

**ANIMAL HUSBANDRY AND VETERINARY
SCIENCE**

Paper—I

Time : Three Hours

Full Marks : 300

*Candidates should attempt Question 1 from
Section-A and Question 5 from Section-B
which are compulsory, and any **THREE** of the
remaining questions, selecting
at least **ONE** from each Section.
All questions carry equal marks.*

SECTION—A

1. Write brief notes on any **THREE** of the following in not more than **150** words each :— $3 \times 20 = 60$
 - (a) Utilization of metabolizable energy for milk production.
 - (b) Semen evaluation with respect to artificial insemination.
 - (c) Gross protein value v/s biological value of proteins for monogastrics.
 - (d) Interaction of copper, molybdenum and sulphur.

2. (a) What do you mean by the term malnutrition ?
What are the consequences of malnutrition during pregnancy ? 30
- (b) What is Estrous ? How will you detect it ? What is the optimum time of insemination for obtaining highest fertilization rate ? 30
3. (a) What is growth ? Explain growth curves and chemical growth. How nutrition control the growth ? 30
- (b) Hormones and the mammary gland development. 30
4. (a) Stress, explain it. What will be the physiological response of the animals when exposed to extremely high and low temperatures ? 30
- (b) What do you mean by the repeat breeding ? Explain the various factors responsible for it at a farm. 30

SECTION—B

5. Write short notes on any **THREE** of the following in not more than **150** words each :— $3 \times 20 = 60$
 - (a) Hardy-Weinberg law with its limitations.
 - (b) Linkage and crossing over.
 - (c) Feeding and management of a pregnant cow.
 - (d) Identification of age through dentition.

6. (a) Explain role of genetic parameters in genetic improvement programmes of livestock. 30
- (b) Discuss 'ONBS' and its limitations under Indian conditions. 30
7. (a) Describe current status of feed and fodder availability and requirement in terms of quality and quantity. 30
- (b) What is importance and objectives of record keeping ? Discuss different performance traits of dairy cattle. 30
8. (a) Discuss and compare different methods of selection with suitable illustrations. 30
- (b) How crossbreeding together with selection is useful to provide sustained improvement in a commercial herd ? 30