



VIT

Vellore Institute of Technology

(Approved as a University under section 3 of UGC Act, 1956)

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 : B1+TB1
Faculty Name(s) : Dr. P. Naveen Kumar
Class Number(s) : VL2025260100976
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	Compare and contrast the ultrastructure of a Plant cell and an animal cell with a diagram.	10
2	Discuss in detail with figures the structural arrangement and functions of the non-membranous cellular organelle.	10
3	Describe with illustration the cellular division events that take place in eukaryotic somatic cells. Also, emphasize its functional significance.	10
4	a) Explain in detail the transporters involved in the transport of glucose from the intestine into the blood. (6 Marks) b) In a plant cell, sol-gel transformations create a circular flow of nutrients and organelles essential for various cellular functions. How is the above process called? Explain the mechanism with an illustration. (4 Marks)	10
5	a) Illustrate the sequential events involved in the active transport of sodium and potassium ions using Na ⁺ /K ⁺ ATPase pump. (6 Marks) b) Briefly discuss the pump involved in the HCL secretion into the stomach lumen. (4 Marks)	10