

Exam. Code : 107404

Subject Code : 1678

B.Sc. (Bio Technology) 4th Semester

(Batch 2020-23)

FUNDAMENTAL OF BIOINFORMATICS

Paper—BTL 255

Time Allowed—3 Hours] [Maximum Marks—40

Note :— Attempt **FIVE** questions in all, selecting at least **ONE** question from each Section. The **FIFTH** question may be attempted from any Section. All questions carry equal marks.

SECTION—A

1. (a) Describe Organization of Computers. 4
(b) Explain Computer Software and Hardware. 4
2. Discuss various Input and Output devices. 8

SECTION—B

3. Write different milestones in the History of Bioinformatics. 8
4. Align the following sequences using Needleman-Wunsch method :

Sequence 1 : CGTGAATTCAT

Sequence 2 : GACTTAC

Parameters : Match score = +5, mismatch score = -5, gap penalty = -1 8

SECTION—C

5. What are scoring matrices ? Write a note on the PAM scoring matrices. 8
6. Define BLAST. Discuss its algorithms and various types. 8

SECTION—D

7. Write a short note on any **TWO** of the following :—
- (a) NCBI
 - (b) EBI
 - (c) PUBMED. 2×4=8
8. Write a short note on any **TWO** of the following :—
- (a) PDB
 - (b) UNIPROT
 - (c) Pfam. 2×4=8