



The Australian and New Zealand
College of Veterinary Scientists

Membership Examination

June 2012

Medicine of Zoo Animals

Paper 1

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

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

Answer **ALL FOUR (4)** questions

All questions are of equal value

Subsections of questions are of equal value unless stated otherwise

Answer **FOUR** questions each worth 25 markstotal 100 marks

Paper 1: Medicine of Zoo Animals

Answer **ALL four (4)** questions

1. Describe the anatomy and physiology of the reproductive systems of monotremes and marsupials, and outline how they differ from that of eutherian mammals. *(25 marks)*
2. Describe a comprehensive pre-release health assessment protocol for an avian species in a captive breed for release program. Choose either a psittacine or passerine species to illustrate your answer. Your answer should include a list of potential diseases of concern, diagnostic tests you would utilise, any preventative health measures and a detailed approach to the clinical examination. *(25 marks)*
3. You have been contracted to provide advice on the construction of a veterinary facility for a newly developed metropolitan zoo that houses a small but diverse collection of species including primates, carnivores, marsupials, pinnipeds, reptiles, and birds. Discuss your recommendations for the design and management of a facility for the provision for animal treatment, quarantine, wildlife rehabilitation, diagnostics and hospitalisation of both collection animals and wildlife in this facility. *(25 marks)*
4. Compare and contrast the use of potent opioid based combinations and alpha2-adrenoreceptor agonist based combinations for the chemical restraint of non-domestic hoof stock. In your answer name the most common potent opioids and alpha2-adrenoreceptor agonists used in zoological medicine. For both potent opioid and alpha2-adrenoreceptor agonist based combinations discuss their pharmacology, advantages and disadvantages, and indications and contraindications. *(25 marks)*

End of paper



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Answer **FOUR** questions each worth 25 marks total 100 marks

Paper 2: Medicine of Zoo Animals

Answer **ALL four (4)** questions

1. Herpesviruses cause morbidity and mortality in a wide range of species maintained in captivity. Choose **one (1)** herpesvirus associated disease of significance in the zoological setting and discuss its aetiology, epidemiology, clinical signs, pathogenesis and diagnosis. (25 marks)

2. Write short notes on **each** of the following:
 - a) The pathogenesis, clinical signs and prevention of disease due to *Plasmodium* spp. infections in captive penguins. (7 marks)
 - b) The pathogenesis, clinical signs and treatment of *Chrysosporium* anamorph of *Nannizziopsis vriesii* infections in captive lizards. (6 marks)
 - c) The side effects associated with the prolonged use of progestin based contraceptives in captive felids. (6 marks)
 - d) The epidemiology, clinical signs and prevention of callitrichid hepatitis. (6 marks)

3. Mycobacterial diseases are a significant cause of morbidity and mortality in the zoological setting. Describe the various diagnostic tests available for the diagnosis of tuberculous mycobacteriosis in zoo animals. Your answer should include the principle by which the tests work, indications and any limitations associated with the use of specific tests. (25 marks)

4. Write short notes on **each** of the following:
 - a) The aetiology, clinical signs and pathogenesis of proventricular dilatation syndrome in captive psittacines. (7 marks)
 - b) The epidemiology, clinical signs and prevention of *Angiostrongylus cantonensis* infections in captive non-domestic mammals. (6 marks)
 - c) The aetiology, clinical signs and pathogenesis of coccidiosis in captive echidnas (*Tachyglossus aculeatus*). (6 marks)
 - d) The clinical signs, pathogenesis and diagnosis of ranavirus infections in captive amphibians. (6 marks)

End of paper