Civil Services (Main) Examination, 2014

ANIMAL HUSBANDRY AND VETERINARY SCIENCE

(Paper I)

Time Allowed : Three Hours **Maximum Marks : 250**

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.
Attempts of questions shall be counted in sequential order. Unless struck off, attempt of a question shall be counted even if attempted partly. Any page or portion of the page left blank in the Question-cum-Answer Booklet must be clearly struck off.

SECTION 'A'

1. (a) Describe the estrus behaviour, fertilization and early embryonic development in lactating buffalo during summer months. **10**

(b) Elaborate the role of nervous system in co-ordinating an animal's response to environment. **10**

(c) Why Vitamin-A is important for animal body? What are the deficiency symptoms of Vit.-A in animals? **10**

(d) Discuss the importance and process of capacitation of spermatozoa. **10**

(e) Selection of Breeding bulls is an important aspect in breeding. Discuss the criteria for selection. **10**

2. (a) Describe expected impacts, adaptation and mitigation strategies in livestock to global warming. **15**

(b) Define silage. Discuss the important methods of preparing silage. What are the important crops used for silage making? **20**

(c) Describe the process of blood circulation. What are the various factors that influence coagulation process in animal system? **15**

3. (a) Define probiotics. Enlist important micro-organisms which are used as probiotics and also discuss the characteristics of good probiotics. **15**

(b) Discuss the role of biotechnology in genetic improvement of dairy animals. State the steps involved in embryo transfer technology and its application. **25**

(c) How do cows exchange gases and acquire energy? **10**

4. (a) Discuss adaptive responses of acclimated cattle to high ambient temperature and relative humidity, emphasizing its effects on metabolism, acid-base homeostasis and hormonal balance of the body. **25**

(b) Differentiate between the following: (i) Crude Protein Vs. Digestible Crude Protein (ii) Water soluble vitamins Vs. Fat soluble vitamins (iii) Roughages Vs. Concentrates (iv) Maintenance ration Vs. Production ration (v) Metabolic energy Vs. Net energy. **15**

(c) What is repeat breeding syndrome in bovines? Enlist the causes of repeat breeding. **10**

SECTION 'B'

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5. **(a)** Dairy industries in advanced countries are more mechanised and systematic than in India. Explain with reasons and remedies. **10**

(b) What are the important genetic parameters? Explain the role of heritability in Animal Breeding along with its advantages. **10**

(c) What do you mean by segregation distortion? Explain its importance in mice. **10**

(d) How qualitative traits differ from quantitative traits? Explain with examples. **10**

(e) Why transfer technology is an important factor to bring an improvement in Animal Husbandry sector? Discuss its constraints. **10**

6. **(a)** Explain how the changes of gene frequencies under selection be calculated at different level of dominance. **15**

(b) Explain the mode of feeding and management practices of young piglets particularly for piglet anaemia and piglet diarrhoea. **20**

(c) Define selection. Enumerate the factors which are responsible for choosing traits for selection. Discuss in brief. **15**

7. **(a)** Variation is the raw material of organic evolution–Defend the statement. **15**

(b) Discuss the functions of Extension teaching methods. What are the factors affecting the use and choice of the channels? **15**

(c) What is inbreeding? How do you produce inbred lines? How can inbred lines be exploited for commercial production? Explain. **20**

8. **(a)** Animal Husbandry practices is considered to be the major economic backbone of poor rural farmers in India–Justify the statement. **15**

(b) Explain the following in brief: (i) In two way crossbreeding, a higher degree of heterosis is obtained in F_1 generation. (ii) Describe the estimates of heritability by full sib method along with its merits and demerits. **20**

(c) In Indian rural conditions why dairying under mixed farming is economically more viable than dairying under specialised farming? Discuss. **15**

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