

End Semester Examination (2021-22)-Odd Semester

M.TECH (BT)- I Year (I Sem)

Course Name: Computational & Structural Biology	Code: MBT1013
Time: 02 Hours	Max Marks: 60

University Roll No.	<table border="1" style="width: 100%; height: 20px; border-collapse: collapse;"> <tr> <td style="width: 12.5%;"></td> <td style="width: 12.5%;"></td> <td style="width: 12.5%;"></td> <td style="width: 12.5%;"></td> <td style="width: 12.5%;"></td> <td style="width: 12.5%;"></td> <td style="width: 12.5%;"></td> <td style="width: 12.5%;"></td> <td style="width: 12.5%;"></td> <td style="width: 12.5%;"></td> <td style="width: 12.5%;"></td> <td style="width: 12.5%;"></td> <td style="width: 12.5%;"></td> <td style="width: 12.5%;"></td> <td style="width: 12.5%;"></td> <td style="width: 12.5%;"></td> <td style="width: 12.5%;"></td> <td style="width: 12.5%;"></td> <td style="width: 12.5%;"></td> <td style="width: 12.5%;"></td> </tr> </table>																					
(To be filled by the Student)																						

Note: Please read instructions carefully:

- a) The question paper has 03 sections and it is compulsory to attempt all sections.
- b) All questions of Section A are compulsory; questions in Section B and C contain choice.

Section A: Very Short Answer type Questions		BL	CLO	Marks (10)
Attempt all the questions.				
1.	Explain BankIT.	BL2	CLO1	02
2.	Compare motif and domain.	BL2	CLO2	02
3.	What are α and β spin in NMR?	BL1	CLO2	02
4.	Outline the application of protein docking.	BL4	CLO3	02
5.	Define transcriptomics.	BL1	CLO4	02
Section B: Short Answer Type Questions		BL	CLO	Marks (30)
Attempt any 03 out of 06 questions.				
1.	Describe local alignment.	BL2	CLO2	10
2.	Explain the WormBase database.	BL5	CLO1	10
3.	Illustrate the classification criteria in any one of secondary protein structure database.	BL4	CLO1	10
4.	Explain the working of X-ray crystallography.	BL5	CLO2	10
5.	Summarize the concepts involved in prediction model based drug designing.	BL5	CLO3	10
6.	Illustrate the technique used for dynamic proteome analysis.	BL4	CLO4	10
Section C: Long Answer Type Questions/Case Study		BL	CLO	Marks (20)
Attempt any 01 out of 04 questions.				
1.	Illustrate the working of BLAST algorithm and name its different types.	BL4	CLO1	20
2.	A pharmaceutical company wants to design a drug against an upcoming disorder. Explain the steps involved in the drug design and development pipeline for the company in detail.	BL5	CLO3	20
3.	Explain the file format for the protein files with .pdb extension in detail.	BL5	CLO1	20
4.	Interpret the method used for the 3 dimensional protein structure prediction.	BL5	CLO2	20