

2021

ANIMAL HUSBANDRY AND VETERINARY SCIENCE

PAPER-I

Time Allowed — 3 Hours

Full Marks — 200

If the questions attempted are in excess of the prescribed number, only the questions attempted first up to the prescribed number shall be valued and the remaining ones ignored.

Answer may be given either in **English** or in **Bengali** but all answers must be in one and same language.

**Group-A**

Answer any three questions.

1. (a) What is silage? What factors to be considered during silage making? What are the characteristics of good silage? Write the principle of fermentation in silo. 2+5+2+6=15  
(b) What is TDN? What are the factors affecting TDN value of feed? Write merits and limitations of TDN. What do you mean by Kellner's Starch Equivalent (SE)? 2+4+4+5=15  
(c) What is balanced ration? What is maintenance ration? Write the characteristic of balanced ration. 2+2+6=10
2. (a) Write down the different techniques for the diagnosis of bovine pregnancy. What are the limiting factors for success of embryo transfer under field condition? 6+6=12  
(b) Classify anoestrus. How will you treat a case of true anoestrus? Enumerate the causes, diagnosis and therapeutic management of repeat breeder cows. 2+6+8=16  
(c) Enumerate the differential points between estrous cycle of bovine and canine. How to diagnose uterine torsion in bovine? 6+6=12
3. (a) Define Genetics. Mention Mendel's laws of inheritance. What are the different cases of modified Mendelian inheritances? Discuss with suitable examples. 2+5+8=15  
(b) What is Selection? Mention different methods of selection. What is response to selection and what are the factors affecting it? 2+9+4=15  
(c) Write down the classification of mating systems. Discuss in brief, about different forms of outbreeding. 3+7=10
4. (a) What is adulterant milk and describe the different adulterant used in milk and milk products. 10  
(b) What is CIP and describe its important roles in modern dairy processing plant. 10

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Please Turn Over

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- (c) Describe the FSSAI guidelines on FSMS compliance for meat and meat products. 10
- (d) What are the different elements for hygienic meat production and what is the role of a Veterinarian for clean meat production? 10
5. (a) Write in details, about methods of Animal identification with their advantages and disadvantages. 15
- (b) Write importance of agro-forestry in fodder production. Why the Lucerne is termed as 'Queen of forages'? Write in details, about agronomic practices of Lucerne crop. 7+2+6=15
- (c) What are the preliminary cares of the calf after parturition? Write in details, about farrowing management. 5+5=10

### Group-B

6. Answer *any four* (4) of the following: 10×4=40
- (a) Describe the Roughage processing method.
- (b) Factors affecting the puberty and sexual maturity in bull.
- (c) Discuss in details, about different chromosomal aberrations with suitable examples.
- (d) Write the principle of egg preservation and describe the different preservative methods of egg and egg products.
- (e) Organic livestock production system ensures better animal welfare — Justify.
- (f) Discuss in brief, about different livestock development programmes during pre and post independence period of India.
7. Write briefly on *any five* (5) of the following: 8×5=40
- (a) Write classification of minerals and its role in livestock.
- (b) Causes of infertility and its therapeutic management in bovines.
- (c) Define meiosis and discuss in details about the different stages of meiosis.
- (d) What is artificial egg and how to differentiate the artificial egg and natural eggs?
- (e) Write about the different types of housing system of cattle.
- (f) Define Sociology and discuss about different rural institutions in the context of Indian social system.
- (g) Discuss about the different steps to be followed while formulating programme planning in livestock development.

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