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Daffodil International University

Department of Genetic Engineering and Biotechnology
Faculty of Health and Life Sciences
B. Sc. (Hons.) in Genetic Engineering and Biotechnology
Midterm Examination Spring 2026

Course Code: 0512- 2107
Level and Term: L-2, T-1
Time: 1 Hour 30 Minutes

Section: 251 (A+B)

Course Title: Metabolism
Course Teacher Initials: DMI & DEH
Total Marks: 25

			Marks
1	(a)	Differentiate between catabolism and anabolism.	[CLO1, PLO1, C4] 2.0
	(b)	List the experimental techniques used for studying metabolism. Elaborate the core types of metabolic pathways.	[CLO1, PLO1, C2] 3.0
2		Explain the glycolysis pathway step by step and provide a labeled diagram showing intermediates, enzymes, and energy changes.	[CLO2, PLO2, C5] 5.0
3	(a)	Define the terms glycolysis, gluconeogenesis, *glycogenesis*, glycogenolysis.	[CLO2, PLO2, C4] 2.5
	(b)	Illustrate the diagram of tricarboxylic acid cycle (TCA) showing all intermediates, enzymes, and energy-yielding steps.	[CLO2, PLO2, C2] 2.5
4	(a)	State the core metabolic pathways involved in lipid metabolism.	[CLO2, PLO2, C6] 2.0
	(b)	Discuss the stepwise process of triglyceride degradation in the body.	[CLO2, PLO2, C3] 3.0
5	(a)	Describe the sequential steps involved in the β-oxidation of fatty acids.	[CLO2, PLO2, C6] 3.0
	(b)	Explain the different types of fatty acid oxidation pathways.	[CLO2, PLO2, C2] 2.0

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