ourdiu.com | Shared by Abdullah Tawsif (CSE-232)

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 2025

Course Code: 0512-1209 **Course Title: Computer fundamentals and computation Biology**

Level and Term: L-1, T-2 **Section: 251 A, B** **Course Teacher Initials: MZA**

Time: 2 hours **Total Marks: 40**

Splitting any answer is strictly prohibited

				Marks
1	(a)	List the three main objectives of bioinformatics.	[CLO2, PLO2, C1]	3
	(b)	Explain the functions of biological databases.	[CLO2, PLO2, C2]	5
2	(a)	Why the AI algorithms are often referred to as black boxes.? Justify.	[CLO3, PLO3, C5]	3
	(b)	Analyze the importance of bioinformatics in drug and vaccine discovery.	[CLO5, PLO3, C4]	5
3	(a)	Explain deep learning and machine learning.	[CLO3, PLO3, C2]	3
	(b)	Discuss the benefits of cloud computing in bioinformatics.	[CLO3, PLO3, C3]	2
	(c)	Summarize the advantages of multiple sequence alignment (MSA).	[CLO5, PLO3, C2]	3
4	(a)	Compare firewalls and antivirus software	[CLO2, PLO2, C4]	4
	(b)	Describe the functions of a digital signature in cybersecurity	[CLO3, PLO3, C2]	4
5	(a)	Compare and contrast multiple sequence alignment (MSA) with pairwise alignment.	[CLO5, PLO3, C4]	4
	(b)	Differentiate between global and local alignment with examples	[CLO5, PLO3, C3]	4