Australian and New Zealand College of Veterinary Scientists

# Membership Examination

June 2021

# Medicine of Australasian Wildlife Species

# Paper 1

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

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

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

Answer **<u>FOUR (4)</u>** questions, each worth 30 marks.....total 120 marks

# Paper 1: Medicine of Australasian Wildlife Species

**Answer all four (4) questions**

1. During a particularly hot summer your state government environment department expresses concern that forecast heatwave conditions are likely to cause a heat stress event in the local, endangered, flying fox population. Your native fauna park has been asked to assist the government department in developing an action plan to protect this population.

   Answer **all** parts of this question:

   a) Briefly describe the clinical signs of heat stress of flying foxes, including the temperatures which trigger a heat stress response. *(5 marks)*

   b) Describe your approach to the treatment of a single, heat affected flying fox which presents to your clinic. *(5 marks)*

   c) Describe the risk to human health that is associated with contact with flying foxes, and briefly discuss the appropriate management of this risk (including exposure, prevention and first aid). *(5 marks)*

   d) Provide appropriate advice to the government department on the prevention of heat stress in flying foxes during high heat conditions at a population level, including the management of the health of people involved in the response. *(15 marks)*

2. For **all** of the following conditions, explain the clinical signs, pathophysiology, diagnosis and treatment:

   i. hypovitaminosis A in a group of hand-raised cockatoos *(10 marks)*

   ii. metabolic bone disease in a nocturnal amphibian *(10 marks)*

   iii. obesity in sugar gliders in a mixed exhibit. *(10 marks)*

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

a) Name the aetiological agent responsible for psittacosis in birds and describe the clinical signs and diagnosis in birds, and considerations for humans exposed to this agent. *(10 marks)*

b) Briefly outline **three (3)** restraint options to enable physical examination of an adult wedge-tailed eagle (*Aquila audax*). Briefly describe the human safety concerns related to this task and how the risk can be managed. *(10 marks)*

c) Provide a list of **four (4)** differential diagnoses for an acute onset of lethargy, increased respiratory effort and coelomic distension in a captive Orange-bellied parrot (*Neophema chrysogaster*). Briefly outline an appropriate clinical approach to investigating the cause of clinical signs in this bird. *(10 marks)*

4. Compare and contrast the renal system of members of the Columbidae and Canidae families. Include in your answer the basic anatomy of the renal system of each family, laboratory tests used to assess the system, and clinical signs of renal dysfunction. *(30 marks)*

**End of paper**

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# Paper 2

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

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

Answer **<u>FOUR (4)</u>** questions, each worth 30 marks.....total 120 marks

# Paper 2: Medicine of Australasian Wildlife Species

**Answer all four (4) questions**

1. A fire threatens your isolated native fauna park. The facility contains a large group of macropods, endangered native aviary birds, a small group of adult saltwater crocodiles, a pair of dingoes and ten hand-raised koalas.

   Answer **all** parts of this question:

   a) List **five (5)** factors to consider when planning animal evacuation. *(5 marks)*

   b) Describe a plan of action for each species/group listed and outline the steps required to achieve this plan. Include in your plan the capture and restraint of these animals, as well as the equipment and personnel you may need to use. *(15 marks)*

   c) Discuss ethical considerations that may arise related to the evacuation plans presented in this situation. *(10 marks)*

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

   a) Describe the similarities and differences in the diagnostic investigation of neurological disease in an adult southern cassowary (*Casuarius casuarius)* and an adult North Island brown kiwi (*Apteryx mantelli*). Details of an investigation should include differential diagnoses, handling approaches, anaesthetic approaches as well as any diagnostic procedures that you wish to include. *(25 marks)*

   b) Discuss how the administration of therapeutic agents may differ between these two species. *(5 marks)*

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

a) With respect to the provision of analgesia in reptiles:

i. list **three (3)** general considerations *(3 marks)*

ii. discuss the efficacy, mechanism of action and potential adverse effects of opioids. *(12 marks)*

b) Describe an appropriate approach to carapace fracture repair in an Eastern long-necked turtle (*Chelodina longicollis*) including initial clinical evaluation, repair techniques, ancillary treatments, housing and feeding during rehabilitation. *(15 marks)*

4. You are providing veterinary advice for a conservation breeding programme for the endangered Long-nosed potoroo (*Potorous tridactylus tridactylus*). The recovery plan for the species includes a recommendation that captive-bred animals are re-introduced into a site where Long-nosed potoroos were historically found. There have been no Long-nosed potoroos seen in this area for the past 10 years.

Answer **all** parts of this question:

a) Describe the main aim of a disease risk analysis (DRA) for any wildlife translocation and briefly outline **four (4)** of the steps involved. *(10 marks)*

b) Explain why the implementation of a DRA would be useful in this situation. *(5 marks)*

c) Outline **five (5)** recommendations for managing biosecurity and assessing the health and welfare of long-nosed potoroos, from the pre-release evaluation to post-release monitoring. *(15 marks)*

**End of paper**