

Australian and New Zealand College of  
Veterinary Scientists

**Membership Examination**

June 2022

**Avian Medicine and Surgery**

**Paper 1**

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

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

Answer **ALL FOUR (4)** questions

Answer **FOUR (4)** questions, each worth 30 marks.....total 120 marks

# Paper 1: Avian Medicine and Surgery

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Answer all four (4) questions

1. Answer **all** parts of this question (30 marks):

- a) Compare and contrast the anatomy and physiology of the gastrointestinal tracts of an adult rainbow lorikeet (*Trichoglossus moluccanus*) and an adult domestic layer hen (*Gallus gallus domesticus*). Where species differences exist, explain how these reflect adaptations to dietary requirements. (20 marks)
- b) Outline the recommended diet for a non-breeding pet adult rainbow lorikeet and an in-lay backyard ISA Brown hen. (10 marks)

2. Answer **all** parts of this question (30 marks):

For each of the following **three** (3) toxicity scenarios;

- Zinc toxicity in a pet rooster
  - Botulism in a duck
  - Polytetrafluoroethylene (PTFE) toxicity in a canary
- a) List the expected clinical signs (3 marks per toxin)
  - b) List the environmental sources and potential routes of exposure (2 marks per toxin)
  - c) Briefly describe the pathophysiology of toxicity (2 marks per toxin)
  - d) Briefly outline the clinical treatment of each type of toxicity (3 marks per toxin)

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3. You are presented with a 20-week-old female Australorp hen that you suspect has Infectious Coryza.

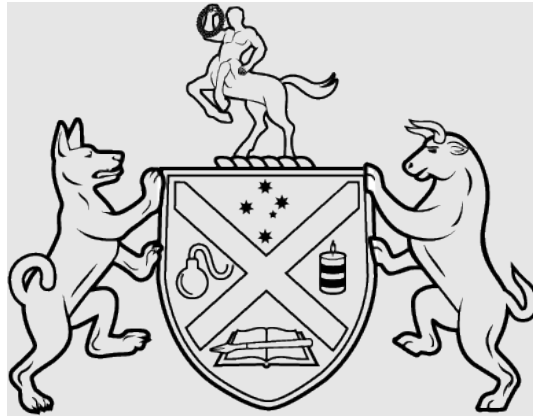
Answer **all** parts of this question (30 marks):

- a) Name the aetiological agent of Infectious Coryza and list five (5) differential diagnoses for this respiratory disease in chickens. (6 marks)
- b) Identify the mode of transmission of Infectious Coryza and explain how its diagnosis can be confirmed in a live bird (6 marks)
- c) The client has four (4) other hens and does not wish to cull. Discuss appropriate management and treatment of Infectious Coryza in this backyard flock (7 marks)
- d) Outline a plan to present to this client that could help to prevent an outbreak of Infectious Coryza in their flock of backyard hens (11 marks)

4. Answer **all** parts of this question (30 marks):

- a) Discuss the advantages and limitations of using ultrasound in birds (6 marks)
- b) Compare and contrast radiography and ultrasonography in the assessment of the heart, the reproductive tract, and the kidneys in birds (14 marks)
- c) Discuss two (2) risks of performing coelomic ultrasound in a quaker parrot (*Myiopsitta monachus*) with coelomic effusion, including how you would mitigate these. Consider positioning, preparation and before and after care in your answer (10 marks)

**End of paper**



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**Paper 2**

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

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Answer **ALL FOUR (4)** questions

Answer **FOUR (4)** questions, each worth 30 marks.....total 120 marks

# Paper 2: Avian Medicine and Surgery

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Answer all four (4) questions

1. You are presented with a 1.2kg, two-year-old, Silkie hen (*Gallus gallus domesticus*) in good body condition. The bird has a closed, transverse, minimally-displaced, mid-shaft femoral fracture.

Answer **all** parts of this question (30 marks):

a) Compare and contrast **two (2)** appropriate SURGICAL repair options for this fracture. Include in your answer any advantages or disadvantages between the two techniques. (10 marks)

b) As part of your surgical repair, you decide to place an intramedullary pin by an open surgical method. Considering the relevant anatomy, describe the surgical approach and placement of the intramedullary pin for this procedure. (5 marks)

c) List **five (5)** possible adverse post-surgical outcomes of a femoral fracture repair in a chicken. (5 marks)

d) The patient is otherwise healthy. Describe an appropriate anaesthetic protocol for surgical femoral repair in this chicken, including patient support, from premedication to recovery. You do not need to detail patient monitoring (10 marks)

2. A 5-year-old female cockatiel (*Nymphicus hollandicus*) presents to your clinic after the owner found it on the floor of the cage with a dropped right wing. On physical examination you detect a closed, displaced, mid-shaft fracture of the right humerus.

Answer **all** parts of this question (30 marks):

a) The patient is well hydrated. List the appropriate steps to manage the patient's pain until radiographs can be taken the following day. Provide justification any medication(s) used. (10 marks)

b) The client reports that the bird lays several clutches of eggs each year. Describe the factors that contribute to chronic egg laying in captive cockatiels as well as the husbandry recommendations and pharmaceutical treatments that can be provided to manage this condition. Detail the mechanism of action of any medication(s) described. (20 marks)

3. A Sulphur-crested cockatoo (*Cacatua galerita*) is presented for assessment of progressive feather loss. The bird was adopted by the client three (3) months ago as a wild-caught juvenile, and placed in a large outdoor aviary with another juvenile Sulphur-crested cockatoo, and adult Blue and Gold macaw (*Ara ararauna*), and an adult Eclectus parrot (*Eclectus roratus*). The bird has generalised feather loss with no evidence of regrowth, multiple dystrophic feathers, and a significant reduction of powder down. The results of blood and feather testing for Beak and Feather Disease Virus (BFDV) are:

**Psittacine Beak & Feather Disease Virus -PCR**

Sample ID	PBFDV-PCR
Sulphur-crested cockatoo	Positive

**Psittacine Beak & Feather Disease Virus Full Screen**

Sample ID	PBFDV- HI (titre)	PBFDV- HA (titre)
Sulphur-crested cockatoo	<1:20	
Sulphur-crested cockatoo		1:2560

**KEY:**

HA – Haemagglutination  
 HI – Haemagglutination Inhibition  
 <1:20 – not detected  
 1:2560 - high

Answer **all** parts of this question (30 marks):

- Interpret these results and explain the prognosis and management considerations for this patient (12 marks)
- List and justify the recommendations for two (2) other diagnostic tests to assess the overall health of this patient (6 marks)
- The client asks if their other three birds are likely to be affected, and if they can be vaccinated to prevent them from developing BFDV-related illness. What is the most appropriate advice (12 marks)

4. You are presented with a five-year-old red-crowned kakariki (*Cyanoramphus novaezelandiae*) that has been vomiting for a week

Answer **all** parts of this question (30 marks):

- a) List three (3) suitable diagnostic tests and outline why each is appropriate to investigate this case (3 marks)
- b) You palpate a mass in the crop. List three (3) differential diagnoses for this mass (3 marks)
- c) You decide to perform an exploratory ingluviotomy. Assuming the patient is both dehydrated and underweight, discuss appropriate **medical management** of this case in the 24 hours prior to surgery (15 marks)
- d) Describe in detail the surgical procedure for and exploratory ingluviotomy (the anaesthetic protocol is not required) (9 marks)

**End of paper**