

ANIMAL HUSBANDRY AND VETERINARY SCIENCE (Paper I)

Time Allowed : Three Hours

Maximum Marks : 250

QUESTION PAPER SPECIFIC INSTRUCTIONS

(Please read each of the following instructions carefully before attempting questions)

There are EIGHT questions divided in two Sections.

Candidate has to attempt FIVE questions in all.

Question Nos. 1 and 5 are compulsory and out of the remaining, any THREE are to be attempted choosing at least ONE question from each Section.

The number of marks carried by a question/part is indicated against it.

Wherever any assumptions are made for answering a question, they must be clearly indicated.

Word limit in questions, wherever specified, should be adhered to.

Attempts of questions shall be counted in sequential order. Unless struck off, attempt of a question shall be counted even if attempted partly. Any page or portion of the page left blank in the Question-cum-Answer Booklet must be clearly struck off.

SECTION 'A'

1. Answer the following questions in about 150 words each: **10×5=50**
- (a) What are the feeding habits of goats? Enlist the common feeds and fodders for goats.
- (b) Discuss the methods for estimation of protein requirements for maintenance of bullocks.
- (c) What is third messenger concept? Why and how is uric acid formed in birds?
- (d) Write the general functions of blood in animal body.
- (e) Name three diluters along with their properties and composition for cryopreservation of cattle bull semen.
2. (a) Differentiate between the following: (i) Starch equivalent and Net energy (ii) Crude protein and True protein (iii) Cellulose and Starch (iv) Digestible energy and Metabolizable energy (v) Concentrates and Roughages **15**
- (b) What do you understand by spermatogenesis and spermiogenesis? Discuss the factors affecting the semen quality in buffaloes. **20**
- (c) What do you mean by electrocardiogram? Discuss in brief about cardiac cycle and heartbeat. **15**
3. (a) Enumerate the water-soluble vitamins. Write the coenzymes or prosthetic groups and enzymic or other functions of B vitamins. Write the functions and deficiency symptoms of vitamin E in poultry. **25**
- (b) A radiolabelled non-toxic particle was injected I/V into right foreleg of an adult dog. After a while, it was detected in the left foreleg. Indicate how the particle reached to the left foreleg. Support your answer with arrow diagram. **15**
- (c) Explain how high ambient temperature affects the productivity of animals. **10**
4. (a) A buffalo is grazing on a pasture. How can the feed intake of that buffalo be predicted? **15**
- (b) Compute a ration for a dairy cow weighing 400 kg and yielding 10 kg of milk with 4% fat from wheat straw (0% DCP and 40% TDN), green berseem (2% DCP and 12% TDN) limited to 15 kg and concentrate mixture (12% DCP and 70% TDN). The maintenance requirement is 250 g DCP and 3 kg TDN, whereas the requirement for 1 kg milk production is 45 g DCP and 300 g TDN. **15**

- (c) Name the hormones secreted from pituitary gland. Discuss the role of pituitary gland in regulation of oestrous cycle in bovine. 20

SECTION 'B'

5. Explain the following (in about 150 words each): 10×5=50
- (a) Chromosomal aberrations
 - (b) Traits of economic importance
 - (c) Guidelines to feed high yielder cows
 - (d) Organizations providing extension services in India
 - (e) Sib selection
6. (a) Write about the preliminary idea of heritability. Give different methods of estimation and write how these estimates are utilized in formation of breeding/selection plans. 25
- (b) What could be the delayed consequences of natural disasters? 15
- (c) Explain the role of veterinarian extension worker in livestock health and development. 10
7. (a) What feeding practices are suggested for adult female pigs? 15
- (b) Why is evaluation of extension programme needed and what different types of evaluations are done? 15
- (c) How can the efficiency of progeny testing programme be improved? 10
- (d) How will you improve the reproductive efficiency at your farm during summer season? 10
8. (a) What different systems of brooding are being practised in poultry? How would you prepare a brooder house to receive chicks? 20
- (b) Discuss genetic and phenotypic effects of inbreeding. 15
- (c) What are combining abilities? Give diagrammatic plan for utilizing combining ability. 15