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Daffodil International University

Department of Genetic Engineering and Biotechnology
Faculty of Health and Life Sciences
B. Sc. (Hons.) in Genetic Engineering and Biotechnology
Final Examination Summer 2026

Course Code: 0512-1101 | **Course Title: Introduction to Genetic Engineering and Biotechnology**

Level and Term: L1, T1 | **Section: 262 A** | **Course Teacher Initials: DNH**

Time: 2 Hours | **Total Marks: 40**

				Marks
1	(a)	Briefly describe the major biotechnological methods used in crop production with suitable examples.	[CLO1, PLO2, C1]	5
	(b)	Evaluate the potential scopes and concerns of biotechnology in modern agriculture.	[CLO1, PLO2, C3]	3
2	(a)	How can plant genes be genetically modified? Discuss the major tools used in plant gene modification.	[CLO1, PLO1, C5]	3
	(b)	What is plant tissue culture? Briefly describe the steps of plant tissue culture with its major applications.	[CLO2, PLO1, C4]	5
3	(a)	State the approaches of genetic manipulation of animals. Write a short note on Dolly.	[CLO2, PLO1, C2]	3
	(b)	Explain the concept of blood substitutes and outline their major types.	[CLO1, PLO2, C1]	3
	(c)	Discuss the major advantages of animal biotechnology.	[CLO2, PLO1, C2]	2
4	(a)	What is enzymology? Briefly discuss the nature of enzymes.	[CLO1, PLO1, C1]	3
	(b)	Describe the technology used for enzyme production, including the major steps involved.	[CLO1, PLO2, C6]	3
	(c)	Discuss the major industrial applications of enzymes with suitable examples.	[CLO1, PLO2, C6]	2
5	(a)	What is a biosensor? Explain its working principle and major applications.	[CLO2, PLO2, C2]	3
	(b)	Define biosafety? State the different biosafety levels and their major characteristics.	[CLO2, PLO2, C6]	3
	(c)	How do bioremediation and phytoremediation help in environmental pollution control?	[CLO2, PLO2, C6]	2

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