2009 100101

ANIMAL HUSBANDRY AND VETERINARY SCIENCE - I (Optional)

Standard : Degree **Total Marks : 200**

Nature : Conventional **Duration : 3 Hours**

Note :

(i) *Answers must be written in* ***English.***

(ii) *Question* ***No. 1*** *is* ***Compulsory.*** *Of the remaining questions, attempt* ***any four*** *selecting one question from* ***each section.***

(iii) *Figures to the* ***RIGHT*** *indicate marks of the respective question.*

(iv) *Number of optional questions upto the prescribed number in the order in which they have been solved will only be assessed. Excess answers will not be assessed.*

(v) *Credit will be given for orderly, concise and effective writing.*

(vi) *Candidate should not write roll number, any name (including their own), signature, address or any indication of their identity anywhere inside the answer book otherwise he/she will be penalised.*

(vii) *For each slab of 10 and 15 marks, the examinee is expected to write answers in 125 and 200 words respectively.*

1. Answer **any four** of the following :

(a) Describe cellulose and hemicellulose metabolism in dairy cows with the help of citric acid cycle. Quantify the net gain of energy (ATP) from each mole of propionic acid. **10**

(b) Why germplasm conservation of livestock and poultry is important in India ? What measures are being taken in this regard ? **10**

(c) Suggest the strategies of feeding and management of livestock for their survivability and productivity during natural calamities. Highlight the critical aspects of suggested strategy. **10**

(d) Suggest a model for veterinary extension in view of diverse resources in the country. Which section of society must be given priority during extension programme. **10**

(e) How you will evaluate the transfer of technology to the poultry entrepreneures ? How it is different than the transfer of technology to the dairy farmers ? **10**

P.T.O.

Marks

SECTION - A

2. (a) Describe the structure of respiratory centre illustratively. How change in blood concentration of O_2, CO_2 and H^+ ion regulate respiration ? **15**

(b) Describe the functions of basic types of circuits found in central nervous system. **10**

(c) Define stress and its types. What are the physiological changes associated with heat stress ? How global warming may affect the productivity of indigenous breeds of cattle ? **15**

3. (a) Compare the anatomy and physiology of digestive system of poultry and cattle. **15**

(b) Describe the different stages of growth of embroys in cows. **10**

(c) Discuss the role of various hormones involved in maintaining the lactation in cows. **15**

SECTION - B

4. (a) Discuss the methods of estimation of heritability. Differentiate between heritability and repeatability. **15**

(b) Discuss different methods of out breeding along with current breeding policy for cattle in India. **10**

(c) Define chromosome and chromosome complements. Discuss main anomalies found in farm animals. **15**

5. (a) Describe the methods of estimating heritability with reference to their effectiveness and precision. How the heritability of different traits can help in improving the productivity of livestock ? **15**

(b) Write down the criterion for the selection of breeding animals. **10**

(c) Describe chromosomal aberrations and their effect on fertility of dairy animals. **15**

Marks

SECTION - C

6. (a) What are the management practices for new born calves ? How the cost of feeding can be reduced till the functioning of rumen ? **10**

(b) Elaborate the contribution of livestock in national economy and how their contribution can be enhanced ? **10**

(c) What are the Zinc deficiency symptoms and how it affects vitamin A metabolism ? **10**

(d) Discuss the mechanism of action of growth promoting agents for enhancing the energetic efficiency and nitrogen retention in dairy animals. **10**

7. (a) What are the different methods of feed formulation ? What should be the composition and nutritive value of broiler starter feed ? **10**

(b) What factors to be considered for the housing of animals ? Recommend the housing system for crossbred cows in semi-arid zone of the country. **10**

(c) How NPN can be utilized in ruminants as a source of protein ? What are the factors affecting NPN utilization ? **10**

(d) Define feed additive. What should be their characteristics ? Describe the scope of phytase in poultry feed. **10**

SECTION - D

8. (a) Define homogenization, pasteurization and sterilization of milk. Narrate briefly the principles involved in HTST and holder method of pasteurization. **15**

(b) Discuss the use of slaughter house wastes and constraints in their utilization. **10**

(c) Highlight the codex Alimentarius official standards and their role in international trade for edible animal products. **15**

P.T.O.

Marks

9. (a) Compare the carcass yield from various livestock species. How it can be improved ? Describe the factors affecting the carcass characteristics. **15**

(b) What precautions should be taken during slaughtering the animals ? Which sample should be taken for judging the quality of meat ? **10**

(c) Define HACCP. Discuss its relevance in relation to production, processing and marketing the wholesome meat. **15**

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