

CSM – 8/17
Animal Husbandry and Veterinary Science
Paper – I

Time : 3 hours

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) Describe the nutrient requirements of growing, finishing, pregnant and lactating pigs. Discuss the various feed formulations and feeding methods adopted to meet their requirements.

- (b) Define stress and describe the effects of heat stress on physiological parameters in livestock.
 - (c) Explain the metabolic role and importance of phosphorus, copper, zinc, selenium minerals and vitamin A in reproduction of livestock.
 - (d) Requirements of energy, protein, minerals, vitamins ; commonly used feed ingredients and practical feeding of layers at different stages.
2. (a) List and explain the components of semen ; its chemical and physical properties and the factors affecting semen quality. 30
- (b) What are the important methods adopted for freezing semen and discuss, in detail, about the role of diluents and glycerol in deep freezing of semen. 30
3. (a) Explain about the salient features of male and female reproductive organs and the hormonal control of mammary gland development and lactation in farm animals. 30

- (b) Discuss the general responses to heat stress in livestock and list the strategies for improving reproductive responses and fertility in thermally stressed dairy cattle. 30
4. (a) Explain the dairy reproductive management using artificial insemination with special reference to oestrus detection and handling of frozen semen. 30
- (b) Classify feeds and fodder for livestock and poultry with due emphasis on their composition and nutritive value. Elucidate the various measures for describing energy and protein values of feeds and fodders. 30

SECTION – B

5. Write short notes on any **three** of the following in not more than **150** words each : $20 \times 3 = 60$
- (a) Starting of economic dairy farm in india
- (b) Progeny testing for selection of dairy cattle

- (c) Modern concept in management for enhancing live stock production
 - (d) Use of Recombinant DNA technology in animal production
6. (a) Discuss, in brief, about developing practical and economic rations for dairy cattle feeding. 30
- (b) Write, in detail, about Rabbit rearing for commercial meat production. 30
7. (a) Discuss about the forces changing the gene frequency in animal breeding activities. 30
- (b) Discuss about sex influenced and sex limited characters in dairy cattle production. 30
8. (a) Write, in detail, about the cross breeding of dairy cattle to augment milk production in India. 30
- (b) Discuss about Open Nucleus Breeding System (ONBS) in dairy cattle production. 30

