

ANIMAL HUSBANDRY AND VETERINARY SCIENCE
(Paper I)

Time Allowed : Three Hours

Maximum Marks : 300

QUESTION PAPER SPECIFIC INSTRUCTIONS

(Please read each of the following instructions carefully before attempting questions)

There are EIGHT questions divided in two Sections.

Candidate has to attempt FIVE questions in all.

Question Nos. 1 and 5 are compulsory and out of the remaining, any THREE are to be attempted choosing at least ONE question from each Section.

The number of marks carried by a question/part is indicated against it.

Wherever any assumptions are made for answering a question, they must be clearly indicated.

Word limit in questions, wherever specified, should be adhered to.

SECTION 'A'

1. Write short notes on the following in about 150 words each:— **12×5=60**
- (a) Genetic Drift.
 - (b) Physiological functions and deficiency symptoms of Vit. D in young animals.
 - (c) Balanced ration and its characteristics.
 - (d) Role of kidney in acid-base balance in body.
 - (e) Neurohormonal theory of milk ejection in bovines.
2. (a) Write in brief about cardiac cycle. **10**
- (b) Discuss in brief the nervous and chemical regulation of heart. **15**
- (c) Discuss effect of temperature and stress on heart and blood pressure. **15**
- (d) Discuss Endocrine control of initiation of lactation in farm animals. **20**
3. (a) What do you mean by direct and indirect calorimetry? Describe the carbon-nitrogen balance method for estimation of heat production in animal body. **25**
- (b) Enlist various systems for expressing the energy value of feeds in ruminants. **10**
- (c) Discuss in brief about the total digestible nutrients system and give its demerits. **25**
4. (a) In reference to semen preservation, what is 'cold shock' and how it is prevented? **15**
- (b) Discuss factors that effect conception rate in AI programme. **20**
- (c) Describe steps in handling of frozen semen for AI. **25**

SECTION 'B'

5. Write short notes on the following in about 150 words each:— **12×5=60**
- (a) Production of synthetic population.
 - (b) Feeding of pigs for lean meat production.
 - (c) Inter-relationship amongst calcium, phosphorus and Vit. D.
 - (d) Biochemical tests for urinary dysfunctions.
 - (e) Extension of bovine semen for AI.

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| 6. | (a) | Explain the circumstances wherein crossing system in animal production is used. Describe the types of crossing and compare different forms of regular crossing in terms of heterosis. | 40 |
| | (b) | What calls for the use of information from relatives for selection of breeders? Discuss and differentiate the family selection and within family selection schemes. | 20 |
| 7. | (a) | Write in brief about objectives, concept, principles and philosophy of extension in animal husbandry practices. | 30 |
| | (b) | Discuss recent trends in feeding of calf from birth to three month age. | 20 |
| | (c) | Write in brief factors determining the efficiency of dairy cows. | 10 |
| 8. | (a) | Discuss the mode of action and inactivation/detoxification methods of protease inhibitors and cynogenetic glycosides present in feeds and fodder. | 20 |
| | (b) | Discuss functions and deficiency symptoms of Vit. E in poultry. | 20 |
| | (c) | Give the crude protein and metabolisable energy requirements for broiler starter, broiler finisher, chick starter, chick grower and layers as per BIS recommendations. | 20 |