MEDICINE

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

1a  You are presented with a 6-year-old male Bull mastiff dog with a one month history of weight loss, polyuria and polydipsia. Despite these signs, the dog's appetite has remained satisfactory. Your clinical examination of the dog reveals enlarged peripheral lymph nodes which feel hard but are not painful when palpated. There are no other significant clinical findings.

i  Describe how you would confirm the diagnosis of lymphoma in this dog.

ii  Describe what further tests you would perform and why you would perform them.

iii Having confirmed the diagnosis of lymphoma (stage Vb) the owner asks you for some information about the management of this condition. Describe your advice to the owner including specific details where appropriate (such as the likely side effects of such therapy).

OR

1b  You are presented with a 5-year-old entire female dog with a one month history of weight loss, polyuria and polydipsia. Despite these signs, the dog's appetite has remained satisfactory. No significant abnormality is detected on clinical examination.

i  List 6 (six) conditions from which this dog might be suffering.

The next day routine serum biochemistry and haematology demonstrate only one abnormality and that is hyperglycaemia.

ii  Name 2 (two) further tests that you would use to confirm the diagnosis of diabetes mellitus and write short notes on why they are used.

Having confirmed the diagnosis of diabetes mellitus the owner is keen for you to treat the dog to the best of your ability.

iii  Write short notes, under appropriate headings, detailing how you will stabilise this dog.
2a A farmer seeks your advice about a 5-year-old Jersey cow which has developed severe diarrhoea and weight loss 2 weeks after calving. The farmer suspects that the cow may be suffering from Johne’s Disease.

i Describe how you would examine the cow, and any further investigations that you would perform in order to arrive at a diagnosis.

ii Describe how you would control the disease in the herd, if Johne’s disease is confirmed.

OR

2b Write an account of the causes, clinical signs, diagnosis, treatment and prevention of lungworm infestation in cattle.

3a i Describe the clinical signs and laboratory abnormalities that are seen in canine immune mediated haemolytic anaemia (IMHA).

ii Discuss the therapeutic options that are available to manage IMHA in the dog, and the factors that may govern their selection.

OR

3b You are called to see a 10-year-old horse suffering from weight loss. Describe how you would investigate and manage the case.

MEDICINE

SECTION B (answer all questions)

1. Write short notes on the pathophysiology and diagnosis of ethylene glycol poisoning in the dog.

2. Briefly describe the radiographic and electrocardiographic changes that you would expect in a case of congestive heart failure in the dog due to dilated cardiomyopathy with atrial fibrillation.

3. Write short notes on the pathophysiology and treatment of anaemia in feline chronic renal failure.


5. Write short notes on the clinical signs and diagnosis of feline infectious peritonitis.

6. Write short notes on the cause, clinical signs, and treatment of acute mastitis in ewes.

7. Outline the causes, clinical signs and treatment of hyperlipidaemia in the pony mare.

8. List the clinical signs that are associated with *Streptococcus suis* type 1 infection in piglets. Briefly outline how it can be treated and prevented in a pig unit.

9. Write short notes on caseous lymphadenitis in goats.
10. Rotavirus infection is an important cause of diarrhoea in young calves. Outline how you would treat an affected calf, and attempt to prevent the disease on a dairy farm.

**SURGERY**

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

1a. You are presented with a 4-year-old terrier with a suspected oesophageal foreign body. Describe:

i. how suspicions of the cause might have arisen,
ii. how you would confirm the diagnosis,
iii. how you would manage the case.

OR

1b. You are presented with a dyspnoeic 3-year-old cat with suspected diaphragmatic rupture, following a road traffic accident. Describe:

i. how you would initially manage this case,
ii. the method of anaesthesia that you would use,
iii. the surgical repair and post-operative management.

2a. Compare the radiographic principles involved in producing radiographs of the stifle of the dog with the stifle of the horse.

OR

2b. You are requested to attend a horse which has been exhibiting signs of colic for at least 2 hours. On arrival, you find that the horse has a pulse rate of 55 beats per minute. What further methods would you use to assess the health of the horse? Mention which findings would lead you to offer a favourable prognosis, which would suggest that a surgical intervention is required, and which would point to a grave prognosis.

3a. Compare and contrast the pathogenesis, incidence, presenting signs and diagnosis of recurrent laryngeal neuropathy in the dog and in the horse.

OR

3b. A veterinary hospital is recording an unusually high incidence of infection of surgical incisions, and wound dehiscence after surgery. Discuss the potential causes of these complications. How would you investigate the source of the surgical contamination and mention how it could be minimised?

**SURGERY**

**SECTION B** (answer *all* questions)

1. Outline the management options for pneumothorax in the dog.

2. Outline 5 (five) methods of stabilising the stomach following successful correction of a gastric torsion in an Irish Setter.

3. A dog has a small bowel obstruction. Briefly outline:
a) the criteria you would use to assess the viability of the canine small bowel where there has been an obstruction, And
b) how the assessment will affect your surgical options

4. Briefly outline the rationale for the use of external fixators in small animal orthopaedics.

5. Describe the management of paraprostatic cyst in the dog.

6. Briefly explain the physical principles used in the formation of an ultrasound image.

7. Briefly explain the differences between a hernia and a rupture. Give one example of each which may arise in cattle.

8. Write short notes on the annular ligament syndrome in the horse.

9. Show, with the aid of diagrams, how you would administer local anaesthetic solution to a:
   a) calf prior to disbudding
   b) ewe prior to caesarean section

10. Describe the course of the facial nerve of the horse, and list diseases which may interfere with its function. What are the consequences of facial palsy in this species?

REPRODUCTION

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

1a Caesarean section is probably the most common surgical procedure performed in cattle and sheep practice in the UK. Discuss the decision making process you would follow before deciding to perform such a procedure in a cow and ewe.

OR

1b A commercial, all-the-year-around calving dairy herd, comprising 200 Friesian Holstein cows (average yield 8000 litres per lactation), has an average calving to 1st service interval of 90 days and an average calving to conception interval of 125 days. Comment on the reproductive performance of this herd. Suggest methods that might be used to improve it.

2a List 6 (six) of the commonest infectious causes of pregnancy failure in ewes in the UK. Describe how you would manage an outbreak of 1 (one) of the diseases you mention in a 300-ewe flock, in both the short and long terms.

OR

2b You are asked to examine a 15-month-old Labrador bitch, that was spayed six months ago, because the owners have noted that she has just developed a vulval discharge, has slight vulval oedema and is attractive to male dogs.
   i   Describe how you would investigate the bitch to determine the cause.
   ii  List the possible causes.
iii Briefly describe how you would treat each of the causes listed.

3a Your advice is sought by the owners of a third parity 8-year-old cob brood mare that foaled normally without assistance 8 hours ago, and has retained her foetal membranes.
   i Describe what action would you take including the rationale.
   ii Discuss both the short term and longer term prognosis for the mare.

OR

3b In April, the owners of a four-year-old pony gelding, purchased in the previous November from a dealer, seek your advice because it has started showing intense male-like behaviour, such as mounting mares with which it is at pasture.
   i What might be the explanation?
   ii Describe how you would investigate the case.
   iii Describe the possible treatments.

REPRODUCTION

SECTION B (answer all questions)

1. List 6 (six) of the commonest infectious causes of abortion in cattle in the UK, indicating which ones are zoonotic. Briefly outline how you would control 1 (one) of those listed.

2. List the causes of a cow not seen bulling 45 days post partum. Outline how you would treat 1 (one) of those listed.

3. Briefly describe the methods available for inducing oestrus out of season in the ewe.

4. Outline the reproductive health problems which might result following the use of a hired bull in a dairy herd.

5. List the common infectious causes of reproductive loss in pigs in the UK. Briefly outline how you would treat and control 1 (one) of those listed.

6. List 4 (four) methods that can be used to diagnose pregnancy in the bitch, with the earliest time that they can be used. Briefly describe the underlying principle behind 1 (one) of those listed.

7. a) List 5 (five) causes of a vulval discharge in the bitch.
   b) Briefly explain how the colour, and a stained smear of the discharge, might assist in determining the cause.

8. Using a simple annotated diagram, illustrate the changes in the progesterone concentrations in the peripheral blood of queen cats, from the time of oestrus and for the subsequent 9 weeks, with or without access to a male cat. Absolute concentration values are not required.

9. Outline the method that you would use to induce early onset of cyclical ovarian activity in a Thoroughbred mare.
10. a) List 4 (four) infectious agents which can cause subfertility in the mare.
   b) Briefly outline how you would control 1 (one) of those listed.

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

1a Compare and contrast the management of cattle in an intensive cereal beef system, with that in a traditional 18-month beef rearing system in the UK. Make reference to specific production targets and nutritional requirements.

OR

1b Discuss how a veterinary surgeon may influence the management of a commercial lowland sheep flock with 1000 mule ewes, in order to maximise the number of lambs weaned.

2a Concern has been expressed about the link between use of antibiotics in animals, and antibiotic resistance. The veterinary profession must have a significant role in dealing with these concerns.

List the main parts of any “Prudent Use of Antibiotics Policy”, and discuss how the responsible use of appropriate antibiotics in veterinary practice might be achieved by use of these principles.

OR

2b Describe the measures considered appropriate to reducing the risk, to both animal and to public health, from Transmissible Spongiform Encephalopathies (TSEs) of animals. Include in your answer the use of TSE Testing of cattle and sheep in the abattoir.

3a Discuss the ageing of horses by dentition. Illustrate your answer by describing the expected findings in horses at: 1-year, 6-years and 16-years of age.

OR

3b Describe the controls that have been applied in the poultry industry to reduce the risk of foodborne pathogens. In your answer, discuss the different impact these measures may have had on the control of Salmonella and Campylobacter in the broiler and egg-laying flocks. In addition, indicate the control measure in the egg layer industry, that appears to have had a major impact on the incidence of salmonella infection in UK produced shell eggs.

ANIMAL HEALTH
SECTION B (answer all questions)

1. Write short notes on the feeding and nutritional requirement of a pet Guinea Pig (Domestic Cavy).

2. Write short notes on Maximum Residue Limits (MRLs), medicine withdrawal periods and "standard" withdrawal periods for meat, milk, eggs and fish as published by the National Office of Animal Health Ltd (NOAH).

3. Write short notes on the types of sow housing currently used in the UK for sows at different stages of production.
4. Describe a suitable lighting programme for the rearing of pullets, from day-old to point-of-lay, in a windowless house.

5. Write short notes on the Cattle Tracing System administered by the British Cattle Movement Service.

6. List 5 (five) zoonoses that may be present in raw milk, and for each of the organisms you have chosen indicate where the control, (if any control is possible) can best be applied on the farm.

7. Describe briefly why ante-mortem inspection, for both red meat animals and poultry, is essential as part of the meat hygiene service, giving examples in your answer.

8. Heat treatment of milk is used to reduce the risk of the spread of diseases of importance to humans. Outline the process of pasteurisation, and (using a diagram if you wish) identify the Hazard Analysis and Critical Control Points (HACCP), as the milk progresses from the bulk milk tank on the farm to the container of milk ready for retail sale.

9. No matter how hygienically food is produced there is no such thing as zero-risk of bacteria being present.

   List 5 (five) requirements for the growth of bacteria, and for each of the requirements given indicate how the risk of survival or multiplication of bacteria can be altered.

10. What in the United Kingdom is a:

    a) Notifiable Disease
    b) Reportable Disease

    Outline your action(s) on finding on a farm visit an animal that may have a Notifiable Disease.