



# Australian and New Zealand College of Veterinary Scientists

## **Membership Examination** June 2012

### **Veterinary Pharmacology** **Paper 1**

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

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

**Section A:** Answer your choice of any **THREE (3)** questions from the five questions **ONLY**

**Section B:** Answer your choice of any **THREE (3)** questions from the four questions **ONLY**

All questions are of equal value

Answer **SIX** questions each worth 20 marks .....total 120 marks

# Paper 1: Veterinary Pharmacology

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## SECTION A

Answer **THREE (3)** of the following five questions:

1. Describe the factors that a prescribing veterinarian should consider when determining the length of a course of antibiotic treatment. Your answer should include an explanation of how and why these factors influence the choice, including examples where applicable. *(20 marks)*
2. Describe the rational use of diuretics in heart failure patients including a detailed explanation of the pathophysiological basis of their use in heart failure. *(20 marks)*
3. Describe the role of T lymphocytes, including T1 and T2 helper cells and the role of T lymphocytes in the adaptive immune response. *(20 marks)*
4. Define volume of distribution and explain how it is calculated and interpreted and the typical units given. *(20 marks)*
5. Describe the pharmacological effects of warfarin and discuss the options for the treatment of warfarin poisoning in a dog. In your answer contrast oral versus parenteral therapy. *(20 marks)*

**End of Section A**

## SECTION B

Answer **THREE (3)** of the following four questions:

6. The tricyclic antidepressants (TCAs) and selective-serotonin reuptake inhibitors (SSRIs) are drug classes that are sometimes used for small animal behavioural modification. **For both drug classes:**
- List specific drug names for each drug class and, for either Australia or New Zealand, state whether or not they are registered for veterinary use. *(6 marks)*
  - Discuss how their mechanisms of actions dictate the onset of clinical effect. *(7 marks)*
  - Discuss the side effects and adverse drug interactions that may be associated with these drugs. *(7 marks)*
7. Discuss the medical therapy of idiopathic epilepsy in dogs. In your answer include a discussion of the options for both the long term therapy and the acute therapy of status epilepticus in dogs with idiopathic epilepsy. For **one (1)** of these options discuss the factors that influence the efficacy and safety. *(20 marks)*
8. Discuss the mechanism of action and pharmacological effects of corticosteroids. *(20 marks)*
9. You are asked to provide advice during clinical testing of a non-steroidal anti-inflammatory drug (NSAID) that is to be used following surgery.
- Explain the modes of action of the NSAIDs. *(6 marks)*
  - Discuss side-effects which may occur with this class of drug and how surgery under general anaesthesia might alter the risk of such side-effects. *(7 marks)*
  - Discuss methods of assessing analgesia during and following surgery. *(7 marks)*

**End of paper**



# Australian and New Zealand College of Veterinary Scientists

## **Membership Examination** June 2012

### **Veterinary Pharmacology** **Paper 2**

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

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

**Section A:** Answer your choice of any **THREE (3)** questions from the five questions **ONLY**

**Section B:** Answer your choice of any **THREE (3)** questions from the four questions **ONLY**

All questions are of equal value

Answer **SIX** questions each worth 20 marks .....total 120 marks.

# Paper 2: Veterinary Pharmacology

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## SECTION A

Answer **THREE (3)** of the following five questions:

1. Discuss the clinical application of cyclosporin in small animal practice. *(20 marks)*
2. Explain the reasons for and purpose of demonstrating the bioequivalence of an oral anthelmintic active for the control of intestinal parasites. *(20 marks)*
3. Discuss the various therapeutic options available for gastric ulceration in horses. *(20 marks)*
4. Explain the importance of enantiomers in pharmacology using examples. *(20 marks)*
5. Describe factors you would consider in the design of a study to demonstrate palatability in a chewable non-steroidal anti-inflammatory tablet for dogs and explain why such studies are important. *(20 marks)*

**End of Section A**

**SECTION B:**

**Answer THREE (3) of the following four questions:**

6. A newspaper report alleges that veterinarians are overusing antibiotics that are vital for human health and there is a risk that resistant organisms may become a threat to human medicine. You have been asked by your veterinary association to prepare a paper for the association's policy makers that addresses these concerns. Explain the importance of appropriate antibiotic use and how the veterinary profession is dealing with this risk. (20 marks)
7. Polypharmacy is often used in veterinary practice increasing the potential risk of adverse drug reactions. Discuss the mechanisms by which these interactions may occur. Give examples of drug classes in which clinically significant interactions are likely. (20 marks)
8. Discuss the pharmacological considerations and options for therapy and prophylaxis of the following conditions:
- a) *Malassezia* dermatitis in a dog (5 marks)
  - b) suppurating caseous lymphadenitis (CLA) abscess in a superficial lymph node in a stud ram (5 marks)
  - c) acute, severe upper respiratory disease in a thoroughbred mare (5 marks)
  - d) recurrent high somatic cell counts in a dairy herd. (5 marks)
9. Discuss the pharmacokinetic factors which may affect the action of drugs in neonates. (20 marks)

**End of paper**