

2013

M.Sc.

3rd Semester Examination

BIOCHEMISTRY

PAPER—BIC-304

Full Marks : 40

Time : 2 Hours

The figures in the right-hand margin indicate full marks.

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

Illustrate the answers wherever necessary.

Answer all questions.

Group—A

1. Answer any *five* questions from the following : 2×5
 - (a) What do you mean by systemic infection ?
 - (b) What are oncogenic viruses ?
 - (c) What are overlapping genes ? State its significance.
 - (d) Mention two antiviral drug with their mode of action.
 - (e) State the differences between lambda phage and phage P1.

(Turn Over)

- (f) Give example of some virion associated enzymes.
- (g) What role does reverse transcriptase play with infection cycle of retro virus?
- (h) What is deletion mapping?

Group—B

Answer any *two* questions from the following : 5×2

2. Why is animal cell culture technique used in detecting carcinogenic chemicals? 5
3. Discuss the salient features of T4 and M13 phages.
2½+2½
4. How does animal viral replication differ from phage replication? 5
5. Differentiate between lytic and lysogenic cycle. What is cotransduction? 3+2

Group—C

Answer any *two* questions from the following : 10×2

6. (a) Draw a labelled sketch of HIV and state briefly its life cycle.
- (b) Demonstrate one important serodiagnostic method to detect HIVs Ag. (3+3)+4
7. (a) What are helper virus and satellite virus ?
- (b) State the differences between the genome of positive and negative stranded RNA viruses. 2+4+4
8. (a) Discuss the role of Adero and Adero-associated viruses in gene therapy.
- (b) What is retrotransposon ? Write its significance.
- (c) Briefly describe the replication of M₁₃ virus. 2+4+4
9. (a) Describe how λ phage gene regulation strictly maintains its lysogeny state ?
- (b) Which molecular events convert λ prophage to lytic cycle ?
- (c) What is ambisenre virus ? 4+4+2
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