

**ANIMAL HUSBANDRY AND VETERINARY  
SCIENCES**

Note: Attempt any five questions. All questions carry equal marks. Q.NO.1 is compulsory. Answer two questions from Part I and two questions from Part II. The parts of the same question must be answered together and must not be interposed between answers to other questions.

1. Write critical notes on any four of the following: (4x7½=30)
- (a) Define genotype, phenotype and recombination.
  - (b) Distinguish between catabolism and anabolism. How are these processes related?
  - (c) What is creep ration for kids? Give the composition of two such rations for the Barbari and Jamanapari breeds.
  - (d) (i) Describe the methods employed and anaesthetic drugs used to capture and anaesthetize wild ruminant animals.  
(ii) Write the symptoms and treatment of arsenic poisoning in animals.
  - (e) Differentiate between endemic and epidemic states of infectious diseases.
  - (f) Briefly state the role of microorganisms in vaccine production.

**Part I**

2. Briefly describe the components of DNA, and explain its functional relationship to RNA and protein. (30)
3. What are the different methods of detection of oestrus in a cow? Explain (30)
4. Describe the metabolism of glucose after absorption through the small intestine in the body of the pig. (30)

**Part II**

5. What is the importance of high level fertility in herd? Suggest measures to adopt for high level of fertility in farm animals. (30)
6. Describe the etiology, epidemiology, clinical findings. Clinical pathology, diagnostic procedures and treatment of tuberculosis in cattle. (30)
7. Distinguish the following terms: (5x6=30)
- (a) Humoral and cell-mediated immunity
  - (b) Active and passive immunity
  - (c) Natural and artificial immunity
  - (d) T-dependent and T-independent antigens
  - (e) CD4 and CD8.