



Australian and New Zealand College of Veterinary Scientists

Membership Examination

June 2016

Avian Health (Caged and Aviary Birds)

Paper 1

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

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

Answer **ALL FOUR (4)** questions

Answer **FOUR** questions each worth 30 markstotal 120 marks

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Paper 1: Avian Health (Caged and Aviary Birds)

Answer all four (4) questions

1. Describe the indication(s), and list the route(s) of administration, dose rate and frequency, known adverse effects, and contraindications for **each** of the following medications:

- a) midazolam (5 marks)
- b) amphotericin B (5 marks)
- c) butorphanol (5 marks)
- d) metronidazole (5 marks)
- e) ivermectin (5 marks)
- f) leuprolide acetate. (5 marks)

2. In relation to botulism in wild waterfowl

Answer **all** parts of this question:

- a) Identify the causative agent and **four (4)** predisposing environmental conditions to a disease outbreak, and explain how these conditions contribute to the development of the disease. (8 marks)
- b) Discuss the pathophysiology and clinical progression of the disease. (7 marks)
- c) Briefly explain the diagnosis (both presumptive and definitive) and treatment of botulism. (6 marks)
- d) Briefly explain **two (2)** ways to prevent and **two (2)** ways to control the disease. (4 marks)
- e) Briefly describe **five (5)** gross necropsy findings you may expect to see. (5 marks)

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3. In relation to the avian urinary system

Answer **all** parts of this question:

- a) Describe (or draw and label) the gross anatomical features of the avian urinary system and list **three (3)** gross structures present in the mammalian urinary system that are not present in the avian urinary system. *(8 marks)*
- b) Briefly describe **four (4)** differences between the **two (2)** types of nephrons found in the avian kidney. *(8 marks)*
- c) Briefly explain why gout may be a consequence of renal disease. *(4 marks)*
- d) List the **two (2)** types of gout commonly seen in avian medicine and for **each** type of gout identify the body parts most affected, and briefly discuss the diagnosis, treatment, and prognosis. *(10 marks)*

4. For **each** of the following nutritional or metabolic diseases briefly explain the aetiology and pathophysiology *(5 marks)*, and briefly explain **five (5)** clinical signs *(5 marks)*: *(total of 10 marks per disease)*

- a) Hypovitaminosis A in a pet African grey parrot. *(10 marks)*
- b) Nutritional secondary hyperparathyroidism in an aviary housed Major Mitchell's cockatoo. *(10 marks)*
- c) Iron storage disease in a collection of hornbills at the local zoo. *(10 marks)*

End of paper



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Paper 2

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Answer **ALL FOUR (4)** questions

Answer **FOUR** questions each worth 30 markstotal 120 marks

Paper 2: Avian Health (Caged and Aviary Birds)

Answer all four (4) questions

1. You are presented with a 950 gram 25-year-old female sulphur-crested cockatoo, fed solely on a parrot mix seed diet from the supermarket. It has been referred to you by another vet to investigate a large yellow mass (approximately 5 cm diameter protruding at least 3 cm) visible under the skin on the mid abdominal area. No other obvious clinical problems are present. The referring veterinarian was concerned the bird might have a hernia.

Answer **all** parts of this question:

- a) List **three (3)** potential differential diagnoses, briefly explain how hernias occur in parrots and list the means to definitively diagnose a hernia in this case. *(6 marks)*
- b) Describe your plan for the surgical correction of the hernia diagnosed in this case.

Include in your answer: *(for a total of 24 marks)*

- recommendations for pre-surgical preparation (at home and immediately prior to the surgery) and a description of the anaesthetic protocol you would use *(10 marks)*;
- an explanation of the surgical procedure that may be used and immediate and longer-term post-surgical management, including **two (2)** potential post-operative complications and how your plan manages these *(14 marks)*.

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2. A local wild life park is trying to breed red tail black cockatoos. The birds are young and have recently hatched their first egg. The keepers are concerned about the ability of the parents to rear the chick and decide to hand rear this chick and use it in their bird education program.

Answer **both** parts of this question:

- a) Outline a rearing plan for the keepers to follow that will allow them to successfully rear the bird to weaning.

Include in your answer: *(for a total of 12 marks)*

- identification of temperature and humidity requirements,
- a brief description of monitoring techniques for various ages,
- a brief description of the changing feeding and housing requirements for the chick as it grows.

- b) Identify and briefly discuss **four (4)** common diseases/injuries that can occur when hand rearing parrots. Your discussion should include how these diseases/injuries might occur and how they can be prevented. *(18 marks)*

3. You are presented with a 16-week-old pet bantam hen that has suddenly been having trouble standing. No other clinical signs are apparent. After examining the bird and speaking with the owner, you suspect Marek's disease.

Answer **all** parts of this question:

- a) Name the causative agent of Marek's disease, list **four (4)** other clinical signs that could be seen with this disease and list **four (4)** differential diagnoses for the presentation of this bantam. *(5 marks)*

- b) Identify how the diagnosis of Marek's disease is confirmed in a live bird. Describe **two (2)** important lesions you might see on gross necropsy. The owner gives permission for a necropsy and no post-mortem signs are seen. Although multiple tissue samples will be taken, list the **one (1)** sample that should definitely not be missed, and justify your answer. *(6 marks)*

Question 3 continued over page

- c) The client has five other bantams that are the same age and from the same breeder. He planned to use them for breeding purposes and wants to know if these birds are affected and if he can vaccinate them to stop them getting sick. Briefly explain the transmission of Marek's disease and treatment/control of the disease in the current flock (*7 marks*), and explain the ideal procedure for acquiring new chickens and preventing the disease in future (*10 marks*).
- d) The client wants to know if he is at risk of the disease. He also mentions that he has a family of magpies that live in the garden and wants to know if they will contract the disease. Briefly, address the owner's concerns. (*2 marks*)
4. A client brings in a cockatiel that she purchased, as hand reared and weaned, from a pet shop four weeks ago. The bird has been sneezing a lot for the last two weeks and it now spends a lot of time on the bottom of the cage and has a degree of tail bobbing when on a perch. You suspect psittacosis.

Answer **all** parts of this question:

- a) List **three (3)** commonly used tests for the diagnosis of psittacosis. For **each** test identify the samples required, briefly describe how **each** test works, briefly explain how to interpret the results, and briefly discuss when false positive and false negative results are likely to occur. (*12 marks*)
- b) Explain the treatment of psittacosis in this bird. Include the primary medication used (possible routes of administration, dose rate, length of treatment) (*5 marks*), the general care of the sick bird in the hospital, and specific management of psittacosis in the hospital (*7 marks*).
- c) The owner has two other cockatiels and three young children. Briefly discuss: how this disease might be spread to her other birds, what the human health risks are and how these animal and human risks are best managed. (*6 marks*)

End of paper