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Daffodil International University

Department of Agricultural Science
Faculty of Agriculture Sciences
Final Examination, Summer– 2026

Course Code: 0815-1105
Section: 261 All
Full Marks: 40

Course Title: Biochemistry I (General Biochemistry)
Level-Term: L1-T2

Teacher's Initial: MSA
Time: 2 Hours

"Split answering is strictly prohibited"

1.a)	Apply the rules of Fischer projection to draw the structures of α-D-Glucopyranose and β-L-Glucopyranose.	PLO1	CLO2 C3	4
b)	Apply the rules of Haworth projection to draw the structures of β-D-Glucopyranose and α-L-Glucopyranose.	PLO3	CLO2 C3	4
2.a)	Describe optical isomers, racemic mixtures, and epimers.	PLO1	CLO3 C2	6
b)	Briefly explain about chiral carbon.	PLO3	CLO3 C3	2
3.a)	Evaluate the details of rancidity and saponification value in lipids.	PLO2	CLO3 C5	5
b)	Develop two ideas about the industrial applications of lipids with brief explanations.	PLO4	CLO3 C6	3
4.a)	Analyze the sequence of reactions involved in the glycolysis pathway.	PLO4	CLO4 C4	5
b)	Define metabolism. Enlist the major pathways of carbohydrate metabolism.	PLO4	CLO4 C1	3
5.a)	Define enzyme. Discuss the major factors affecting enzyme activity and analyze their impact using suitable graphs.	PLO4	CLO5 C1 C4	5
b)	Create a graphical model of the lock and key hypothesis and explain enzyme–substrate interaction.	PLO5	CLO5 C6	3