

2019

B.Sc.

2nd Semester Examination

MICROBIOLOGY (Honours)

Paper - C4T

Full Marks : 40

Time : 2 Hours

*The figures in the margin indicate full marks.
Candidates are required to give their answers
in their own words as far as practicable.*

Group - A

1. Answer any *five* questions from the following :

5×2

- (a) Mention the contribution of Charles Chamberland in the field of vivology. 2
- (b) Write the concept of Virusoids with suitable examples. 1+1
- (c) What is eclipse phase ? Write its significance. 1+1

[Turn Over]

- (d) Name two viral vectors used in cloning of foreign genes. 1+1
- (e) Write down the differences between symptom and syndrome with examples. 1+1
- (f) What is satellite virus ? How does it differ from prions ? 1+1
- (g) Name one oncogenic DNA and one oncogenic RNA virus. 1+1
- (h) What is Cytopathic effect ? 2

Group - B

2. Answer any *four* questions from the following :

4×5

- (a) (i) Diagrammatically describe the icosahedral symmetry of viruses.
- (ii) What are capsomeres ? 3+2
- (b) (i) Write a brief note on isolation and purification of viruses.
- (ii) Write a method for the assay of viral particles. $1\frac{1}{2}+1\frac{1}{2}+2$
- (c) (i) State the general characteristics of interferon.
- (ii) Write down two functions of interferon.

3+2

(3)

- (d) (i) Discuss the early and late proteins of bacteriophages.
- (ii) What is prophage ? 3+2
- (e) (i) Discuss the terminal redundancy of T4 phage.
- (ii) Mention the vertical mode of viral transmission. 3+2
- (f) Write short notes on : 2½+2½
- (i) Partial double stranded genome.
- (ii) General principles of viral vaccination.

3. Answer any *one* questions from the following :

1×10

- (a) Define gene therapy State the differences between somatic and germline gene therapy. What is phagemid ? What do you mean by phage display ? Mention its application. 2+2+2+2+2
- (b) Briefly explain salient features, mode of transmission and replication of retroviruses. 3+2+5