



**Daffodil**  
International  
University

Department of Genetic Engineering and Biotechnology  
Faculty of Health and Life Sciences  
B. Sc. in Genetic Engineering and Biotechnology  
Midterm Examination Spring 2025

Course Code:  
GEB 0512-1101

Course Title: Introduction to Genetic  
Engineering and Biotechnology

Level and Term: L-1, T-1  
Time: 1 hour 30 minutes

Section: 251 A, B

Course Teacher Initials: KMH, DFB  
Total Marks: 25

Splitting any answer is strictly prohibited

- |   |  | Marks |
|---|--|-------|
| 1 | (a) Explain the terms genetic engineering and biotechnology [CLO1, PLO1, C2] and briefly outline the history.            | 2     |
|   | (b) Demonstrate the applications of genetic engineering and [CLO1, PLO2, C2] biotechnology.                              | 3     |
| 2 | (a) Write down three commercial products produced by [CLO3, PLO2, C6] biotechnological process.                          | 2     |
|   | (b) Explain recombinant DNA technology and summarize the key [CLO2, PLO2, C2] steps in recombinant DNA technology.       | 3     |
| 3 | (a) Illustrate the biological tools being used in recombinant DNA [CLO3, PLO2, C6] technology.                           | 2     |
|   | (b) Define plasmid with appropriate diagram. [CLO3, PLO2, C2]  | 3     |
| 4 | (a) Discuss on importance and challenges of [CLO2, PLO2, C4] commercialization of biotechnology in developing countries. | 2     |
|   | (b) Write down a short note on DNA, RNA, Animal cell. [CLO3, PLO2, C2]   | 3     |
| 5 | (a) Choose the key areas of biotechnology in medicine. [CLO3, PLO2, C3]  | 2     |
|   | (b) Briefly discuss on somatotropin and insulin hormones. [CLO3, PLO2, C6]   | 3     |