



Australian and New Zealand College of Veterinary Scientists

Membership Examination

June 2016

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. Identify key differences in the dentition, gastrointestinal tract anatomy and nutritional ecology of kangaroos, the koala (*Phascolarctos cinereus*), and the brushtail possum (*Trichosurus vulpecula*). Discuss the relevance of these differences in the development of captive diets. (30 marks)

2. Answer **all** parts of this question:
 - a) Discuss the clinical signs and diagnosis of psittacid herpesvirus-1. (7.5 marks)

 - b) Discuss the clinical signs of pain in birds, and compare the efficacy of available analgesic options for a pigeon with a fractured humerus. (7.5 marks)

 - c) Discuss the clinical significance, treatment and prevention of snake mites (*Ophionyssus natricis*) in captivity. (7.5 marks)

 - d) Discuss the diagnostic options for chytridiomycosis in tadpoles and adult frogs. (7.5 marks)

3. Discuss the advantages, disadvantages and indications for behavioural, physical and chemical restraint techniques to enable veterinary procedures to be performed on the following species:
 - a) giraffe (*Giraffa camelopardalis*) (10 marks)

 - b) African wild dog (*Lycaon pictus*) (10 marks)

 - c) mandrill (*Mandrillus sphinx*). (10 marks)

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

- a) Discuss the indications for, **and** describe the procedure to collect, a gill biopsy in fin fish. (7.5 marks)
- b) Discuss the diagnostic approach to diarrhoea in orphaned marsupial joeys being hand-reared. (7.5 marks)
- c) Discuss the pharmacology of, and indications for the use of, gonadotrophin-releasing hormone (GnRH) agonists in social primates. (7.5 marks)
- d) Discuss the significance of isolating *Salmonella* sp. from a faecal sample of a white rhinoceros (*Ceratotherium simum*), and list actions that may be appropriate in response to this result. (7.5 marks)

End of paper



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Paper 2

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Paper 2: Medicine of Zoo Animals

Answer all four (4) questions

1. Discuss the considerations for the release of a captive bred native species of your choice, from pre-release evaluation to post-release monitoring. In your answer, include biosecurity, logistical and welfare concerns. *(30 marks)*
2. Discuss the methods used to determine oestrus and pregnancy in mammals in zoos, outlining the advantages **and** limitations of **each**. Illustrate your answer with specific examples. *(30 marks)*
3. You have been contracted to provide veterinary services to a local zoo. Discuss the components of a comprehensive preventative medicine program for this collection. *(30 marks)*
4. Compare the ethical, conservation and public relations considerations of euthanasia for both individual animal welfare and population welfare reasons in zoos. *(30 marks)*

End of paper