**ROYAL CIVIL SERVICE COMMISSION**

**BHUTAN CIVIL SERVICE EXAMINATION (BCSE) 2014**

**EXAMINATION CATEGORY: TECHNICAL**

**PAPER III: SUBJECT SPECIALIZATION PAPER FOR ANIMAL SCIENCE**

**Date : 12th October 2014**

**Total Marks : 100**

**Examination Time : 150 minutes (2.5 hours)**

**Reading Time : 15 Minutes (prior to examination time)**

**GENERAL INSTRUCTIONS:**

1. Write your Roll Number clearly and correctly on the Answer Booklet
2. The first 15 minutes is being provided to check the number of pages of Question paper, printing errors, clarify doubts and to read the instructions. You are NOT permitted to write during this time.
3. This paper consist of two sections, namely SECTION A and SECTION B.
	* SECTION A has two parts: Part I - 30 Multiple-Choice Questions

Part II - 4 Short Answer Questions

All questions under SECTION A are COMPULSORY

* SECTION B consist of two Case Studies. Choose only ONE case study and answer the questions under your choice
1. All answers should be written with correct numbering of Section, Part and Question Number in the Answer Booklet provided to you. Note that any answer written without indicating any or correct Section, Part and Question Number will NOT be evaluated and no marks would be awarded.
2. Begin each Section and Part in a fresh page of the Answer Booklet
3. You are not permitted to tear off any sheet(s) of the Answer Booklet as well as the Question Paper.
4. Use of any other paper including paper for rough work is not permitted
5. You are required to handover the Answer Booklet to the invigilator before leaving the examination hall
6. This paper has 08 printed pages in all, including this instruction page

**GOOD LUCK!**

**SECTION A**

**Part I: Multiple Choice Questions (30 marks)**

**Choose the correct answer and write down the letter of the correct answer chosen in the answer sheet against the question number. E.g. 31(c). Each question carries ONE mark**

1. Which of the following is appropriate for treatment of threatened abortion in female animals?
2. Estrogen
3. Hydroxyprogesterone
4. Prolactin
5. Medroxyprogesterone
6. A phenotype is:
7. Physical appearance
8. Two alleles
9. Double helix
10. Pheromone
11. Which of the following plant is associated with Chronic Obstructive Pulmonary Disease in horses:
12. Eupatorium adenophorum
13. Lantana camara
14. Quercus griffithii
15. Bracken fern
16. The Livestock Act of Kingdom of Bhutan was amended in the year:
17. 1981
18. 1982
19. 2001
20. 2002
21. Willow is sometimes used as a winter fodder. What is the Scientific name of willow?
22. Festuca arundinacea
23. Tripsacum andersonii
24. Quercus semecarpifolia
25. Salix babylonica
26. Which of the following cattle breed has the highest milk yield?
27. Ayrshire
28. Great Dane
29. Holstein Fresian
30. Guernsey
31. What is the genetic composition of a F1 hybrid produced by crossing 87.5% Jersey bull with 62.5% jersey cow?
32. 62.5%
33. 75%
34. 80%
35. 87.5%
36. An important development strategy adopted by the Department of Livestock for 11th FYP is:
37. One Geog Three products
38. Commodity focused program
39. Accelerated Livestock Development program
40. One Geog One product
41. What is the recommended moisture content of the forages to be ensiled?
42. 32%
43. 42%
44. 52%
45. 62%
46. Fish meal is often added in animal feeds. Fish meal is a source of:
47. Carbohydrate
48. Protein
49. Minerals
50. Vitamins
51. Evaluation of a bull's breeding value by the performance of its parents is called?
52. Sib testing
53. Pedigree testing
54. Progeny testing
55. Bull testing
56. The average age of a poultry to start laying eggs:
57. 15 weeks
58. 21 weeks
59. 28 weeks
60. 35 weeks
61. Which of the following best describes a "clutch" in poultry husbandry?
62. A group of eggs laid by hen in a year
63. A group of eggs laid by hen in a single season
64. A group of eggs laid by hen during her life time
65. A group of eggs laid by a hen on consecutive days
66. What is the incubation period of turkey egg?
67. 21 days
68. 28 days
69. 32 days
70. 42 days
71. What is the age of a horse showing dental star as a dark line before the rings of enamel?
72. 3 years
73. 5 years
74. 7 years
75. 9 years
76. What is the suitable breeding age of a gilt?
77. 4 - 5 months
78. 6 - 8 months
79. 10 - 14 months
80. 15 - 18 months
81. An omnivore is an animal that?
82. Only eats meat
83. Only eats plants
84. Only eats protein
85. Eats plant matter and meat
86. Which is not a visible sign of anemia?
87. Weak and listless
88. Constipation
89. Dark colored feces
90. White gums
91. Corn silage, pasture, and hay are examples of what type of feed?
92. Forages
93. Fermenters
94. Roughages
95. Dry matter
96. Which of the following equipment is used to dehorn a newborn calf?
97. Probang
98. Clincher
99. Emasculator
100. Caustic stick
101. A horse has a heart girth of 50 inches and a length of 45 inches. What is its live weight?
102. 311 kg
103. 324 kg
104. 337 kg
105. 341kg
106. A well designed cross breeding in dairy cattle is done to produce:
107. Inbreeding
108. Breed extinction
109. Hybrid vigor
110. Back crossing
111. What is the gestation period in a sow?
112. 105-108days
113. 114-120 days
114. 140-155 days
115. 270-280 days
116. What is the full form of PPR?
117. Peste des Petits Ruminants
118. Peste Petits Ruminants
119. Peste des Petits Reticulitis
120. Peste Petits Reticulitis
121. Which is the most important vitamin for breeding animal?
122. Vitamin B12
123. Vitamin C
124. Vitamin D
125. Vitamin A
126. When is the most appropriate time for insemination of a Jersey cow?
	1. 24- 36 hours after onset of estrus
	2. 12- 24 hours after onset of estrus
	3. 36- 48 hours after onset of estrus
	4. Within 12 hours after onset of estrus
127. What is the seed rate to establish a pasture using standard temperate seed mixture?
	1. 8-8.5 kg/acre
	2. 9-9.5 kg/acre
	3. 10-10.5 kg/acre
	4. 11-11.5 kg/acre
128. Metabolic acidosis results from the excessive ingestion of:
129. Starch-rich grains
130. Fruits
131. Root crops
132. All of the above
133. Oxyclozanide is available as 3.4% w/v oral suspension. If a cow is weighing 204 kg and the dose of oxyclozanide is 10mg/kg body weight, how much oxyclozanide suspension would you give?
	1. 50ml
	2. 55ml
	3. 60ml
	4. 65ml
134. What is the volume of semen in the locally produced semen straw?
135. 0.15ml
136. 0.20ml
137. 0.25ml
138. 0.30ml

**SECTION A**

**Part II: Short questions (Answer all 4 questions) 20 Marks**

1. A recently imported Jersey cow shows symptoms of anorexia, fever, drooling of saliva, vesicle formation on the tongue, dental pad and inter-digital spaces. In relation to the above statement, answer the following questions.

1. Diagnose the disease? (1 marks)
2. What will be the most appropriate sample for laboratory confirmation of the disease? (1 mark)
3. What are possible preventive and control measures for this disease? (3 marks)

2. Farmers in Dolokha are interested to set up a dairy cooperative. Collectively, Dolokha has 25 households and produce approximately 150 litres of milk every day. Dolokha is situated 30kms from the Thimphu - Phuentsholing highway and does not have a road connectivity.

1. What product would you advise for the group and why? (2 marks)
2. How would you assist farmers to form a dairy cooperative? (3 marks)

3. The National Dog Population Management and Rabies Control Program under the Department of Livestock is carrying out dog population control since 2008. Over 50000 dog has been sterilized and vaccinated till date. In relation to above, answer the following questions.

* 1. What is the new strategy adopted by the program to control the dog population at the community level? (1 mark)
	2. What is the full form of CNVR? (1 mark)
	3. What are the difficulties faced in implementing the program at the community level? (3 marks)

4) A farmer intends to set up a poultry layer farm in Metsina under Punakha Dzongkhag. He has enough land and budget to set up layer farm. He intends to buy 2000 day old chicks to start the farm. He approaches you seeking advice on the following issues.

1. Housing: What type of house would you advice? (1 mark)
2. Feed store: Where would you advice the location of the feed store? (1 mark)
3. Vaccination: List the vaccines required during the first ten days? (1 mark)
4. Farm biosecurity: What are the basic requirements? (2 marks)

**SECTION B**

**Choose either Case 1 or Case 2 from this Section. Each Case carries 50 marks. Mark for each sub-question is indicated in the brackets.**

***Case 1:***

Total import of livestock products in 2012 amounted to Nu.1763 million mainly because of inability to produce enough locally. This has resulted in balance of payment deficits and INR crisis. Annual import figures of beef from India stands at 3903 metric tons. The only functional cattle slaughter house in Tsirang meets less than 2% of the national requirement. In relation to the above statement, answer the following questions:

1. List down main constraints faced by the Department in producing enough beef to meet the national requirement? (10 marks)
2. What are the basic requirement to set up a slaughter unit? (10 marks)
3. What immediate strategies would you recommend to meet the beef requirement in the country? (10 marks)
4. Given the limited resources with the Government, what long term strategies would you recommend for beef production? (10 marks)
5. What impact would you foresee in the breeding program? (10 marks)

**OR**

***Case 2:***

Essential Veterinary Drug Program is a centralized procurement and distribution system adopted by the Department of Livestock for veterinary medicines and vaccines. The system is managed by Drugs, Vaccines and Equipment unit under National Centre for Animal Health in Serbithang. Efficient management of the system requires involvement of numerous agencies such as Regional Livestock Development Centres, Dzongkhag Veterinary Hospitals and the Dzongkhags. In relation to the above, answer the following questions

* 1. What is the role of Livestock Central Stores in the system? (10 marks)
	2. What are the functions of National Veterinary Drug Committee? (10 marks)
	3. What is the role of Geog Livestock Extension Centres in the system? (10 marks)
	4. What are the strategies adopted to reduce drug expiry? (10 marks)
	5. Compare the current system of procurement and distribution to that of decentralized system. Justify which of the system is efficient? (10 marks)