

**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.*

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

*Neat sketches may be drawn, wherever required.*

**SECTION A**

- Q1. Write short notes on the following :** **8×5=40**
- |     |  |   |
|-----|--|---|
| (a) | Role of microbes in rumen fermentation                         | 8 |
| (b) | Factors affecting absorption of calcium                        | 8 |
| (c) | Environmental factors affecting animal behaviour               | 8 |
| (d) | Hormonal control of milk ejection in buffalo                   | 8 |
| (e) | Inter-relationship between muscle composition and meat quality | 8 |

- Q2.** (a) What you mean by balanced ration and what are its characteristics ? How will you formulate the ration for lactating cattle and buffaloes ? 10+10=20
- (b) Give the feeding schedules for growing and finishing pigs. 10
- (c) Write about the protein and energy requirements for starters, growers and layers of white leghorn birds. 10
- Q3.** (a) Describe the various systems of expressing energy values of feeds. Explain in detail about the importance of Total Digestible Nutrients (TDN) of a feedstuff. 10+10=20
- (b) Explain the roles of iron and zinc in animal nutrition. 10
- (c) What are the major constituents of semen extenders ? Discuss about commonly used semen extenders for dilution of semen. 10
- Q4.** (a) Draw a labelled diagram of the digestive system of cow along with associative organs and their functions. 20
- (b) Describe the influence of external factors on growth and development of ruminants. 10
- (c) Explain various factors affecting survival and quality of spermatozoa during semen handling. 10

## SECTION B

- Q5. Write short notes on the following :** **8×5=40**
- (a) Characteristics of genetic code 8
  - (b) Problems encountered in the development of inbred lines 8
  - (c) What are the necessities for developing synthetic breeds of animals and explain the stepwise procedure for formation of the same 8
  - (d) Feeding habits of goats 8
  - (e) Factors affecting egg size in poultry 8
- Q6.**
- (a) Describe in brief the population and its various types. Give the contrasting differences between an individual and a population. 10+10=20
  - (b) Explain the mechanism of sex determination in farm animals. 10
  - (c) Explain the improved management practices for profitable pig production. 10
- Q7.**
- (a) How is recombinant DNA technology different from conventional breeding ? Write in brief about the other two main technologies which form the primary basis of recombinant DNA technology. 8+12=20
  - (b) What do you mean by selection differential and generation interval ? What determines their sizes ? 10
  - (c) Write about the characteristics and practical application of path coefficients. 10
- Q8.**
- (a) Discuss the essential factors to be considered while establishing a dairy farm. 15
  - (b) Describe the management practices for maximum reproductive efficiency of buffaloes. 15
  - (c) Explain the terms — Calf starter, Dry calf starter, Milk substitute and Milk replacer. Give a representative composition of Calf starter. 2×5=10

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