Exam. Code : 103206
Subject Code : 1414

B.A./B.Sc. Semester—VI

BIOINFORMATICS

(Structural Biology and Molecular Modeling)

Time Allowed—3 Hours] [Maximum Marks—75

Note :— Attempt **ALL** questions.

SECTION–A

1. Explain the following terms :

   (a) Chromatography

   (b) Primary Structure of Protein

   (c) MALDI

   (d) Domain

   (e) Pfam

   (f) ADMET

   (g) QSAR

   (h) Free Energy

   (i) Simulated Annealing

   (j) Unit Cell. 10×1.5=15

SECTION–B

2. What is Bragg's Law ? Explain steps involved in protein structure determination using X-ray crystallography.

OR

3. Explain techniques used for determination of protein sequence.

SECTION–C

4. What is homology modeling ? Explain method used for prediction of three dimensional structure of protein.

OR

5. What is PDB ? Explain Chou Fasman method for protein secondary structure prediction.

SECTION–D

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

OR

7. What do you understand by Descriptors ? Explain Hansch equation.

SECTION–E

8. What is force field ? Give any one example. Explain significance of force field.

OR

9. What is molecular dynamics ? Explain its application in study of protein structure. 15×4=60