

Australian College of Veterinary Scientists
Membership Examination

June 2010

Animal Reproduction

Paper 1

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

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

Answer **five (5)** from the six questions **only**.

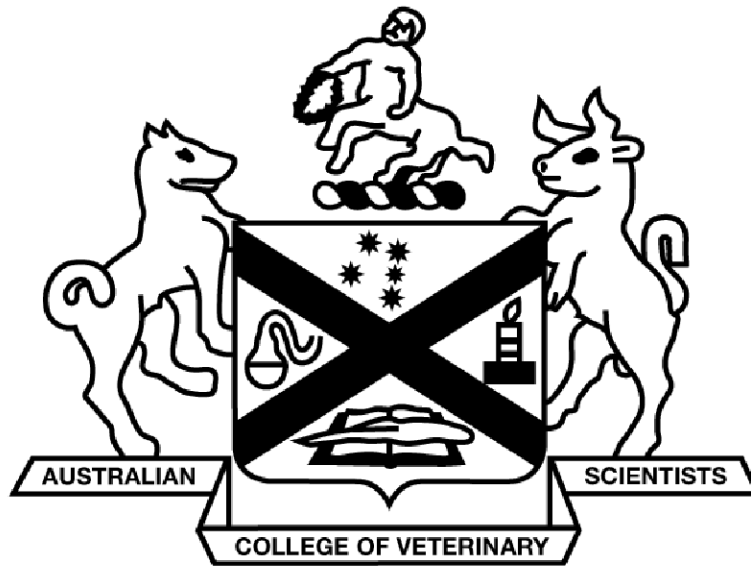
All questions are of equal value.

Paper 1: Animal Reproduction

Answer five (5) from the six questions only.

1. Describe the process of sexual differentiation during embryological development, which results in the chromosomal, gonadal and phenotypic features of the male eutherian animal. Provide **two (2)** examples of defects which result in aberrations of either gonadal or phenotypic sex in male animals. Explain the causes and consequences of **each** example.
2. Describe how protein hormones and steroid hormones exert their effects in the body. List the effects that luteinising hormone and oestradiol have on male and female animals.
3. Discuss ‘maternal recognition of pregnancy’ as the term is applied to domestic animals. Describe the different mechanisms involved in maternal recognition of pregnancy in the cow **and** the sow.
4. ‘Progesterone is the organiser of the oestrous cycle’. Discuss this statement, using the oestrous cycle of any polyoestrus domestic animal to illustrate your answer.
5. Several common domestic species undergo seasonal reproductive activity. Briefly discuss the evolutionary advantages of this kind of reproductive model. Discuss, in detail, the hormonal relationships that are involved in the yearly seasonal recrudescence of reproductive activity in the ewe.
6. Describe the different stages of parturition and their duration in a species of your choice. Discuss the hormonal and physiological mechanisms involved in the continuum of stages during parturition, ending in birth.

End of paper



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Paper 2

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Answer **five (5)** from the six questions **only**.

All questions are of equal value.

Paper 2: Animal Reproduction

Answer five (5) from the six questions only.

1. Discuss the indications for caesarean section in the cow and bitch. Outline your approach to the procedure in **both** species, including choice of anaesthetic agents, surgical technique and after-care of the dam and young.
2. Describe the Ovsynch program which is used to assist fertility in dairy herds. Outline the program's underlying physiology, discussing its advantages and disadvantages. Briefly outline alternative strategies that could be used to assist fertility management in postpartum dairy cows.
3. A professional colleague seeks your advice regarding an expensive thoroughbred stallion which has been found with an enlarged and swollen prepuce and penis that it cannot retract. List the likely differential diagnoses for the condition. Discuss your management options.
4. Describe the elements of a breeding soundness examination in **either** a bull or a stallion. Outline the results you would require to categorise the animal as a potential satisfactory breeder.
5. List and briefly describe the Dow classification of cystic endometrial hyperplasia (CEH) in the bitch. Compare the aetiology, age of occurrence, diagnosis, treatment and prognosis for future breeding of a bitch with CEH **and** that of **either** a cow **or** a mare with pyometra.
6. During lambing in a local merino flock of several hundred ewes near Scone, NSW, 5% of the lambs have been born sickly and there has been an excessive number of late abortions. List the important differential diagnoses and discuss the steps you would take to manage the problem and arrive at a diagnosis.

End of paper