# CSM—12/22

# ANIMAL HUSBANDRY & VETERINARY SCIENCE

## PAPER—I

**Time : 3 Hours**

**Full Marks : 250**

*The figures in the right-hand margin indicate marks.*

*Candidates should attempt* ***any*** **10** ***(ten)*** *questions of* **GROUP—A** *with word limit of 250 words and should attempt* ***any*** **5** ***(five)*** *questions from* **GROUP—B** *with word limit of 300 words.*

**Candidate must not write on this margin.**

### GROUP—A

Attempt *any* **10 (ten)** questions from the following :

**1.** *(a)* How is the feed energy partitioned and what are the various losses? 5

*(b)* What is calorie protein ratio and its significance? 5

*(c)* Discuss in short about various methods to measure protein quality of monogastric animals. 5

**2.** *(a)* Classify the feeding standards. 5

*(b)* Write about limitations of various feeding standards. 5

*(c)* Write a short note on feeding schedule of calves (up to 3 months of age). 5

**3.** *(a)* Define balanced ration and its characteristics. 5

*(b)* Explain about anti-nutritional factors that interfere with mineral and vitamin metabolism. 5

*(c)* Explain interrelationship between selenium and vitamin E. 5

**4.** *(a)* Write in detail various methods of measuring growth. 8

*(b)* Explain briefly about growth curve. 7

**5.** *(a)* Explain different adaptive mechanisms for high altitude in animals. 7

*(b)* Explain briefly about the physiological response of animals to high temperature. 8

**6.** *(a)* Write in detail on methods for diagnosing pregnancy in animals. 8

*(b)* Discuss the hormonal control of mammary gland development and its function. 7

**7.** *(a)* Write about Total Mixed Ration (TMR). 7

*(b)* Write briefly on phased feeding of dairy cows. 8

**8.** *(a)* How are different types of culling practised in an organised farm? 8

*(b)* Give the importance of record maintenance. 7

**9.** *(a)* Write briefly on the factors affecting productive lifespan of dairy cows. 8

*(b)* Write a note on technology advancement in the detection of lameness and associated management. 7

**10.** *(a)* State whether coat colour is a qualitative or quantitative trait. Write down the properties of that type of trait. 7

*(b)* How do you make selection, based on coat colour in cattle? 8

**11.** *(a)* Broadly classify chromosomal abnormalities. 10

*(b)* What types of mutation could lead to change in gene frequency in the population? 5

**12.** *(a)* Classify mating systems in animal breeding. 5

*(b)* What kind of breeding system in used for genetic improvement of sheep in your State? 10

**Candidate must not write on this margin.**

## GROUP—B

Candidate must not write on this margin.

Attempt *any* **5 (five)** questions from the following :

**13.** *(a)* Discuss nutritional reasons for small and large sized eggs. 7

*(b)* Define SARA. How to prevent it via nutrition? 6

*(c)* What is piglet anaemia and how will you manage it nutritionally? 7

**14.** *(a)* Explain different methods for detecting oestrus in farm animals. 6

*(b)* Write in detail about artificial insemination in cattle. 6

*(c)* Discuss about the factors affecting spermatozoa production. 8

**15.** *(a)* What is Precision Dairy Farming? 5

*(b)* Write briefly on mechanization in commercial dairy farms. 10

*(c)* Mention the need for automation in dairy industry and its implications. 5

**16.** *(a)* Write the reasons for the growth of Poultry Industry in India. 12

*(b)* Write about biosecurity and disease management in poultry. 8

**17.** *(a)* State Hardy-Weinberg law. 3

*(b)* Write a note on forces acting on small population. 7

*(c)* Explain Genotype × Environment interaction with suitable example. 10

**18.** *(a)* 'Bull is half the herd' — justify with suitable aid to selection. 15

*(b)* What are the parameters to be considered for genetic improvement of milk production using selection index procedure? 5

★★★