

**ROYAL CIVIL SERVICE COMMISSION  
BHUTAN CIVIL SERVICE EXAMINATION (BCSE) 2010  
EXAMINATION CATEGORY: TECHNICAL**

**PAPER III: SUBJECT SPECIALIZATION PAPER for B.V.Sc. & AH**

**Date** : 24<sup>th</sup> November 2010  
**Total Marks** : 100  
**Examination Time** : 2.5 hours  
**Reading Time** : 15 Minutes (prior to examination time)

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**INSTRUCTIONS TO THE EXAMINEE**

Please read the following instructions carefully before writing the answers.

1. 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.
2. All answers must be written on the Answer Sheet provided separately including multiple choice answers. Candidates are not allowed to write anything on the question paper.
3. Write your Roll Number clearly on the answer booklet in the space provided.
4. Use either Blue or Black ink pen or ball point pen for written part and H.B. Pencils for the sketches and drawings.
5. This Question Booklet consists of **10 pages** including the instructions to the examinee page. It is divided into two sections – SECTION A and SECTION B. Each section carries 50 marks each.
6. SECTION A is further divided into two parts:
  - a) *Part I – Multiple Choice (30 questions)*
  - b) *Part II – Short questions (4 questions)*

Each multiple choice question carries (1) mark each and short question carries (5) marks each. All questions in SECTION A are **Compulsory**.

7. SECTION B consists of 2 case studies out of which you are required to attempt only one as per your choice. Each question carries equal marks.

## SECTION A

### a) *PART I: Multiple Choice Questions*

**30 Marks**

1. A clinical sign indicating the onset of a disease:
  - a. Fever
  - b. Prodrome
  - c. Prognosis
  - d. Diagnosis
  
2. *Dirofilaria immitis* is found in which animals?
  - a. Dogs and Cats only
  - b. Ferrets, Foxes and Wolves
  - c. Horses and Sea lions
  - d. All above animals
  
3. Where do you find renal calculi?
  - a. Intervertebral space
  - b. Urinary bladder
  - c. Gall bladder
  - d. Kidney
  
4. The animal cases of Influenza type A H1N1 virus was isolated first from which animal?
  - a. A pig
  - b. Turkeys
  - c. Ferrets
  - d. A Cat
  
5. What are the functions of Pancreas?
  - a. Endocrine
  - b. Exocrine
  - c. Endocrine and Exocrine
  - d. Neither endocrine or exocrine
  
6. The term *pathognomonic* refers to:
  - a. A mental trick to remember things
  - b. Diagnostic lesion or symptom
  - c. Pathology of lungs or Pleura
  - d. A pathology term that cannot be defined

7. *Pyrethrin* is a plant extract that can be used to kill fleas. What plant is it an extract of?
- Hemlock
  - Chrysanthemum
  - Flea Bane
  - Echinacea
8. What is the principle function of glycosaminoglycans (GAGs) in the body:
- Enhance uptake of Vit. E
  - Control free radical
  - Hold connective tissue together
  - Synovial membrane nutrition
9. A high level of glycosaminoglycans helps the body hold more WHAT to increase the flexibility, cushioning, and resiliency of joints?
- Vitamins
  - Amino sugars
  - Water
  - Fatty acids
10. Acute renal (kidney) failure as a result of Ethylene Glycol toxicity usually occurs how long after ingestion in the Dog?
- 12 - 24 hours after ingestion
  - 36 - 72 hours after ingestion
  - 5 days after ingestion
  - This rarely, if ever, happens in the cat
11. The supporting cells of the central nervous system, made up of astrocytes, oligodendrocytes and microglia is:
- Glia
  - Glioma
  - Glioblast
  - Gliacyst
12. Ringworm is the common name for which of the following?
- Dermatomyiasis
  - Dermatofibrosis
  - Dermatophytosis
  - Dermatochalis

13. Idiopathic Epilepsy is caused by What?

- a. Some poisons
- b. Previous head trauma
- c. Viral or bacterial infection
- d. The cause is unknown

14. Which of the following is an apatite urolith:

- a. Cystine urolith
- b. Clover urolith
- c. Oxalate urolith
- d. Calcium phosphate urolith

15. Dopamine is an agent that can be used to enhance urine production. Which of the following actions are not seen as a result of administering this drug?

- a. Decreased Cellular Edema
- b. Increased renal blood flow
- c. Increased Natriuresis
- d. Increased Glomerular Filtration rate

16. Which type of hypersensitivity involves sensitized T lymphocytes that react with cell bound or associated antigen and release lymphokines, causing mononuclear cell accumulation, tissue damage and inflammation, typically manifesting at least 24 hours after exposure to antigen:

- a. Type I
- b. Type II
- c. Type III
- d. Type IV

17. A diagnosis made by examining the urine:

- a. Urocrisia
- b. Uroclepsia
- c. Urodynamics
- d. Urochezia

18. A hormone secreted by the anterior pituitary that promotes the growth of mammary tissue, and stimulates & sustains milk production in postpartum mammals.

- a. Oxytocin
- b. Prolactin
- c. Estrogen
- d. Progesterone

19. Which of the following types of pneumonia best describes the existence of pneumonic pasteurellosis in cattle:
- Interstitial Pneumonia
  - Granulomatous Pneumonia
  - Fibrinous Bronchopneumonia
  - Suppurative Bronchopneumonia
20. Inflammation of the dura mater and pia mater:
- Pachymeningitis
  - Pachygyria
  - Pachymeningitis
  - Pachyleptomeningitis
21. What are the indications for the use of atropine in cardiopulmonary-cerebral resuscitation?
- Asystole, ventricular fibrillation
  - Sinus bradycardia, asystole
  - Electromechanical dissociation
  - Ventricular flutter, ventricular fine fibrillation
22. What is another name for the fibula?
- Aitch-bone
  - Brooch bone
  - Shankbone
  - Prefrontal bone
23. When does a mare ovulate?
- Near the end of estrus
  - Third estrus day
  - 12 hours after estrus begins
  - 30 hours after estrus begins
24. Which one is an antiemetic drug?
- Syrup of ipecac
  - Hydrogen peroxide
  - Acepromazine
  - Apomorphine

25. Capnocytophaga infection principally involves which animals?
- Cattle, swine and poultry
  - Horses
  - Cats and dogs
  - Rodents
26. Giardiasis is a parasite of the ...
- Circulatory system
  - Integumentary system
  - Gastrointestinal system
  - Respiratory system
27. What is the resting respiratory rate of a dairy cow?
- 32-58 breaths/minute
  - 16-40 breaths/minute
  - 26-50 breaths/minute
  - 10-14 breaths/minute
28. Dracunculus is ...
- A type of mange caused by the parasitic larval stage of mites of the family Trombiculidae
  - A rare skin worm infestation that causes a short-term skin infection.
  - An infection caused by a species of roundworm found mainly in the connective tissue beneath the skin of the legs.
  - A clinical condition in which skin is oversensitive to sunlight.
29. A seven-day washout period of which common drug should be respected before surgery?
- Carprofen
  - Aspirin
  - Doxycycline
  - Pet-Tabs
30. What do surgeons consider the three deadliest words in tumor management?
- Just watch it.
  - Let it grow
  - It's not malignant
  - It's a lipoma

**b) PART II: Short questions**

**20 marks**

- Q. 1. Heartworms are large worms that live mostly in heart of animals, and there have been rare reports that this worm affects human being also though not natural host for the worm.
- What are the most common hosts of the worm? Name other four animals that are susceptible to this worm?
  - What is the other name for this heartworm, and mention the site of infection in human being?
  - Describe the mechanism how do the worms spread from animal to animal?
  - Highlight briefly the signs of Heartworm diseases in the most common hosts.
  - How do you diagnose and treat the Heartworm disease?
- Q. 2. Rabies is a zoonotic disease, a disease that is transmissible from animals to humans. Rabies is known to affect all mammals, including humans.
- Name the rabies virus and most commonly, rabies is found in which animals?
  - What are the different stages of rabies? Briefly describe the signs and symptoms exhibited by a rabid dog in different stages.
  - Describe briefly the mechanism of spread of rabies virus.
- Q. 3. Poisons (fleas & ticks products) can be eaten by a pet, absorbed through the skin, and inhaled. Poisonings can mimic many things. Some poisons act immediately; some takes days to appear, potentially making diagnosis difficult.
- What are some common signs seen with poisoning?
  - What should I do if I suspect that my pet has been poisoned?
  - What treatment would you suggest for different kind of poisoning narrated above?

- Q. 4. A Farmer reports to Livestock Extension Agent that there has been a dead carcass of a cow in his field, and blood is oozing out from natural orifices of the carcass. The farmer seeks advice whether the carcass could be consumed.
- a. What is the disease in question?
  - b. What is the causative agent of the disease in question and how does it survive?
  - c. Do you perform post-mortem of the cow, and why?
  - d. Give your advice to the farmer, and with proper justification.
  - e. Is the disease in question is zoonotic in nature? If so, what kinds of diseases does it cause? Briefly state the symptoms.



## SECTION B

**Long Questions** (*Attempt only one of your choice*)

**50 marks**

- Q. 1.** A farmer has come to you (veterinarian) for an emergency service. A Jersey cow in his farm in its 2<sup>nd</sup> calving has already passed its normal gestation period. The cow is obviously in great pain and difficulty. He narrates that the labour pain has started 8 - 10 hours ago but parturition has not occurred as yet. The LEA of the area has tried all non surgical method known to him but to vain. Now, both the cow and the unborn calf are at great risk of death if appropriate emergency measures are not taken up immediately. It is a race against time. As a fresh veterinarian, you have to approach the case in question.
- a. As soon as the farmer describes you of the above situation, what do you think is the condition described in the above case? Narrate how you prepare yourself to handle the case.
  - b. Enlist the factors that contribute to the above condition.
  - c. What are the different causes that lead to the above condition?
  - d. What are the non surgical measures to solve the problem? Describe the methods for treating the case in question?
  - e. What are the different surgical methods that can be applied for the case? What is the preferred method of operation? Briefly state the advantages and disadvantages of the method preferred.
  - f. What surgical intervention would you recommend? Describe in detail the surgical procedure in question including giving anaesthesia, preparation of site, the actual operation procedure, post operative care and any other recommendation.
  - g. What are the complications expected even if the case is solved after surgical interventions? In order to avoid such complications, enlist precautionary measures to be taken by the farmer or farm management.

- Q. 2.** A farmer complains of Repeat breeding and extended calving to calving interval of 600 days, on an average, in his dairy herd of 15 pure jersey cows. The farmer narrates that;
- On an average, the ratio of Dry: Milch cows in his herd are 10:5.
  - Currently, 7 cows in his herd including 3 cows in milk are pregnant, and 3 dry and 2 milch cows are empty for more than 6 – 7 months now.
  - He feeds green grass and karma feed during summer and hay, paddy straw and karma feed in winter.
  - After calving the cows become very weak and come to heat not before 4 – 5 months.
  - He avails AI services, but the cows very often repeats and requires 3 – 4 AI/ calf.
  - He often observes cases of Retention of Placenta (ROP) in his herd?
  - Milk production after calving has not exceeded 5 L/ day per cow in her herd
  - He expectss from now the farmer is expecting all other dry cows
- a. Enlist the heat signs suggestive to perform AI and suggest the ideal time for insemination of a cow after first onset of heat signs.
  - b. What is the ideal period of insemination after calving, and acceptable calving to calving interval range in a dairy herd, and how to achieve it?
  - c. The ratio of Dry: Milch cows in the herd, is not proper from the perspective of profitable dairy business. Suggest the ideal ratio and techniques of implementation.
  - d. What is the ideal body condition score of heifers and cows at the time of insemination and calving? Suggest measures to ensure practical application.
  - e. Normally, ovulation in cows after calving occurs within 18 – 24 days. In your opinion, why animals in the farm are not observed in heat for prolonged duration? Suggest measures to reduce the interval between calving and next insemination.
  - f. What are the pregnancy tests you can employ for early pregnancy diagnosis, so that non – pregnant animals are re-inseminated well in time?
  - g. What are the contributing factors of ROP? Suggest line of treatment for ROP.
  - h. Enlist the causes of Repeat breeding, and treatment measures for different cases of Repeat breeding?
  - i. Comment on feeding practices as practiced in the farm. Suggest appropriate feeds and feeding programmes for different categories of animals in the farm that needs to be followed for improving production and reproductive efficiency.