

Australian College of Veterinary Scientists
Membership Examination

June 2010

Medicine of Dairy Cattle

Paper 1

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

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

Answer **four (4)** from the six questions **only**.

All questions are of equal value.

Subsections of questions are of equal value unless stated otherwise.

Paper 1: Medicine of Dairy Cattle

Answer four (4) from the six questions only.

1. Write short notes on **four (4)** of the following:
 - a) abomasal ulceration
 - b) viral diseases causing oral lesions in cattle
 - c) the effects of heat stress in lactating dairy cattle
 - d) digital dermatitis
 - e) dermatophilosis
 - f) infectious bovine keratoconjunctivitis.

2. Liver dysfunction in cattle can produce a variety of clinical signs and biochemical changes. Describe at least **six (6)** clinical signs that may be associated with failure of liver function and explain the pathophysiological basis for their occurrence. As part of your answer also list those biochemical tests most useful for evaluating hepatobiliary damage and dysfunction.

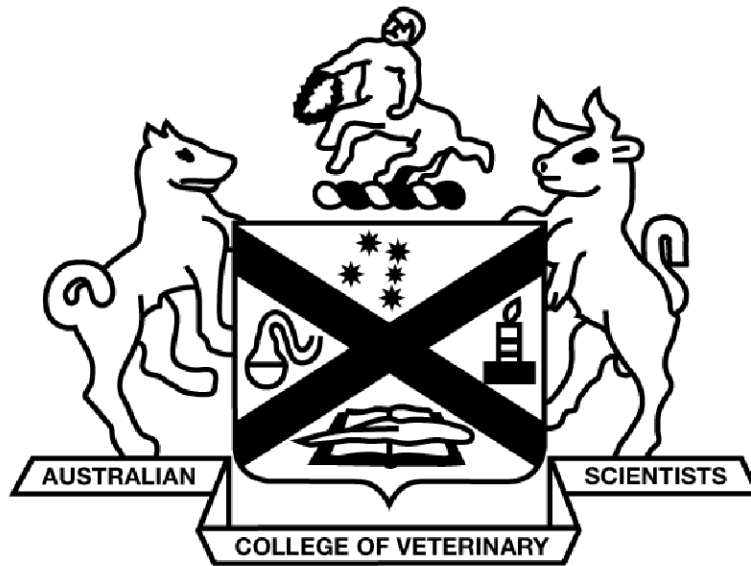
3. Write short notes on the prevention of **four (4)** of the following:
 - a) roughened teat ends (hyperkeratosis or callosity of the teat end)
 - b) babesiosis
 - c) facial eczema
 - d) botulism
 - e) mastitis caused by *Streptococcus uberis*
 - f) cryptosporidiosis.

4. Discuss the differential diagnoses of **four (4)** of the following conditions:
 - a) ephemeral fever in a dairy heifer
 - b) nervous ketosis
 - c) enzootic haematuria
 - d) coccidiosis
 - e) lead poisoning.

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5. List the presenting clinical signs associated with each of **four (4)** of the following abdominal disorders in cattle and describe how you would distinguish between them:
- a) vagus indigestion
 - b) right displaced abomasum
 - c) right volvulus of the abomasum
 - d) acute diffuse peritonitis
 - e) caecal dilatation
 - f) acute intestinal obstruction.
6. List the common enteric pathogens of dairy calves less than four-weeks of age and describe the pathogenesis and treatment options relevant for **each** pathogen. As part of your answer include the general treatment options available for dehydrated and scouring calves.

End of paper



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Paper 2

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Paper 2: Medicine of Dairy Cattle

Answer four (4) from the five questions only.

1. You have been asked by the farm manager to provide animal health training for the staff of a dairy farm milking 1200 cows. The training sessions will be of one hour duration each month. Prepare a list of topics for the next twelve months in a dairy system of your choice and make brief descriptive notes relevant to each topic. The list with supporting notes will be given to the farm manager for his consideration and feedback.
2. Analysis of reproductive records from the past twelve months for a year-round calving dairy herd using artificial insemination reveals above-target results for 80 day submission rate but a low total service conception rate. List the factors known to contribute to low conception rates in dairy herds and describe management strategies that can be used to improve conception rates. Include a discussion of how you would identify factors that are likely to cause conception failure in dairy cattle.
3. The result of a bulk milk tank ELISA test for BVDV from a 200 cow dairy herd reveals an S/P ratio of 1.36, indicating very high exposure to the virus. The herd owner occasionally sells replacement heifers and herd bulls to other farms and is keen to control and eradicate the disease to protect the health status reputation of his herd. Describe the steps you would recommend to him to help him achieve his goal in the most cost-effective way.
4. You are approached by a 900 cow dairy for assistance with a lameness problem. The herd is split into two groups. These groups graze pasture at night and during the early mornings after milking and return to be fed a maize silage based ration on a shaded, concrete feed pad with sprinklers during the main part of the day. Approximately 20 percent of lactating cows show evidence of lameness. Outline your approach to investigating this lameness problem. Include discussion of records analysis, nutrition, cow handling, laneway maintenance and feedpad management.

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5. An outbreak of pneumonia has occurred in a mob of 30 dairy calves (aged from three to six weeks) being housed in a shed and being fed whole milk from buckets. Two have died and laboratory examination of portions of lung demonstrated the presence of purulent bronchopneumonia and the isolation of a pure culture of *Pasteurella multocida*.

Discuss the epidemiology of respiratory disease in housed calves including factors contributing to outbreaks. Describe treatment methods appropriate for calves affected by *Pasteurella pneumonia* and your recommendations to the farmer to control the outbreak.

End of paper