Australian and New Zealand College of Veterinary Scientists

Membership Examination

June 2013

Small Animal Medicine

Paper 1

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

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

Answer **ALL <u>FOUR (4)</u>** questions

Answer **<u>FOUR</u>** questions each worth 30 marks .....total 120 marks

Paper 1: Small Animal Medicine

Answer all four (4) questions

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

   a) Explain the major pathophysiologic mechanisms leading to heart failure. *(15 marks)*

   b) Describe the major neurohormonal mechanisms which are activated during heart failure and the beneficial and detrimental consequences of these. *(15 marks)*

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

   a) With reference to its epidemiology and life cycle, discuss the public health risks of *Toxoplasma gondii* infection in cats and outline steps to minimize these risks. You may use a diagram as part of your answer. *(15 marks)*

   b) Feline infectious peritonitis (FIP) can result in both 'wet' and 'dry' clinical presentations. Outline the epidemiology of FIP, and describe the pathophysiology for **each** of these forms of the disease. *(15 marks)*

3. Review the systemic consequences of chronic renal disease and how these lead to clinical and laboratory abnormalities. *(30 marks)*

Continued over page

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

a) Draw a diagram which outlines the role of the hypothalamic-pituitary-adrenal axis in the production and regulation of endogenous cortisol. *(4 marks)*

b) Compare how the hypothalamic-pituitary-adrenal axis is altered in pituitary **and** adrenal dependent hyperadrenocorticism. You may use a diagram. *(8 marks)*

c) Briefly discuss the role of an endogenous ACTH assay in the diagnosis of hyperadrenocorticism in dogs and how the test results may help in a diagnostic investigation. *(6 marks)*

d) Trilostane (Vetoryl®) is commonly used to treat pituitary dependent hyperadrenocorticism. Describe the site and mode of action of trilostane. *(5 marks)*

e) List the potential contraindications and adverse effects of trilostane. *(7 marks)*

End of paper

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Paper 2

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Answer **ALL <u>FOUR (4)</u>** questions

Answer **<u>FOUR</u>** questions each worth 30 marks .....total 120 marks

Paper 2: Small Animal Medicine

Answer all four (4) questions

1. A seven-year-old female neutered Siamese cat is presented with an acute onset of respiratory distress. The owner reports that the cat has coughed several times a day over the last month, but has been otherwise well. On physical examination the cat is in normal body condition with a respiratory rate of 60 breaths per minutes and a heart rate of 180 beats per minute. The cat shows evidence of expiratory dyspnoea with open mouth breathing and diffuse soft crackles and wheezes can be heard on auscultation of both sides of the chest. The rectal temperature is 38.6°C and there are no other abnormalities on physical examination.

   Answer **all** parts of this question:

   a) Provide a problem list and list of differential diagnoses for this patient based on the history and physical examination findings. Justify which diagnosis you think is most likely. *(6 marks)*

   b) Before further testing, describe and briefly justify your initial therapeutic stabilisation of this patient. *(6 marks)*

   c) Describe a complete diagnostic approach to this patient when stabilised. Be sure to provide justification for the diagnostic tests you choose and explain how the test results would be used in a diagnostic investigation. *(12 marks)*

   Bronchoalveolar lavage and cytology demonstrated an eosinophilic bronchitis with increased mucus and cellular debris.

   d) List the most likely diagnosis and describe and justify your long-term management plan of this case after discharge from hospital. *(6 marks)*

Continued over page

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

a) Briefly discuss how to confirm a diagnosis of suspected exocrine pancreatic insufficiency (EPI) in an 18-month-old cavalier King Charles spaniel and the subsequent therapeutic approach. *(10 marks)*

b) Outline the clinical presentation, management and prognosis for an eight-month-old boxer with histiocytic ulcerative colitis (granulomatous colitis). *(10 marks)*

c) Evaluate the strengths and weakness of the clinicopathologic and diagnostic imaging tests used in the diagnosis of acute canine pancreatitis. *(10 marks)*

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

a) Discuss the goals of therapy for non-ketoacidotic diabetes mellitus in cats. *(5 marks)*

b) Discuss a diagnostic approach to poor glycaemic control in a diabetic cat and justify your reasoning. *(25 marks)*

4. 'Diesel', a 10-year-old male entire stud Labrador is presented by his owner because, over the last month, other entire male dogs have begun finding Diesel attractive and are trying to mate with him. On physical examination, Diesel's left testicle is firm, irregular, enlarged and non-painful. The right testicle feels small, but otherwise normal. The prepuce is pendulous. On rectal examination, Diesel's prostate is moderately enlarged, symmetrical and non-painful. Mild mucous membrane pallor is evident. Otherwise physical examination is normal.

Question 4 continued over page

A haemogram is performed:

Haematology		**Results**	**Reference Values**
Haemoglobin	**g/L**	**8.5**	**12.0–18.0**
PCV	**L/L**	**0.27**	**0.37–0.55**
Red cell count	**x 10^{12}/L**	**4.3**	**5.5–8.5**
MCV (PCV/RCC)	fL	68	60–75
MCH (Hb/RCC)	pg	24	19–24
MCHC (Hb/PCV)	g/dL	35	32–38
White cell count	**x 10^9/L**	**4.0**	**6.0–17.0**
Atypical cells	x 10^9/L	0	0
Metamyelocytes	x 10^9/L	0	0
Bands	x 10^9/L	0	0–0.3
Neutrophils	**x 10^9/L**	**2.6**	**3.0–11.5**
Lymphocytes	x 10^9/L	1	1.0–4.8
Monocytes	x 10^9/L	0.3	0.2–1.4
Eosinophils	x 10^9/L	0.1	0.1–1.3
Basophils	x 10^9/L	0	Rare
Platelets	**x 10^9/L**	**70**	**200–500**
NRBC	/100 WBC	0	Rare
Reticulocytes	/100 RBC	0	0–1.5
Total solids	g/L	69	60–80
Comments: Platelet numbers moderately reduced			

Red cell morphology: Normal

White cell morphology: Normal

Answer **all** parts of this question:

a) Interpret Diesel's clinical and haematological findings. List differential diagnoses for the problems you have identified. *(12 marks)*

b) Describe and justify the diagnostic approach to this case. *(11 marks)*

c) For the most likely diagnosis, discuss possible treatment options and possible outcomes. *(7 marks)*

End of paper