



SCHOOL OF BIO SCIENCES AND TECHNOLOGY
CONTINUOUS ASSESSMENT TEST -I
FALL SEMESTER 2025-2026

Programme Name & Branch : B.Tech Biotechnology
Course Code : BBIT204L
Course Name : Cell Biology and Genetics
Slot : B2+TB2
Faculty Name(s) : Dr. P. Naveen Kumar
Class Number(s) : VL2025260100977
Date of Examination : 18th August 2025
Exam Duration : 90 minutes

Maximum Marks: 50

General instruction(s):

- **Draw neat diagrams wherever necessary**

Q. No	Question	Marks
1.	Explain in detail the structure, composition, and function of bio-membranes with a diagram.	10
2.	Summarize (with illustrations) the key sequential cell division events leading to genetic variation in germ cells. These processes shuffle and redistribute the genetic material, creating unique combinations of genes in the resulting gametes.	10
3.	Discuss in detail with figures the ultrastructural arrangement and function of cilia or flagella.	10
4.	During cell division, cells possess specialized proteins to detect DNA damage and activate repair surveillance mechanisms to halt the cell cycle at specific checkpoints. Illustrate the various DNA damage cell-cycle checkpoint mechanisms with a diagram.	10
5.	Describe the cellular transport mechanism of the V-class proton pump with a suitable example.	10