



Australian and New Zealand College of Veterinary Scientists

Fellowship Examination

November 2020

Avian Medicine and Surgery

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

Paper 1: Avian Medicine and Surgery

Answer all six (6) questions

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

- a) Explain the key anatomical and physiological differences between birds and mammals that must be considered when performing an ophthalmological examination in birds. *(20 marks)*
- b) Describe the embryological development of the avian eye. *(10 marks)*

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

- a) Compare and contrast the anatomical and physiological adaptations of the avian gastrointestinal tract to a nectivorous and faunivorous diet using a lorikeet and a falcon as exemplars. *(15 marks)*
- b) Discuss the clinical signs **and** diagnosis of hepatic disease in psittacine birds. *(15 marks)*

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

- a) With respect to aspergillosis and avian chlamydiosis compare and contrast:
 - i. the differing immunological responses that can occur with infection and disease *(10 marks)*; and
 - ii. the predisposing factors for infection and disease *(10 marks)*.
- b) Describe the usefulness and limitations of serological testing as a diagnostic tool. *(10 marks)*

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4. Answer **all** parts of this question regarding the artificial incubation of avian eggs:
- a) Describe the different kinds of malposition, and the consequence of each. *(5 marks)*
 - b) List the most common differential diagnoses for embryonic losses in each trimester of incubation. *(7 marks)*
 - c) Discuss how you would set up and monitor the artificial incubation process for a commercial aviculture venture. Include in your answer egg collection, incubator management and hygiene and details of the monitoring process. *(18 marks)*
5. Answer **both** parts of this question:
- a) List the predisposing factors, pathogenesis, clinical signs and grading system used for atherosclerosis in avian patients. *(20 marks)*
 - b) Discuss the diagnosis and medical management of atherosclerosis in birds. *(10 marks)*
6. Sixteen-week-old pullets were added to an existing flock of backyard chickens (*Gallus gallus*). The new birds have developed nasal discharge, sneezing and malaise. List **five (5)** likely differential diagnoses for this flock of birds *(5 marks)* and, for each differential diagnosis, describe the clinical signs, diagnosis, treatment and prevention *(25 marks)*.

End of paper



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Paper 2

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Answer **ALL SIX (6)** questions

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

Paper 2: Avian Medicine and Surgery

Answer all six (6) questions

1. A two-year-old, female Eclectus parrot (*Eclectus roratus macgillivrayi*) is presented for an acute onset of vomiting and lethargy.

Answer **both** parts of this question:

- a) Describe the current best practice in initial supportive care and diagnostic evaluation of this patient. (15 marks)
- b) List **five (5)** of the most likely differential diagnoses and discuss specific considerations and treatment options for each. (15 marks)

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

- a) Compare and contrast the steps required to confirm a diagnosis for the following neoplastic diseases:
 - i. Squamous cell carcinoma of the uropygial gland in a cockatoo (*Cacatua galerita galerita*). (6 marks)
 - ii. Lymphosarcoma of the wattle in a chicken (*Gallus gallus*). (6 marks)
 - iii. Fibrosarcoma in the beak of a Blue and Gold Macaw (*Ara ararauna*). (6 marks)
- b) Outline the client, animal and disease factors which would influence your treatment plan for these three types of neoplasm. (12 marks)

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3. Discuss the incursion into Australia, transmission, clinical signs, treatment and prevention of pigeon paramyxovirus (PPMV-1). (30 marks)
4. A 10-year-old female cockatiel (*Nymphicus hollandicus*) is presented with suspected oviduct impaction.

Answer **all** parts of this question:

- a) Briefly describe the assessment (3 marks), diagnostic testing (4 marks), and treatment plan (3 marks) for this case.
- b) Assuming that surgery is ultimately required, please outline a plan for surgical resolution, including:
 - i. Justification for the preferred surgical approach. (2 marks)
 - ii. Details of the planned anaesthetic method, including and justifying such details as: (14 marks)
 - choice of premedication
 - mode of induction
 - maintenance of anaesthesia, including gas flow rates and choice of anaesthetic circuit
 - anaesthetic monitoring.
 - iii. Post-operative analgesic regime. (4 marks)

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5. Describe, in detail, the approach to managing the pre-operative, intra-operative and post-operative cardiovascular status of a three-year-old, female Southern Brown Kiwi (*Apteryx australis*) undergoing a surgical repair of a fractured femur. Include in your answer the assessment, planned responses to changes in cardiovascular status, and potential sequelae to mismanagement. (30 marks)
6. A 20-year-old, female galah (*Eolophus roseicapilla*) is presented with a medium-term history (4–6 weeks) of feather damaging behaviour over the sternal margin and ventral coelomic area.

Answer **all** parts of this question:

- a) Describe the physical assessment and recommended diagnostic work up of this case. (10 marks)
- b) Describe the behavioural assessment and work up of this case. (10 marks)
- c) Assuming that no medical reasons for the feather damaging behaviour were found, describe a potential treatment plan for this animal, including environmental, behavioural and medical interventions. (10 marks)

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