

2010

ANIMAL HUSBANDRY AND VETERINARY SCIENCE - I (Optional)**Standard : Degree****Total Marks : 200****Nature : Conventional (Essay) type****Duration : 3 Hours****Note :**

- (1) *Answers must be written in English .*
- (2) *Question No. 1 is **Compulsory**. Of the remaining questions, attempt **any Four** selecting one question from **each** section.*
- (3) *Figures to the **RIGHT** indicate marks of the respective question.*
- (4) *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.*
- (5) *Credit will be given for orderly, concise and effective writing.*
- (6) *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.*
- (7) *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) What are co-factors and co-enzymes? Describe the role of co-enzymes in metabolism along with examples. **10**
- (b) Describe the management and breeding strategies for conservation and development of native breeds of India. **10**
- (c) Discuss about feeding of ruminants during natural calamities. **10**
- (d) What do you mean by extension methods? Discuss various extension methods for transfer of animal husbandry technology. How A.V. aids are important in transfer of technology? **10**
- (e) What is programme planning? How you can identify a problem related to animal husbandry? Discuss various steps for planning and execution of animal husbandry programme for rural development? **10**

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SECTION - A

2. *Answer the following sub-questions :*

- (a) Enumerate the openings in the right atrium of heart. How will you differentiate the right and left ventricles ? How the digestive system and digestion in birds differ from mammals ? **15**
- (b) What is reflex arc and reflex action? Name various spinal reflexes. Explain withdrawal reflexes and cross extensor reflexes. **10**
- (c) Enlist the numbers of mammary glands in cow, mare, bitch and sow along with their teat canals. Describe in brief the duct system of mammary glands of cow. How the digestion of carbohydrates and protein differ in ruminants and non-ruminants. **15**

3. *Answer the following sub-questions :*

- (a) Enumerate cartilages of larynx in ox. Enlist the openings present in pharynx of cow. How the respiration and respiratory system of birds differ from mammals. **15**
- (b) Define synapse and its structure. Explain properties of synapse. Name various methods of synaptic transmission. Explain chemical transmission of synapse. **10**
- (c) Explain various environmental effects on growth in domestic animals. How the digestion of carbohydrates and protein differ in cow and horse. **15**

SECTION - B

4. *Answer the following sub-questions :*

- (a) What is Hardy- Weinberg equilibrium? What are the conditions necessary for the maintenance of this equilibrium in any population? Give its proof along with application in animal breeding. **15**
- (b) Define heterosis and give examples where it has been used to advantage in livestock production and farming operations. Define grading and top-crossing. **10**
- (c) Describe the different chromosomal abnormalities and their effects in farm animals. Define karyotype and the steps for construction of karyotype in cytogenetics. **15**

5. *Answer the following sub-questions :*

- (a) What is meant by the term "heritability estimate"? Differentiate between broad sense heritability Vs narrow sense one. Describe the variance method of its estimation. **15**
- (b) Define in-breeding and its genetic effects in the population. Define selection differential as well as generation interval. **10**
- (c) Describe the different basis of the classification of chromosomes in eucaryotes. Give the chromosome catalogue of cattle and buffalo. Compare euploidy with anaploidy. **15**

SECTION - C

6. *Answer the following sub-questions :*

- (a) Name the high yielding Indian breeds of cattle, buffalo and goat with their origin and important characteristics. **10**
- (b) What do you know about clean milk production? Explain in detail. **10**
- (c) Discuss soil-plant-animal relationship of minerals **10**
- (d) What do you understand by feed additives? Discuss the use of antibiotics and probiotics in poultry feeding. **10**

7. *Answer the following sub-questions :*

- (a) Write in detail about the management of lactating buffaloes. **10**
- (b) Describe different housing system of poultry. **10**
- (c) How minerals are classified? Discuss general functions of minerals in animal body. **10**
- (d) What is balanced ration? Discuss different steps of computation of ration for livestock. **10**

SECTION - D

8. *Answer the following sub-questions :*

- (a) Explain in detail different methods of preservation of meat, milk and their products. 15
- (b) Elucidate the methods of slaughter of animals and birds 10
- (c) Discuss the role of different international agencies involved in quality standards of animal products. 15

9. *Answer the following sub-questions :*

- (a) Discuss the composition and nutritive value of meat, milk and eggs. 15
- (b) Explain the utilization of slaughter house by products 10
- (c) Explain national agencies and acts related to quality export of animal products. 15

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