lytic and lysogenic cycle of a λ phage.
c) Write down the names of different purification techniques of viruses.
d) What are persistent – and non-persistent viral transmission? 2+3+3+2
