



Department of Genetic Engineering and Biotechnology
Faculty of Health and Life Sciences
B. Sc. (Hons.) in Genetic Engineering and Biotechnology
Final Examination Fall 2025

Course Code: 0512-1207
Level and Term: L-1, T-2
Time: 2 Hours

Section: 251 (A+B)

Course Title: Microbial Genetics
Course Teacher Initials: DMI & SBN
Total Marks: 40

Splitting any answer is strictly prohibited

		Marks
1	(a) Define the term of transposon. Discuss the mechanism of cut and paste transposition with suitable diagram.  [CLO6, PLO4, C2]	4.5
	(b) Explain the mechanism of copy and paste transposition. [CLO6, PLO4, C6]	3.5
2	(a) What is the restriction endonuclease. Illustrate the process of molecular cloning. [CLO7, PLO6, C2]	5.0
	(b) Distinguish between the plasmid and vector [CLO7, PLO6, C4]	3.0
3	(a) Enumerate the types of gene libraries. Elaborate the procedure of gene libraries preparation with diagram. [CLO7, PLO6, C2]	4.5
	(b) What is cloning vector? Enumerate and explain the types of cloning vector [CLO7, PLO6, C1]	3.5
4	(a) Extend the concept of phages. Explain the structure of phage with suitable diagram. [CLO6, PLO4, C2]	3.5
	(b) Discuss the Phage T4 life cycle with diagram. [CLO6, PLO4, C6]	4.5
5	(a) Explain the mating type in bacteria. Discuss the process of mating type in bacteria. [CLO7, PLO6, C2]	4
	(b) Write the applications of bacterial plasmid in biotechnology and research. [CLO7, PLO6, C6]	4