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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
Midterm Examination Spring 2026

Course Code: 0512-1201
Level and Term: L1, T2
Time: 1 Hour 30 Minutes

Section: 253 (A+B)

Course Title: *Principles of Genetics*
Course Teacher Initials: *AR*
Total Marks: *25*

				Marks
1	(a)	Define cross, dominance, gene and epigenetics.	[CLO1, PLO1, C1]	2.0
	(b)	Explain why codominance deviates from the classical Mendelian phenotypic ratio.	[CLO3, PLO7, C2]	3.0
2	(a)	Compare between gene and allele.	[CLO1, PLO1, C2]	2.0
	(b)	Analyze the effect of lethal alleles development in mice.	[CLO3, PLO7, C4]	3.0
3	(a)	Define multiple allelism and summarize its key features.	[CLO3, PLO7, C3]	2.5
	(b)	Apply the principles of multiple allelism to explain the inheritance pattern of human ABO blood groups.	[CLO2, PLO2, C5]	2.5
4	(a)	Define epistasis and analyze how complementary gene interaction modifies the typical Mendelian ratio.	[CLO3, PLO7, C6]	3.0
	(b)	Discuss pleiotropism with its characteristics.	[CLO1, PLO1, C3]	2.0
5	(a)	State and interpret Mendel's Law of Segregation using appropriate inheritance ratios.	[CLO3, PLO7, C1]	3.0
	(b)	Evaluate the concept of dominance hierarchy in multiple allelism with a suitable example.	[CLO1, PLO1, C5]	2.0

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