

**ROYAL CIVIL SERVICE COMMISSION**  
**BHUTAN CIVIL SERVICE EXAMINATION (BCSE) 2012**  
**EXAMINATION CATEGORY: TECHNICAL**

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

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<b>Date</b>	: 14 October 2012
<b>Total Marks</b>	: 100
<b>Examination Time</b>	: 150 minutes (2.5 hours)
<b>Reading Time</b>	: 15 Minutes (prior to examination time)

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**READ THE FOLLOWING INSTRUCTIONS CAREFULLY:**

1. Write your Roll Number clearly on the Answer Booklet in the space provided.
2. The first 15 minutes is being provided to check the number of pages, printing errors, clarify doubts and to read the instructions. You are NOT PERMITTED TO WRITE during this time.
3. Use either Blue or Black ink pen or ball point pen for the written part and Pencils for the sketches and drawings.
4. All answers should be written on the Answer Booklet provided. Candidates are not allowed to write anything on the question paper or any other materials.
5. This paper is divided into two Parts-namely Part A and Part B.
6. PART A consists of two Sections: Section I and Section II.

Section I consists of 30 Multiple-Choice Questions carrying one (1) mark each and is compulsory. The answer of your choice should be clearly written in whole along with the question and option number on your answer booklet. Eg. 31(c).

Section II consists of four (4) short answer questions of five (5) marks each and all questions are compulsory.

7. PART B consists of two Case Studies. Choose only ONE case study and answer the questions under your choice. Each case study carries fifty (50) marks in total.
8. This Paper consists of NINE (9) pages including this Instruction page.

## Part A

### Section 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. The technology that the Department of Livestock is currently promoting to optimize the use of livestock waste, minimize green house gas emission and generate energy is:
  - a. Solar power
  - b. Biogas
  - c. Wind mill
  - d. Biomass
  
2. In July 2012, the Ministry of Agriculture and Forests has issued an executive order prohibiting battery cage poultry rearing in Bhutan because:
  - a. It is an unknown technology in Bhutan
  - b. It is not acceptable in terms of animal welfare
  - c. It is difficult to implement bio-security measures
  - d. It reduces egg and chicken production
  
3. The principle exotic dairy cattle breeds promoted in Bhutan are:
  - a. Mithun and Jaba
  - b. Holstein Friesian and Tarentaise
  - c. Jersey and Brown Swiss
  - d. Sahiwal and Red Sindhi
  
4. One of following breed of horse was imported to Bhutan for coronation ceremony in 2008:
  - a. Spiti
  - b. Hequ
  - c. Thoroughbred
  - d. Haflinger
  
5. The current brown egg layer poultry breed in Bhutan is:
  - a. White leghorn
  - b. Hyline
  - c. Australop
  - d. Plymouth Rock

6. Which of the following specific poultry was recently introduced to Bhutan from Thailand:
- Duck
  - Rhode Island Red
  - White Leghorn
  - Turkey
7. Swine flu (H1N1) is spread through:
- Eating of un-cooked pork
  - Respiratory air droplets
  - Blood transmission
  - Biting of fleas
8. An exotic bee species reared for honey production by the Bee Keepers Association of Bhutan based in Bumthang is:
- Apis cerena*
  - Apis mellifera*
  - Apis dorsata*
  - Apis laboriosa*
9. The improved pasture seed mixture for temperate regions of Bhutan consists of:
- Italian rye, Tall fescue, Cocks foot and White clover
  - Ruzi, Paspalum, Molasses and Stylo
  - Hybrid Napier, Gautemala, Lucerne, Kikyu
  - Green leaf desmodium, Silver leaf desmodium and Fodder peanut
10. Under which of the following systems is the Department of Livestock planning to introduce payment for environmental services (PES) in Bhutan:
- High altitude rangelands systems
  - Integrated crop-livestock systems
  - Fodder in integrated systems
  - Agro-forestry systems

11. A popular fodder tree grown by the Bhutanese farmers near their houses, along the fences and border of crop land in the subtropical belts of Bhutan is:

- a. Willow tree
- b. *Leucaena leucocephala*
- c. *Ficus roxburghi*
- d. Oak tree

12. A typical symptom of bracken fern poisoning in cattle is:

- a. Chronic haematuria
- b. Bloody diarrhoea
- c. Tympany
- d. Continuous salivation

13. Average length of estrus cycle in cow is:

- a. 15 days
- b. 21 days
- c. 26 days
- d. 30 days

14. One of the main ingredients in the universal antidote is:

- a. Activated charcoal
- b. Calcium hydroxide
- c. Magnesium sulfate
- d. Sodium bicarbonate

15. An average gestation period and lactation length of a cow is:

- a. 200 days and 300 days
- b. 285 days and 305 days
- c. 350 days and 280 days
- d. 400 days and 500 days

16. An incubation period of chicken is:

- a. 18 days
- b. 21 days
- c. 25 days
- d. 28 days

17. One of the following fish species is not reared in the National Centre for Aquaculture, Gelephu:

- a. Common carp
- b. Grass carp
- c. Brown trout
- d. Rohu

18. The exotic pig breeds currently used for pig production in Bhutan are:

- a. Tamworth, Pietrain and Hereford
- b. Large black, Saddle back and Duroc
- c. Hampshire, Meishan and Landrace
- d. Berkshire, Cantonese and Chester White

19. The main justification for conservation of indigenous domestic animal genetic resources in Bhutan is:

- a. They are high producers
- b. They are adapted to local climate and requires low input
- c. They are highly preferred by farmers
- d. They are expensive

20. An intermediate host of *Fasciola hepatica* causing Fascioliasis in cattle is:

- a. House fly
- b. Water snail
- c. Mosquito
- d. Tick

