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

1a. Describe your postoperative management of a 6 year old Thoroughbred gelding which has undergone surgery to correct an epiploic foramen entrapment of small intestine (40%). What problems might you anticipate (10%) and how would you recognise and treat them (50%)?

OR

1b. You are presented with a 2 year old Thoroughbred colt which was found in the field with an extensive, grossly contaminated, lacerated wound on the dorsal aspect of a hind canon which has exposed bone. Describe how you would evaluate and treat this injury (40%). What complications might you encounter before complete healing is achieved (30%)? How would you deal with each of these (30%)?

2a. What is recurrent exertional rhabdomyolysis? (10%). Give an account of the aetiology and pathogenesis of this disease (40%) and describe its differential diagnosis (20%), diagnosis (20%) and management (10%).

OR

2b. You are called to a 30 horse livery yard. Two horses have purulent nasal discharge, pyrexia and enlarged submandibular lymph nodes. One further horse had similar signs 3 weeks ago and now has a purulent discharging sinus in the region of its retropharyngeal lymph nodes. You suspect strangles.

- List the possible differential diagnoses. (20%)
- Give an account of the aetiology, pathogenesis and epidemiology of strangles. (20%)
- List the clinical signs and possible complications of strangles infection. (30%)
- Describe the biosecurity measures that should be taken to manage this outbreak, including the diagnostic tests that could be employed during and after the outbreak. (30%)

3a. You have been nominated to prepare a fact sheet for a local riding club. The club has asked specifically if you could explain why the superficial digital flexor tendon (SDFT) is so prone to injury in the horse (20%). Furthermore they wish to be informed about techniques that can be used to treat horses
subsequent to SDFT injury (60%). Prepare a draft of this document taking care to use terminology that will be understood by the average horse owner (20%).

OR

3b. You are conducting a pre purchase examination on an 8 year old Warmblood gelding that is intended for use as a three day Eventer and you discover a left sided heart murmur.

- List the differential diagnosis for this murmur. (30%)
- List the possible clinical findings that might indicate that this murmur is clinical significant. (40%)
- Describe how the murmur should be investigated to determine whether it is clinically significant. (30%)

SECTION B
Answer all 10 questions

1. You are called to examine a horse with an acute onset, unilateral hind limb lameness. The foot is warm and has an increased digital pulse compared to the other hind limb. You apply a hoof tester to the sole and get a positive response. List the likely causes of the lameness (20%) and outline how you would arrive at a diagnosis (40%) and your management of each condition (40%).

2. Briefly describe TWO anaesthetic methods which could be used for standing laparoscopic ovariectomy in a mare (60%). Indicate the advantages and disadvantages of each (40%).

3. An 8 year old pony becomes distressed after being fed. It makes repeated attempts to swallow and is discharging clear fluid from its mouth and nostrils. How you would investigate this case (40%)? What is the most likely cause of the problem (20%)? How would you treat the pony (40%)?

4. You are called to a Thoroughbred mare which had foaled an hour earlier. On examination you find she has sustained a third degree perineal laceration. The owner is greatly concerned about the damage and the future of the mare for breeding. Outline how you would explain to her your proposed management of this case, including your initial first aid treatment and subsequent surgical repair, with the aim of allaying her fears (100%).

5. Dorsal displacement of the soft palate (DDSP) is relatively common in Thoroughbred racehorses. Briefly describe the signs which would draw the attention of the jockey/trainer to the problem (20%). List the diagnostic procedures which could be used to confirm the diagnosis (20%) and the treatment options (60%).

6. Write notes on the aetiology and pathogenesis (20%), differential diagnosis (20%), diagnosis (30%), management and prevention of tetanus (30%).

7. Corneal disease is common in horses. List the typical clinical signs for a horse
with a corneal ulcer (30%); describe the pathogenesis of corneal ulceration and how ulcers should be assessed (40%); outline how a simple corneal ulcer should be managed (30%).

8. What is ‘sweet itch’? (10%)

List the clinical signs (30%) and differential diagnosis (30%) for this disease.

Describe how sweet itch should be managed and what steps can be taken to prevent disease. (30%)

9. Gastroduodenal ulcer syndrome appears to be common in several different sectors of the horse industry. Explain the pathogenesis (20%), clinical signs (30%) diagnosis (20%), treatment (20%) and management (10%) of this syndrome.

10. Write notes on the pathogenesis (30%), clinical signs (30%) and management (20%) and prevention (20%) of equine herpes myeloencephalopathy (EHM).

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**SECTION A**

Answer either (a) or (b) from each of the 3 pairs of questions

1a. A 15 year old neutered male cross-breed dog has been presented to you with acute onset of collapse. When supported in the standing position by the owner the dog has an obvious head tilt to the right and horizontal nystagmus with the fast phase to the left.
   - What is the likely explanation for this dog’s presentation? (10%)
   - Outline in detail how you would investigate this case to achieve a diagnosis and indicate the possible causes and the appropriate treatments. (80%)
   - Comment on the likely outcome and prognosis. (10%)

   OR

1b. Respiratory dyspnoea is an alarming and potentially life threatening condition. You are presented with an 8 year old male neutered domestic short-haired cat with an acute history of dyspnoea.

   - Describe how you would approach and investigate this case. (60%)
   - Select two (2) common causes of acute onset dyspnoea in the cat and write brief notes on how you would differentiate between the two conditions. (40%)
2a. You are presented with a 3 year old border collie cross dog that has been anorexic and lethargic for the last 48 hours. During this time the dog has been intermittently vomiting. The owner informs you that the dog has a tendency to scrounge rubbish to eat. Your physical examination is unremarkable apart from pain in relation to the cranial abdomen. Biochemistry and haematology are normal but a radiographic study of the abdomen indicates several loops of gas filled small intestine.

Outline your surgical procedure for a laparotomy and a search of the abdomen including the preparation of the patient for surgery. You do NOT need to provide details of the anaesthetic induction and maintenance. (50%)

Your search of the abdomen reveals a small intestinal obstruction related to a single foreign body. There is a circumferential area of dark discoloured bowel 2cm in length distal to the obstruction. Describe your surgical procedure for dealing with the obstruction and closing the abdomen, together with any specific postoperative care you would organise. (50%)

OR

2b. You are presented with a 2 year old domestic short-haired can that has been missing from the house for two days prior to the owners finding it. The cat is not weight-bearing on its right pelvic limb and a check of all major body systems reveals no other abnormalities.

Describe your examination of the pelvic limb and any further diagnostic tests you would need to determine the reasons for the lack of weight bearing. (30%)

You investigation reveals a comminuted diaphyseal fracture of the femur with multiple small and large fragments. Describe your preparation of the cat for surgery, choice of fixation method, principles of application of your fixation method, and aftercare for this patient. You do NOT need to provide details of the anaesthetic induction and maintenance. (70%)

3a. List the common causes of pruritus in the dog in the UK. (20%)

Outline in detail how you would investigate pruritus in a dog and how you would achieve a diagnosis. (60%)

Choose one common condition from your list and explain the treatment and management plan you would follow and what problems you might anticipate in attempting to achieve a cure. (20%)

OR

3b. A 1-year old Labrador retriever is re-presented for a right thoracic 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. (70%)

The conclusion of your investigation is that the most significant findings relate to pain and loss of range of movement at the elbow. What potential diagnoses would you discuss with the client and how would you explain the possibilities for treatment? (30%)

SECTION B
Answer all 10 questions

1. What are the common congenital heart conditions of the dog and cat (80%)? Which of these are included in a breeder sponsored testing programme in the UK and name one breed covered by such a programme (20%)?

2. Briefly describe the clinical features of chronic bronchitis in the dog. 50%

What is the recommended treatment for chronic bronchitis? 50%

3. Briefly describe how you would manage a “blocked” cat (a cat with a urethral obstruction) (80%). What single electrolyte can be markedly elevated in such a case and how would you correct it (20%)?

4. List three (3) antibacterial agents that are effective in treating anaerobic infections in the dog (30%). Name two (2) conditions in the dog where anaerobic infection is likely (20%) and briefly explain how you would treat one (1) of those conditions (50%).

5. Describe how you would diagnose lymphoma in the dog (20%) and how this condition is treated (60%). If you have diagnosed lymphoma in a cat what single blood test must you undertake (20%)?

6. An 11 year old Hermann’s tortoise is presented to you 2 weeks after the end of its hibernation. The owners are worried about its lack of appetite, (although it has eaten small amounts), its rapid respiration rate, exaggerated respiratory effort, and clear nasal discharge. List the four most important areas of clinical and diagnostic evaluation of this animal, and give your reasons for each step. (25% for each area)

7. Outline your diagnostic tests (50%) and treatment options (50%) for a dog that presents with ocular discharge, photophobia and blepharospasm related to a visible defect on the cornea.

8. List the observations you can make by sight, touch and hearing without the aid of electronic equipment to monitor a patient under general anaesthesia. Indicate what information each type of observation gives you about the patient. (10% for each observation)
9. Describe and justify the most appropriate steps in the first 48 hours treatment of a wound involving an area of skin and tissue loss approximately 3cm in diameter over the carpus and metacarpus in an adult dog. (100%)

10. List the clinical (physical and observational) tests that you would use to localise a lesion in a 7-year-old Doberman with hindlimb ataxia and neck pain. (70%) If these tests indicated a lesion related to the spinal cord what further diagnostic options would you advise? (30%)

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

1a. List the important endemic diseases which can be introduced to a UK sheep flock with purchased animals. (25%)

Summarise the potential economic consequences of introduction of these diseases. (50%)

How would you advise a client about biosecurity to avoid introduction of these diseases? Explain the principles that underpin your advice. (25%)

OR

1b. During October you have been asked to examine and treat a 250 kg, spring-born Angus bullock calf that had been weaned and housed about 10 days previously and is showing signs respiratory disease. Your clinical examination shows the calf to be pyrexic (rectal temperature 40.2°C) and to have harsh antero-ventral lung sounds. The calf is housed in a large shed along with about 100 similar aged and managed animals. Many of the other animals in the group are reported to be dull, with reduced feed intake and obvious coughing. Two doses of a vaccine containing attenuated strains of bovine respiratory syncytial virus (BRSV) and parainfluenza type 3 virus (PI3) and inactivated infectious bovine rhinotracheitis (BHV1) and bovine viral diarrhoea (BVD) viruses had been correctly administered 4 weeks apart, with the second dose administered 2 weeks before housing. A pour-on doramectin treatment was also administered at the time of the second vaccination injection.

- How would you treat the calf that you have been called to examine? (20%)

- How would you manage the problem affecting the group of calves as a whole? (30%)
• What are the possible causes of this problem, and how could these be investigated? (30%)

• What management practices should be considered next year in order to reduce the risk of re-occurrence of an outbreak of respiratory disease in recently weaned and housed calves? (20%)

2a. Discuss how inadequate postpartum nutrition causes subfertility in dairy cattle, including the pathogenesis and treatment of clinical conditions you identify. (60%)

Write out a diet sheet for a 700 kg Holstein cow producing 30 litres of milk, 6 weeks postpartum, showing your method of calculation. What are her energy requirements (MJ) and how will you suggest the farmer satisfies these using good quality grass silage and a proprietary dairy cake concentrate? (40%)

OR

2b. In recent years the “roll and toggle” treatment for Left Displaced Abomasum in cattle has become increasingly employed in general UK farm animal veterinary practice.

• Describe how the “roll and toggle” technique is performed. (60%)

• Discuss the implications of using this technique on health, welfare and productivity on a medium sized dairy farm. (40%)

3a. During January the owner of an upland flock of 2500 March-lambing, Mule breeding ewes reports a problem of ill thrift (body condition scores 1 to 2 on a scale of 1 to 5) affecting a large proportion of the flock. Twenty (20) ill thrifty ewes had died during the previous 5 days. Postmortem examination of a freshly dead ewe showed signs consistent with chronic fasciolosis. The farm also has a herd of 100 spring calving suckler cows.

• What ancillary tests could be used to support the diagnosis of fasciolosis affecting the sheep flock as a whole? (10%)

• How should the immediate problem of fasciolosis affecting the sheep flock be managed? (20%)

• What is the target body condition score for these ewes? (5%)

• What are the potential consequences of this problem with regard to the productivity of the flock? (20%)

• What general flock management strategies are required to mitigate against consequential production loss? (20%)
• What advice should be given to reduce the risk of production loss on the farm due to fasciolosis during the following year? (25%)

OR

3b. An outdoor pig producer reports that conception rates have reduced from 95% to 75% since starting to use artificial insemination.

• What would you expect to see in the herd performance records to support this observation? (30%)
• Describe the main causes of conception failure. (40%)
• Outline how you would conduct an investigation into this problem. (30%)

SECTION B
Answer all 10 questions

1. List the different tests for anthelmintic resistance in sheep and the main advantages and disadvantages for each. (50%)

Outline how you would conduct a faecal egg count reduction test to establish the efficacy of each of the broad spectrum sheep anthelmintics. (50%)

2. List the important predisposing causes of nitrite poisoning in ruminants. (40%)

Summarise the toxic principle involved in the disease. (20%)

List the clinical signs of nitrite poisoning in ruminants. (40%)

3. List the important diseases caused by Clostridium perfringens in sheep. (30%)

Outline a vaccination programme to prevent losses due to enterotoxaemia in a flock of Greyface ewes, Suffolk rams and Suffolk-cross lambs. Replacement female sheep are purchased as ewe lambs to be mated during the following November as gimmers. Suffolk-cross lambs are finished from June to November. (70%)

4. Outline your approach to the management of a case of vaginal prolapse in a late-pregnant ewe.

5. You have been asked to examine a very lame, lactating dairy cow which has been managed for treatment of a deep solar ulcer involving an abaxial hind digit by repeated injections of ceftiofur and the application of a raised shoe to the axial digit. The plantar aspect of the abaxial digit is swollen above the coronary band.

Describe the processes that could be involved in the further management of this case.

6. You are the regular vet for a local 200 milking cow dairy unit. What groups of animals you would ask a farmer to present on your routine fertility visits to this dairy herd?
7. List the therapeutic advantages (45%) and disadvantages (45%) of using intravenous oxytetracycline in treating a cow with peracute coliform mastitis. Name an appropriate alternative antibiotic for the treatment of this disease in a dairy cow (10%).

8. Write a short summary of the treatment and care you would administer in a recently calved beef suckler cow with metritis.

9. List the major factors affecting the proportion of beef suckler cows which conceive in the first 21 days of the breeding season.

10. Briefly describe 3 different recommendations for the control of hypocalcaemia in a high yielding dairy herd.

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**SECTION A**

Answer either (a) or (b) from each of the 3 pairs of questions

1a. Briefly describe the causative agent, key clinical signs and transmission pathways of Bluetongue (40% of marks), the current Bluetongue status of countries in the European Union (20%), and the Bluetongue status and control strategy applied in the UK (40%).

OR

1b. One of your clients reports a dramatically increased mortality in his free-range laying hens (8% in 1 day). You suspect avian influenza. Briefly describe the steps required to confirm this suspicion (20%). What are the possible pathways by which the farm could have got infected (20%)? Briefly describe the control strategy for avian influenza applied in the UK (40%). What will be your next actions and is there a risk for you as a vet? (20%)

2a. The housing of laying hens in cages is about to be banned throughout Europe.

- Using the principle of the Five Freedoms, consider the welfare consequences of this change in legislation. (60%)
- Keeping laying hens outdoors (i.e. not in a confined space) may also have negative consequences as the biosecurity will be lower. Describe at least two zoonotic pathogens for which the infection risk in outdoor husbandry is higher and discuss possible public health implications and how they could be managed. (40%)

OR

2b. A farmer wants to submit the animal shown below for slaughter. Giving reasons for your judgement, answer the following:
• Is this animal fit for transport to an abattoir? (50%)
• Who decides whether or not it is fit for transport to an abattoir? (50%)

This photograph was printed in colour on the question paper that candidates sat in 2009. The colour version can be seen on the RCVS website.

3a. Discuss the interventions that can be applied in the poultry industry to reduce the risk of foodborne pathogens. For each of the suggested controls indicate the likely level of control. In your answer comment on any difference in effectiveness of each of the controls for Salmonella spp and Campylobacter spp. (100%)

OR

3b. Routine meat inspection at the abattoir may identify lesions that indicate the possibility of Tuberculosis (M. bovis) infection. Describe the action required by the meat inspection service on finding such a lesion(s). (50%)

M. bovis is known to spread to cattle by contact. In giving advice to one of your farmer clients describe 5 actions that would reduce this risk for his cattle. (50%)

SECTION B
Answer all 10 questions

1. Several ewes of one of your clients have aborted in late pregnancy. You suspect an infection with Chlamydia abortus. Describe the transmission pathways and risks related to this pathogen (50%) and how the risk can be managed (50%).

2. You would like to use a medicine product that is licensed for use in humans only for the treatment of one of your cattle patients. Describe under what
circumstances and Veterinary Medicine Directorate regulations the use of such a drug is allowed.

3. Describe and compare the objectives, size, duration and measures in the following types of zones which are used in infection disease control:
   - Protection zone
   - surveillance zone
   - restriction zone.

4. BSE and scrapie are notifiable diseases in the UK. Briefly describe the justification for national control of these diseases and compare the current control strategies for these two diseases.

5. One of your clients would like to export a horse from the UK to Bulgaria and consults you regarding the legal requirements. What is your advice regarding procedures and required documents?

6. List 4 (four) types of residues which may be found associated with food animal production. (60%)

   Identify the statutory controls for residues in place in the UK at this time. (40%)

7. Describe briefly why it is difficult to control the spread of micro-organisms in a poultry slaughter plant. (100%)

8. At post mortem meat inspection in a sheep slaughter plant the inspection team has found a carcass and offal that do not appear to be ‘fit for human consumption’ but they are not certain that it should be rejected. What are the options available for the inspection team to assist in the decision making process? (50%)

   If, following the above action(s), it is then declared as ‘unfit for human consumption’ how would the carcass and offal be disposed under the current UK Regulations? (50%)

9. At routine post mortem inspection give your judgement and any necessary action on finding the following:
   - Swollen stifle in a lamb (33.3%)
   - Fat which is more yellow than normal for species and breed (33.3%)
   - Pig kidney with petechial haemorrhages. (33.3%)

10. Identify the two Brucella species most likely to be associated with human disease diagnosed in the UK. (20%)

    Describe briefly the methods for surveillance of Brucella in animals. (80%)

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