



Australian and New Zealand College of Veterinary Scientists

Membership Examination

June 2019

Medicine and Surgery of Unusual Pets 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 marks total 120 marks

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Paper 1: Medicine and Surgery of Unusual Pets

Answer all four (4) questions

1. For the **three (3)** medications listed below:

- state the type of medication and briefly describe the mode of action,
- give **three (3)** examples of clinical use of this medication (including species and condition(s) treated, dosage, frequency and routes of administration),

and
- outline any expected side effects and contraindications (including species the medication is not suitable for).

a) fipronil (*10 marks*)

b) amoxicillin – clavulanic acid (*10 marks*)

c) prednisolone. (*10 marks*)

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2. For each of the **three (3)** zoonotic diseases listed below identify the causative organism and briefly discuss:

- clinical signs in the animal,
- the mode of transmission from animal host to human,
- the clinical signs in humans,
- available treatment in animals (if necessary), and
- strategies to prevent transmission from animals to humans.

a) Tularaemia from rabbits (10 marks)

b) Lungworm from rats (10 marks)

c) *Salmonella* from turtles. (10 marks)

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

a) Compare and contrast the dentition of the rabbit (*Oryctolagus cuniculi*), the guinea pig (*Cavia porcellus*) and the ferret (*Mustela putorius furo*). Your answer should include dental formulae, type of dentition, purpose of the teeth for that species, and any other information considered relevant. (20 marks)

b) For each of these **three (3)** species, briefly discuss considerations relevant to the administration of anaesthesia for dental procedures. (5 marks)

c) Briefly discuss the equipment required for performing dental maintenance and extractions in these **three (3)** species. (5 marks)

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

a) Scales are a defining feature of the class Reptilia, and vary in structure and function between the different reptile species.

i. Describe the structure and function of reptile skin. The use of (an) appropriately labelled diagram(s) is encouraged. (7 marks)

ii. Identify and briefly discuss differences in the structure and shedding of scales in snakes, lizards, chelonians and crocodylians. (8 marks)

b) Answer **both** parts of this sub-question:

i. Compare and contrast the structure and function of the respiratory system of the adult axolotl (*Ambystoma mexicanum*) with that of the adult brown tree frog (*Litoria ewingi*). (10 marks)

ii. For each species, give **one (1)** example of a disease that affects the respiratory system and **one (1)** clinical sign that you would expect to encounter for this disease. (5 marks)

End of paper



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

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Answer **ALL FOUR (4)** questions

Answer **FOUR** questions, each worth 30 marks total 120 marks

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Paper 2: Medicine and Surgery of Unusual Pets

Answer all four (4) questions

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

- a) An owner is concerned that his Australian leaf insects (*Phyllium monteithi*) have been having high mortality rates associated with moulting, and those specimens that do survive become misshapen.

Answer **all** parts of this sub-question:

- i. Briefly discuss the likely diagnosis and underlying cause. (3 marks)
 - ii. List and briefly justify the husbandry questions that should be asked of the owner. (3 marks)
 - iii. Briefly explain how this condition could be prevented and managed in the future. (4 marks)
- b) The owner of a marbled scorpion (*Lychas variatis*) has come to your clinic concerned that her pet seems lethargic and appears to have lost body condition, despite its appetite being adequate up until the last week. The owner has researched scorpion diseases and is concerned that the scorpion could have a fungal infection.

Answer **all** parts of this sub-question:

- i. List the differential diagnoses for the scorpion's presenting complaint. (3 marks)
- ii. Outline appropriate methods to diagnose fungal infection in this specimen. (2 marks)
- iii. Briefly discuss appropriate treatment for a fungal infection and ongoing recommendations for this pet. (5 marks)

Question 1 continued over page

- c) An owner of a collection of Australian land hermit crabs (*Coenobita variabilis*) has noted several individuals without their shells. The crabs appear lethargic and have not eaten for several days. Prior to this, the crabs had a higher-than-normal appetite. Some of the crabs appear to be trying to climb the walls of the enclosure, while others appear to try on a shell and then quickly evacuate it.

Answer **all** parts of this sub-question:

- i. Identify the most likely condition causing the changes observed in these crabs. (1 mark)
- ii. Briefly discuss differential diagnoses for the behaviour they are exhibiting. (3 marks)
- iii. Discuss an appropriate diagnostic work up and outline recommendations regarding management of this condition. (6 marks)

2. For the each of the **three (3)** conditions listed below, briefly discuss:

- the most likely diagnosis,
- **four (4)** other differentials,
- clinical signs,
- appropriate diagnostic steps, and
- treatment.

a) Constricted toes and pinched tails in bearded dragons. (10 marks)

b) Sebaceous adenitis in rabbits. (10 marks)

c) Symmetrical bilateral alopecia in ferrets. (10 marks)

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3. An adult female mouse is presented to you with a two centimetre cutaneous mass behind the left ear, adjacent to an area of deep excoriation. The owner reports that the mice have been fighting and she has had to separate this mouse from her cage mates. You suspect this patient has an abscess.

Answer **all** parts of this question:

- a) Describe an appropriate diagnostic process to confirm this diagnosis. (3 marks)
- b) List **four (4)** bacteria commonly isolated from abscesses on mice. (4 marks)
- c) Discuss treatment options for this patient's abscess. Your answer should include **three (3)** different antibiotics and **two (2)** different analgesic agents that may be utilised. (15 marks)
- d) Give an example of an appropriate anaesthetic protocol to facilitate any required diagnostic and therapeutic interventions in this case. (8 marks)

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4. A four-year-old, adult, female Woma python (*Aspidites ramsayi*) has been presented to you for failing to lay eggs at the time that the owner estimated that they would be due for oviposition. Her owner is concerned that she may be egg bound and reports that the python is inappetant with a firm swelling in the caudal half of the body (at approximately 75% of its snout to vent (SV) length). The snake has cohabitated with a male of the same species for two years, and they were seen to mate six months ago.

Answer **all** parts of this question:

- a) State the age at which this species becomes sexually mature and the expected gestation period. (1 mark)
- b) Discuss the housing requirements for a gestating female nearing oviposition. (4 marks)
- c) List the clinical signs expected in a gravid female nearing oviposition. (2.5 marks)
- d) List the differential diagnoses that should be considered in the python described above. (2.5 marks)
- e) Briefly discuss diagnostic tests that could be used to evaluate this python. (5 marks)
- f) After your examination and diagnostic testing, you have diagnosed a nonobstructive dystocia.

Answer **both** parts of this sub-question:

- i. Give **two (2)** examples of factors that might predispose to non-obstructive dystocia. (1 mark)
- ii. Briefly describe both medical and surgical approaches to this condition. (14 marks)

End of paper