



VIT
Vellore Institute of Technology
(Deemed to be University under section 3 of UGC Act, 1956)

REG.NO.:

SCHOOL OF BIOSCIENCES AND TECHNOLOGY
CONTINUOUS ASSESSMENT TEST - I
WINTER SEMESTER 2025-2026

Programme Name & Branch : B.Tech. Biotechnology
Course Code and Course Name : BBIT205L - Bioinformatics
Slot(s) : F1
Faculty Name(s) : Dr. K. Ramanathan/ Dr. V. Shanthi
Class Number(s) : VL2025260502433/ VL2025260502434
Date of Examination : 01.02.2026
Exam Duration : 90 minutes
Maximum Marks: 50

General instruction(s):

- Answer All Questions
- CO – Course Outcome; BL – Blooms Taxonomy Level (1 – Remember, 2 – Understand, 3 – Apply, 4 – Analyse, 5 – Evaluate, 6 – Create)

Q. No	Question	M	CO	BL
1.	Which categories of challenges associated with biotechnology are typically tackled through bioinformatics?	10	1	2
2.	Explain the different sections and components of a GenBank flat file format.	10	1	2
3.	a) Illustrate and analyse the commonly used sequence file formats employed by bioinformatics tools and software applications.	5	1	4
	b) Compare and contrast the various database models implemented for the storage, organization, and management of biological data	5		
4.	Perform the global alignment for the given sequence using the following scoring scheme: Match = +1; Mismatch = -1 and Gap penalty = -2. Row Sequence: ATGGCCATT Column Sequence: ATCCAATTTT	10	2	3
5.	Explain the terms: homology, similarity and identity. Also mention the underlying principles or criteria that determine the homologous relationships between pair of sequence?	10	2	4
