25019341

QP CODE: 25019341

Reg No : .....

Name : .....

B.Sc DEGREE (CBCS)) REGULAR/ IMPROVEMENT/ REAPPEARANCE / MERCY CHANCE EXAMINATIONS, FEBRUARY 2025

Fourth Semester

B.Sc Biotechnology Model III

Core Course - BT4CRT11 - BIOPHYSICS AND BIOINFORMATICS

2017 Admission Onwards

A04700DE

Time: 3 Hours Max. Marks : 60

Part A

*Answer any **ten** questions.*

*Each question carries **1** mark.*

1. Define diffusion.
2. Explain isobars.
3. What is colorimetry?
4. What is spectrophotometry?
5. Heat shock proteins.
6. What is RFLP?
7. What is biological database?
8. Comment on Margaret Dayhoff.
9. What is UniProt?
10. What is optimum alignment?
11. Differentiate orthologs, paralogs and xenologs.
12. What are protein visualization tools? Give examples.

(10×1=10)

Part B

*Answer any **six** questions.*

*Each question carries **5** marks.*

13. What are the properties of water?

14. Explain colloids and describe the properties.

15. Describe the working principle of GM counters.

16. Working principle of Scintilation counters.

17. Explain primary and secondry structure of proteins.

18. Compare and contrast A and B DNA.

19. Biological databases are the source of scientific information. Justify.

20. What are the rescent trends in bioinformatics?

21. Secondary structure prediction of protein is useful in the full length 3D prediction. Justify.

(6×5=30)

Part C

*Answer any **two** questions.*

*Each question carries **10** marks.*

22. Explain the Laws of thermodynamics.

23. Explain in detail working principle of UV-VIS spectroscopy.

24. Explain various stablising forces in macromolecules.

25. Describe the significance, features and applications of drug bank.

(2×10=20)