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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 Summer 2026

Course Code: 0512-2101
Level and Term: L2, T1
Time: 1 Hour 30 minutes

Section: 252 (A+B)

Course Title: Molecular Biology
Course Teacher Initials: DNH & SBN
Total Marks: 25

				Marks
1	(a)	Define nucleic acids. State the biological significance of nucleic acids.	[CLO1, PLO2, C1]	2
	(b)	Illustrate the structure of pyrimidines.	[CLO1, PLO2, C2]	3
2	(a)	Diagrammatically present the structural differences between a nucleoside and a nucleotide.	[CLO1, PLO2, C6]	2
	(b)	Show the structure of DNA with hydrogen bonding pattern and explain the Physico-chemical Properties of DNA.	[CLO1, PLO2, C2]	3
3	(a)	Explain why RNA is generally more unstable than DNA.	[CLO3, PLO1, C5]	2
	(b)	State the key enzymes with their functions used in DNA replication.	[CLO3, PLO2, C2]	3
4	(a)	'DNA Replication is a semi-conservative biological process', justify.	[CLO3, PLO1, C5]	2
	(b)	What is the central dogma? Briefly describe the initiation and elongation steps of DNA replication.	[CLO1, PLO2, C1]	3
5	(a)	What are Okazaki fragments? DNA replication is incredibly accurate-justify.	[CLO1, PLO2, C5]	3
	(b)	Explain how replication inhibitors act against different diseases.	[CLO2, PLO2, C5]	2