

CSM – 8/16
Animal Husbandry and Veterinary Science
Paper – I

Time : 3 hours
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Full Marks : 300

The figures in the right-hand margin indicate marks.

*Candidates should attempt Q. No. 1 from
Section – A and Q. No. 5 from Section – B
which are compulsory and any **three** of
the remaining questions, selecting
at least **one** from each Section.*

SECTION – A

1. Write brief notes on any **three** of the following in not more than **150** words each : $20 \times 3 = 60$
 - (a) Define and classify vitamins. Write the differences between vitamin, hormone and feed additives. Write the physiological functions of Vitamin A.

- (b) How does Vitamin A play role in vision ?
Name the different sources of Vitamin A.
What are the common deficiency symptoms
occurring in absence of Vitamin A in calf ?
- (c) Define feeding standards and nutrient
requirements. Represent a brief history of
development of feeding standard of cattle
chronologically.
- (d) Define body composition. How would you
estimate body composition ?
2. (a) Define Malnutrition. What are the factors
causing malnutrition ? What remedial
measures would you suggest to combat the
malnutrition ? 30
- (b) Define biological value of Protein. How
would you estimate the biological value of
egg proteins ? 30
3. (a) Define Digestible Coefficient. How would it
can estimate from poor quality roughages ?
30
- (b) What is "still birth" ? What are the factors
affecting on still birth of a cow ? Discuss its
hormonal causes of still birth. 30

4. (a) What do you mean by “feeding standard” ?
Give a brief review of history of feeding standard. 30
- (b) What are the factors responsible for good quality semen production ? Give a salient features of good diluents. 30

SECTION – B

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5. Write brief notes on any **three** of the following in not more than **150** words each : 20×3 = 60
- (a) Describe Mendelian Inheritance with suitable examples. How does it differ from non-Mendelian Inheritance ?
- (b) Define Linkage and Linkage Group. Why is linkage an exception to Mendel’s Second Law ? Describe the different kinds of linkage with example. What is the significance of Linkage phenomenon in living organisms ?
- (c) What is chromosomal aberrations ? Describe the different types of chromosomal aberration with their genetic significance.
- (d) What is Recombinant DNA-technology ? How is it utilized for genetic improvement of livestock ?
6. (a) Distinguish between epistasis and dominance. What does gene interaction

mean ? Explain the different kinds of epistasis interaction. 30

- (b) What is gene and genotype frequency ? Discuss, in details, about the factors responsible for changing gene frequencies.

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7. (a) What is sexual dimorphism ? Discuss the different mechanisms of sex determination in details. 30

- (b) Describe mutation with their types. What are mutagenic agents and mutation rate ? How do you detect sex-linked lethal mutation ? 30

8. (a) Explain and illustrate, with suitable examples, the genetic and phenotypic consequences of inbreeding. How is inbreeding utilized for livestock improvement by breeders of different species in India ? 30

- (b) Describe ONBS. How this method with the help of MOET and use of frozen semen technology can help in improving the Murrah buffalo in India ? 30

