



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 <u>initiation</u> and <u>elongation</u> 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