2011 *(modified 2012)*

AUSTRALIAN AND NEW ZEALAND COLLEGE OF VETERINARY SCIENTISTS

MEMBERSHIP GUIDELINES

Veterinary Behaviour

INTRODUCTION

These Membership Guidelines should be read in conjunction with *Membership Candidate Handbook.*

ELIGIBILITY

Refer to Section 2 of the *Membership Candidate Handbook.*

OBJECTIVES

To demonstrate that the candidate has sufficient knowledge of and experience in veterinary behaviour to be able to give sound advice to colleagues on problems and procedures commonly encountered in this field of general veterinary practice.

LEARNING OUTCOMES

A. The candidate will have a **sound**[1] knowledge of the following:

1. The definition of behaviour and the role of the following in its expression:

   1.1. genetics, environment and learning
   1.2. neuroanatomy
   1.3. neurophysiology.

[1] **Knowledge levels:**
Detailed knowledge — candidates must be able to demonstrate an in-depth knowledge of the topic including differing points of view and published literature. The highest level of knowledge.
Sound knowledge — candidate must know all of the principles of the topic including some of the finer detail, and be able to identify areas where opinions may diverge. A middle level of knowledge.
Basic knowledge — candidate must know the main points of the topic and the core literature

2. The behaviour considered to be normal in captivity and the wild, appropriate to the importance of the species, of the following:

   2.1. companion, performance or laboratory species that are kept in Australia or New Zealand:
      2.1.1. dogs, cats, pet bird species, horses, rabbits, guinea pigs, rats and mice

   2.2. production animal species that are bred in New Zealand or Australia:
      2.2.1. cattle, sheep, pigs, deer, goats, fowls, ducks, geese, turkeys and alpaca.

3. Individual behaviour: indication of temperament, indication of perception, cycles of behaviour, time budgets, predation, avoidance of predation and strategies for reducing other potential harm (visual cliffs, fire, parasitism and infestation), feeding, regurgitation, drinking, eliminating, locomotion, sleeping, resting, grooming, play, sexual interaction, pregnancy, parturition, nursing, care-giving, weaning, developmental periods, territorial behaviour, navigation, migration, thermoregulation, and responses to snakes, thunder, flood and earthquake; intra and interspecies communication.

4. Group behaviour: recognition of species and group members, communication within and between groups, formation and maintenance of groups, group size, attachment, socialisation and its sensitive period, play, mimicry, social facilitation, individual distance, territory, home range, predation, predator avoidance, protection of group, agonism, current understanding of social systems, mutual grooming, movement orders, and altruism.

5. The principles and practice of animal learning and training including an understanding of the principles and application of: habituation (or adaptation), sensitisation (or facilitation or potentiation), Thorndike's Law of Effect, operant conditioning, positive and negative reinforcement, relativity of reinforcement (Premack Principle applied to reinforcement), extinction, latent learning, sensory-motor learning, chaining, generalisation, discrimination, primary and secondary reinforcers, successive approximation (shaping and fading), reinforcement schedules (continuous, variable-interval, variable-ratio, fixed-interval, fixed-ratio), positive and negative punishment, relativity of punishment (Premack principle applied to punishment), classical (or Pavlovian) conditioning, inhibition in conditioning, counter-conditioning, flooding, the preparedness dimension of learning (or boundaries of learning or limitations to learning), instinct (or innate behaviour), imitation and observational learning, trial-and-error learning, learning set, learned helplessness, the nature of memory.

6. The definitions for normal, abnormal, acceptable and unacceptable behaviour and consideration of the following with regard to these behaviours:

   6.1. obtaining a good history

6.2. differential diagnoses
6.3. possible aetiologies (including medical conditions) and their welfare implications
6.4. appropriate treatment options, where applicable, including behaviour modification strategies, environmental manipulation and/or use of behavioural medications (together with medical or surgical treatment as required).

B. The candidate will have a **basic** understanding of the following:

1. Pet Ownership:
   1.1. advantages and disadvantages for the pets and the community
   1.2. selection of appropriate pets and provision of suitable environments
   1.3. animal management strategies in urban, periurban, rural and remote communities with regard to community concerns and implications for animal control and welfare
   1.4. an understanding of the human-animal bond and how this can impact on pet behaviour.

2. The design of facilities and equipment for training, handling, transportation and housing of companion animals and domestic livestock :

   2.1. advantages and disadvantages of different facilities/equipment
   2.2. relevant applications for each.

3. The behaviour of intensively housed production animals and wild animals in establishments such as zoos, circuses and oceanariums:

   3.1. constraints of a restricted environment and how these may be addressed
   3.2. effects of these constraints on behaviour
   3.3. management implications
   3.4. welfare concerns
   3.5. balancing multiple aims for animals in captivity – animal welfare, conservation, education, research, recreation, entertainment.

4. Pest Species:

   4.1. The implications of normal behaviour for managing common pest species which may be strays or ferals of:
      4.1.1. companion, performance or laboratory species that are kept in Australia or New Zealand:
         4.1.1.1. dogs, cats, pet bird species, horses, rabbits, guinea pigs, rats and mice
      4.1.2. production animal species that are bred in New Zealand or Australia:
         4.1.2.1. cattle, sheep, pigs, deer, goats, fowls, ducks, geese, turkeys and alpaca.
      4.1.3. other introduced species such as foxes, buffalo, camels or possums (in NZ).

4.2. Identify problems these animals pose.
4.3. Discuss possible management techniques.
4.4. Address methods of assessing success of these techniques.

5. An understanding of how knowledge of behaviour can be used as an indicator of an animal's welfare.
   C. The candidate will be able to perform the following technical procedures with **sound**[2] expertise:

   a. clinical examination
   b. neurological examination
   c. fitting equipment such as harnesses and head collars.

EXAMINATIONS

For information on the required standard and format for both the Written and Oral examinations, candidates are referred to Sections 3, 10 and 11 of the *Membership Candidates Handbook.* The Membership examination has **two separate, autonomous components**:

1. **Written Examination** *(Component 1)*
   Written Paper 1 (two hours): Principles of the Subject
   Written Paper 2 (two hours): Applied Aspects of the Subject

2. **Oral Examination** *(Component 2)*
   Oral (one hour)

The written examination will comprise of two separate two-hour written papers taken on the same day. There will be an additional 15 minutes perusal time for each paper, during which no writing on the examination paper is permitted. In each paper you are provided with four (4) questions to answer, worth 30 marks each, giving a total of 120 marks per paper. There is no choice of questions. Questions may be long essay type or a series of shorter answer sub-questions. Marks allocated to each question and to each subsection of questions will be clearly indicated on the written paper.

Written Paper 1:

[2] **Skill levels:**
Detailed expertise — the candidate must be able to perform the technique with a high degree of skill, and have extensive experience in its application. The highest level of proficiency.
Sound expertise — the candidate must be able to perform the technique with a moderate degree of skill, and have moderate experience in its application. A middle level of proficiency.
Basic expertise — the candidate must be able to perform the technique competently in uncomplicated circumstances.

This paper is designed to test the candidate's knowledge of the principles of veterinary behaviour as described in the Learning Outcomes.

Written Paper 2:

This paper is designed to (a) test the candidate's ability to apply the principles of veterinary behaviour medicine to particular cases/problems or tasks and (b) test the candidate's familiarity with the current practices and issues that arise from activities within the discipline of veterinary behaviour in Australia and New Zealand.

Oral Examination:

This examination requires the candidate to demonstrate achievement of the Learning Outcomes listed earlier. Multimedia is likely to be used during this examination as stimulus for discussion. The duration of this examination is approximately one (1) hour. Five cases are presented with supporting questions asked verbally in a face-to-face setting. The oral examination has a total of 100 marks with each case allocated 20 marks.

RECOMMENDED READING MATERIAL

The candidate is expected to read widely within the discipline, paying particular attention to areas not part of their normal work experiences. This list of books and journals is intended to guide the candidate to some core references and other source material. Candidates also should be guided by their mentors. *The list is not comprehensive and is not intended as an indicator of the content of the examination.*

Core

1. **Domestic Animal Behavior for Veterinarians and Animal Scientists. (4th Ed)**
   Houpt, K.A.
   Wiley-Blackwell 2004

2. **Handbook of behaviour problems of the dog and cat.**

   Landsberg, G., Hunthausen, W. & Ackerman, L.
   Butterworth-Heinemann 1997

3. **Equine Behaviour- Principles and Practice**

   Mills, D and Nankervis K

   Blackwell publishing, Oxford 1999

4. **Clinical behavioral medicine for small animals**

   Overall, K. L.
   Mosby

5. **The domestic dog, it evolution, behaviour and interactions with people.**

Serpell, J. (Ed).
Cambridge University Press. 1995

6. **Manual of Parrot Behavior**
   Luesher A.U.
   Blackwell publishing 2006

7. **The Domestic Cat: the Biology of Its Behaviour (2nd Ed)**
   Turner, D.C & Bateson, P (ed)
   Cambridge University Press, 2000

8. **Neuroscience- Exploring the Brain**

   Bear, M, Connors, B, & Paradiso, M

   Williams and Wilkins Baltimore 2006

9. **Small Animal Clinical pharmacology (2nd Ed)**
   Maddison J, Church and Page
   Elsevier 2008

Supplementary

1. **The Behaviour of Cattle**
   Albright, J.C and Arave, C.W.
   CABI Publishing 1997

2. **Farm Animal Behaviour and Welfare (3rd Edition)**.
   Fraser A.F. and Broom D.M
   CAB I Publishing 1997

3. **Low Stress Handling restraint and behaviour modification of dogs and cats**
   Yin, S.A.
   Cattle Dog Pub 2009

4. **Improving Animal Welfare: A Practical Approach**
   Grandin, T (ed)
   CABI Publishing 2009

5. **Handbook of Applied Dog Training Vol 1,2 & 3**
   Lindsay, S R
   Iowa State University Press 2000

6. **Dogs and Cats in the Urban Environment – A Handbook of Municipal Pet Management (2nd ed)**
   Murray, R,W and Penridge, H.E
   Chiron Media 1992

7. **An Introduction to Behavioral Endocrinology (3rd Ed)**
   Nelson, R.
   Sinauer AssociatesInc 2005

8. **Feline Behaviour Guidelines**

   From the American Association of Feline Practitioners 2004

9. **Genetics and the Social Behaviour of the Dog**
   Scott, John P and Fuller, John L
   Iowa State University Press (1965)

10. **Problem based Feline Medicine**

    Rand J

    Elsevier 2006

Journals

11. **Journal of Veterinary Behaviour** Clinical Applications and Research

12. **Applied Animal Behaviour Science**

Reading for Interest

13. **Animal Behavior-an evolutionary approach**
Alcock, J.
Sinauer AssociatesInc, Massachusetts

14. **The Sciences of Animal Welfare**
Mellor D, Patterson-Kane E, Stafford KJ
2009

15. **Don't Shoot the Dog!**
Pryor, K
Sunshine Books 1984

16. **The Waltham Book of Dog and Cat Behaviour**
Thorne, C. (ed)
Pergamon Press, 1992

17. **The culture clash**

Donaldson J

18. **The other end of the leash**

McConnell, P.

19. **Excel-erated learning**

Reid P

20. **The Waltham Book of Human Animal Interaction**: Benefits and Responsibilities of Pet Ownership (Waltham Centre for Pet Nutrition). Robinson, I (ed.), Oxford.

FURTHER INFORMATION

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