(3 Hours)   [Total Marks : 80]

Note : 1. Question no. 01 is compulsory.

2. Attempt any 03 questions out of remaining 05 questions

Q1] i)Define docking and explain the process of protein ligand docking.   10M

ii) Differentiate between covalent and non covalent interactions.   10M

Q2]i) Describe the various methods of Machine learning and there role in bioinformatics.   10M

ii) Describe 3D QSAR   10M

Q3]i) Describe the features and technical challenges of interoperability.   10M

ii) Explain the process of energy minimization   10M

Q4]i) Define optimization and explain the process of drug optimization.   10M

ii) List and describe the role of various types of chaperones   10M

Q5] Describe :   20M

1. molecular mechanics
2. UMLS
3. Simmulated annealing
4. Molecular dynamics

Q6] i) Describe the features of ramchandran plot and explain how to detect the quality of protein using ramchandran plot.   10M

ii) Explain the features of torsion angle and Cartesian coordinates.   10M

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