

**VIT**Vellore Institute of Technology
(Deemed to be University under section 3 of UGC Act, 1956)**Continuous Assessment Test -2 (CAT-2) Fall Semester (2022-23)**

Course Name & code: Biochemistry BBIT202L

Programme Name & Branch: B.Tech Biotechnology

Class Number: VL2023240101981

Slot: A2+TA2

Faculty Name: Dr.T.Kalaivani

Exam Duration:

90 minutes

Maximum Marks:50

General instruction(s):

Answer ALL the questions

Draw diagrams and structures wherever necessary

Q.No.	Question	Max Marks	CO	BL
1.a.	Is cellulose soluble in water? Justify. Differentiate it with solubility of glycogen?	6	CO3	L4
1.b.	How protein binding to glycosaminoglycan prevents blood clotting?	4		
2.a	What is the functional advantage in heparin in comparison to hyaluronate?	4	CO3	L2
2.b.	What is the fate of pyruvate under anaerobic conditions?	6		
3	Evaluate the differences and similarities in gluconeogenesis and glycolysis?	10	CO4	L5
4.	What conditions stimulate the formation of NADPH in the cell? What is its significance?	10	CO4	L3
5.a.	Predict which of the pair of polypeptide is more soluble at the indicated pH? Explain with its structures. (Lys-Ala) ₃ or (Phe-Met) ₃ at pH 7.0	6		L6
5.b.	Why amino acids have different pKa values, but not for acetic acid?	4	CO5	