

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

Course Code: 0512-1207
Level and Term: L-1, T-2
Time: 1 hour and 30 minutes

Section: 251 A, B

Course Title: Microbial Genetics
Course Teacher Initials: DJA
Total Marks: 25

Splitting any answer is strictly prohibited

| | | | Marks |
|---|---|------------------|-------|
| 1 | (a) Illustrate a viral chromosome highlighting its major features. | [CLO1, PLO1, C2] | 3 |
| | (b) State the purpose of studying microbial genetics. | [CLO1, PLO1, C1] | 2 |
| 2 | Define bacterial replication and diagrammatically show the bacterial chromosome replication process with brief explanation. | [CLO1, PLO1, C1] | 5 |
| 3 | (a) What is plasmid? Summarize different types of plasmids. | [CLO2, PLO1, C1] | 3 |
| | (b) Draw the conjugation of F plasmid with proper labelling. | [CLO2, PLO1, C2] | 2 |
| 4 | (a) Discuss the techniques commonly used for the control of plasmid replication. | [CLO3, PLO1, C6] | 3 |
| | (b) List different mechanisms of antibiotic resistance. | [CLO3, PLO1, C4] | 2 |
| 5 | (a) What is the major difference between transfection and transduction? | [CLO4, PLO1, C1] | 2 |
| | (b) Summarize the physical method of DNA transformation via electroporation in yeast. | [CLO4, PLO1, C2] | 3 |