

2019

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.

Answers may be written either in **English** or in **Bengali** but all answers must be in one and the same language.

Group-A

Answer any three questions.

40×3=120

1. (a) Describe salient contribution of Mendel's Principles of Inheritance. Briefly discuss the Mendel law of Independent Assortment with suitable example. How do you view the contribution of G.J. Mendel in understanding the mechanism of Inheritance? 15
- (b) What are the most available dry fodder in India? What are the main limitations of these fodder for animal feeding? Describe how these fodder need to be treated to overcome some of these constraints with most suitable technologies for Indian situation. 15
- (c) Write, in details, the factors causing infertility in bull. 10
2. (a) Classify goat zoologically. Name indigenous goat breeds available in different agro-climatic zones. Write percentage of increase of goat population in different livestock census. Describe, in details, about best goat breed of India. 15
- (b) What is artificial egg and how to differentiate the artificial egg and natural egg? 10
- (c) Define sociology. Describe the history of man-animal relationship in terms of their association and interaction for the development of society. 15
3. (a) What is CIP? Describe its important role in modern dairy processing plant. 15
- (b) Name the method of hand milking. Prepare a flowchart of milking method. Draw lactation curve. What are the different factors affecting quality of production? Write elaborately. 15
- (c) What is genetic engineering? What are the two main discoveries which led the birth of this field of molecular Genetics? Discuss its application in livestock improvement programmes with special references to immunogenetics and cloning of embryos. 10
4. (a) How cross breeding is useful in increasing the milk production in our country? Draw the cross breeding plans with exotic breeds adopted by AICRP for dairy cattle. 15
- (b) Describe different energy evaluation system for livestock animals. How will these energy evaluation system be adopted for determination of energy requirements of animals of different physiological stages? 15
- (c) What is adulterated milk and describe the different adulterant used in milk and milk products. 10

Group-B

Answer any two questions.

40×2=80

1. (a) What is extension education? What are the basic philosophies of extension education? Discuss the principles of extension education. 15
- (b) What are the benefits and disadvantages of using antibiotic growth promoters in poultry feeding? What are the different options to improve productivity in poultry industries, if antimicrobial feed additives are restricted in India? Write, in details, of these options with mechanisms and limitations. 15
- (c) Classify forage crops based life span/growth cycle based on seasons. Write, in details, about agronomic practices of Sorghum. 10
2. (a) Define inbreeding. Briefly describe the consequences and measurements of inbreeding in Animal Breeding experiences. Calculate inbreeding coefficient of an individual produced by a dam mated to its son. 15
- (b) What are the different elements for hygienic meat production and what is the role of a veterinarian for clean meat production. 15
- (c) Draw a flow diagram of hatchery operation. What are the types of incubator for artificial incubation? Write the environments in setter and hatcher for incubation. 10
3. (a) What are the methods for determination of proximate principles in feeds and their limitation? What are the advantages of Van Soest method of feed analysis? What are the advantages and disadvantages of NIRS for estimating chemical composition and nutritive values of feeds? 15
- (b) Describe Hardy-Weinberg law. Proof Hardy-Weinberg Equilibrium frequencies are approached by single generation of random mating irrespective of the genotype frequencies in the parent generation. Describe practical importance of H-W law in livestock improvement programme. 15
- (c) Write, in details, preservation of semen and artificial insemination in cow. 10

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