

M.Sc. (Part-I) Semester-III (CBCS) Examination
BIO-INFORMATICS
(System Biology)
Paper—IX

Time : Three Hours]

[Maximum Marks : 80

Note :—(1) All questions are compulsory and carry equal marks.

(2) Draw well labelled diagrams wherever necessary.

1. Write on :
 - (a) Protein-protein interaction. 5
 - (b) Network analysis with examples. 5
 - (c) Importance of network parameters in system biology. 6

OR

 - (d) Applications of system biology. 5
 - (e) Chemical analysis approach. 5
 - (f) Web-driven platforms in system biology. 6
2. Give elaborated account on Michaelis-Menten equation. 16

OR

Elaborate on dynamic system properties of Biochemical reactions with examples. 16
3. Give an elaborated account on metabolic networks. Add a note on its applications. 16

OR

What do you understand by in-silico analysis ? Give detail on in-silico modeling of biological process. 16
4. Write on :
 - (g) Gene expression analysis. 5
 - (h) Protein-protein interaction. 5
 - (i) Biomolecules in biological system. 6

OR

 - (j) V-cell simulation. 5
 - (k) System modeling and design. 5
 - (l) Significance of synthetic biology. 6
5. Write on :
 - (m) Storage facility in R-program. 5
 - (n) Softwares for R-program. 5
 - (o) Orders. 6

OR

 - (p) Arrays. 5
 - (q) Commands. 5
 - (r) Objective of R-programming. 6

