THE ROYAL COLLEGE OF VETERINARY SURGEONS

STATUTORY EXAMINATION FOR MEMBERSHIP

2005 WRITTEN EXAMINATION QUESTION PAPERS

This examination question paper is in two sections - Section A and Section B. Each section carries 50% of the total marks available for this examination paper and candidates are advised to allocate their time accordingly.

Within questions percentages in brackets are used to indicate what proportion of the marks for that question has been allocated to a particular part or sub-section of the question.

Candidates should answer **THREE** questions from Section A and should attempt **ALL** questions in Section B.

Candidates should start each answer on a new answer sheet and write the question number in the margin of each sheet used.

MEDICINE

SECTION A (answer either (a) or (b) from each of the 3 pairs of questions)

1a You are presented with a 3-year-old female Standard Poodle dog with a one month history of weight loss, depression, poor appetite and intermittent vomiting. Your clinical examination of the dog reveals a heart rate of 60. There are no other significant clinical findings. You suspect the dog has hypoadrenocorticism.

- List 5 (five) differential diagnoses (apart from hypoadrenocorticism) that you would consider in this case. (25%)
- Describe what changes you would expect to be present on routine haematology and blood biochemistry if this dog did have hypoadrenocorticism. (30%)
- Describe how you would confirm the diagnosis of hypoadrenocorticism in this dog. (25%)
- Describe how you would treat hypoadrenocorticism and how you would monitor the effect of the treatment. (20%)

OR

1b You are presented with a thin 12-year-old neutered female cat with a one month history of weight loss, polyuria and polydipsia. Despite these signs the cat's appetite has remained satisfactory. On clinical examination the heart rate is 180 per minute.

- List 5 (five) conditions from which this cat might be suffering. (25%)

The next day routine serum biochemistry and haematology demonstrate marked azotaemia and hyperphosphatemia. The owner is keen for you to treat the cat to the best of your ability. The cat is not sufficiently dehydrated to warrant hospitalisation.

- Name 3 (three) major complications that may develop in this cat in the coming months. (30%)
- Name 5 (five) therapeutic options that are available for this cat (in the UK). For each option
You are called to see a 5-year-old Holstein cow that calved, unassisted, yesterday. This morning she is dull, unwilling to stand, is off her food and has an enlarged back left udder quarter. The cow has a heart rate of 100 beats per minute and no rumen turnover. You suspect the cow has peracute E. Coli mastitis.

- Outline the pathophysiology of this condition. (15%)
- How would you assess the animal’s condition further and how could you confirm the diagnosis? (30%)
- Describe in detail how would you treat this animal? (40%)
- What advice would you give the client on preventing the disease occurring in another cow in the future? (15%)

OR

Your client has a flock of 40 pedigree Texel ewes, lambing indoors in January, to produce pedigree rams sold for breeding. Over several years the flock has had problems with lameness, particularly in the older ewes, but also in the rams being prepared for sale. The client suspects foot rot, although some of the growing lambs are also troubled with scald. The client asks you to help in controlling the number of lameness cases and has read in a farming journal that it is possible to eliminate foot rot, and wants to try to achieve this.

- Describe the clinical signs that would confirm the client’s diagnosis in each group of animals. (20%)
- Detail the methods you would use to control footrot in this flock. (80%). You may summarise your plans by means of a table or diagram.

You are called to visit a large commercial livery yard to see an 8-year-old 16 hands Warmblood gelding, that has recently been purchased by a new owner. It is used for recreational riding and has been vaccinated against equine influenza. The horse has developed a cough and bilateral nasal discharge since arriving on the yard. You suspect that the animal may have chronic obstructive pulmonary disease (COPD), also known as Recurrent Airway Obstruction (RAO).

- Give 3 (three) reasons why you think this disease has become evident after purchase. (20%)
- Outline the significant findings you would expect on clinical examination of an animal with COPD. (20%)
- What are the medical treatment options for this disease? (30%)
- What advice would you give the client regarding managing the disease in the future? (30%)

OR

Describe the clinical signs and abnormalities on routine haematology and biochemistry that are commonly seen in canine parvovirus infection. (40%)

- How would you confirm a diagnosis of canine parvovirus? (10%)
- Describe how you would treat a dog with clinical signs of a parvovirus infection. (25%)
- List 5 (five) reasons for parvovirus infection to occur in an apparently vaccinated animal. For each reason give an example. (25%)
MEDICINE
SECTION B (answer all questions)

1. Write short notes on the pathophysiology of warfarin poisoning in dogs and cats.

2. Describe the radiographic changes that you would expect in a case of megaoesophagus in the dog.

3. Write short notes on the biochemical changes that are found in chronic hepatic diseases in the dog.

4. Write short notes on the management of mitral valve disease in the Cavalier King Charles spaniel.

5. Write short notes on the treatment options for feline hyperthyroidism in the UK.

6. List 6 (six) major causes of chronic weight-loss in goats in the UK (50%) and briefly outline how they can be differentiated (50%).

7. Outline the aetiology of Atrophic Rhinitis in the pig (50%) and briefly describe the control measures you would implement to monitor and reduce its occurrence in a commercial herd producing pigs for slaughter (50%).

8. Describe the complications that can arise as a result of guttural pouch mycosis in a horse.

9. List 4 (four) diseases and disorders that may be confused with bovine spongiform encephalopathy (BSE) in adult cattle. (25% for each.)

10. Write short notes on methods to control blowfly strike in sheep in the UK.

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SURGERY
SECTION A (answer either (a) or (b) from each of the 3 pairs of questions)

1a A 4 month old Springer Spaniel presents with a lateral humeral condylar fracture.

- What would be the typical history reported by the owner in such a situation? (5%)
- Describe what you would expect to find on clinical and radiographic examination. (35%)
- Discuss how you would manage this case. (35%)
- What are the most likely complications associated with repair and healing in this case? (10%)
- LIST the methods of fracture repair that are NOT appropriate for repair of this fracture. (10%)
- What is thought to be an underlying predisposing factor? (5%)

OR

1b A 6 year old Labrador presents with a swollen abdomen, having a vague history of possible trauma 24 hours previously.

- What are the possible causes of the swollen abdomen? (10%)
• LIST the steps you would take to investigate the case. At each step describe the findings that you would anticipate. (50%)
• For each of the causes described, what corrective measures would you take? (40%)

2a Compare and contrast the approaches that would be taken to manage a large old wound on the dorsal aspect of the hock in the horse and the dog. (100%)

OR

2b What relevance does the anatomy of the guttural pouches (external-auditory diverticuli) of the horse have to the pathophysiology, diagnosis and treatment of guttural pouch mycosis and empyema? (100%)

3a A 20 year old gelding that had been in colic for 15 hours, undergoes surgery to relieve a strangulating obstruction of 20 feet of distal jejunum and proximal ileum by resection and side-to-side jejunocecal anastomosis.

• What postoperative complications would you anticipate might develop and why? (50%)
• How would you recognise and manage them? (50%)

OR

3b You are asked to castrate a 2 year old colt. On palpation of his scrotum, you can only detect one testis. Discuss how you would manage this situation in order to achieve the owner’s desired outcome. (70%) Are there any courses of action you would not take? (30%)

SURGERY

SECTION B (answer all questions)

1. Briefly outline the anaesthetic considerations for diaphragmatic rupture repair in the dog. (100%)

2. Briefly describe what is a perineal hernia in the dog. (34%). LIST the clinical signs. (30%). LIST the complications of surgical repair. (33%)

3. By means of a simple annotated diagram, illustrate the ultrasonographic appearance of a spleen with multiple haemangiosarcomata. (100%)

4. LIST the causes of unsharpness that may compromise a radiographic image. (60%) For each of the two main causes, suggest two methods of how they may be prevented. (40%)

5. What are the three trajectories that a stick or sharp object might take in penetrating the pharynx of a dog? (30%). LIST the anatomic structures that may be damaged for each one, (50%), mentioning the principles that should be applied when investigating and treating such a case (20%).

6. A 4 month old Friesian heifer calf has a large swelling in the umbilical region. There is a small sinus caudally, which has been discharging purulent material for several weeks. The cranial part of the swelling can be partially reduced by applying pressure.
7. Briefly describe (with the aid of diagrams if you so wish) the local anaesthetic technique you would adopt for the following:

- Amputation of a hind digit in a dairy cow. (50%)
- Anaesthesia of the navicular bursa in a lame horse. (50%)

8. A client rings to say that a 2 month old pet pot-bellied piglet, which you castrated an hour earlier, has prolapsed 12 inches of small intestine through the scrotal incision. Briefly describe how you would manage this situation. (100%)

9. List the metabolic consequences of rupture of the bladder in a 3 day old thoroughbred foal. (40%) How may they influence the prognosis? (20%) What steps would you take to correct them before embarking on surgery? (40%)

10. Briefly, with the aid of diagrams, describe the endoscopic features which would help you in the diagnosis of the following upper respiratory tract disorders in horses:

- A grade 4 (severe) left recurrent laryngeal neuropathy. (50%)
- Epiglottal entrapment. (50%)

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REPRODUCTION

SECTION A (answer either (a) or (b) from each of the 3 pairs of questions)

1a Outline the reasons for manipulating the breeding season of sheep in the UK (50%), and discuss the various methods that are available for use in ewes (50%).

OR

1b Discuss the diagnosis and treatment of 4 (four) diseases or disorders that commonly affect the bovine female reproductive tract in the first week postpartum. (25% for discussion of each condition.)

2a The owners of a 7-month-old pedigree Border Terrier bitch, which is described as ‘being in season for the first time’, seek your advice because one of their proven stud dogs has gained access to the bitch several times over the last 24 hours.

- What action would you take? (50%)
- Discuss the rationale for the various options for treatment that you might propose, including any possible adverse side effects. (50%)

OR

2b Your advice is sought about the possibility of using artificial insemination (AI) in a group of four
Thoroughbred/hunter-type mares on a small privately owned stud, using semen from stallions that are not resident.

- What are the advantages and disadvantages? (40%)
- Describe the methods available for semen preservation in the horse. (40%)
- Describe the technique of artificially inseminating a mare. (20%)

3a You have been asked to investigate a bull said to be ‘infertile’ based upon the fact that the 40 (forty) cows, with which he has been running, have been seen to be repeatedly returning to oestrus. Assuming that the bull is responsible rather than the cows:

- What would be the most important questions you would ask when taking a history? (20%)
- Describe your physical examination of the bull’s genital tract. (25%)
- What infectious diseases should you consider in the UK? (20%)
- Briefly, how would you collect and evaluate a semen sample? (35%)

OR

3b You receive a telephone call from the worried and inexperienced owners of a 7-year-old, primiparous, Thoroughbred-type mare because she is ‘overdue’, having been covered by a proven stallion 340 days ago, and confirmed pregnant at the stud by transrectal ultrasonography 24 days after her last covering. The owners mention the possibility of an induced foaling.

- What action would you take? (30%)
- Discuss the possible causes? (40%)
- What are the advantages and disadvantages of induction of foaling in the mare, and how might it be done? (30%)

REPRODUCTION SECTION B (answer all questions)

1. List 5 (five) methods of pregnancy diagnosis in the cow, indicating the earliest stage at which they can be reliably used. (20% each)

2. Write short notes on endogenous (20%) and exogenous (80%) Prostaglandin F2 alpha in the bovine.

3. Briefly describe the clinical signs (50%), diagnosis (30%) and control (20%) of Porcine Parvovirus.

4. In the goat:

- What is meant by the term intersex? (20%)
- With which phenotypic trait is it linked in the goat? (20%)
- Explain the mode of inheritance. (60%)

5. With the aid of a simple diagram, describe the fluctuation in levels of oestrogen, progesterone, luteinizing hormone (LH) and follicle stimulating hormone (FSH) (50%) and the pattern of follicular development (50%) during the oestrous cycle of the cow.
6. What is pseudopregnancy in the bitch? (30%). Briefly describe how it arises (40%), and how it might be treated (30%).

7. List 5 (five) infectious causes of abortion in the mare (50%), indicate which ones, if any, are transmitted venereally and can be controlled by vaccination (50%).

8. Briefly describe the gross and microscopic appearance of the vulval discharges in the bitch associated with the following:
   - Pro-oestrus (20%)
   - Cystic endometrial hyperplasia (CEH)/pyometra (20%)
   - Sub-involution of placental sites (20%)
   - Retained foetal membranes (20%)
   - Juvenile vaginitis (20%)

9. What is pseudopregnancy in the mare? (30%). Briefly describe how it arises (40%), and briefly describe how it may be treated (30%).

10. Describe how you would diagnose pregnancy, briefly commenting on the principle behind the method and its accuracy, in:
   - A bitch at 3-weeks (34%)
   - A cat at 4-weeks (33%)
   - A mare at 5-weeks (33%)

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ANIMAL HEALTH

SECTION A (answer either (a) or (b) from each of the 3 pairs of questions)

1a A dairy farmer client is concerned about recent variations (month of May) in the bulk milk composition and quality in his herd, which has a year-round calving pattern. Outline the main factors which can affect milk composition (70%) and briefly list the reasons for fail results from milk quality tests of i) Somatic Cell Count and ii) Bactoscan (previously Total Bacterial Count) (30%).

OR

1b Describe the management factors that might contribute to a poor reproductive performance in a breeding pig unit and how the numbers of piglets born per sow per year might be improved (80%). List the additional factors which can affect piglet survival after parturition (20%).

2a What are the main methods used by the State Veterinary Service to minimise the impact of a notifiable disease in farmed livestock?

OR

2b *Taenia saginata* cysticercosis and *Toxoplasma gondii* infection are two parasitic zoonoses. Describe
how the risk of human infection with these agents can be minimised, highlighting the role of the veterinary surgeon (50%), and discuss how effective these measures are likely to be (50%).

3a Outline the ideal pasture management for a commercial livery yard of 30 horses with a high turnover of horses (60%) and give specific advice for the most suitable stable management for a client with a single horse which has a history of Chronic Obstructive Pulmonary Disease (COPD), also known as Recurrent Airway Obstruction (RAO) (40%).

OR

3b With the current concerns about antibiotic resistance there are implications for the future availability and use of antibiotics in animals. Discuss the key issues relating to a prudent use policy for antibiotics prescribed and administered by veterinarians.

ANIMAL HEALTH

SECTION B (answer all questions)

1. Describe what you understand by the Pet Travel Scheme (PETS) and how it applies to the UK (90%) and give details of the time period a cat or dog has to be ‘licensed into quarantine’ in the UK (10%).

2. A UK hill sheep farmer has a flock of 2000 pure-bred Scottish Blackface ewes:
   - What is the optimum body-condition score for the ewes at mating time? (25%)
   - How many rams would be required for this flock? (25%)
   - In which months of the year would you expect the ewes to lamb, and the crop of lambs to be weaned? (25%)
   - How many lambs (on average) would the flock be expected to rear? (25%)

3. Describe the European Egg Marketing Regulations relating to commercial table eggs which are to be sold as coming from ‘Free Range’ hens with respect to
   i) housing/daytime grass access requirements and ii) maximum stocking densities in the runs and the indoor housing (50%). In relation to the ‘Five Freedoms’ applied to animal welfare, briefly outline how certain aspects of ‘free range’ production might appear to compromise these (50%).

4. In dairy cattle breeding, what do you understand by the term Predicted Transmitting Ability (PTA) for a dairy bull used for AI in the UK? (100%)

5. Give the gestation lengths for gerbils, mice, ferrets and rabbits (60%). Briefly explain why a family pet rabbit exhibits coprophagy (40%).

6. List the measures which can be employed to reduce the risk of the spread of Brucellosis once it is confirmed on a dairy farm (60%). Select the most important of these and explain why (40%).

7. List 5 (five) conditions in which abnormal colour of parts of a carcass may be found by the meat hygiene inspector (50%). For each one, give the judgement and action required by the Fresh Meat
8. List 3 (three) slaughter methods commonly practised in red meat and in poultry plants in the UK (60%). Indicate how an effective stun would be recognised by the inspection team for each of the listed methods (40%).

9. What is deemed “unfit meat” following post mortem meat inspection? (40%). What must happen to this ‘unfit meat’ from time of seizure to ultimate disposal? (60%)

10. List the 5 (five) actions required on finding a tuberculous-like lesion, in a bronchial lymph node of a beef animal, at routine post-mortem inspection in an abattoir in England (20% for each action given).

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