

# Animal Husbandry and Veterinary Science Paper-I

**Time Allowed: Three Hours**

**Maximum Marks: 300**

---

- Note:* 1. The figures in the margin indicate full marks for the questions.
2. Candidate should answer questions No. 1 and 5 which are compulsory and any **three** of the remaining questions, selecting at least **one** from each section.

## SECTION – A

1. Write short notes on any **five** of the following in not more than **120** words each: 12×5=60
- (a) Discuss in detail protein metabolism in ruminants.
  - (b) Write down important functions, requirements and sources of trace minerals in animals.
  - (c) What are feeding standards? Explain different feeding standards with their merits and demerits.
  - (d) What are different components of semen? Discuss in detail the factors affecting quality and quantity of semen in cattle.
  - (e) Explain in detail the role of different hormones in development of mammary glands.
  - (f) What is adaptation? Discuss in detail the mechanisms of adaptation.
2. (a) Explain in detail the energy metabolism in ruminants. 30
- (b) What are different vitamins of B complex group? Explain their important functions, sources and interrelationship with minerals. 30

3. (a) Explain energy and protein metabolism in poultry. Discuss in detail calorie protein ratio in birds. 30
- (b) Discuss nutrient metabolism in pig with special reference to meat production. Formulate rations for baby and finisher pigs. 30
4. (a) Describe structure and functions of female reproductive organs of cattle. 30
- (b) Discuss digestive organs and their functions in poultry. 30

## SECTION – B

5. Write short notes on any **three** of the following in not more than **120** words each: 20×3=60
  - (a) Explain in detail the feeding strategies during natural calamities.
  - (b) Define inbreeding. What are different systems of inbreeding? Explain methods of estimating inbreeding coefficients.
  - (c) Describe in detail the sex influenced and sex limited characters.
  - (d) Define selection. Discuss in detail the different methods of selection.
  - (e) Write down Mendelian inheritance in detail.
6. (a) Develop plan for availability of green fodder throughout the year. Formulate an economical ratio for dairy cattle. 30
- (b) Describe factors determining efficiency of dairy animals. How would you calculate cost of milk production? 30
7. (a) What is chromosomal aberration? Explain in detail recombinant DNA technology. 30
- (b) Describe cross breeding. Write down different steps in development of synthetic breeds. 30
8. (a) Define mutation. What are different types of mutations? Describe methods for detecting mutations and mutation rate. 20
- (b) Describe Hardy Weinberg Law. 20
- (c) What do you understand by breeding value? Describe in detail the estimation of breeding value. 20