



QP CODE: 25050557



25050557

Reg No :

Name :

MSc DEGREE (CSS) EXAMINATION DECEMBER 2025

First Semester

M Sc BIOTECHNOLOGY

Core Courses - BT020104 - BIOPHYSICS AND BIOINFORMATICS

2019 Admission Onwards

71065332

Time: 3 Hours

Weightage: 30

Part A (Short Answer Questions)

*Answer any **eight** questions.*

Weight 1 each.

1. Write the functions of electron carriers in a biological system?
2. What is ionic interaction?
3. Mention the important features of Z DNA.
4. What is primary structure of protein?
5. What is meant by Greek key motif?
6. What is Protein Information Resource?
7. What is dot matrix method?
8. Define tree topology.
9. What is SCOP?
10. How cheminformatics is helpful in biology?

(8×1=8 weightage)

Part B (Short Essay/Problems)

*Answer any **six** questions.*

Weight 2 each.

11. Discuss the role of ADP and ATP as high energy molecules.
12. Give examples of redox potential in biological system.
13. Elaborate on histone DNA interaction.
14. What are chaperones? Explain their functional importance.
15. Explain the features and significance of sequence formats.





16. Briefly describe Pfam data base in protein annotation data base.
17. Describe the applications of bioinformatics in pharmaceutical industry?
18. Write notes on: Cheminformatics in biology

(6×2=12 weightage)

Part C (Essay Type Questions)

*Answer any **two** questions.*

Weight 5 each.

19. Write notes on: A. C0t curve. B. Denaturation and Tm of DNA
20. Explain the domain families of proteins.
21. Discuss the principles and types of sequence alignment.
22. Describe homology based method of Protein modelling.

(2×5=10 weightage)

