



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
Time: 02 Hours

Section: 252 (A+B)

Course Teacher Initials: KMH + DMI
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