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Department of Genetic Engineering and Biotechnology
Faculty of Health and Life Sciences
B. Sc. (Hons.) in Genetic Engineering and Biotechnology
Final Examination Fall 2025

Course Code: 0512-1205 **Course Title:** Animal Reproduction and Embryology

Level and Term: L-1, T-2 **Section: 252 (A+B)** **Course Teacher Initials: KMH + DMI**

Time: 02 Hours **Total Marks: 40**

Splitting any answer is strictly prohibited

			Marks
1.	(a) Classify the major reproductive hormones with their major functions.	[CLO3, PLO2, C4]	4.0
	(b) List the types of hormone assays and briefly discuss them.	[CLO3, PLO2, C1]	4.0
2.	(a) Explain the relationship between genetics and endocrinology.	[CLO5, PLO2, C6]	4.0
	(b) Illustrate the stages of oogenesis and highlight its key features.	[CLO2, PLO2, C2]	4.0
3.	(a) Discuss the stages of spermatogenesis with suitable diagram.	[CLO2, PLO2, C6]	4.0
	(b) Explain the phases of the estrous cycle in cows and discuss the characteristic behavioral changes observed during the estrus phase.	[CLO4, PLO2, C5]	4.0
4.	(a) Outline the mechanism of fertilization, highlighting species-specific differences in farm animals.	[CLO2, PLO2, C2]	4.0
	(b) Discuss the mechanisms of sperm transport in the male and female reproductive tracts of farm animals.	[CLO2, PLO2, C6]	4.0
5.	(a) Explain the acrosome reaction, sperm–zona pellucida interaction, and the mechanism of gamete fusion.	[CLO2, PLO2, C5]	4.0
	(b) List the important placental and synthetic hormones and explain their functions and medical applications.	[CLO3, PLO2, C1]	4.0