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 and printed both in HINDI and in ENGLISH.

Candidate has to attempt FIVE questions in all.

Question Nos. 1 and 5 are compulsory and out of the remaining, 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.

Answers must be written in the medium authorized in the Admission Certificate which must be stated clearly on the cover of this Question-cum-Answer (QCA) Booklet in the space provided. No marks will be given for answers written in a medium other than the authorized one.

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.
1. **Answer the following questions in about 150 words each**:

   (a) Describe different types of calorimetry.

   (b) Define AI and mention the advantages and disadvantages of AI.

   (c) Give diagrammatic representation of kidney and narrate its functions.

   (d) Write BIS specifications of nutrient requirements for chicken.

   (e) Mention digestive organs and their role in food digestion in monogastric animals.

2. **Differentiate between the following**:

   (i) Probiotics and Prebiotics

   Probiotics and Prebiotics

   (ii) Fatty liver and kidney syndrome (FLKS) and Fatty liver and haemorrhagic syndrome (FLHS)

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   (iii) Protein efficiency ratio and Net protein utilization

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   (iv) Green fodder and Straws

   Green fodder and Straws

   (v) Metabolic faecal nitrogen and Endogenous urinary nitrogen

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   (b) **Write in brief on the following**:

   (i) Nutrient-parasite interrelationship

   Nutrient-parasite interrelationship

   (ii) The role of vitamin D in calcium absorption

   The role of vitamin D in calcium absorption

   (iii) Feeding schedule for breeding bulls

   Feeding schedule for breeding bulls
(iv) रक्त का मस्तिष्क में अवशोष

Blood-brain barrier

(v) कृत्रिम चक्र

Growth curve

(c) गायों में प्रजनन आवश्यकताओं के कारण और उनके प्रभाव के बारे में लिखिए।

Write the causes and management of repeat breeding cases in cows. 10

3. (a) पशुओं में विटामिन A की रासायनिक प्रकृति, शारीरिक क्रियाओं और उसके अभाव के कारण होने वाले रोग-लक्षणों के बारे में लिखिए।

Write the chemical nature, physiological functions and deficiency symptoms of vitamin A in animals. 10

(b) पशुओं के रोग-निदान के लिए उपयोगी विभिन्न प्रकार के रक्त-संबंधी जैव रासायनिक परीक्षणों का उद्देश्य कीजिए।

Mention different haematobiochemical tests in relation to disease diagnosis in animals. 20

(c) घरेलू जानवरों के स्थिरता बीमारी के भौतिक-रासायनिक गुणधर्मों के बारे में लिखिए।

Write the physicochemical properties of ejaculated semen in domestic animals. 10

(d) पशुओं के पानी के पानी की आक्सीजनात्मकताओं को प्रभावित करने वाले कारकों को किस्मात-पूर्वक लिखिए।

Write in detail the factors affecting water requirements of animals. 10

4. (a) संभवतः राशि को परीक्षित कीजिए। राशि की अभाव हिंसात्मक लिखिए।

Define balanced ration. Write desirable characteristics of ration. 15

(b) आहार की प्रजननता को प्रभावित करने वाले कारकों की विवेचना कीजिए।

Discuss the factors affecting digestibility of feeds. 15

(c) विभिन्न प्रकार के धातुवायु एन-जाइड्रोजन में उनके कार्य का उद्देश्य कीजिए।

Mention different metalloenzymes and their functions in livestock. 10

(d) जानवरों में स्रोत (ईस्ट्रुस) पता लगाने के विभिन्न तरीकों की विवेचना कीजिए।

Discuss different methods of oestrus detection in animals. 10

खण्ड—B / SECTION—B

5. निम्नलिखित प्रश्नों का उत्तर लगभग 150 शब्दों में दीजिए:

Answer the following questions in about 150 words each: 10×5=50

(a) राइबोसोमल आर० एण्ड० एण्ड० की संचना और कार्य के बारे में लिखिए।

Write about the structure and functions of ribosomal RNA. 10

(b) एकसंकेत संचल (मोनोहाइब्रिड क्रॉस) में स्प्रांतित के-डेटेलीशन अनुपात की उदाहरण सहित विवेचना कीजिए।

Discuss about modified Mendelian ratio in monohybrid cross with examples. 10

(c) बक्सों के धार आहार (स्टोल-फीडिंग) के बारे में एक संक्षिप्त टिप्पणी लिखिए।

Write a short note on stall-feeding of goats. 10
(d) Write about the advantages and disadvantages of DNA vaccines.
(e) Write in detail about the constraints in transfer of technology to the farmers.

6. (a) Explain sex-linked inheritance and sex-influenced inheritance with suitable example. Explain how systematic processes affect the gene and genotypic frequency? Explain.
(b) Describe the managerial practices to be adopted during the transport of dairy cattle through rail and roads.
(c) How do systematic processes affect the gene and genotypic frequency? Explain.

7. (a) Enumerate the theories of sex determination and explain genic balance theory.
(b) Discuss quarantine measures to be adopted for newly purchased animals.
(c) Discuss the preparation of metaphase chromosome spread through peripheral blood leucocyte culture for chromosome analysis.
(d) What are the modern management practices for enhancing productivity of pig?

8. (a) Write in detail about the components of variance.
(b) Discuss various managerial practices to be adopted to ameliorate heat stress during summer for dairy cattle.
(c) Discuss in detail about different animal husbandry programmes for rural development in India.
(d) Write about breed characteristics of Madras Red Sheep.