



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: 0512-2105
Level and Term: L-2, T-1
Time: 1 Hour 30 Minutes

Section: 251 (A+B)

Course Title: Animal Breeding
Course Teacher Initials: KMH, SBH
Total Marks: 25

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|---|--|-------|
| 1 | (a) Define animal breeding and discuss its application. [CLO2, PLO1, C1] | 3 |
| | (b) Why does domestication matter? Elaborate on the biological mechanisms involved and the impacts of domestication on animals. [CLO1, PLO1, C6] | 2 |
| 2 | (a) Discuss the core functions and mechanisms of breed association. State the organizational structures of breed association worldwide. [CLO2, PLO2, C6] | 3 |
| | (b) Enlist the various selection methods used in farm animals and present a comparison. [CLO4, PLO1, C4] | 2 |
| 3 | (a) Define the terms inbreeding, outbreeding, crossbreeding, and grading up, and discuss their effects in animal breeding. [CLO2, PLO1, C1] | 3 |
| | (b) What do you mean by breed? Explain the breed structure of Bangladeshi indigenous cattle and describe global breed patterns. [CLO6, PLO1, C5] | 2 |
| 4 | (a) Explain the chromosomal mechanisms of sex determination in farm animals. [CLO1, PLO1, C2] | 2 |
| | (b) Elaborate the concepts of sex-linked and sex-influenced traits in farm animals. [CLO1, PLO1, C5] | 3 |
| 5 | (a) Demonstrate the guidelines for using biotechnology in the development of breeding programs, with reference to reproductive biotechnologies, gene editing & genetic modification, and associated ethical principles. [CLO6, PLO2, C2] | 3 |
| | (b) Illustrate the following short notes: [CLO1, PLO1, C2] | 2 |
| | (i) Freemartin | |
| | (ii) Super-Sexes | |