

Exam. Code : 103206

Subject Code : 1412

B.A./B.Sc. Semester—VI

BIOINFORMATICS

(Structural Biology & Molecular Modelling)

Time Allowed—3 Hours]

[Maximum Marks—75

SECTION—A

1. Explain the following terms :

(a) Chromatography

(b) Secondary structure of Protein

(c) Lattice

(d) GOR

(e) Regular expression

(f) ADMET

(g) Lipinsky's rule

(h) Free energy

(i) Simulated annealing

(j) Ligand.

10×1.5=15

SECTION—B

2. Define Bragg's law. Explain difference between NMR and x-ray crystallography. 15

OR

3. What is primary structure of protein ? Discuss method used to determine primary structure of protein. 15

SECTION—C

4. What is homology modeling ? Explain steps involved in homology modeling. 15

OR

5. What is PDB ? Explain significance of protein structure databases with example. 15

SECTION—D

6. Explain structure based drug design. Discuss steps involved in structure based drug design. 15

OR

7. Explain Hansch equation. What do you understand by QSAR descriptors ? 15

SECTION—E

8. Explain simulated annealing. Discuss its application. 15

OR

9. What do you understand by simulation ? Explain application of molecular dynamics in biological research. 15