COMBINED COMPETITIVE EXAMINATION (MAIN)

ANIMAL HUSBANDRY AND VETERINARY SCIENCES

Paper—I

Time : 3 hours *Full Marks* : 200

Note : *(1) The figures in the right-hand margin indicate full marks for the questions.*

*(2) Attempt **five** questions in all.*

*(3) Question No. **1** is compulsory.*

1. Answer any *ten* of the following questions : 4×10=40

(a) What is probiotics? Mention the characteristics of good probiotics.

(b) Differentiate among the nutritive values of pasteurized, standardized and homogenized milk.

(c) Why are piglets more susceptible to anaemia?

(d) What are the points to be kept in mind while collecting and transporting raw milk from rural India?

(e) Write a note on physiological adaptation of animals in high altitude.

(f) What is calving index?

(g) What are the advantages and limitations of artificial insemination in pig?

(h) What managerial practices could be followed to control heat stress in livestock?

(i) Reduced floor and feeding space affect poultry production. Explain.

(j) Define energy-protein ratio and mention its importance in poultry.

(k) What are BIS specifications for chick starter, grower and layer in terms of CP, ME and CF?

2. Answer any *eight* of the following questions : 5×8=40

(a) Write, in brief, the morphological abnormalities of spermatozoa.

(b) What is NPN compound? Discuss various ways of incorporation of urea in ruminant's ration.

(c) What are the advantages and disadvantages of cage system of rearing birds?

(d) Discuss different factors affecting the postnatal growth of animals.

(e) What is the interrelationship among vitamin D, calcium and phosphorus?

(f) What is homogenized milk? Mention the advantages and disadvantages of homogenization of milk.

(g) Write a note on adaptation of goat from the standpoint of land use and economy.

(h) What do you understand by 'safe' and 'pure' milk?

(i) What will be the feeding strategies of livestock during flood?

3. Answer any *five* of the following questions : 8×5=40

(a) Describe, in brief, the production and metabolism of volatile fatty acids as source of energy in ruminants.

(b) What are the components for calculation of cost of milk production? Discuss them in detail.

(c) How does the dairy farming in India differ from the developed countries?

(d) What is bypass protein technology? Mention the merits of feeding bypass protein to ruminants.

(e) What is synchronization of estrus? Briefly describe the concept of MOET.

(f) Describe, in brief, the care and management of dairy calf up to 3 months of age.

4. Answer any *four* of the following questions : 10×4=40

(a) Describe, in brief, the advantages and disadvantages of open-grazing and stall-fed dairy cows.

(b) Describe the new concept to determine the requirement of protein in ruminants.

(c) Discuss the role of different hormones involved in growth.

(d) Discuss the pertinent points which need to be considered for feeding of pig during—

(i) growing-finishing stage;

(ii) lactation period.

(e) Describe the process of spermatogenesis in bovine.

5. Answer any *two* of the following questions : 20×2=40

(a) Discuss, in detail, different methods to improve the nutritive values of poor quality roughages for ruminants' feeding.

(b) Discuss the principle of deep freezing of semen and describe the stepwise procedure of deep freezing of semen.

(c) Compare between dairying under mixed farming and dairying under specialized farming. Which one of these best suited to an average Indian farmers and why?

6. Answer any *four* of the following questions : 10×4=40

(a) Discuss different factors affecting the yield and composition of milk.

(b) Compute a ration for a cow weighing 400 kg and yielding 10 litre of milk having 4% fat with the commonly available feed ingredients.

(c) Hormones play important role for optimum reproductive performance of dairy cow. Explain.

(d) What is herd recording? How to maintain herd record in dairy farm?

(e) What are the measures of food energy? Compare the usefulness of TDN and ME systems as measure of feed energy in Indian context.

(f) Write a note on milk 'let down' and 'holding up'.

(g) What is the role of uterus during pregnancy?

(h) Write the constraints in utilization of unconventional feed stuffs in the ration of livestock and poultry.

(i) What managerial practices could be followed for successful rearing of piglets?

10. Answer any *five* of the following questions : 8×5=40

(a) Write a note on impact of dairy cooperatives on milk production in rural areas in India.

(b) Summarize the role of B vitamins as coenzymes or prosthetic group of enzymes in animal body.

(c) Discuss, in brief, different factors affecting the survival of spermatozoa after collection.

(d) What are the points to be kept in mind to produce clean milk in a dairy farm?

(e) Dairy bull is considered as half of the herd. Explain in detail.

(f) What is feed additive? Write, in brief, the mode of action and limitation of the use of antibiotic as growth promoter in poultry and swine.

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