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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
Final Examination Spring 2026

Course Code: 0512-2107
Level and Term: L-2, T-1
Time: 02 Hours

Section: 251 (A+B)

Course Title: Metabolism
Course Teacher Initials: DMI & DEH
Total Marks: 40

			Marks
1	(a) Briefly describe the significance of protein metabolism. Discuss the outline of amino acid oxidative deamination process.	[CLO2, PLO2, C6]	5.0
	(b) Explain the metabolism of amino acids with special reference to the urea cycle	[CLO2, PLO2, C2]	3.0
2	(a) Discuss the fatty acid biosynthesis pathways with a diagram.	[CLO2, PLO2, C6]	4.0
	(b) Explain the triglyceride biosynthesis pathways with diagram. Briefly describe the application of triglyceride biosynthesis pathway.	[CLO2, PLO2, C2]	4.0
3	(a) What are the differences between glucogenic amino acids and ketogenic amino acids? Explain the key regulation mechanisms of amino acid metabolism	[CLO2, PLO2, C1]	5.0
	(b) Explain the key process and mechanisms of amino acid biosynthesis	[CLO2, PLO2, C2]	3.0
4	(a) Discuss the synthesis of purine and pyrimidine nucleotides with diagram.	[CLO4, PLO2, C6]	5.0
	(b) Explain the main metabolic functions of nucleotides.	[CLO4, PLO2, C2]	3.0
5	(a) What is meant by mineral metabolism? Explain the metabolism, absorption, transport, and biological roles of Ca.	[CLO2, PLO2, C1]	4.0
	(b) Describe the metabolic reactions that are regulated by the minerals Mn and Mg.	[CLO2, PLO2, C6]	4.0