1. You are asked to attend a 24 hour-old foal that has collapsed. It was born unattended overnight and initially appeared bright and alert, however, over the past 12 hours its health has deteriorated progressively. The mare’s udder is grossly engorged and dripping milk. Describe your investigations, differential diagnosis, management and treatment of the case.

2. Discuss the factors that may contribute to the apparent failure of antibiotics to treat some infectious diseases.

3. With the aid of diagrams, describe the anatomical relationships of the major paranasal sinuses of the horse and describe how they may become diseased.
1. Write SHORT NOTES on the diagnostic tests available for the confirmation of a suspected case of Equine Viral Arteritis in an imported stallion.

2. Describe, with the aid of diagrams, the course and distribution of the Trigeminal Nerve in the horse.

3. Write SHORT NOTES on the clinical signs, diagnosis and treatment of neonatal isoerythrolysis in foals.

4. SUMMARISE the clinical features of rupture of the urinary bladder of the foal, and include reference to the metabolic complications of the condition.

5. Describe the physiological role of the platelets (thrombocytes).

6. Describe IN DETAIL how you would perform a liver biopsy in a horse that has suspected liver disease.

7. Describe how X-rays are generated for radiographic use.

8. Compare the clinical effects of acepromazine and romifidine with respect to pre-anaesthetic sedation.

9. Describe, using a labelled diagram, the appearance of an electrocardiogram trace for each of the following conditions:
a) Sinus arrhythmia  
b) Atrial fibrillation  
c) Second degree heart block  
d) Sino-atrial block  
e) Ventricular ectopic beat (extra systole).

P.T.O for Question 10.

10. Describe the measures you would take to control the spread of ringworm (dermatophytosis) in a racing stable of 70 racehorses in which 5 confirmed cases had arisen in the last 2 weeks.
PAPER II – INTERNAL MEDICINE

(This Paper is to be answered ONLY by candidates whose elective is Internal Medicine.)

TUESDAY 27 APRIL 1999.

(3 hours)

This Paper is in two Sections (A and B) and instructions relating to the number of questions to be answered are given at the head of each Section.

Candidates are warned that illegible handwriting may result in examiners being unable to award marks for information which candidates intended to convey.

SECTION A

(1½ hours)

Candidates must answer THREE out of the FOUR questions set. (Allow approximately 30 minutes on each question.)

1. LIST the possible adverse sequelae that a horse may develop following infection with Streptococcus equi (Strangles). Discuss in detail TWO of those listed.

2. LIST the causes of hypercalcaemia in the horse. Describe how you would investigate a horse with hypercalcaemia. Discuss the various mechanisms involved in calcium homeostasis in the horse.

3. Discuss the value and limitations of ultrasonography in the investigation of acute colic in the horse.

4. You are asked to visit a stabled horse that has suddenly developed unilateral blepharospasm and ocular pain, with profuse lacrimation. The owner reports that the
horse was normal the previous evening. Describe in detail how you would investigate and manage this case.

P.T.O for Section B

THE ROYAL COLLEGE OF VETERINARY SURGEONS

CERTIFICATE IN EQUINE MEDICINE – EXAMINATION

PAPER II – INTERNAL MEDICINE

(This Paper is to be answered ONLY by those candidates whose elective is Internal Medicine)

TUESDAY 27 APRIL 1999.

SECTION B

(1½ hours)

Candidates must answer ALL TEN QUESTIONS
(Allow approximately 9 minutes to answer each question.)

1. Bronchoalveolar lavage fluid (BALF) from a horse with a chronic cough has 29% eosinophils. LIST possible causes of the eosinophilia and BRIEFLY DISCUSS how you would manage such a case.

2. Describe how you would manage an acute episode of exercise induced rhabdomyolysis (azoturia) in an event horse with a history of recurrent episodes.

3. How would you investigate whether a livery yard has benzimidazole-resistant cyathostomes?

4. BRIEFLY state the major justifications for vaccinating horses against influenza, Herpesvirus ¼ and tetanus.

5. LIST the clinical signs and possible causes of vestibular disease in the horse.

6. You are presented with a 12-year-old TB gelding, which has been dribbling small volumes of urine from the penis. LIST possible causes of this disorder and describe IN NOTE FORM how you would investigate this problem.

7. Describe how you would investigate a horse with an exudative dermatitis restricted to the single white pastern of one hind leg.

8. Write SHORT NOTES on the value and limitations of rectal biopsy in the investigation
of equine intestinal disease.

9. What signs would make you suspect that a horse has a progressive ethmoid haematoma? How would you confirm your suspicions?

10. LIST the clinical features and haematological findings that you might expect to find in a horse with mesenteric/abdominal lymphosarcoma.

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THE ROYAL COLLEGE OF VETERINARY SURGEONS

CERTIFICATE IN EQUINE MEDICINE – EXAMINATION

PAPER II – STUD MEDICINE

(This Paper is to be answered ONLY by candidates whose elective is Stud Medicine.)

TUESDAY 27 APRIL 1999.

(3 hours)

This Paper is in two Sections (A and B) and instructions relating to the number of questions to be answered are given at the head of each Section.

Candidates are warned that illegible handwriting may result in examiners being unable to award marks for information which candidates intended to convey.

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SECTION A

(1½ hours)

Candidates must answer THREE out of the FOUR questions set.

(Allow approximately 30 minutes on each question.)

1. You are presented with a 3-week-old foal, which has a history of an acute onset of a severe lameness with an oedematous swelling over the medial radial physis; it has a temperature of 103°F (39.4°C). Describe how you would investigate and manage this case. What are the predisposing factors for this condition?

2. Describe how you would attempt to achieve a pregnancy using a) natural service and b) artificial insemination in an 18-year-old mare that is known to accumulate a large volume of fluid in the uterus after mating.

3. You receive a chilled semen sample for insemination of your client’s mare. On
microscopic examination of a stained smear of the semen there are many neutrophils present. Discuss:-

a. whether this is normal finding in an ejaculate from a healthy stallion
b. the possible sequelae in the mare after using this semen
c. the methods of examining the stallion
d. the treatment of TWO of the possible causes.

4. A mare is presented at day 310 of pregnancy with mammary development and secretion. She appears to have mild abdominal pain.

a) Describe how you would examine this mare to fully investigate her problem.
b) Discuss possible causes and case management if the mare has:
   i) a purulent vaginal discharge
   ii) a haemorrhagic vaginal discharge.

P.T.O for Section B

THE ROYAL COLLEGE OF VETERINARY SURGEONS

CERTIFICATE IN EQUINE MEDICINE – EXAMINATION

PAPER II – STUD MEDICINE

(This Paper is to be answered ONLY by those candidates whose elective is Stud Medicine)

TUESDAY 27 APRIL 1999.
SECTION B
(1½ hours)

Candidates must answer ALL TEN QUESTIONS
(Allow approximately 9 minutes to answer each question.)

1. A valuable fertile Warmblood stallion has injured his back and is unable to mount and serve mares. The owners are extremely keen to breed a few mares to him in the next breeding season and ask for your help. Describe TWO management or treatment regimens which might allow you to collect semen from this stallion by ex copula ejaculation.

2. LIST possible causes of a) hydrocoele and b) haematocoele in a breeding stallion. Describe how you would differentiate these conditions from orchitis.

3. LIST THREE common causes of lameness in brood mares, commenting BRIEFLY in each case, on the methods which could be taken to reduce their incidence.

4. You are presented with a foaling mare with dystocia caused by a dead foal in normal disposition ‘locked at the hips’. Several attempts by the staff at the stud farm have failed to free the foal. How would you manage this case?

5. Discuss BRIEFLY whether uterine cysts affect fertility in the mare.
6. A foal presents with signs of abdominal pain at 36 hours after birth. BRIEFLY describe your differential diagnoses, investigations and management of the case.

7. BRIEFLY describe how you would resuscitate a foal born following prolonged dystocia.

8. Comment BRIEFLY on the prominent physiological differences between the neonate foal and mature horse.

9. OUTLINE the possible methods of treatment of clitoral Pseudomonas aeruginosa infection in a brood mare, and how you would monitor the response to treatment.

10. A 4-year-old Thoroughbred maiden mare arrives at stud at the end of March. She has shown no signs of oestrus over a 3-week period. LIST the steps that you would take to investigate the reasons for her failure to show signs of oestrus.

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SECTION A

Candidates must answer TWO of the THREE questions set.
(Allow approximately 45 minutes to answer each question.)

1. Following rectal examination, performed as part of assessment of an 8-year-old breeding stallion exhibiting signs of colic, you notice fresh blood on your rectal sleeve. Describe how you would manage this case.

2. Describe the varying presentations of horses affected by grass sickness. Discuss how you would confirm your diagnosis and describe the treatment regimes that are available.

3. Draw a flow chart illustrating the pathogenesis of endotoxaemia. Indicate the points at which therapy may be directed, and discuss the aims and limitations of the treatments that you have identified.
THE ROYAL COLLEGE OF VETERINARY SURGEONS

CERTIFICATE IN EQUINE MEDICINE

TUESDAY 28 MARCH 2000

PAPER I - GENERAL MEDICINE

SECTION B

(1½ hours)

Candidates must answer ALL TEN QUESTIONS.
(Allow approximately 9 minutes to answer each question.)

1. List the common causes of diarrhoea in the foal less than one month of age. For each condition, list the diagnostic features.

2. Describe the anatomy of the umbilical remnants in the foal. Discuss the clinical signs, diagnosis and treatment of infection of these structures in a 2-week old foal.

3. A two-year-old filly in training suffers from recurrent bouts of “setfast” (exertional rhabdomyolysis, azoturia). List the various management and treatment methods which you would recommend to minimise the risk of recurrence.

4. An in-foal miniature Shetland mare is believed to be suffering from hyperlipaemia. List the clinical signs which may be present. Briefly discuss how you would confirm the diagnosis and describe possible treatment regimes.

5. Describe a model vaccination programme, a worming programme and the pasture management for an owner who has four in-foal broodmares, two yearlings and four two-year-olds kept at grass on two paddocks each of three acres (1.2 hectares).

6. What colloid solutions are available for intravenous use in the horse? Briefly describe the indications for their use.
7. Describe the treatment of foals affected by neonatal isoerythrolysis (isoimmune haemolytic anaemia).

P.T.O. for Questions 8, 9 and 10

8. List the common causes of contagious skin disease in horses in the UK. For each condition, describe the diagnostic features.

9. List the clinical signs commonly seen in adult horses in association with infection by the following:
   - Equine influenza virus
   - Equine arteritis virus
   - Taylorella equigenitalis.

10. Briefly describe the treatment of a mare with uterine prolapse immediately after foaling.

   * * * * * * *
SECTION A
(1½ hours)

Candidates must answer THREE of the FOUR questions set. Approximately 30 minutes are available to answer each question.

1. What drugs can be administered by inhalation for the treatment of chronic obstructive pulmonary disease (COPD) in horses? Describe the different inhalation delivery systems that are available for this purpose.

2. Discuss the use of intestinal motility-modifying therapy in post-operative ileus.

3. Describe and discuss your investigation and management of an event horse that has fallen at a jump and is unable to rise.

4. A new client owns a horse which has repeatedly suffered from exercise-induced pulmonary haemorrhage (EIPH) during races. Explain how this condition is thought to arise, and describe the investigative and management plan that you would propose to this client.
1. Briefly describe the aetiology, clinical features and treatment of right dorsal colitis.

2. You are presented with a pony that is unaware of its surroundings, head-pressing, and ataxic. Your initial investigations reveal that the haematological values are normal, but that the serum activity of gamma glutamyl transferase is 315 iu/l (normal < 40 iu/l). Explain why this pony is displaying these particular signs, and how you would further investigate the case.

3. Write short notes on:
   - Equine protozoal myeloencephalitis
   - Tetanus
   - Botulism.

4. Describe the clinical features, diagnostic tests and aetiology of equine motor neuron disease.

5. What is meant by the term “melting corneal ulcer”? Discuss the aetiology of this condition. Briefly describe how you would evaluate and treat a horse with this disease.

6. Briefly explain the process of deglutition in the horse. List the common causes of dysphagia in the adult horse.
7. Define the term ‘respiratory hyperresponsiveness’. Briefly describe the factors that lead to this disorder in the horse.

**P.T.O. FOR QUESTIONS 8, 9, and 10**

8. Describe how the strong ion difference can influence acid-base balance in both normal health and disease.

9. Outline a plan for fluid therapy for a 500 kg horse with severe anterior enteritis in the 48 hours after initiation of treatment.

10. During the examination for suitability for purchase of a horse as an International three-day Eventer, you detect an arrhythmia. Describe your investigation of this and list:

    a). those arrhythmias that you would consider to be of no significance

    b). those arrhythmias that would lead you to advise a client not to buy the horse
THE ROYAL COLLEGE OF VETERINARY SURGEONS

CERTIFICATE IN EQUINE MEDICINE

TUESDAY 28 MARCH 2000

PAPER II - STUD MEDICINE
(3 hours)

(This Paper to be answered ONLY by those Candidates whose elective is Stud Medicine)

This Paper is in two Sections (A and B) and instructions relating to the number of questions to be answered are given at the head of each Section

Candidates are warned that illegible handwriting may result in examiners being unable to award marks for information which candidates intended to convey

SECTION A
(1½ hours)

Candidates must answer THREE of the FOUR questions set. Approximately 30 minutes are available to answer each question.

1. Describe in detail how you would manage a 14-year-old mare which the owner wanted to artificially inseminate with frozen semen imported from a stud in Germany. Include a description of how the semen might be packaged, and what number of spermatozoa and motility that you would consider as acceptable, and the different regimes that have been documented for thawing the semen. Give an indication of the expected pregnancy rate.

2. Describe the clinical features of rotavirus infection in a foal. Discuss how the diagnosis can be confirmed, and what treatment should be instituted. Describe what measures should be taken to prevent spread, and what can be done to prevent further rotavirus outbreaks in subsequent years.
3. What is the incidence of twin pregnancy in Thoroughbred mares?
   a. Describe the possible outcomes of twin pregnancies.
   b. Discuss methods of reduction of twins detected at 15, 18, 32 and 120 days of gestation.

4. What is the incidence of early embryonic death in the mare? Discuss the possible causes and describe in detail the ultrasonographic features which are suggestive of this condition.

P.T.O. FOR SECTION B

THE ROYAL COLLEGE OF VETERINARY SURGEONS

CERTIFICATE IN EQUINE MEDICINE

TUESDAY 28 MARCH 2000

PAPER II - STUD MEDICINE

(3 hours)

(This Paper to be answered ONLY by those Candidates whose elective is Stud Medicine)

SECTION B

(1½ hours)

Candidates must answer ALL TEN QUESTIONS.
(Allow approximately 9 minutes to answer each question.)

1. Discuss the use of antibiotics in an extender used for chilled, transported semen, indicating which are preferred and which should be avoided.

2. Detail the endocrinological and behavioural events that precede the onset of normal cyclicity in mares in Spring.

3. List the drugs that have been used in performance stallions to curb undesirable sex-related behaviour. Comment on the possible long term effects on fertility.

4. Describe the chromosomal causes of subfertility/infertility that have been documented in mares.

5. List the various clinical signs of Neonatal Maladjustment Syndrome in foals, and describe how an affected foal should be treated.

6. Following a difficult dystocia, a mare is suffering from rectal and bladder paralysis. Describe how you would manage this mare, and how you would assess the prognosis.

7. A foal has been diagnosed as suffering from a Rhodococcus equi respiratory infection. Describe how you would treat this case, and monitor progress.
8. A mare develops moderate to severe colic 12 hours after foaling. List the differential diagnoses, and outline how you would arrive at the correct diagnosis.

9. Klebsiella pneumoniae is isolated from penile swabs taken from a 4-year-old colt before retiring to stud. Describe what further investigation you would carry out, and what further treatment might be necessary.

10. A 10-year-old dressage mare has a history of irregular oestrous behaviour. The referring veterinary surgeon found an unusually large right ovary and made a provisional diagnosis of an ovarian tumour. How would you confirm this diagnosis? List the differential diagnoses.

* * * * *
SECTION A
(1½ hours)

Candidates must answer TWO of the THREE questions set.
(Allow approximately 45 minutes to answer each question.)

1. A mare that is 9 months pregnant has recently travelled by horse box for 24 hours
to reach a stud farm. She is now thought to be suffering from pleuropneumonia.
   a) Describe the clinical signs which might be present.
   b) Discuss how you would confirm your diagnosis and how you would treat
      this case if a pleural effusion is present. Mention important prognostic
      indications.

2. A 15-year-old donkey mare has developed signs of colic within 12 hours of
   unassisted foaling. She appears weak and has a heart rate of 90 beats per minute,
   pale mucous membranes, respiratory rate of 30 breaths per minute and body
   temperature of 37°C. The PCV of the donkey is 18 per cent and measurement of
   total solids by refractometry is not possible because the plasma appears lipoaemic.
   Describe the most likely diagnosis and treatment plans for this case.
3. You are working in a specialised equine practice that has excellent facilities for intensive care and surgery. Your colleagues ask you to review their policies on antibiotic use in the following situations:

a) Prophylaxis for elective surgical procedures including general orthopaedic and soft tissue surgery.

b) A 12 hour premature foal that has neonatal septicaemia.

c) Acute enterocolitis in adult horses.

Select drugs, dosage regimens and guidelines for use in your protocols for each situation. Provide brief justifications for each of your choices including an “up-date” to remind your senior partner how your selections are consistent with modern concepts in antibiotic selection.
1. Briefly describe how you should deal with a stallion in which Taylorella equigenitatlis has been isolated from penile swabs before the start of the breeding season.

2. Briefly describe the principle of the polymerase chain reaction (PCR) and list TWO advantages and TWO disadvantages of its use in clinical equine medicine.

3. Write short notes on Streptococcus equi disease syndromes and explain how you would prevent new infections from entering a stud. How would you eliminate existing infection from a stud?

4. List THREE commonly used methods for the assessment of adequacy of passive immunoglobulin transfer in a one day old foal and discuss in bullet point form the limitations of each.

5. Indicate, with justifications, what you consider the clinical significance of the isolation of the following bacteria locations to be from the locations specified below:

   a) Acinetobacter species from a trans-tracheal aspirate from a 10 year old pony with a history of chronic coughing when housed.

   b) Pseudomonas aeruginosa from 3 of 5 tracheal wash samples taken from a group of young Thoroughbreds in training.

   c) Rhodococcus equi from the faeces of a 3 week old foal with diarrhoea.

P.T.O. for Questions 6, 7, 8, 9 and 10.
6. Briefly describe the technique, how drug distribution is achieved; commonly used drugs, and clinical indications in caudal epidural drug administration in the horse.

7. Discuss how you would investigate a foal that presents with urinary tenesmus during the first few days of life. Include details of which conditions your investigations are specifically aimed at and how the results might help you to rule those conditions in or out.

8. Write short notes on equine herpes virus 2 (EHV-2).


10. At approximately 300 days of pregnancy, following a short episode of moderately severe colic, a 16 year-old Clydesdale mare developed marked ventral abdominal swelling but appeared otherwise healthy. Outline a suitable protocol for assessment and management of this case.
This Paper is in two Sections (A and B) and instructions relating to the number of questions to be answered are given at the head of each Section.

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If insufficient time is available to answer a question fully, it will be acceptable to complete in note form.

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SECTION A

Candidates must answer THREE of the FOUR questions set. Approximately 30 minutes are available to answer each question.

1. Discuss the aetiology and clinical features of inflammatory airway disease in young Thoroughbreds in training and describe your approach to the rational investigation, management and therapy of such cases.

2. A 12-year-old Cob mare has lost condition over the last month and has been lethargic and anorexic for 3 days. On clinical examination she is found to be pyrexic and has tachycardia (60 bpm). Mucous membranes are pale with obvious petechial haemorrhages. When you take a blood sample the needle puncture site continues to bleed for a prolonged period.
   a). Briefly discuss possible differential diagnoses in this case.
   b). Describe in detail your investigation of this mare.

P.T.O. for Questions 3 and 4
3. A cattle farmer has three broodmares, four yearlings and two two-year olds. All animals are turned out by day and stabled at night. They are fed home grown oats and big bale grass silage. One yearling has developed signs of muscle weakness/tremors and dysphagia that are strongly suggestive of botulism. The attending veterinary surgeon seeks your advice on:

   a) How to confirm the diagnosis of botulism in the yearling

   b) How to treat the yearling

   c) How to advise his client on the yearling’s prognosis

   d) The appropriate management of the other young stock and the mares.

4. Describe the pathophysiological basis of clinical signs observed in, and the minimally invasive techniques available as an aid to diagnosis of, equine grass sickness

   P.T.O. FOR SECTION B
THE ROYAL COLLEGE OF VETERINARY SURGEONS

CERTIFICATE IN EQUINE MEDICINE

WEDNESDAY 8 AUGUST 2001

PAPER II - INTERNAL MEDICINE

(This Paper to be answered ONLY by those Candidates whose elective is Internal Medicine)

SECTION B

(1½ hours)

Candidates must answer ALL TEN QUESTIONS.
(Allow approximately 9 minutes to answer each question.)

1. A riding pony with a history of left ear sensitivity when bridled suddenly develops a head tilt to the left, rotation of the muzzle to the right, a drooping left ear and a horizontal nystagmus with the fast phase to the left, but is able to eat normally. What is the most likely diagnosis, how has this occurred and how might you confirm your diagnosis?

2. Describe the effects of intense exercise on the haematology profile of a performance horse.

3. Write short notes on TWO drugs with bronchodilator action that are licensed for use in the horse including routes of administration, mode of action, clinical efficacy and potential adverse effects.

4. An otherwise healthy 3-year-old Thoroughbred colt in training fails a pre-purchase examination for racing because a transient arrhythmia is found on auscultation after Stage 3 of the examination. The owner asks you to investigate the problem.
   a) Describe your investigation of this case
   b) Discuss post-exercise arrhythmias that you have encountered in the horse and their likely significance for future performance.

5. A polo pony is presented with blepharospasm and hyphaema having been struck in the eye. Briefly describe how would you manage this case and what complications might occur?
6. Sangster, N.C. (1999) Pharmacology of anthelmintic resistance in cyathostomes: will it occur with the avermectin/millbemycins? Veterinary Parasitology 85,189-204, concluded that development of cyathostome populations resistant to vermectins/millbemycins is inevitable. Discuss the pharmacological, parasitological, host and management factors that are relevant to this opinion.

7. A 14 year-old Dutch Warmblood breeding stallion has a 10-day history of haematuria. No other clinical abnormalities have been observed and the stallion is in good body condition with normal appetite and water intake. Outline a protocol for investigation of this case.

8. A 7 year-old Thoroughbred gelding is presented with a 6 week history of progressive bilateral swelling of the distal forelimbs. On both metacarpi there are radiographic changes consistent with a diagnosis of hypertrophic osteopathy. Describe how you would further investigate this case.

9. Compare the clinical pharmacology of the various non-steroidal anti inflammatory drugs (NSAIDs) licensed for use in the horse.

10. Prepare a brief explanation of current regulations governing the use of drugs in horses in UK that might be suitable for publication in a horse owner’s magazine.
SECTION A

(1½ hours)

Candidates must answer THREE of the FOUR questions set. Approximately 30 minutes are available to answer each question.

1. Describe the clinical signs associated with septicaemia in a neonatal foal. Discuss possible causes and then the course of action you would take to treat this condition.

2. Discuss management of the postpartum period in mares foaling late in the breeding season to give maximum pregnancy rates at the first ovulation after foaling.

3. The owner of a 10 year old, 7 month pregnant TB mare seeks your advice because the mare is running milk. Discuss the possible causes and describe how you would investigate this case.
4. List the possible causes of unilateral testicular swelling in a young stallion and for each possible cause discuss methods of diagnosis and treatment.
7. A Shire mare foaled 6 hours ago and has not passed her placenta. Briefly describe how you would manage this case.

8. Write short notes on infection of the umbilicus of a 10-day-old foal.


10. List the routine procedures that you would advise a client to undertake on their newborn foal.
2. The Horse Passports Order (1997) established a system of identification for horses registered with recognised organisations and born in Great Britain after 1998. New legislation was announced this year and detailed in the Equine Industry Welfare Guidelines Compendium for Horses, Ponies and Donkeys. What will the new legislation require of horses in Great Britain from the end of 2003?

3. A mare develops a vulval discharge in late pregnancy. Describe how you would investigate the origin of the discharge, how you would treat this mare and how you would monitor response to treatment.

P.T.O. for questions 4 - 8

4. Define the term “photosensitisation” as it applies to equine skin disease, and briefly highlight the differences between “primary” and “hepatogenous” photosensitisation.

5. Describe the clinical signs of gastric ulceration in a young foal.

i. How would you confirm your diagnosis?

ii. What treatment would you recommend?

iii. What possible complications are there?

iv. How would you prevent the development of gastric ulceration?

6. Within the context of diagnostic testing, give definitions of the terms specificity, sensitivity and predictive value.

7. A four week old foal develops signs of Rhodococcus equi pneumonia. Describe:

i. How you would confirm the diagnosis.

ii. How you would treat a confirmed case.


iv. How you would assess the long term prognosis.

8. Use a labelled flow diagram to describe the pathway for the laryngeal adductor reflex (“slap test”).
1. You are presented with a non-recumbent adult horse exhibiting classical clinical signs of tetanus in a busy livery yard. Discuss how you would treat and manage this case.

2. A 10 year-old gelding is presented with mild ventral and preputial oedema. Discuss your approach to this case using clinical case examples to demonstrate the different pathophysiological mechanisms of oedema formation.
3. You are asked to prepare a policy on isolation of equine hospital patients for inclusion in the practice SOP manual. Using headings and bullet points give a general overview of the key elements of such a document and then in NOTE FORM justify the specific recommendations which you would make in THREE specific disease scenarios.

4. Summarise FOUR of the chronic sequelae of Streptococcus equi var. equi infection that affect the equine guttural pouch. Describe the clinical signs associated with such sequelae, their pathogenesis, diagnostic investigation, therapy and prognosis.
THE ROYAL COLLEGE OF VETERINARY SURGEONS

CERTIFICATE IN EQUINE MEDICINE (INTERNAL MEDICINE)

WEDNESDAY 31 JULY 2002

PAPER II - INTERNAL MEDICINE

(2 hours)

This Paper is in two Sections (A and B) and instructions relating to the number of questions to be answered are given at the head of each Section.

Illegible handwriting may result in examiners being unable to award marks for information which candidates intended to convey.

SECTION A

(1 hour)

Candidates are required to answer ALL of the following EIGHT questions.

Write short notes and use clear diagrams where applicable.

Allow 7½ minutes per question.

1. Write short notes on the therapeutic and managemental options available for treating chronic obstructive pulmonary disease [COPD] (syn: recurrent airway obstruction [RAO]; heaves) in the horse, indicating the factors you may consider when choosing a therapeutic regimen.

2. List FIVE differential diagnoses for focal, circumscribed alopecia in the horse and describe in NOTE FORM how your examination and investigation of such a case could support each of these diagnoses.

3. A 5 year-old warm blood gelding has a 16-week history of marked polydipsia (80 litres per day). The horse is in good physical condition and it is not exhibiting any signs of systemic illness. Outline how you would investigate this case.

P.T.O. for Questions 4 - 8
4. Beginning with “method of restraint”, use bullet points and/or diagram(s) to describe how you would obtain a sample of cerebrospinal fluid from the lumbo-sacral site of a non-recumbent adult Thoroughbred horse.

5. i. List the clinical signs of Horner’s syndrome in the horse.
   
   ii. What is the underlying neurological deficit in this syndrome?
   
   iii. Describe and/or illustrate the neuroanatomic pathway that may be defective.
   
   iv. Describe how careful neurological assessment may help to localise the site of the lesion.

6. Briefly highlight the features of renal tubular acidosis in the horse under the following headings:
   
   (a) clinical signs
   (b) serum electrolyte concentrations
   (c) blood gas status
   (d) urinalysis.

7. Define the term cholangiohepatitis. Briefly describe the pathogenesis and clinical and laboratory diagnosis of cholangiohepatitis in the horse.

8. Briefly outline your differential diagnosis and approach to the clinical investigation of a 12 year-old Thoroughbred stallion presented with signs of colic and scrotal swelling.
THE ROYAL COLLEGE OF VETERINARY SURGEONS

CERTIFICATE IN EQUINE MEDICINE (INTERNAL MEDICINE)

WEDNESDAY 31 JULY 2002

PAPER II - INTERNAL MEDICINE

(2 hours)

SECTION B

(1 hour)

Candidates are required to answer TWO of the following THREE essay questions.

Allow 30 minutes per question.

Illegible handwriting may result in examiners being unable to award marks for information which candidates intended to convey.

If insufficient time is available to answer a question fully, it will be acceptable to complete in note form.

1. The prophylactic use of antimicrobial drugs remains a controversial subject. Give at least 6 clinical examples (excluding peri-operative use) whereby the prophylactic use of antimicrobials is commonplace, and discuss the factors you may consider when contemplating the prophylactic use of antimicrobials.

2. You are asked to examine an 16 year old pony club eventing gelding in full work that has been reported to have aortic regurgitation / insufficiency. Describe the clinical features of aortic valve regurgitation / insufficiency in the horse and detail the steps you would take and the criteria you would employ to answer the owner’s questions of:

   i.  is the horse fit to continue work?
   ii. when would you advise retirement?
   iii. will the horse die from it?

Briefly describe the underlying valvular pathology you would suspect to be causing a murmur consistent with aortic regurgitation / insufficiency in:

i. The animal described above.
ii. A 3 year-old racehorse with depression and undulating pyrexia.

iii. A 2 year-old unbroken sport horse presented for a pre-purchase examination.

P.T.O. for Question 3

3. Discuss all aspects of treatment of equine hyperadrenocorticism (Cushing’s Syndrome), addressing drug therapy from the basis of the pharmacological action of the compounds that may be used.
THERE WAS NO STUD MEDICINE PAPER SET IN 2002
SECTION A – GENERAL MEDICINE
(1 hour)

Candidates are required to answer ALL of the following EIGHT questions.

Write short notes and use clear diagrams where applicable.

Allow 7½ minutes per question

1. A mare develops a purulent vaginal discharge and starts to lactate in mid to late pregnancy. Outline the likely causes, the diagnostic tests you would perform and how you would manage this mare to ensure a live foal.

2. Describe the pathogenesis of neonatal isoerythrolysis in a neonatal foal.
   a) How would you confirm your diagnosis?
   b) How would you treat such a case?
   c) What advice would you give regarding future mating for the mare and treatment of subsequent foals?
3. Describe how you would deal with a filly in which Pseudomonas aeruginosa has been isolated from a clitoral swab before the start of the breeding season.

4. Write short notes on guttural pouch mycosis.

5. Early identification of sepsis in foals can be difficult and frequently requires combined consideration of historical information, clinical findings and laboratory values.
   
a) List FOUR general “non-specific” clinical signs that may be associated with neonatal sepsis.

b) List FOUR potentially “localising signs” (i.e. indicative of specific organ involvement) which may be associated with neonatal sepsis.

c) List FOUR laboratory parameters that may prove helpful in confirming or supporting a diagnosis of neonatal sepsis, indicating the type of alteration in each parameter (e.g. increase, decrease, etc.)

6. Describe in note form:
   
a) the likely pathogenesis of malignant oedema (clostridial myonecrosis) in the horse,

b) clinical signs you would associate with this disorder.

c) how you might support your diagnosis.

d) how you would treat a suspected case.

7. You are called to attend a yearling that is in distress, having sustained a deep stake wound to the right axilla. List FIVE potential sequelae of such an injury and in each case NOTE how you would identify and manage such sequelae.

8. Rhodococcus equi infection typically results in pulmonary disease in foals between 1 and 6 months of age. In addition to pulmonary disease, extrapulmonary manifestations of Rhodococcus equi infection may be observed.
   
a) Briefly explain why this age group of foals is thought to be particularly susceptible.

b) List THREE of the most common extrapulmonary manifestations of Rhodococcus equi infection.

c) State your antibacterial programme of choice when treating Rhodococcus equi-associated pulmonary disease and briefly explain the reason for this choice.
9. Discuss antibiotic resistance: i.e. how micro-organisms become resistant to an antibiotic and possible strategies for decreasing the incidence of antibiotic resistance.

10. Describe THREE current hypotheses for the pathogenesis of Exercise-Induced Pulmonary Haemorrhage (EIPH) in performance horses.

11. You are presented with three horses on the same premises that had gained access to a grain store for an undetermined period of time. There is evidence that barley within the grain store has been consumed, however the quantity is unknown. At the time of your arrival, one horse (horse A) is sweating profusely, exhibiting signs of moderate
colic, tachycardic (70bpm), tachypnoeic (40brpm), dehydrated, has hyperaemic gingival mucous membranes and obvious abdominal distension. The other two horses (horse B and C) are depressed and inappetant.

a) List the possible clinical sequelae that may result following ingestion of large quantities of soluble carbohydrates.
b) Describe the pathophysiological events that may have resulted in the clinical signs exhibited in horse A.
c) Describe your management/treatment of horses B and C, with a view to minimising the development of some of the potential sequelae you have listed above.

P.T.O. for Question 12

12. You are presented with a 15 year-old gelding with sudden onset urinary incontinence.

a) List the possible causes of urinary incontinence (not only with respect to the case above).
   b) With reference to this differential list, what historical questions would you consider particularly relevant in your investigation of this case?
   c) Describe your systematic approach to this case with a view to establishing a specific diagnosis.
   d) What secondary complications may occur as a result of urinary incontinence?
THE ROYAL COLLEGE OF VETERINARY
SURGEONS

CERTIFICATE IN EQUINE MEDICINE (INTERNAL MEDICINE)

WEDNESDAY 30 JULY 2003

PAPER II - INTERNAL MEDICINE

(2 hours)

This Paper is in two Sections (A and B) and instructions relating to the number of questions to be answered are given at the head of each Section.

Illegible handwriting may result in examiners being unable to award marks for information which candidates intended to convey.

SECTION A

(1 hour)

Candidates are required to answer ALL of the following EIGHT questions.

Write short notes and use clear diagrams where applicable.

Allow 7½ minutes per question.

1. Write short notes describing a technique for bronchoalveolar lavage in the horse. Briefly list its advantages and disadvantages.

2. Explain the significance of using serum urea and creatinine concentrations as indices of renal function in the horse, including the use of serum urea-to-creatinine ratios.

3. List FIVE species of bacteria and THREE species of fungi that cause skin disease in the horse. Rank the TWO most common bacteria and the SINGLE most common fungus that you consider to cause disease. Which species of fungus is specific to Equids? Briefly outline your treatment regimens of choice for suspected bacterial dermatitis and dermatophytosis in individual animals.

P.T.O. for Questions 4 - 8
4. Nutraceuticals are defined as endogenous compounds supplied exogenously to facilitate normal functions and structures of the body. Briefly describe TWO of the majors groups used in equine veterinary medicine, list some specific agents in each group in your description.

5. Briefly describe treatment options for a performance horse with gastric ulceration.

6. List FOUR prokinetic drugs that may be used to promote intestinal motility in cases of post-operative ileus. Briefly describe the suspected mode of action of each drug listed.

7. List TWO equine neurological diseases that have been associated with vitamin E deficiency, and highlight the major differences between these diseases with respect to their clinical presentation.

8. a) List the clinical signs of thrombocytopenic purpura in the horse.

   b) List THREE causes of thrombocytopenia detected in a blood sample other than idiopathic thrombocytopenia and briefly outline the mechanism resulting in reduced platelet numbers.

   c) Describe in note form how you would treat a clinical case of suspected idiopathic thrombocytopenic purpura.
9. A 10-year-old Thoroughbred cross gelding has experienced bouts of abdominal pain with increasing frequency and intensity over the last 5 days. Describe how you would investigate recurrent colic in this horse. In your description include a list of common causes of recurrent colic in the horse.

10. You are presented with a 3-week old Thoroughbred foal with acute onset lameness associated with heat, pain and swelling of the hock. This is the fourth of 12 foals born on the stud to succumb to a suspected bacterial infection this season.

a) Describe how would you investigate and treat this individual with suspected localised septic skeletal disease.

b) Discuss the pathogenesis of septic polyarthritis and bone infection in neonatal foals including reference to predisposing factors, microbiological aetiology, predilection sites and bone pathology.

c) The stud owner requests that you draw up a bullet point action plan that should be instituted on the stud to reduce the perceived high incidence of infective
The following case scenarios may all require the use of intravenous fluid therapy:

(i) Acute colitis in an adult horse.
(ii) Oesophageal obstruction of 2 days duration.
(iii) Post-operative ileus.
(iv) Pre-operative management of a ruptured bladder in a 2 day-old colt foal.
(v) Exhausted endurance horse following completion of 50 mile race in hot, humid weather.

(a) List the major objectives of fluid therapy in general.
(b) In relation to each of the 5 case scenarios above;

(i) describe what underlying pathological and/or physiological mechanisms may have resulted in the necessity for intravenous fluid therapy,

(ii) indicate which intravenous fluid/electrolyte compositions you would consider most beneficial and why.
THERE WAS NO STUD MEDICINE PAPER SET IN 2003
THE ROYAL COLLEGE OF VETERINARY SURGEONS

CERTIFICATE IN EQUINE MEDICINE
(INTERNAL MEDICINE AND STUD MEDICINE)

WEDNESDAY 25 JULY 2007

PAPER I
(2 hours)

This Paper is in two Sections (A and B) and instructions relating to the number of questions to be answered are given at the head of each Section

Illegible handwriting may result in examiners being unable to award marks for information which candidates intended to convey.

SECTION A – GENERAL MEDICINE
(1 hour)

Candidates are required to answer ALL of the following EIGHT questions.

Write short notes and use clear diagrams where applicable.

Allow 7½ minutes per question

1. Describe the recent update in the European Union regulation on the protection of animals during transport.

2. You are presented with an 11 year-old Warmblood gelding with a packed cell volume of 60%. What differential diagnoses should you consider and what further diagnostic tests are appropriate?

3. Describe the kinetics and clinical use of acute phase proteins in the foal.

4. Write short notes on the clinical signs and diagnosis of equine infectious anaemia.

5. Describe how you would go about eliminating strangles (Streptococcus equi equi) from a small breeding farm (total of 35 mares, foals and yearlings) that has suffered 3 outbreaks in the past 2 years.

P.T.O. FOR QUESTIONS 6 - 8
6. A stallion has recently been diagnosed as CEM positive on the basis of a routine pre-breeding season swab. Describe how you would treat this problem and how you would subsequently demonstrate that the stallion was ‘free’ of this bacterium.

7. Summarise the clinical signs, aids to diagnosis and preferred treatment of ruptured bladder in a newborn foal.

8. What causes “choke” in the horse? What are the clinical signs and how would you treat it?

P.T.O. FOR SECTION B
THE ROYAL COLLEGE OF VETERINARY SURGEONS

CERTIFICATE IN EQUINE MEDICINE (INTERNAL MEDICINE)

WEDNESDAY 25 JULY 2007

PAPER I
SECTION B – INTERNAL MEDICINE
(1 hour)

Candidates are required to answer ALL of the following FOUR questions.
Write **short notes** and use clear diagrams where applicable.

Allow 15 minutes per question


10a. Describe the neural and receptor mediated control of intestinal motility in the horse.

10b. Using a clinical example, other than grass sickness, explain the aetiopathogenesis and management of abnormal intestinal motility.

11. A two year-old warmblood mare presents recumbent in the field. The owner found the horse at 8 am in the field, it was normal yesterday. There are no signs of abdominal pain. Describe your clinical approach to the case.

12a. What is the definition of a cyst?

12b. Describe the aetiology, clinical appearance and management of **THREE** types of cutaneous cysts.

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**THE ROYAL COLLEGE OF VETERINARY SURGEONS**

**CERTIFICATE IN EQUINE MEDICINE (INTERNAL MEDICINE)**

**WEDNESDAY 25 JULY 2007**

**PAPER II - INTERNAL MEDICINE**

(2 hours)

This Paper is in two Sections (A and B) and instructions relating to the number of questions to be answered are given
at the head of each Section

Illegible handwriting may result in examiners being unable to award marks for information which candidates intended to convey.

SECTION A  (1 hour)

Candidates are required to answer ALL of the following EIGHT questions.

Write short notes and use clear diagrams where applicable.

Allow 7½ minutes per question.

___________________________________________________________________________________

1.  Describe the diagnostic approach for a horse with suspected Equine Herpes Virus myeloencephalopathy.

2.  Compare the diagnosis of equine metabolic syndrome (equine peripheral cushing’s) and pituitary pars intermedia dysfunction.

3.  LIST the most common ectoparasites in the donkey in the United Kingdom and briefly describe the clinical signs.

4.  Describe how you would advise your client to help reduce the risk of laminitis with regard to turnout and pasture management.

5.  Describe how you would perform an oral glucose tolerance test and interpret the results. What factors can affect the result obtained?

6.  Describe the post operative treatment you would recommend in the first 48 hours for a 15 year-old pony gelding that underwent a jejunal resection and anastomosis for a strangulating lipoma.

P.T.O. FOR QUESTIONS 7 - 8

7.  You are presented with a 12 year-old welsh pony mare with a 3-week history of polyuria and polydipsia.
   a.  List the possible differential diagnoses.
   b.  What further diagnostic tests would be appropriate?

8.  Compare the treatment options for atrial fibrillation in the horse in terms of side effects and prognosis.
SECTION B
(I hour)

Candidates are required to answer **TWO** of the following **THREE** essay questions.

Allow 30 minutes per question.

Illegible handwriting may result in examiners being unable to award marks for information which candidates intended to convey.


10. Discuss endoparasite control in horses.

11. Describe the pathophysiology, clinical signs, diagnosis and treatment of **TWO** primary equine immunodeficiencies.