### Statutory Examination for Membership

<table>
<thead>
<tr>
<th>Examination subject</th>
<th>The horse</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paper</td>
<td>1</td>
</tr>
<tr>
<td>Length of examination</td>
<td>3 hours</td>
</tr>
<tr>
<td>Date</td>
<td>Tuesday 29 April 2014</td>
</tr>
<tr>
<td>Time</td>
<td>9.15 am to 12.15 pm</td>
</tr>
</tbody>
</table>

This examination question paper is divided into 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.

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

Candidates should read each question carefully and answer the question that has been asked. Examiners cannot award marks for information that the question does not ask for. Section A tests understanding and problem-solving skills. Section B tests factual knowledge.

Bracketed percentages within questions show the maximum proportion of marks that can be awarded for the candidate’s answer to that part or sub-section of the question.

**Start each answer on a new answer sheet and write the question number in the margin of each sheet used.**
This page has been left blank intentionally
Section A
Answer either (a) or (b) from each of the 3 pairs of questions

1a. You are called to examine a 14-year-old Cob that is kept at a livery yard and is used for general riding. The horse has had intermittent coughing and occasional nasal discharge with increased breathing effort over the last two winters. The clinical signs improved over the summer but returned the following winter and are now more severe than previously. You suspect recurrent airway obstruction (RAO).

- What is recurrent airway obstruction? (10%)
- Describe how you would conduct a clinical examination of this horse, explaining what abnormalities you might find and how these relate to the underlying pathology of this disease. (30%)
- List the further investigations you would carry out to confirm your suspicion that this horse is suffering from RAO. Justify each investigation and summarise the abnormalities each investigation might identify. (30%)
- Construct a management and treatment plan for this horse. Justify each of the steps you would take including any medicines you plan to use. (30%)

Or

1b. You are called to a pony kept at grass that has developed laminitis. The owner tells you that she has difficulty controlling the pony’s weight, that the pony had laminitis last year and that this is the first episode this year.

- Describe how you would conduct a clinical examination of this pony, explaining what abnormalities you might find. (30%)
- List the further investigations you would do in this pony. Explain how the results of each investigation would help your clinical decision-making. (30%)
- Describe the initial treatment you would give this pony. (20%)
- Write a short explanation for the owner about the risk factors for development of laminitis at pasture and the steps the owner could take to reduce the risk. (20%)

2a. Traumatic wounds to the limbs of horses may penetrate synovial cavities.

Describe how you would determine whether or not a limb wound had penetrated a specific synovial cavity:

- If you had ready access to laboratory facilities (15%)
- If you did NOT have such access (15%)

Question 2a continues overleaf
Describe the immediate and ongoing management of a confirmed case of synovial penetration sent to you for treatment which arrives 3 hours after the injury was known to have occurred. (60%)

Discuss the factors that may influence prognosis for this case. (10%)

Or

2b. Describe the circumstances under which oesophageal obstruction occurs in the horse. (20%)

What findings might you discover on initial physical examination of an affected horse that might lead you to suspect this problem? (20%)

How would you confirm your diagnosis? (10%)

How would you treat the affected horse? (40%)

What are the potential complications of this condition? (10%)

3a. A manager of a large livery yard has asked you to devise an annual preventive health programme based around vaccination and worming. Your task is to provide the yard manager with key information about each of the following topics:

Vaccination: list the equine vaccines available in the UK (20%) and identify which of these would be appropriate for horses kept at a livery yard, justifying your recommendation (20%).

Worming: list the gastrointestinal parasites that occur in horses in the UK (30%). Explain what is meant by the concept of ‘targeted worming’ as a means of controlling anthelminthic resistance and describe how you would put this into practice for this livery yard (30%).

Or

3b. You are presented with an 8 year old Thoroughbred National Hunt racehorse gelding who has had epistaxis noticed whilst in his box shortly after morning exercise today.

- List the conditions you would consider in your differential diagnosis. 20%
- Describe in detail how you would investigate this case to obtain a precise diagnosis. 40%
- For one of the conditions you have listed discuss the options for management of the condition. 40%
Section B
Answer all 10 questions

1. What is purpura haemorrhagica and what are the suspected aetiologies of this disease? (20%)
   
   List the clinical signs of purpura haemorrhagica. (40%)

   Describe how you would manage a clinical case of purpura haemorrhagica. (40%)

2. What are the clinical signs associated with chorioptic mange in the horse? (40%)
   
   How would you confirm a diagnosis of chorioptic mange? (30%)

   Describe how you would manage a clinical case of chorioptic mange. (30%)

3. List the clinical examination findings associated with ventricular septal defect in the horse. (50%)

   Briefly explain the pathogenesis of this disease and explain how the pathology results in the clinical signs observed. (30%)

   What further investigation(s) would you carry out to confirm a clinical diagnosis and establish a prognosis? (20%)

4. Sarcoids are the most common tumour identified in the horse.

   - List the different types of sarcoid that are recognised clinically and describe their different clinical appearances and behaviours. (50%)

   - Summarise the pathogenesis of this disease including possible aetiologies and mechanisms of transmission. (10%)

   - List the different treatments that have been proposed for sarcoids. (40%)

5. List the clinical signs of tetanus in the horse. (40%)

   Explain the pathogenesis of tetanus. (30%)

   Describe you would manage a case of tetanus. (20%)

   What is the prognosis for this disease and how is it prevented? (10%)
6. You are asked to examine a horse with an acute onset lameness of the left forelimb. The foot is warm on palpation, has an increased digital pulse and there is pain on application of hoof testers to the sole.

- List the likely potential causes of the lameness. (30%)
- Outline how you would positively confirm each of the diagnoses you have listed describing the findings you would expect for any investigations you propose. (70%)

7. What is a surgical drain? (20%)

What are the indications for use of a drain in a wound? (20%)

Explain the difference between “active” and “passive” drains. (20%)

What characteristics should the material of which drains are made have? (20%)

List the potential problems that may be associated with the use of drains. (20%)

8. Explain the difference between the “somatic” and “stochastic” effects of ionising radiation.

9. Dorsal Displacement of the Soft Palate (DDSP) can occur in Thoroughbred racehorses.

- Under what circumstances is it most likely to occur? (20%)
- What clinical signs might be reported? (20%)
- How would you confirm the diagnosis? (20%)
- List the treatment options available. (40%)

10. A 10 year old riding horse gelding has been kicked by another horse causing an open fracture of the proximal fourth metatarsal bone. Describe how you would manage this injury in terms of:

- investigation and assessment (50%)
- treatment. (50%)
<table>
<thead>
<tr>
<th>Examination subject</th>
<th>Companion animals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paper</td>
<td>2</td>
</tr>
<tr>
<td>Length of examination</td>
<td>3 hours</td>
</tr>
<tr>
<td>Date</td>
<td>Tuesday 29 April 2014</td>
</tr>
<tr>
<td>Time</td>
<td>2pm to 5pm</td>
</tr>
</tbody>
</table>

This examination question paper is divided into 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.

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

Candidates should read each question carefully and answer the question that has been asked. Examiners cannot award marks for information that the question does not ask for. Section A tests understanding and problem-solving skills. Section B tests factual knowledge.

Bracketed percentages within questions show the maximum proportion of marks that can be awarded for the candidate’s answer to that part or sub-section of the question.

Start each answer on a new answer sheet and write the question number in the margin of each sheet used.
This page has been left blank intentionally
Section A
Answer either (a) or (b) from each of the 3 pairs of questions

1a. Acute pancreatitis (AP) is a relatively common condition in the dog in veterinary practice in the UK. It can be particularly painful and even life-threatening and can cause the owner considerable alarm.

- What are the risk factors (with specific examples if there are any) that increase the chance of a dog developing acute pancreatitis?  
- Briefly describe the pathophysiological mechanisms that result in AP.  
- What routine tests are used to make a diagnosis of AP?  
- What treatments are advised for canine AP and what is the prognosis?

Or

1b. Atopic Dermatitis is probably the most common allergic skin disease reported in dogs in the UK. You have been presented with a dog confirmed to have this disease in your practice. Outline in detail your approach to the treatment and management of this case. Indicate in your answer the efficacy of any treatments you intend using, the likely success of those treatments and any particular treatment problems that need to be considered.

Or

2a. A 1-year-old Labrador dog is presented to your practice for the third time with a left thoracic (fore) limb lameness. The dog has been seen in the practice on two previous occasions over the last 6 weeks for this problem, although no specific focus for the lameness has been identified. Conservative treatment involving reduced exercise and non-steroidal anti-inflammatory drugs has produced some temporary improvement in the lameness, but the problem is persistent. The owners notice the problem most after exercise.

- Outline your plan of action to locate the source of the lameness and secure a diagnosis. Justify your choice of investigations and relate possible findings to prognosis and treatment.

Your investigation concludes that the problem is related to the elbow and radiographs of the elbow show areas of poorly-marginated well mineralised new bone at the joint margins, but no specific lesions.

- How will you advise the client about the most likely diagnoses, possible forms of treatment and prognosis?

Or

Question 2b is overleaf
2b. A 7-year-old Great Dane bitch is presented to your practice for the second time with a left thoracic (fore) limb lameness. The dog was seen a week previously for the same problem when palpation and manipulation around the carpus caused mild discomfort. The lameness has worsened to the point where the dog is reluctant to use the leg despite conservative treatment involving reduced exercise and non-steroidal anti-inflammatory drugs. The owners were advised at the first visit that if the problem persisted a full orthopaedic investigation might be appropriate.

- Outline your plan of action to examine this patient and secure a diagnosis. Justify your choice of investigations. (50%)

Your investigation concludes that the problem is still related to pain in the area of the carpus and radiographs of the carpus show areas of bone loss in the distal metaphysis of the radius and poorly-marginated poorly mineralised new bone on the periosteal surfaces of the distal radius.

- How will you advise the client about the most likely diagnoses, the methods of securing a definitive diagnosis and the prognosis? (50%)

3a. Detailed and appropriate physical examination of the veterinary patient is a fundamental skill in veterinary practice.

- Outline a logical and systematic approach to the physical examination of the cardiovascular and respiratory systems of the dog. (50%)

- For each aspect of your examination indicate what it is telling you and its usefulness in diagnosis. (50%)

Or

3b. Outline an optimum anaesthetic protocol for a 1.5-year-old domestic short haired cat undergoing ovario-hysterectomy via a mid-line laparotomy. Start from 2 hours prior to the procedure and cover the period until the cat is fully recovered. You should describe any equipment, and any drugs you propose to use but you do not have to give their trade names, only the name of the pharmacological agent. (100%)
Section B
Answer all 10 questions

1. What is the cause of periodontal disease in dogs and cats in the UK?

2. What are the clinical signs of disorders of primary haemostasis and what single blood parameter would support a diagnosis?

3. List the three (3) most commonly used drugs to manage epilepsy in the dog, and briefly explain their common mechanism of action.

4. Hypothyroidism is commonly diagnosed in dogs in general practice, but what factors might give a false diagnosis of this condition? What is the simplest and most cost effective way of diagnosing hypothyroidism?

5. If a case of Canine Babesiosis is found in the UK what is the likely reason for its presence? What procedures are in place to prevent introduction of this condition into the UK, and is this condition likely to become endemic in the UK?

6. How should you evaluate the necessity for peri-operative antibiosis in a surgical case? (50%)
Which antibiotic would you select and how would you give it? (50%)

7. Using clear labelled diagrams illustrate the suture pattern you would use to create an end to end anastomosis in the jejunum of a 20 kg dog. What suture material would you select and where would you start and finish your suture line in relation to the mesenteric border?

8. List the 5 most important differential diagnoses you would consider for an adult rabbit presented with anorexia, pyrexia, depression, ocular and nasal discharge and sneezing (40%). What investigations would you make (30%) and what implications are important for other rabbits that have been in contact with this patient (30%)?

9. Outline the principles of fixation of intra-articular fractures. (60%)

Draw a labelled diagram of an intra-articular fracture and show the appropriate fixation. (40%)

10. A 35 kg Labrador bitch is brought into the surgery 30 minutes after involvement in a road traffic accident. The dog will sit up but will not stand on its hind limbs. Gentle palpation and manipulation of the forelimbs reveals no abnormalities but examination of the hind limbs reveals crepitus and pain on manipulation of the left hip. Assuming the animal is stable, what radiographic views would you plan to use to evaluate the trauma and what typical changes would you look for?
Statutory Examination for Membership

<table>
<thead>
<tr>
<th>Examination subject</th>
<th>Production animals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paper</td>
<td>3</td>
</tr>
<tr>
<td>Length of examination</td>
<td>3 hours</td>
</tr>
<tr>
<td>Date</td>
<td>Wednesday 30 April 2014</td>
</tr>
<tr>
<td>Time</td>
<td>9.15 am to 12.15 pm</td>
</tr>
</tbody>
</table>

This examination question paper is divided into 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.

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

Candidates should read each question carefully and answer the question that has been asked. Examiners cannot award marks for information that the question does not ask for. Section A tests understanding and problem-solving skills. Section B tests factual knowledge.

Bracketed percentages within questions show the maximum proportion of marks that can be awarded for the candidate’s answer to that part or sub-section of the question.

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

Continues overleaf
This page has been left blank intentionally
Section A
Answer either (a) or (b) from each of the 3 pairs of questions

1a. List the parasites affecting UK cattle, indicating which are common and which are not. (40%)

Outline a health plan for the control of common arthropod and helminth parasites in a 100 cow Angus beef suckler cattle herd. (60%)

The herd is predominantly spring calving (for the purpose of this answer presume that it is wholly spring calving) and cattle are the only livestock kept on the wet upland farm in the UK. All of the animals on the farm are housed over winter and kept on pasture between April/May and September/October. Replacement breeding animals (bulling heifers and occasional bulls) are purchased every year. All of the calves are finished off the farm at around 2 years of age.

Or

1b. In 2013, resistance to monepantel was reported in Teladorsagia circumcincta and Trichostrongylus colubriformis in a New Zealand goat herd, having arisen within 3 years of the introduction of the new anthelmintic drug group.

- Explain why selection for anthelmintic resistance in roundworms occurs rapidly in goats. (30%)
- Explain why this is cause for concern for sheep flocks. (20%)
- Outline the principles that should be adopted to reduce the selection pressure for resistance in roundworms in UK goat herds and sheep flocks. (50%)

2a. In UK dairy herds unpasteurised bulk milk is routinely monitored for the level of bacteria present.

- What method is routinely used in the UK to estimate the amount of bacteria present in bulk milk, what is it called and what is considered an acceptable result to ensure that the maximum price is paid to the farmer for the milk? (30%)

- When high levels of bacteria are present in raw milk what are the possible sources and how might this problem be investigated by the veterinary surgeon? (70%)

Or

Question 2b is overleaf
2b. In a UK dairy herd a cow has been calved 5 days and is found to be recumbent with cold extremities. She has signs of dehydration and a raised heart rate. The back left quarter of her udder is enlarged, hard and painful when palpated.

- What would you do to confirm your diagnosis in this case including any laboratory tests that you might carry out? (50%)

- How would you treat this cow and what is her prognosis? State clearly how you would manage this case and any treatment you would administer and the likely routes of administration. (50%)

3a. Discuss the methods that can be used to monitor the adequacy of nutrition of crossbred ewes during the final trimester of pregnancy. (30%)

Describe how these methods can be applied to address any problems relating to the energy nutrition of late pregnant ewes that are identified. (20%)

Monitoring of nutrition in late pregnant ewes frequently shows inadequate energy status, often despite their being fed what appears to be a well-balanced ration. Discuss how you would address these situations both in the short term, and during subsequent years. (50%)

Or

3b. You have been called to visit a group of 12-month-old dairy replacement heifers. Several have developed a cough and a muco-purulent ocular and nasal discharge. They have pyrexia and conjunctivitis and their feed intakes are significantly reduced. One animal has died without treatment just before your arrival.

- What are the possible differential diagnoses for this condition and state clearly which you feel is the most likely? (35%)

- How would you confirm your diagnosis? (25%)

- How would you manage this outbreak of respiratory disease? (40%)
Section B
Answer all 10 questions

1. The prevalence of rumen flukes *(Calicophoron daubneyi)* appears to be increasing in UK cattle and sheep.
   - What methods are available for the identification of rumen fluke infections?  (30%)
   - Explain how rumen flukes might cause production loss.  (30%)
   - Outline the life cycle of rumen flukes affecting UK cattle and identify opportunities for their control.  (40%)

2. *Taenia ovis* is identified in about 0.25% of UK lambs at abattoir post-mortem inspection.
   - Describe the gross pathological features of this condition.  (30%)
   - Describe the life cycle of *T. ovis*.  (30%)
   - Outline the principles involved in the preventive management of *T. ovis*.  (40%)

3. Traumatic reticulitis and pericarditis is seen in UK cattle herds, sometimes affecting several animals in the same herd over the winter housing period.
   - Describe the clinical signs and any ancillary tests that can be used to support the diagnosis.  (50%)
   - Briefly explain the aetiology of traumatic reticulitis with reference to why several cases are often seen in the same group of animals over a short period of time.  (50%)

4. List the important and relevant diseases that might be introduced to a UK sheep flock with purchased animals.  (60%)
   List the general principles involved in reducing the risk of introduction of these diseases or mitigating their impact on the flock. (For the purpose of this answer, it is not necessary to explain which specific diseases each principle can be applied to.)  (40%)

5. Describe how you would castrate and dehorn a group of 6-month-old cattle.
6. Describe how you would treat a cow with a Sole Ulcer (Pododermatitis Circumscripta) on the outer claw of the left hind foot.

7. Write short notes to compare the aetiology and clinical signs of Hydrops Allantois and Hydrops Amnion in cattle.

8. Describe the clinical features and possible aetiology of Winter Dysentery in a UK dairy farm.

9. List five possible causes of abortion in mid to late pregnancy in UK cattle. For each of these write a short note on how it may be prevented.

10. Describe the clinical signs of Lead poisoning in cattle. What are the most common sources of Lead in UK farms?
### Statutory Examination for Membership

<table>
<thead>
<tr>
<th>Examination subject</th>
<th>Veterinary public health</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paper</td>
<td>4</td>
</tr>
<tr>
<td>Length of examination</td>
<td>3 hours</td>
</tr>
<tr>
<td>Date</td>
<td>Wednesday 30 April 2014</td>
</tr>
<tr>
<td>Time</td>
<td>2.00 pm to 5.00 pm</td>
</tr>
</tbody>
</table>

This examination question paper is divided into 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.

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

Candidates should read each question carefully and answer the question that has been asked. Examiners cannot award marks for information that the question does not ask for. Section A tests understanding and problem-solving skills. Section B tests factual knowledge.

Bracketed percentages within questions show the maximum proportion of marks that can be awarded for the candidate’s answer to that part or sub-section of the question.

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

Continues overleaf
This page has been left blank intentionally
Section A
Answer either (a) or (b) from each of the 3 pairs of questions

1a. Discuss the role that Food Chain Information (FCI), and feedback of ante-mortem and post-mortem findings, plays in the enhancement of food safety and on farm animal health and welfare. Use both red and white meat examples to illustrate your answer.

Or

1b. Milk from cows produced for human consumption is required to be within certain limits for somatic cell count (SCC) and bacterial counts (Bactoscan). Explain the differences between these measures and indicate what each one shows in terms of milk quality (50%).

Identify five zoonotic pathogens that may occur in un-pasteurised milk with significant potential for transmission to humans, and describe the control procedures that can reduce the zoonotic disease risk (50%).

2a. In the United Kingdom who is responsible for deciding whether or not an animal is fit for transport (20%)? Describe the principles that apply when deciding whether or not a cow is fit for transport (40%). Outline the criteria you would consider in deciding whether or not a dairy cow that is lame is fit to transport to an abattoir (40%).

Or

2b. Describe the methods of slaughter and killing that are commonly practised in red meat and poultry slaughterhouses in the United Kingdom. (40%)

Indicate how these methods can be monitored to ensure that they being performed properly to optimal animal welfare. (40%)

What are the legislative requirements for persons undertaking these procedures, and which legislation is this covered by? (20%)

3a. List the zoonotic pathogens that can cause abortion in sheep in the United Kingdom. (20%)

For each briefly describe the clinical signs in both sheep and humans. (40%)

Propose control options to reduce the risk of infection in sheep and humans during an abortion outbreak and for future lambing seasons. (40%)

Or

3b. An established farm animal client seeks your advice regarding veterinary public health issues surrounding a proposed new ‘Open Farm’ venture where the public will be permitted contact with cattle, sheep, pigs and goats. Outline your response in terms of risk assessment for the important zoonoses (60%) and risk management aimed at avoiding infection of visitors (40%).
Section B

Answer all 10 questions

1. List five zoonotic pathogens that may be shed in the faeces of healthy dogs in the United Kingdom. (50%)

What risk factors determine the likelihood of transmission of the infection to the owner or handler? (50%)

2. What is meant by the term “cascade procedure” in relation to the use of a veterinary medicinal product? (30%)

Describe the conditions of and steps to applying this procedure in food producing animals. (70%)

3. A methicillin-resistant strain of *Staphylococcus aureus* (MRSA) has been isolated from a wound infection in one of your dog patients.

- What is the risk that this poses to the owner of the dog, veterinary staff dealing with the case and other patients? (50%)
- How can these risks be reduced? (50%)

4. Describe your judgment and action on finding the following conditions at post-mortem meat inspection in a UK slaughterhouse:

- Over scalding in poultry (20%)
- Emaciated sheep carcase (20%)
- Bovine liver with chronic fascioliasis (20%)
- Badly bled pig carcase (20%)
- Badly bruised deer carcase (20%)

5. What are the seven principles of the Hazard Analysis and Critical Control Point (HACCP) system? (50%)

Briefly describe how the application of HACCP ensures food safety. (50%)

6. How does *Erysipelothrix rhusiopathiae* infection present in humans? (20%)

Identify potential non-human reservoir species in the United Kingdom and describe the typical presentation of infection in each of these species. (50%)

How might transmission to humans be prevented? (30%)

7. Describe the current methods used to diagnose bovine tuberculosis in cattle (50%) and outline their relative importance in control programmes (50%).
8. Describe the specific post-mortem inspection procedures that cattle over 6 weeks are required to undergo before they can enter the food chain.

9. Briefly summarise the key control mechanisms for a major notifiable epizootic incursion such as Foot and Mouth Disease (FMD) in the United Kingdom.

10. List the diseases of horses that are notifiable under the Animal Health Act 1981 in the United Kingdom. Indicate which of these are likely to be zoonotic.