



Australian and New Zealand College of Veterinary Scientists

Fellowship Examination

June 2019

Avian Medicine

Paper 1

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

Time allowed: **Three (3)** hours after perusal

Answer **ALL SIX (6)** questions

All six (6) questions are of equal value.

Answer **SIX (6)** questions, each worth 30 markstotal 180 marks

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Paper 1: Avian Medicine

Answer all six (6) questions

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

- a) Explain, using different taxonomical examples, the social and evolutionary basis for the range of behavioural problems seen in captive birds. *(10 marks)*
- b) Describe the role of behavioural analysis and modification in the management of medical problems in pet psittacine birds. *(10 marks)*
- c) Explain the key anatomical and physiological differences between birds and other vertebrates that must be considered when performing an avian neurological examination. *(10 marks)*

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

- a) Explain the key anatomical features of the psittacine skull that allow fine control of the upper and lower beaks. *(10 marks)*
- b) Describe and explain the functional anatomy and physiology of the respiratory system in birds. *(10 marks)*
- c) Discuss the functional anatomy and physiology of the avian renal system and explain how nitrogenous waste products can be excreted by different avian species. *(10 marks)*

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3. Answer **both** parts of this question:
- a) Use examples of different clinical presentations and clinical histories to discuss how and when inherited genetic defects and diseases should be suspected in aviary and pet birds. *(15 marks)*
 - b) Use examples to outline the steps that might be required to definitively confirm a diagnosis of an inherited avian genetic disease. *(15 marks)*
4. Answer **both** parts of this question:
- a) Discuss the clinical presentation and diagnostic approach that should be taken to identify the causes of anaemia and hypoproteinaemia in birds. *(15 marks)*
 - b) Explain how an understanding of avian bone development and growth can assist in the diagnosis and management of metabolic bone disease in birds.
(15 marks)
5. Use examples to describe how the health and wellbeing of the ageing companion psittacine bird can be optimised. Include in your answer, a discussion on how any diagnostic monitoring considerations might change during senescence. *(30 marks)*
6. Answer **all** parts of this question:
- a) Using examples of different bird species, highlight the methods available for determining the sex of birds of different ages. *(10 marks)*
 - b) Discuss the management practices that should be considered to optimise an artificial incubation plan for a large multi-aviary flock of psittacine birds, ranging in size from grass parrots to large cockatoos. *(10 marks)*
 - c) Briefly explain the physiological events that occur with ovulation and egg laying in the normal clutch of the budgerigar (*Melopsittacus undulatus*). *(10 marks)*

End of paper



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Paper 2

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Time allowed: **Three (3)** hours after perusal

Answer **ALL SIX (6)** questions

All six (6) questions are of equal value.

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Paper 2: Avian Medicine

Answer all six (6) questions

1. You are presented with a five-year-old, pet male cockatiel (*Nymphicus hollandicus*) with an acute development of severe dyspnoea.

Answer **both** parts of this question:

- a) Provide a list of the differential diagnoses that should be considered. For each possibility, outline the tests that should be considered in order to confirm that diagnosis. (10 marks)
- b) Outline an initial treatment plan and specific treatment options for each diagnosis you have listed above. Include in your answer, detailed information on the problems that are likely to be encountered during treatment or the consequences of treatment that you would consider to be important. (20 marks)

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

- a) Discuss the limitations and value of body fluid analysis to investigate the distended abdomen in birds. Include in your answer, a brief explanation of the sampling procedures that can be performed, in addition to the rapid diagnostic tests that are available. (20 marks)
- b) Discuss the limitations of molecular diagnostic assays for the diagnosis of infectious diseases in birds. (10 marks)

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3. Diseases of the alimentary tract are common in avian practice and can produce a range of different clinical signs. Select **three (3)** primary gastrointestinal diseases or disorders in parrots that can present with the primary clinical signs of regurgitation or vomiting and provide the following:
- a) Key clinical presentations and clinical signs that can be seen for each condition. *(5 marks)*
 - b) A description of a methodical approach to the diagnosis of each condition, including the relevant diagnostic tests and expected results. *(10 marks)*
 - c) Details of the short and long-term therapeutic options available for treating these conditions. *(15 marks)*
4. You have diagnosed an angular pelvic limb deformity in a fledgling sulphur-crested cockatoo (*Cacatua galerita*).

Answer **all** parts of this question:

- a) Describe the initial approach to the assessment of this condition. *(10 marks)*
- b) List the possible aetiologies. *(5 marks)*
- c) Describe the surgical and non-surgical options for treating these conditions. *(15 marks)*

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5. You have been contacted by a client who has decided to begin a chicken rescue organisation. The client will be acquiring egg-laying hens from commercial farms. The birds will come from a variety of farms, but they will all have previously been kept in a caged environment and will all be approximately 18 months old.

Answer **both** parts of this question:

- a) Discuss **three (3)** of the most common problems that are likely to be seen in rescued battery hens. Include in your answer, appropriate management, treatments and preventative measures for these problems. *(20 marks)*
- b) Using biosecurity principles, devise and describe a cost-effective plan for this client to reduce the risk of introducing infectious diseases into existing backyard flocks. *(10 marks)*
6. Discuss the physiological changes that occur during general anaesthesia in the avian species and describe in detail the requirements for a best-practice anaesthetic protocol for a mature, captive peregrine falcon undergoing a femoral fracture repair. Include in your answer, any treatments, as well as pre-, peri- and post-anaesthetic considerations. *(30 marks)*

End of paper