



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 : BBIT209L Molecular Biology
Lot(s) : B2+TB2
Faculty Name(s) : K M Gothandam
Class Number(s) : 2452
Date of Examination : 28/01/2026
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.	Describe the chemical structure of a nucleotide and explain how it differs from a nucleoside. Detail the specific types of bonds that stabilize the double-stranded DNA molecule.	10	1	2
2.	List out the key proteins and enzymes involved in Eukaryotic DNA replication and describe its functions.	10	1	3
3.	a) Explain the process of pre-initiation replications complex formation with suitable diagram.	5	1	3
	b) Differentiate prokaryotic and eukaryotic replication.	5		
4.	Elaborate the endogenous DNA damage with suitable diagram.	10	2	2
5.	Explain the non-homologous end joining repair in prokaryotes and eukaryotes with suitable sketch.	10	2	2
