

No. of Printed Pages : 03

Roll No.

32290

B.Sc. EXAMINATION, 2025

(Fourth Semester)

BIOTECHNOLOGY

Paper IX

Bioinformatics

Time : 3 Hours]

[Maximum Marks : 40

Before answering the question-paper, candidates must ensure that they have been supplied with correct and complete question-paper. No complaint, in this regard will be entertained after the examination.

Note : Attempt *Five* questions in all, selecting *two* questions from each Unit. Q. No. 1 is compulsory.

1. Explain the following briefly : $4 \times 2 = 8$

- (i) NCBI
- (ii) Sequence databases
- (iii) Functional proteomics
- (iv) Protein information resources

Unit I

2. Write short notes on the following : $2 \times 4 = 8$

- (a) Secondary databases
- (b) Scope of bioinformatics.

3. Explain the following : $2 \times 4 = 8$

- (a) Information flow in biology
- (b) Genome information resources.

4. Discuss the scope and importance of bioinformatics. 8

Unit II

5. Write short notes on the following : $2 \times 4 = 8$

- (a) FASTA
- (b) Multiple sequence alignment.

6. Discuss the predictive method using DNA and proteins sequences in detail. 8

7. Give answers of the following : $2 \times 4 = 8$

- (a) Protein information resources
- (b) Small molecules databases.