



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: 0512-1101 Course Title: Introduction to Genetic Engineering
Level and Term: L1, T1
Time: 1 Hour 30 minutes Section: 262 A Course Teacher Initials: DNH
Total Marks: 40

No.	Questions	Marks
1.	(a) Define biotechnology. Explain why biotechnology is considered a multidisciplinary subject. [CLO1, PLO2, C1]	3
	(b) What is genetic engineering? State the core techniques used in genetic engineering. [CLO1, PLO2, C3]	2
2.	(a) Write a brief historical context of modern biotechnology. [CLO1, PLO1, C5]	2
	(b) State the application of biotechnology in the field of environmental science and industrial production. [CLO2, PLO1, C4]	3
3.	(a) What is the biotechnology commercialization? Briefly describe the key steps of biotechnology commercialization. [CLO2, PLO1, C2]	3
	(b) State the challenges and ethical considerations of genetic engineering. [CLO1, PLO2, C1]	2
4.	(a) Define recombinant DNA technology. Describe the different types of gene modification that can be performed using this technology. [CLO1, PLO1, C1]	3
	(b) What are transgenic organisms? List and briefly explain any three different types of transgenic organisms, giving one example for each. [CLO1, PLO2, C6]	2
5.	(a) Illustrate the process of producing human proinsulin using recombinant DNA technology. [CLO2, PLO2, C2]	3
	(b) List three different types of recombinant interferons that are currently used in medicine with their gene source, host and clinical use. [CLO2, PLO2, C6]	2