



Australian and New Zealand College of
Veterinary Scientists

Fellowship Examination

June 2022

Small Animal Medicine

Paper 1

Perusal time: **Twenty (20)** minutes

Time allowed: **Four (4)** hours after perusal

Answer **ALL FIVE (5)** questions

Answer **FIVE (5)** questions, each worth 48 markstotal 240 marks

Paper 1: Small Animal Medicine

Answer all five (5) questions

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

- a) List the components of Virchow's triad (*3 marks*)
- b) Outline in detail the pathogenesis of acquired hypercoagulability states in dogs and cats. (*25 marks*)
- c) For the diagnostic tests that are used to identify a hypercoagulable state in dogs and cats, discuss the utility **and** limitations of each test. (*20 marks*)

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

- a) Discuss the aetiopathogenesis, pathophysiology and newly proposed classification scheme (as per Mignan T, Targett M, Lowrie M. J Vet Intern Med. 2020; 34(5):1707-1717) for acquired myasthenia gravis **and** congenital myasthenic syndromes in the dog and the cat. (*40 marks*)
- b) List the proposed mechanisms for seronegative acquired myasthenia gravis in dogs. (*4 marks*)
- c) Explain why a treatment trial with an ultra-short-acting anticholinesterase medication (e.g. edrophonium) may be ineffective in the diagnosis of some congenital myasthenic syndromes. (*4 marks*)

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

- a) List **six (6)** distinct causes of ureteral obstruction in the cat. *(6 marks)*
- b) Discuss the pathophysiologic changes that occur in **both** kidneys, following a **unilateral** ureteral obstruction in the cat. In your answer, include the changes that occur in both kidneys in the acute (first 24 hours) **and** compensatory phases of obstruction. *(23 marks)*
- c) Outline the natural host defences of the feline urinary tract that protect against urinary tract infection. In your answer, provide **one (1)** distinct example for **each** of these host defences and for **each** explain how it may prevent the bacterial colonisation of the urinary tract. *(19 marks)*

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

- a) Describe the mechanisms of the four types (types I-IV) of immune-mediated hypersensitivity reactions. Give **one (1)** clinical example in the dog **or** cat for **each** of the four types of hypersensitivity reaction. *(22 marks)*
- b) Compare the immunopathogenesis of canine non-erosive and erosive immune-mediated polyarthritis. *(26 marks)*

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

- a) List the diagnostic modalities by which gastro-oesophageal reflux has been evaluated in dogs. *(2 marks)*
- b) List criteria that may indicate that gastro-oesophageal reflux in dogs is pathological. *(3 marks)*
- c) Outline the interrelationship between respiratory and upper gastro-intestinal tract disorders (“aerodigestive diseases”) as documented in dogs. Include in your answer, a discussion of the proposed pathogenesis of aerodigestive diseases **and** compare findings between brachycephalic and non-brachycephalic dogs. *(43 marks)*

End of paper



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Paper 2

Perusal time: **Twenty (20)** minutes

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Answer **ALL FIVE (5)** questions

Answer **FIVE (5)** questions, each worth 48 markstotal 240 marks

Paper 2: Small Animal Medicine

Answer all five (5) questions

1. For **each** of the following cases:

- a dog incidentally diagnosed with a large venous thrombus on abdominal ultrasound examination for an unrelated disease

AND

- a cat with a distal aortic thromboembolus presenting with ischaemic hindlimb myopathy / neuropathy

Discuss in detail your treatment approach. Within your answer, compare and contrast the critical factors underlying differences in your treatment approach to each patient, drug selection and the expected outcomes. *(48 marks)*

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

- a) List the ideal characteristics of a monitoring test for dogs undergoing trilostane treatment for hyperadrenocorticism. *(6 marks)*
- b) Compare and contrast the advantages and disadvantages of the ACTH stimulation test, pre-pill plasma/serum cortisol and post-pill plasma/serum cortisol as used for monitoring trilostane treatment of hyperadrenocorticism in dogs **and** the limitations common to all. *(42 marks)*

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3. Answer **both** parts of this question:
- a) Discuss the role of reverse transcriptase polymerase chain reaction (RT-PCR) in the diagnosis of feline infectious peritonitis. *(28 marks)*
 - b) Outline the mode of action **and** the role of the following drugs in the treatment of feline infectious peritonitis. *(total 20 marks)*
 - GS- 441524 *(17 marks)*
 - remdesivir *(3 marks)*
4. Answer **both** parts of this question:
- a) Discuss the implications of feeding raw diets on the health of dogs and cats **and** public health. In your answer, refer to relevant recent literature that highlights the impact of these diets. *(44 marks)*
 - b) List **four (4)** recommendations for clients to decrease the veterinary **and** public health risks of feeding raw diets to pets. *(4 marks)*
5. Answer **both** parts of this question:
- a) Compare and contrast the clinical presentation, treatment and prognosis for left to right shunting patent ductus arteriosus (PDA) **and** right to left shunting PDA. *(28 marks)*
 - b) Discuss the potential risks and benefits of sildenafil to treat pulmonary hypertension in a dog with myxomatous mitral valve disease. *(20 marks)*

End of paper