



Australian and New Zealand College of Veterinary Scientists

Membership Examination

June 2014

Medicine of Zoo Animals

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: Medicine of Zoo Animals

Answer all four (4) questions

1. Compare and contrast the anatomy and physiology of the respiratory systems of amphibians, birds and reptiles, noting the clinical relevance of differences. (30 marks)

2. Discuss the challenges of parasite control in the zoological setting. Detail the advantages and disadvantages of the available options for parasite management in zoo collections. (30 marks)

3. For **each** of the following, describe:
 - a) the function of amphibian skin and ways to protect the skin during veterinary procedures (7.5 marks)
 - b) the aetiology and diagnosis of avian mycobacteriosis in captivity (7.5 marks)
 - c) the pathology and management of coccidiosis in kiwi (*Apteryx* spp.) (7.5 marks)
 - d) the provision of analgesia in reptiles. (7.5 marks)

4. For **each** of the following, describe:
 - a) the common nutritional deficiencies seen in captive piscivores, and how to prevent them (7.5 marks)
 - b) the diagnosis and treatment of chlamydiosis in koalas (*Phascolartos cinereus*) (7.5 marks)
 - c) the clinical signs and prevention of canine distemper in red pandas (*Ailurus fulgens*) (7.5 marks)
 - d) the epidemiology and treatment of melioidosis in captive cetaceans. (7.5 marks)

End of paper



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Paper 2: Medicine of Zoo Animals

Answer all four (4) questions

1. Feather abnormalities have been noted in captive orange bellied parrots (*Neophema chrysogaster*) in a breed for release program. There is concern these clinical signs may be associated with psittacine beak and feather disease.

Answer **all** parts of this question:

- a) Discuss the options available to establish a definitive diagnosis, **and** to assess the prevalence in the population. (10 marks)
 - b) Describe the means by which psittacine beak and feather disease could have entered this population. (10 marks)
 - c) Discuss your recommendations to minimise transmission within the captive population, and between the captive and wild populations. (10 marks)
2. You have been asked to provide veterinary advice to a zoo that is implementing a behind the scenes tour which will encompass visits to the night enclosures of Sumatran orang-utans (*Pongo abelii*), lion tailed macaques (*Macaca silenus*) and golden lion tamarins (*Leontopithecus rosalia*). These tours will provide visitors with the opportunity to encounter these species at a close range and for supervised interaction.
- Discuss the zoonotic and anthrozoonotic diseases of concern and your recommendations for disease risk management for both human and nonhuman primates. (30 marks)
3. Zoo employees are subject to numerous occupational health and safety risks. Outline the components of risk management and emergency response protocols, with emphasis on the roles of veterinary staff, for the following **two (2)** scenarios:
- a) inadvertent exposure of a zoo employee to etorphine hydrochloride (15 marks)
 - b) the escape of a Sumatran tiger from its enclosure. (15 marks)

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4. A cornerstone of zoological medicine is being able to restrain a broad range of species for veterinary procedures. Discuss the advantages, disadvantages and indications for the range of techniques (behavioural, physical and chemical) available to enable interventions for veterinary procedures to be performed in captive animals from the following taxonomic groups:
- a) Macropodidae (10 marks)
 - b) Chiroptera (10 marks)
 - c) Pinnipedia. (10 marks)

End of paper