



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

Course Code: 0512-1207
Level and Term: L1, T2
Time: 2 hours

Section: A, B

Course Title: Microbi
Course Teacher Initi
Total Marks: 40

Splitting any answer is strictly prohibited

- 1 ☒ Name some common bacteriophages and diagrammatically show a bacteriophage highlighting its major parts. [CLO5, PLO1, C1]
- ☒ Mention some experimental evidences of specialized transduction. [CLO3, PLO1, C2]
- 2 ☒ Evaluate the life cycle of T4 phage and state the major differences between lytic and lysogenic cycle. [CLO7, PLO1, C5]
- ☒ Illustrate the key steps of T4 bacteriophage recombination system. [CLO7, PLO1, C3]
- 3 ☒ What are transposable elements (TEs)? Analyze the mechanism of transposition. [CLO3, PLO1, C1]
- ☒ List some major T4 bacteriophage genes with their key functions. [CLO7, PLO1, C2]
- 4 ☒ Discuss restriction endonucleases and provide the biological significance of constructing a gene library. [CLO3, PLO1, C6]
- (b) Write short notes on homopolymer tailing and cosmid. [CLO3, PLO1, C4]
- 5 ☒ Explain the Gibson assembly method in a flow diagram. [CLO5, PLO1, C3]
- ☒ Summarize the applications of molecular cloning. [CLO5, PLO1, C4]