



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: 0512-1205

Course Title: Animal Reproduction and Embryology

Level and Term: L1, T2

Section: 261-A

Course Teacher Initials: AR

Time: 2 Hours

Total Marks: 40

Answer the Following Questions:

			Marks
1	(a) What are the indicators of puberty in male and female farm animals? Explain how factors such as age, nutrition, breed, and environment can affect the onset of puberty.	[CLO1, PLO1, C2]	4.0
	(b) Explain the phases of the estrous cycle. Analyze why accurate estrus detection is important in an artificial breeding program.	[CLO1, PLO1, C4]	4.0
2	(a) What is the breeding season? Discuss how hormones such as testosterone, estrogen, and progesterone influence sexual behavior in farm animals.	[CLO3, PLO2, C6]	4.0
	(b) Identify the structure of sperm with a suitable figure. Analyze the major differences between estrous and menstrual cycles.	[CLO1, PLO1, C3]	4.0
3	(a) What is fertilization? Elaborate on the major events that occur when a sperm fuses with an ovum to form a zygote.	[CLO3, PLO1, C6]	4.0
	(b) Analyze how polyspermy is prevented in animals and explain why this mechanism is essential for normal embryonic development.	[CLO3, PLO2, C4]	4.0
4	(a) What is reproductive disease? Describe the causes, signs, transmission, and prevention of Leptospirosis and Brucellosis in farm animals.	[CLO3, PLO1, C1]	4.0
	(b) What is reproductive failure? Evaluate the recommended practices that can be adopted to improve fertility in the herd.	[CLO3, PLO2, C5]	4.0
5	(a) What is reproductive efficiency? Explain how reproductive efficiency can be measured using important reproductive parameters in farm animals.	[CLO2, PLO2, C2]	4.0
	(b) Analyze the factors responsible for efficient reproduction and evaluate the economic importance of reproductive efficiency.	[CLO2, PLO2, C5]	4.0