INDIAN FOREST SERVICE (MAIN) EXAM-2022

ANIMAL HUSBANDRY AND VETERINARY SCIENCE

Paper – I

*Time Allowed : **Three** Hours* | *Maximum Marks : **200***

Question Paper Specific Instructions

Please read each of the following instructions carefully before attempting questions :

*There are **EIGHT** questions in all, out of which **FIVE** are to be attempted.*

*Questions no. **1** and **5** are compulsory. Out of the remaining **SIX** questions, **THREE** are to be attempted selecting at least **ONE** question from each of the two Sections A and B.*

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.

All questions carry equal marks. The number of marks carried by a question/part is indicated against it.

Neat sketches may be drawn, wherever required.

*Answers must be written in **ENGLISH** only.*

SECTION A

Q1. Write short notes on the following :

(a) Role of trace minerals in animal nutrition 8

(b) Factors affecting pre- and post-natal growth of animals 8

(c) Nutrient requirement for different stages of pigs 8

(d) Semen preservation and its transportation 8

(e) Mineral-Vitamin inter-relationship 8

Q2. (a) Describe the role of vitamins in poultry feeding. *15*

(b) Discuss in detail the various factors and regulatory mechanisms affecting animal behaviour. *10*

(c) What are the different feeding standards for dairy cattle and buffaloes ? Explain the different measures of food energy. *15*

Q3. (a) Describe the factors which affect the quality of meat. *10*

(b) Draw a well-labelled diagram of pituitary-hypothalamus relationship. Also discuss the origin and functions of hormones secreted from hypothalamus and pituitary. *15*

(c) Write down the advantages and disadvantages of artificial insemination. Briefly describe different techniques for artificial insemination in different species. *15*

Q4. (a) Discuss the management practices to control the heat stress in dairy cattle during summer season. *10*

(b) Explain the mechanism of milk formation in the udder of cows. Describe milk ejection reflex with the help of a flow diagram. *10*

(c) Describe in detail the nutrient requirement of cattle and buffaloes in relation to their milk production. *10*

(d) Diagrammatically represent the reproductive system of a cow and discuss the functions of each part. *10*

SECTION B

Q5. Write short notes on the following :

(a) Gene frequency, genotype frequency and their relation with each other *8*

(b) Management of animals during flood *8*

(c) Factors affecting the efficiency of dairy animals *8*

(d) Rabbits as a source of meat and fur *8*

(e) Compare dominance and epistatic deviations with suitable examples. *8*

Q6. (a) Define and describe different types of mutations. *15*

(b) Describe the different stages of mitosis and meiosis. *15*

(c) What are the different types of deviation from Dihybrid Mendelian Ratio ? *10*

Q7. (a) What are the different factors involved in budgeting, cost of milk production and pricing policy of a commercial dairy farm ? *15*

(b) What are the similarities and differences between upgrading and cross-breeding in relation to genetic improvement in cattle ? *10*

(c) What is the method of construction of selection index ? What are the advantages of selection indices over other methods of selection ? *15*

Q8. (a) Discuss different systems of brooding in poultry. Explain the points to be considered during management of chicks in the brooder. *15*

(b) Describe the different techniques used by the dairy farmers for preservation of fodder. *10*

(c) What is the need of maintaining records in a dairy farm ? Briefly explain the records which might be used in the management of dairy animals. *15*