

**ROYAL CIVIL SERVICE COMMISSION
BHUTAN CIVIL SERVICE EXAMINATION (BCSE) 2018
EXAMINATION CATEGORY: TECHNICAL**

PAPER III: SUBJECT SPECIALISATION PAPER FOR VETERINARY SCIENCE

Date	: 7 October 2018
Total Marks	: 100
Writing Time	: 150 minutes (2.5 hours)
Reading Time	: 15 Minutes (prior to writing time)

GENERAL INSTRUCTIONS:

1. Write your Registration 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 consists of **TWO SECTIONS**, namely SECTION A & SECTION B:
 - **SECTION A** has two parts: Part I - 30 Multiple Choice Questions
Part II - 4 Short Answer QuestionsAll questions under SECTION A are COMPULSORY.
 - **SECTION B** consists of two Case Studies. Choose only **ONE** case study and answer the questions of your choice.
4. All answers should be written on the Answer Booklet provided to you. Candidates are not allowed to write anything on the question paper. If required, ask for additional Answer Booklet.
5. 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 the correct Section, Part and Question Number will NOT be evaluated and no marks will be awarded.
6. Begin each Section and Part in a fresh page of the Answer Booklet.
7. You are not permitted to tear off any sheet(s) of the Answer Booklet as well as the Question Paper.
8. Use of any other paper including paper for rough work is not permitted.
9. **You are required to hand over the Answer Booklet to the Invigilator before leaving the examination hall.**
10. This paper has **8 printed pages**, 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 your chosen answer in the Answer Booklet against the question number e.g. 31 (d). Each question carries ONE mark. Any double writing, smudgy answers or writing more than one choice shall not be evaluated.

1. In August 2018, which swine disease outbreak reported from China had potential to spread and paralyse pork industry in the region?
 - a) Classical swine fever
 - b) African swine fever
 - c) Porcine reproductive and respiratory syndrome
 - d) Porcine circovirus

2. Giardia is a parasite of
 - a) Circulatory system
 - b) Integumentary system
 - c) Gastrointestinal system
 - d) Respiratory system

3. Where do you find renal calculi?
 - a) Intervertebral space
 - b) Urinary bladder
 - c) Gall bladder
 - d) Kidney

4. Which of these is a gold standard test for laboratory confirmation of rabies?
 - a) Fluorescent Antibody Test (FAT)
 - b) Complement fixation test (CFT)
 - c) Rapid Diagnosis Test (RDT)
 - d) Virus neutralization test (VNT)

5. One of these diseases is globally eradicated?
 - a) Crimean-Congo hemorrhagic fever
 - b) Rinderpest disease
 - c) Marburg hemorrhagic fever
 - d) Eastern equine encephalitis

6. Which of the following is the most appropriate drug for treatment of chronic Fascioliasis in cattle?
 - a) Thiabendazole
 - b) Mebendazole
 - c) Triclabendazole
 - d) Albendazole

7. Which of the following is most effective treatment for early stage canine transmissible venereal tumour (TVT)?
 - a) Streptomycin sulfate
 - b) Sucralfate
 - c) Vincristine sulfate
 - d) Benzyl penicillin

8. Which one of nonsteroidal anti-inflammatory drug (NSAID) was withdrawn from veterinary practice due to adverse impact on wildlife species, particularly on vultures?
 - a) Meloxicam
 - b) Diclofenac sodium
 - c) Naproxen sodium
 - d) Ibuprofen

9. Parasitic infection in yak involving nervous system is
 - a) Hypodermosis
 - b) Gid
 - c) Fascioliasis
 - d) Trichinellosis

10. Besides dogs, many people also keep cat as pet. Cats are known to be infected with disease that can be a potential threat to pregnant women. Which is this disease?
 - a) Feline panleucopenia
 - b) Parainfluenza
 - c) Toxoplasmosis
 - d) Lymes disease

11. Migratory water birds are known to spread a disease that can be devastating to poultry industry as well as to human population. Choose this disease.
 - a) Infectious bursal disease
 - b) Infectious bronchitis
 - c) Avian influenza
 - d) Newcastle disease

12. A calf has a skin disease with multiple circular patches. The patches are devoid of hair and can infect humans. What is the disease?
 - a) Scald
 - b) Ringworm
 - c) Alopecia
 - d) Melanoma

13. A high producing cow with the history of recent calving is reported to be in recumbent position and head resting on flank. What is the probable condition?
 - a) Acidosis
 - b) Tetanus
 - c) Mastitis
 - d) Milk fever

14. Choose of drug for the treatment of Demodex mange in dog.
- Calamine lotion
 - Benzoic acid
 - Deltamethrin
 - Ivermectin
15. Which of the following disease is caused by Mycobacterium avium subspecies paratuberculosis?
- Crohn's disease
 - Inflammatory bowel disease
 - Johne's disease
 - Gastroenteritis
16. Which of the following parasite causes hydatid cyst in visceral organs of the intermediate host?
- Echinococcus granulosus
 - Monezia expansa
 - Taenia solium
 - Taenia saginata
17. Histopathological samples are preserved in
- 5% formalin
 - 10% formalin
 - 15% formalin
 - 20% formalin
18. Antidote for a case of organophosphate poisoning is
- Sodium bicarbonate
 - Activated charcoal
 - Atropine sulphate
 - Alum pure
19. The causative agent for Glanders in horses is
- Streptococcus equi
 - Pasteurella caballi
 - Burkholderia mallei
 - Fusobacterium necrophorum
20. What is the drug of choice for treatment of Haemorrhagic Septicaemia (Pasteurellosis) in cattle?
- Streptopenicillin
 - Gentamycin
 - 33.3% Sulphadimidine
 - Erythromycin

21. Oedematous bursa of Fabricius, massive haemorrhage of large muscles (pectoral and thigh) and subcutaneous petechial haemorrhages are the typical signs of which disease in young poultry?
- Newcastle Disease
 - Brooders Pneumonia
 - Infectious Bursal Disease
 - Marek's Disease
22. Chicks receive Marek's disease vaccine at
- 0 day age
 - 3 days age
 - 7 days age
 - 14 days age
23. Hormone responsible for stimulating follicular development and bringing females in heat is
- Progesterone
 - Oestrogen
 - Oxytocin
 - Prolactin
24. What is the total percentage of Jersey blood in a progeny born out of a cow with 75% Jersey and a bull with 87.5% Jersey?
- 62.5%
 - 75%
 - 81.25%
 - 87.5%
25. What is the temperature and time combination of high temperature and short time (HTST) milk pasteurization?
- 63°C for 30 min
 - 72°C for 15 sec
 - 115°C for 20 min
 - 138°C for 2 sec
26. Breeding practice where two different breeds are bred together to generate hybrid vigour in progeny is called
- Inbreeding
 - Outbreeding
 - Cross breeding
 - Line breeding
27. Which is the odd animal in the following in terms of digestive system?
- Cow
 - Sheep
 - Pig
 - Goat

28. A young and healthy calf died suddenly with swelling on thigh muscle. On palpation there is crepitating sound. What is the disease suspected?
- Pasteurellosis
 - Enterotoxaemia
 - Blackleg
 - Tetanus
29. Which term defines the accumulation of fluid in the abdominal cavity?
- Hydrothorax
 - Pleuritis
 - Ascitis
 - Hepatitis
30. Major fungal toxin found in poorly manufactured and stored animal feed is
- Neurotoxin
 - Haemotoxin
 - Aflatoxin
 - Hepatotoxin

PART II – Short Answer Questions (20 marks)

This part has 4 Short Answer Questions. Answer ALL the questions. Each question carries 5 marks.

- FMD is endemic in most of South Asian countries. Bhutan is no exception for this situation.
 - How many serotypes of FMD virus are known? (1 mark)
 - Name all serotypes of FMD virus (3 marks)
 - Which serotype is common in Bhutan? (1 mark)
- A cow has history of recurrent bloat, pulls out tongue while walking down hill and recent history of feeding in city waste landfill sites.
 - What is your diagnosis? (1 mark)
 - What are the organs involved in this condition? (2 marks)
 - What are the diagnostic aids that you may use to diagnose this condition? (2 marks)
- You were informed that a dog suspected to be rabid has bitten school children. The dog was reported dead after two days.
 - What sample would you collect for laboratory confirmation of rabies? What preservative would you use for the sample collected? (2 marks)
 - Mention one brand name of commonly used anti-rabies vaccine (1 mark)
 - Mention the post-exposure vaccination schedule for bite cases from rabies suspected dog. (2 mark)

4. Penicillin class of antibiotics are commonly used in veterinary practice.
 - a) Name two commonly used penicillin class of antibiotics (1 mark)
 - b) Describe the mode of action of penicillins (3 marks)
 - c) Name two bacterial infection for which penicillins are indicated. (1 mark)

SECTION B

Case Study

Choose either Case I OR Case II from this section. Each case study carries 50 marks.

Case I

You are a duty veterinarian in one of the well-established veterinary hospitals. Female and male dogs (two dogs) are presented to you for sterilization (ovario-hysterectomy and castration). You have agreed to perform these surgeries. Answer the following questions considering the above scenario.

1. What are the activities that you would do for pre-surgery preparation in both male and female dog? (10 marks)
2. List all the surgical tools and other accessories that you may use for surgery. (10 marks)
3. Describe surgical procedure in female dog. (10 marks)
4. Describe surgical procedure in male dog. (10 marks)
5. Describe post-surgery care. (10 marks)

Case II

You made a visit to a cattle farm for regular health inspection. The farm management presented following cases to you for your service:

- Retention of placenta (RoP) in a cow that had recently calved;
- A case of Haemorrhagic septicemia (HS)
- A case of haemoglobinurea (Babesiosis)

You also have collected specimens/samples for disease screening from farm animals:

- Faecal samples
- Blood samples (whole blood and serum)

Answer the following questions with above background information:

1. Describe the complete process of fixing RoP (10 marks)
2. Describe the clinical signs of HS and provide the line of treatment. (10 marks)

3. Differentiate between haemoglobinuria and haematuria. Provide line of treatment for haemoglobinurea/babesiosis. What are the other causes of haemoglobinurea? (10 marks)
4. While examining faecal samples, you found one cow with Fascioliasis and one calf with Ascaris. Describe how does an egg of Fasciola look like? Describe how does an egg of Ascaris look like? Provide a line of treatment for both Fasciola in cow and Ascaris in calf.
(10 marks)
5. You have used whole blood to see different blood parameters. What are the important blood parameters you would see? One serum samples was tested positive to Brucellosis by Rose Bengal Test (RBT). Briefly describe the procedure how RBT is performed? (10 marks)

TASHI DELEK