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SUBJECT CODE NO: - BB-2607
FACULTY OF SCIENCE AND TECHNOLOGY
B.Sc. (CBCGS)(Pattern 2022) S.Y SEM IV
Examination November / December 2025

Dairy Science & Technology-XII Genetics and Animal Breeding

[Time: 1.30 Hours]

[Max. Marks: 40]

N. B

Please check whether you have got the right question paper.

- I) Attempt all questions
- II) All questions carry equal marks
- III) Illustrate your answer with suitable diagram.

Q1 Describe the process of meiosis.

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OR

- a) Explain Mendel's law of independent assortment
- b) Explain in brief about species hybridization

Q2 Explain hereditary and nonhereditary causes of variation.

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OR

- a) What are the methods of animal breeding? Explain outcrossing.
- b) Describe sex chromosome and sex determination

Q3 Write short notes on any two

10

1. Sex linked inheritance
2. Mendel's dihybrid cross
3. Genotype environment interaction
4. Line breeding

Q4 Write correct answer of the following multiple-choice questions.

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- 1) The first scientific explanation regarding inheritance was given by -----
 (a) Linnaeus (b) Robert Hooke
 (c) Mendel (d) Alexzander
- 2) ----- is basic unit of heredity
 (a) Chromosome (b) DNA
 (c) Gene (d) Protein
- 3) Transmission of characters from one generation to next is called-----
 (a) Translocation (b) Heredity
 (c) Breeding (d) Hybridization
- 4) ----- is a particular segment of DNA which is responsible for inheritance & expression of that character.
 (a) Trait (b) Factor
 (c) Gene (d) Alleles

- 5) The two or more alternative forms of a gene are called -----
(a) Trait (b) Factor
(c) allele (d) Genotype
- 6) Hybrid is ----- individual produced from any cross involving pure parents having one or more contrasting traits.
(a) Heterozygous (b) Homozygous
(c) Pure (d) Allelic
- 7) The first progeny produced from a cross is called ----- generation
(a) F1 (b) F2 (c) F3 (d) F4.
- 8) The offspring resulting from crossing individuals of F1 generation is called -----
(a) F1 (b) F2 (c) F3 (d) F4.
- 9) A rod-shaped structure in the cell nucleus that contains DNA is called as -----
(a) Trait (b) Chromosome
(c) allele (d) Genotype
- 10) The observable properties of an organism, produced by the interaction between its genotype and its environment is known as -----
(a) Phenotype (b) Factor
(c) Allele (d) Genome

