



# Australian and New Zealand College of Veterinary Scientists

## Membership Examination

June 2021

## Veterinary Practice (Small Animal)

### Paper 1

Perusal time: **Fifteen (15)** minutes

Time allowed: **Two (2)** hours after perusal

Answer **ALL EIGHT (8)** questions

Answer **EIGHT** questions, each worth 15 marks .....Total: 120 marks

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# Paper 1: Veterinary Practice (Small Animal)

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Answer all eight (8) questions

1. Answer **all** parts of this question:

- a) Define and give examples of pre-renal, renal and post-renal proteinuria in small animals. (7 marks)
- b) Briefly discuss the benefits and limitations of assessing proteinuria on a dipstick assay. (2 marks)
- c) Describe the pathophysiology leading to proteinuria in the following conditions: (6 marks)
  - i. hyperadrenocorticism
  - ii. chronic renal disease
  - iii. bacterial cystitis.

2. Answer **all** parts of this question:

- a) Briefly explain the pathophysiology of anterior uveitis and list the causes of this condition in the cat. Include in your answer specific diseases that can result in anterior uveitis in the cat. (8 marks)
- b) Define the term aqueous flare and briefly discuss the pathophysiology of aqueous flare in anterior uveitis. (2 marks)
- c) List **ten (10)** clinical findings that may be seen during ocular examination of a cat with anterior uveitis. (5 marks)

3. Regarding feline infectious peritonitis (FIP)

Answer **all** parts of this question:

- a) Discuss the pathogenesis of FIP. (5 marks)
- b) List and briefly discuss risk factors for this disease. (3 marks)
- c) Discuss available diagnostic techniques for this disease. (7 marks)

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4. Answer **all** parts of this question:

- a) Define iron deficiency anaemia. *(1 mark)*
- b) Discuss the pathophysiology of iron deficiency anaemia in the dog. *(5 marks)*
- c) Briefly discuss three causes of iron deficiency anaemia associated with the gastrointestinal tract in dogs. Include in your discussion which diagnostic tests are required to accurately diagnose **each** of these conditions. *(9 marks)*

5. Answer **both** parts of this question:

- a) Describe the anatomy of the coxofemoral joint in the dog. *(5 marks)*
- b) Compare and contrast the pathophysiology and clinical features of coxofemoral luxation and hip dysplasia in dogs. *(10 marks)*

6. Answer **all** parts of this question:

- a) Contrast the clinical features of vomiting and regurgitation. The use of a table may help with the succinct presentation of your response. *(5 marks)*
- b) Describe the pathophysiology of vomiting. Include in your answer the receptors and anatomical structures involved. *(7 marks)*
- c) Describe the indications, contraindications and mechanism of action of maropitant. *(3 marks)*

7. Answer **both** parts of this question:

- a) Outline the inflammatory mediators and pathophysiology of pruritus. *(5 marks)*
- b) Outline the typical signalment, available diagnostic techniques and management of feline dermatophytosis. *(10 marks)*

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8. Answer **all** parts of this question:

- a) Explain the pathophysiology of hypertrophic cardiomyopathy and subsequent thromboemboli formation in the cat. *(7 marks)*
- b) List diagnostic options for confirming cardiac disease in the cat. *(2 marks)*
- c) List **three (3)** drugs of different classes that are commonly used for the treatment of hypertrophic cardiomyopathy in cats. Provide the mechanism of action for **each** drug listed. *(6 marks)*

**End of paper**



# Australian and New Zealand College of Veterinary Scientists

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June 2021

## Veterinary Practice (Small Animal)

## Paper 2

Perusal time: **Fifteen (15)** minutes

Time allowed: **Two (2)** hours after perusal

Answer **ALL FOUR (4)** questions

Answer **FOUR** questions, each worth 30 marks .....Total: 120 marks

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## Paper 2: Veterinary Practice (Small Animal)

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Answer all four (4) questions

1. A three-year-old male neutered Jack Russel terrier is presented because the owners are concerned that he has been bitten by a snake. The owners saw the dog with the snake in his mouth. He released the snake which disappeared into long grass. The dog seemed fine initially, but collapsed after about 10 minutes. As the owners were organising to bring the dog to the clinic, he seemed to recover somewhat and was able to stand and walk when presented to your clinic. The brown snake is the most common venomous snake in this location.

Answer **all** parts of this question:

- a) List clinical signs associated with brown snake envenomation in the dog. *(6 marks)*
- b) With reference to the **two (2)** major components of brown snake venom, explain the likely pathophysiology of the initial collapse and apparent recovery observed in this case, and state the prognostic significance of this observation. *(4 marks)*
- c) Briefly discuss diagnostic tests that might confirm brown snake envenomation in this case, and highlight any limitations of these diagnostic tests. *(5 marks)*
- d) Outline an appropriate treatment protocol for this dog, including how much antivenom is needed initially and indications for administration of a second dose of antivenom. Include any parameters that require ongoing monitoring. *(15 marks)*

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2. An eight-year-old female spayed Irish setter is presented to you with an acute onset of restlessness, abdominal distension, retching, hypersalivation, and dyspnoea. She is fed dry kibble and had eaten two hours previously. Her only previous serious medical issue had been a total splenectomy for a benign haemangioma two years prior. A gastropexy has not been performed in this dog.

Exam findings include:

HR 158 with decreased femoral pulse amplitude

Tachypnoea with noticeable increase in respiratory effort

Temperature 39.3°C

Mucous membranes pale pink with refill around 2.5 seconds

Distended, painful, tympanic abdomen (consistent with gastric dilatation volvulus, GDV)

Answer **all** parts of this question:

- a) In addition to GDV, list other differential diagnoses for this presentation. Include in your answer brief justification for these differential diagnoses. (3 marks)
- b) Outline the initial medical management of this dog. (9 marks)
- c) List and prioritise diagnostic tests / procedures that should be performed and identify anticipated abnormal findings. (9 marks)
- d) Your diagnostic plan confirms GDV. Assuming the dog is now stable as a result of the initial intervention, describe the management of this case for the next 12 hours. Include in your answer a brief description of any suggested procedure(s). (9 marks)

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3. An obese, nine-year-old neutered domestic shorthair cat presents with stranguria of three days duration after the introduction of a new kitten to the household three weeks ago. The bladder is palpably large and cannot be expressed.

Answer **all** parts of this question:

- a) List **ten (10)** differentials for dysuria in the cat. (5 marks)
- b) As part of the investigation, biochemistry is performed. Interpret the results in light of the history and refine the differential diagnosis, giving reference to the most likely diagnosis. (5 marks)

Reference ranges are provided in the right column:

HCT	52	24–45%
TPP	71	54–82 g/L
Glucose	11.85	4.11–8.84 mmol/L
Creatinine	1153	71–212 $\mu$ mol/L
Urea	46	5.7–12.9 mmol/L
Sodium	172	150–165 mmol/L
Potassium	9.8	3.5–5.8 mmol/L
Chloride	136	112–129 mmol/L
Calcium	2.74	2.00–2.95 mmol/L
ALT	37	12–130 U/L
ALP	10	14–111 U/L

- c) The cat is determined to have a urethral blockage. Outline the optimal stabilisation plan prior to anaesthesia for catheterisation. (10 marks)
- d) After successful treatment and hospitalisation, the cat is now urinating normally. Outline discharge instructions for this patient, including nutritional, environmental and medication plans. (10 marks)

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4. A 12-week-old male entire Maremma puppy is presented for routine vaccination. During clinical examination, he growls, urinates and tries to bite you, the owner's small children, and the owner. He is very reactive to noises outside the consultation room, barking loudly with his hackles up. On further history taking, the owner considers this behaviour to be normal for this puppy.

Answer **all** parts of this question:

- a) Outline canine behavioural development from birth to four months of age. *(5 marks)*
- b) List **three (3)** ways to minimise stress in the clinic for this patient. *(3 marks)*
- c) Outline the medical work up of this case. *(5 marks)*
- d) Discuss **two (2)** therapeutic options for this puppy, including the mechanisms of action. *(4 marks)*
- e) It is six weeks before referral to a veterinary behavioural specialist can be arranged. Outline an appropriate interim behavioural management plan. *(10 marks)*
- f) Describe an appropriate vaccination schedule for a puppy from birth to 12 months. *(3 marks)*

**End of paper**