



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