ANIMAL HUSBANDRY AND VETERINARY SCIENCE

PAPER—I

72

Time Allowed : Three hours

Maximum Marks : 300

The figures in the margin indicate full marks for the questions

Answers must be written in the medium specified in the Admission Certificate issued to you, which must be stated clearly on the cover of the answer-book in the space provided for the purpose. No marks will be given for the answers written in a medium other than that specified in the Admission Certificate.

Candidates should attempt Question Nos. **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 at least *100* words each :

12×5=60

   (a) Importance of utilization of non-nutrient feed additives in the animal feeding

   (b) Blood transfusion in veterinary practice

   (c) Application of embryo transfer technology

   (d) Construction of selection indices and their uses

   (e) Advantages of synchronization of estrus in the livestock farming

   (f) Important points considered in formulation of a ration for egg-type chicken

2. *(a)* Write the requirement of crude protein, metabolizable energy, calcium and phosphorus of broiler starter and finisher chicken as per BIS specifications. Formulate a broiler starter ration with required CP and ME as per BIS. 10+10=20

   (b) What are the deficiency symptoms of fat-soluble vitamins in pig and what measures do you adopt in prevention of such deficiency? 10+10=20

   (c) Write the factors affecting semen production and its quality preservation in the cattle. 20

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3. *(a)* Describe the effects of heat stress and cold stress on the performance of layer chicken. Explain the preventive measures to be adopted against these stresses.   10+10=20

(b) Write the deficiency symptoms of different major minerals, mineral imbalances and their interrelationships in the animal feeding.   10+3+7=20

(c) State the importance of formation of 'self-help groups'. Write their proper functions in setting up of different enterprises and their role towards the livestock development.   4+8+8=20

4. *(a)* Elaborate the important considerations in planning of a commercial dairy farm and their impact on the profitable income generation.   30

(b) What is nutrient interrelationship? Explain with examples the interrelationships of calorie-protein, calcium-phosphorus, methionine-choline, arsenic-selenium and other mineral interrelationships.   5+25=30

SECTION—B

5. Differentiate between the following (any *five*) :   12×5=60

(a) General and Specific combining ability

(b) Qualitative and Quantitative traits

(c) Selection differential and Response to selection

(d) Sex-influenced and Sex-limited characters

(e) Individual selection and Family selection

(f) Inbreeding depression and Heterosis

6. Write what you know about any *four* of the following :   15×4=60

(a) Importance of record-keeping in the livestock farming showing different records

(b) Heritability and its estimation and few heritability values of different traits in cattle and poultry

(c) Practice of progeny testing in the animal breeding

(d) Care and management of animals under drought and flood conditions

(e) Hormonal control of mammary gland and milk secretion

7. (a) Write different methods of selection. Which of the methods of selection is best applicable in case of poultry for better egg production and why?

    10+10=20

   (b) What do you mean by the protein quality and how is it determined? Write important measures used to correct deficiency of essential amino acids in the animal feeding.   5+5+10=20

   (c) What is growth curve? Explain the pattern of growth curve in the poultry with diagram.   5+15=20

8. (a) Write the important factors of selection of feed ingredients for formulation of a ration. Compute an economic ration for the growing pig balancing with CP and ME (BIS).   10+10=20

   (b) Write the managemental practice for breeding bulls and heifers.   10+10=20

   (c) Write different methods of breeding and their practice in the livestock. Write the importance of crossing of inbred lines for the commercial poultry production.   10+10=20

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