



K25P 2890

Reg. No. :

Name :

III Semester M.Sc. Degree (C.B.C.S.S. – O.B.E. – Reg./Supple./Imp.)
Examination, October 2025
(2023 Admission Onwards)
BIOTECHNOLOGY
MSBTC03C15 : Bioinformatics

Time : 3 Hours

Max. Marks : 40

SECTION – A

Answer **any five** questions. **Each** question carries **2** marks.

(5×2=10)

1. Expand PDB and state its importance.
2. What is the difference between PIR and UNIPROT ?
3. Define sequence alignment.
4. Expand BLAST and FASTA.
5. What is a phylogenetic tree ?
6. Mention one bioinformatics server for proteomics data analysis.

SECTION – B

Answer **any three** questions. **Each** question carries **4** marks.

(3×4=12)

7. Write short notes on PROSITE and PFAM.
8. Briefly describe genome annotation and its importance.
9. Compare global and local alignment with examples.
10. Explain the relationship between protein sequence and structure.
11. Write a short note on RasMol as a structural visualization tool.

P.T.O.



SECTION – C

Answer **any three** questions. **Each** question carries **6** marks.

(3×6=18)

12. Write an essay on genome information and its special features with emphasis on CDS, UTRs and ESTs.
13. Describe the workflow of RNA-Seq data analysis for transcriptome profiling.
14. With examples, explain the applications of comparative transcriptomics in studying differential gene expression.
15. Explain the workflow of performing sequence alignment with BLAST.
16. Explain how bioinformatics tools available at ExPASy aid in proteomics research.

