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New Delhi, 110062
M.Sc. (Computational and Systems Biology and Bioinformatics)
Final Exam-Second Semester-2023
Structural Bioinformatics & Drug Design (MCSB 201)

Duration: 2.5 Hours

Total Marks 60

Section-A

Students are requested to answer all questions (4 x 5= 20 Marks)

S.No	Questions	CO	BL
1.	Explain Artificial Neural Networks with a diagram.	2	3
2.	Differentiate between COMFA and COSMIA.	2	3
3.	Explain the properties of ADMET.	1	2
4.	What is pharmacophore mapping?	3	5

Section B

Students are requested to answer any four questions. (4x10=40 Marks)

S.No	Questions	CO	BL
1.	Define the phi and sai angle of a Ramachandran plot and draw the secondary structure of any protein.	4	5
2.	Enumerate the structure alignment algorithms and explain any one of them with an example.	3	5
3.	What is meant by energy minimization in protein structure? Explain the different energy minimization methods.	3	4
4.	How are binding energy calculations done in De novo drug design?	2	3
5.	Explain pharmacodynamics and binding thermodynamics.	2	3
6.	Explain the Molecular Mechanism of Disease and how it relates to Personalized Medicine.	4	5