PG/IIIS/BIC-304/15

M.Sc. 3rd Semester Examination, 2015

BIOCHEMISTRY

PAPER —BIC - 304

Full Marks : 40

Time : 2 hours

Answer **all** questions

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

(*Molecular Virology*)

GROUP— A

1. Answer any *five* questions from the following : 2×5

(*a*) Mention the mode of action of Acyclovir as antiviral drug.

(*b*) What is systemic and localised infection ?

(*c*) Define viral trophism.

(*d*) What are satellite viruses ?

(*e*) State importance of some t-RNAs in viral replication.

(*f*) What is retro transposons ?

(*g*) What does it mean to say that viral capsid are metastable ?

(*h*) What is conjugated vaccine ? Give example.

GROUP– B

Answer any two questions from the following : 5 × 2

2. Describe the sequential gene expressions and molecular events that take place during T_4 infection. 5

3. Compare and contrast the generalized and specialized transduction. 5

4. What are advantages and disadvantages of using animal viruses in human gene therapy ? Write a suitable strategy for viral count. 3 + 2

5. Briefly describe viral envelope components and state their functions. 3 + 2

GROUP– C

Answer any two questions from the following : 10 × 2

6. What is the unique attribute of M13 bacteriophage ? Outline the steps involved in the reproduction of M13. Why is it an attractive virus in recombinant technique ? 2 + 6 + 2

7. How is lysogeny established and maintained in case of lambda phage ? Write a short note on mu phage. 6 + 4

8. Write in detail about steps of viral phathogenesis. How does an icosahedral virion attach to host ? What probable target sites will you consider for antiretroviral drugs ? 5 + 3 + 2

9. Outline the life cycle of HIV and how does it cause disease ? Mention the mode of entry of plant viruses into the host. 8 + 2