

B.Sc. (CBCS Pattern) Semester-V  
**DEC - Microbiology-IV - Virology**

P. Pages : 2

Time : Three Hours



**GUG/S/25/13108**

Max. Marks : 50

- Notes : 1. All questions are compulsory.  
2. Draw the diagram wherever it is necessary.

1. Explain in detail Discovery of Viruses. 10

**OR**

- a) Write a note on the cultivation of Viruses. 2½
- b) Give the general properties of viruses. 2½
- c) Discuss the Icosahedral Symmetry of Viruses. 2½
- d) Add a note on Isolation of the viruses. 2½

2. Explain in detail about the various modes of viral transmission. 10

**OR**

- a) What is alternate splicing explain in brief 2½
- b) Explain the lambda phage with reference to terminal cohesive end. 2½
- c) Discuss the terminal redundancy. 2½
- d) Explain in brief the steps involved in lysogenic cycle of the bacteriophage. 2½

3. Explain in detail about the viral vectors in cloning. 10

**OR**

- a) Explain the oncogenic DNA virus. 2½
- b) Write note on antiviral compounds and mode of action. 2½
- c) What are interferon? Explain there mode of action. 2½
- d) Write a note on viral vectors in gene expression. 2½

4. Explain in detail general principles and types of viral vaccine 10

**OR**

- a) Write a note on prevention of Influenza virus. 2½
- b) Discuss the general principle of Viral Vaccines. 2½

c) Add a note on control of hepatitis virus. 2½

d) Describe the prevention and control of SARS- CoV. 2½

**5. Solve any ten.**

a) Define Virus. 1

b) What are Viroid. 1

c) Define prions. 1

d) Name the unusual bases in viruses. 1

e) Give the example of virus having partial double stranded genome. 1

f) Define overlapping genes. 1

g) Define oncogenes. 1

h) Give the example of oncogenic RNA virus. 1

i) Define protooncogene. 1

j) Give the infection site of MERS - CoV. 1

k) Define viral vaccine. 1

l) Give the long form of SARS-CoV. 1

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