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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: 0512-1301
Level and Term: L-1, T-3
Time: 02 Hours

Section: 252 (A+B)

Course Title: Basic Biochemistry
Course Teacher Initials: DMI & DEH
Total Marks: 40

			Marks
1	(a)	Classify amino acids. Illustrate the structures of three acidic and three basic amino acids, highlighting their distinguishing functional groups. [CLO2, PLO2, C2]	5.0
	(b)	Briefly discuss the main chemical properties of amino acids, including their ionization and functional groups. [CLO2, PLO2, C6]	3.0
2	(a)	Classify proteins based on composition and solubility. Discuss the biological function of proteins. [CLO2, PLO2, C2]	4.0
	(b)	State the isoelectric pH. Briefly discuss the primary, secondary, tertiary, and quaternary structures of proteins. [CLO2, PLO2, C6]	4.0
3	(a)	Explain the general structure of nucleoside and nucleotide. Write down the base pair rule of DNA. [CLO2, PLO2, C2]	4.0
	(b)	Discuss the Watson and Crick model of the DNA double helix with a diagram. [CLO2, PLO2, C6]	4.0
4	(a)	Classify vitamins. Explain the functions of vitamins and their importance in maintaining normal physiological processes in our body. [CLO4, PLO2, C2]	4.0
	(b)	Classify hormones based on chemical structure. Describe the mechanism of hormones in the human body. [CLO4, PLO2, C6]	4.0
5	(a)	Explain the different types of RNA. Discuss the physiochemical properties of nucleic acids. [CLO2, PLO2, C2]	4.0
	(b)	Discuss the functions of RNA. What is meant by the denaturation and renaturation of DNA. [CLO2, PLO2, C4]	4.0