BIV

2007 100060

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) "Citric acid cycle is the central metabolic cycle in which synthesis and degradation of all three kinds of biomolecules of energy metabolism viz. carbohydrate, protein and lipids occurs". Explain the statement by giving atleast one example for each process. **10**

(b) Discuss the cattle and buffalo breeding policy at national level. What is the importance of conservation of indigenous breed of livestock ? **10**

(c) Mention importance and uses of continuous availability of portable water. Explain importance of sanitation at farm for optimum production. **10**

(d) What do you mean by veterinary extension education ? Write briefly on its scope and role in livestock development. **10**

(e) Discuss in brief, major dairy development programmes and rural development programmes that have been launched in India along with the constraints in their development and execution. **10**

P.T.O.

Marks

SECTION - A

2. *Answer the following sub-questions :*

(a) Write down about different parts of female and male reproductive system. Briefly describe path of spermatoza from production site upto ejaculation point or glans penis. **15**

(b) Discuss briefly the functions of different structures of mammalian eye. Explain accommodation of vision. **10**

(c) Discuss the role of bile in the digestion and absorption of lipids. What is significance of enterohepatic circulation of bile salts. **15**

3. *Answer the following sub-questions :*

(a) Write down different joints of fore and hind limbs with brief description of bone involved in formation of each joint of fore limb. **15**

(b) Discuss the embryological changes occurring between fertilization and implantation in cow. **10**

(c) Describe the physiological changes in dairy cow when it is exposed to heat stress. Discuss the adaptational measures against heat load. **15**

SECTION - B

4. *Answer the following sub-questions :*

(a) What are the different genetic parameters ? Explain briefly each of them and write their utility in livestock breeding. **15**

(b) What are the different systems of mating in livestock ? Explain about inbreeding with its merits and demerits. **10**

(c) Explain different types of chromosomal aberrations. How do they affect the fertility of dairy animals ? **15**

Marks

5. *Answer the following sub-questions :*

(a) Define Hardy-Weinberg law. What are the applications of Hardy-Weinberg law ? How the gametic phase equilibrium can be approached when there is more than one locus ? **15**

(b) What are the different basis of selection of breeding animals ? Write the factors affecting response to selection. **10**

(c) What do you understand by cytogenetics ? Describe in details the formation of male and female gamets in cattle. **15**

SECTION - C

6. *Answer the following sub-questions :*

(a) Write in brief of various exotic breeds of cattle which have been used in India for improvement. **10**

(b) Sketch a layout of byre to house 40 lactating Holstein Fresion cows under semi-arid zone of Indian Sub-continent. **10**

(c) Describe the digestion and utilization of protein and nonprotein nitrogen (NPN) in the rumen of ruminants along with urea formation in liver. **10**

(d) What is the importance of non-conventional feeds ? Write briefly non-conventional feeds used in livestock feeding. **10**

7. *Answer the following sub-questions :*

(a) Mention step-wise care and management of 20 Murrah buffaloes within 7 days of their terminal gestation period. **10**

(b) Describe population dynamics of small ruminants in India in respect of National Economy. **10**

(c) Describe functions and deficiency symptoms of phosphorus, zinc and copper in livestock. **10**

(d) Describe the use of feed additions in poultry feeding. **10**

P.T.O.

Marks

SECTION - D

8. *Answer the following sub-questions :*

(a) Compare and contrast the nutritive valve of milk, meat and chicken egg. **15**

(b) Discuss in detail the slaughter and dressing of sheep/goat with the help of flow chart indicating the stages where loss of control could lead to contamination/ deterioration in quality of meat. **10**

(c) What is 'Codex Alimentarius' ? Discuss the role/functions of 'Codex Alimentarius' in global food trade under WTO regime. **15**

9. *Answer the following sub-questions :*

(a) Discuss in detail the commercially successful and commonly used methods of preservation of milk, meat and egg separately. **15**

(b) Discuss the significance of proper utilization of slaughter house by-products. Classify the slaughter house by-products and write their potential uses. **10**

(c) Discuss the role of various Government Agencies in India to improve the hygienic quality of meat. **15**

- o O o -