Sr. No. 7105

Exam. Code: 206602
Subject Code : 4598

M.Sc. Bio-informatics - 2nd Sem.

(2517)

Paper - BI-525: Structural Biology & Bioinformatics

Time allowed: 3 hrs.   **Max. Marks: 75**

Section A   10X1.5=15

Explain the following in less than four sentences.

a)	Unit cell	f)	CASP
b)	Rotamers	g)	Pymol
c)	PFAM	h)	Modeller
d)	Protein fold	i)	SSAP
e)	Hidden markov model	j)	ALIGN

Section B   12X5=60

1) Explain the principle of X-ray diffraction. Discuss its application.   OR

2) What are dihedral angles? Discuss significance of Ramachandran plot.

3) What do you understand by glycosyl rotation? Differentiate between A and B form of DNA.   OR

4) What is a protein fold? Discuss classification of protein structures in SCOP.

5) What is nearest neighbour method? Discuss its application in protein structure prediction.

OR

6) What is PSIPRED? Explain its principle and application.

7) What do you understand by knowledge based structure prediction? Discuss the algorithm of homology modelling.   OR

8) Discuss different tools and methods to verify a predicted three dimensional structure of protein.

9) What is CE? Compare CE with VAST.   OR

10) What do you understand by RMSD? Discuss any structure alignment tool based on graph theory.

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