

THE ROYAL COLLEGE OF VETERINARY SURGEONS

DIPLOMA IN EQUINE INTERNAL MEDICINE

MONDAY 10 JULY 2006

**PAPER I
BASIC SCIENCES**
(3 hours)

SECTION A

Candidates are required to answer **ONE** of the following **two** questions.

Allow 1½ hours

Illegible handwriting or failure to answer the question in the form requested may result in examiners being unable to award marks for information which candidates intended to convey

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1. What are the major hypotheses concerning the pathogenesis of laminitis? Provide a critical review, based on experimental and clinical evidence, of the strengths and weaknesses of each of the hypotheses.
 2. Write a critical account of the current understanding of the aetiopathogenesis of equine myopathies.

P.T.O FOR SECTION B

THE ROYAL COLLEGE OF VETERINARY SURGEONS

DIPLOMA IN EQUINE INTERNAL MEDICINE

MONDAY 10 JULY 2006

PAPER I
BASIC SCIENCES

SECTION B

Candidates are required to answer **ALL TEN** of the following questions.

Allow 9 minutes per question.

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3. **Detail** the clinical and pathological parameters that are used to assess the critically-ill adult horse.
 4. **List** drugs that influence vasomotor tone in septic neonatal foals and **describe** their mode(s) of action.
 5. **Describe**, giving specific examples, the applications of molecular diagnostic methods in equine medicine.
 6. **Summarise**, giving specific examples, the use of cytotoxic drugs in equine medicine.
 7. **Briefly** describe magnesium homeostasis.
 8. **List** the key elements of biosecurity programmes for equine establishments? Using specific examples, **describe** how these elements can be applied to **THREE** different situations; namely, training yards; livery yards; and studs.
 9. **Discuss** the aetiopathogenesis and epidemiology of inflammatory airway disease.
 10. **Review** the evidence that methicillin-resistant *Staphylococcus aureus* (MRSA) is an emerging equine problem.
 11. **Outline** the pathogenesis and management of non-ulcerative keratopathy.
 12. **Describe** the investigation of polyuria in the horse.
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THE ROYAL COLLEGE OF VETERINARY SURGEONS

DIPLOMA IN EQUINE INTERNAL MEDICINE

MONDAY 10 JULY 2006

**PAPER II
CLINICAL ASPECTS
(3 hours)**

Candidates are required to answer **FIVE** of the following **six** questions.

Allow 35 minutes per question.

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1. **Describe** the pathogenesis, diagnosis and management of the immune-mediated skin diseases of the horse.
 2. **Write a review** of Lyme disease in the United Kingdom.
 3. **Describe in detail** the current concepts of the diagnosis, management and control of equine herpesvirus myeloencephalopathy.
 4. **Discuss** the use of Electromyography (EMG) in equine medicine.
 5. **Discuss specific** treatments aimed at limiting the clinical signs or pathophysiology associated with perinatal asphyxia syndrome (hypoxic ischaemic encephalopathy or neonatal maladjustment syndrome), and any evidence for the effectiveness of each treatment. (**do NOT** discuss general supportive measures common to all critically-ill foals).
 6. **Categorise and list** different types of fluids available for fluid therapy in horses. **Discuss** the potential roles for these fluids, including advantages and disadvantages, for resuscitation of a horse with anterior enteritis and a horse with severe colitis.
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THE ROYAL COLLEGE OF VETERINARY SURGEONS

DIPLOMA IN EQUINE INTERNAL MEDICINE

WEDNESDAY 13 JULY 2005

**PAPER I
BASIC SCIENCES**
(3 hours)

SECTION A

Candidates are required to answer **ONE** of the following **two** questions.

Allow 1½ hours

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1. **Describe** in detail the components of an effective immune response to bacteria and the mechanisms which bacteria use to overcome these, using specific examples to illustrate your answer. **Discuss**, again using specific examples, the difficulties in generating an effective bacterial vaccine and how these might be overcome.
 2. **List** the major hypotheses to explain the aetiopathogenesis of exercise-induced pulmonary haemorrhage (EIPH) in the horse. Review the evidence supporting and contradicting each of the hypotheses you have listed.

P.T.O FOR SECTION B

THE ROYAL COLLEGE OF VETERINARY SURGEONS

DIPLOMA IN EQUINE INTERNAL MEDICINE

WEDNESDAY 13 JULY 2005

PAPER I
BASIC SCIENCES

SECTION B

Candidates are required to answer **ALL TEN** of the following questions.

Allow 9 minutes per question.

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3. What is meant by anthelmintic resistance? **Describe** the anthelmintic resistance mechanisms employed by the equine gastrointestinal parasites and **list** the actions that can be taken to minimise the development and impact of anthelmintic resistance.
 4. **Briefly** describe the pathogenesis of oedema.
 5. Write **short notes** on the 'post antibiotic effect'.
 6. **Briefly** review the epidemiology of West Nile Virus, with particular emphasis on its effect on the horse population.
 7. **Discuss** the role of pharmaceutical intervention in the long-term management of recurrent airway obstruction (RAO).
 8. **Outline** the immunological basis of hypersensitivity in horses.
 9. **Briefly** describe iron homeostasis in horses.
 10. **Describe** the assessment of renal function in the adult horse.
 11. **Describe** how ultrasonography can be used to investigate equine ocular disease.
 12. Write **short notes** on proliferative enteropathy (*Lawsonia intracellularis*) in horses.
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WEDNESDAY 13 JULY 2005

**PAPER II
CLINICAL ASPECTS
(3 hours)**

Candidates are required to answer **FIVE** of the following **six** questions.

Allow 35 minutes per question.

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1. **Define** the term 'paraneoplastic syndrome'. Review the pathogenesis, clinical manifestations, diagnosis and management of paraneoplastic syndromes in the horse.
 2. Glucocorticoid administration has been linked with the induction of laminitis. What evidence do you know that supports or contradicts this potential link?
 3. Explain how cardiac function can be assessed in the horse.
 4. **Describe** the pathogenesis, clinical consequences, diagnosis and management of otitis media/interna in the horse.
 5. **Describe** the pathogenesis and management of equine recurrent uveitis.
 6. **Discuss** the role of high speed treadmill exercise testing in the diagnosis of performance-related problems in the horse.
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THE ROYAL COLLEGE OF VETERINARY SURGEONS
DIPLOMA IN EQUINE INTERNAL MEDICINE

TUESDAY 30 JULY 2002

PAPER I
BASIC SCIENCES
(3 hours)

SECTION A

Candidates are required to answer **ONE** of the following **two** questions.

Allow 1½ hours

Illegible handwriting or failure to answer the question in the form requested 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. Describe the biochemical and molecular mechanisms underlying the acute phase response. Describe techniques that can be used to detect the acute phase response in the horse. Describe how detection of the acute phase response can aid the diagnosis and management of inflammatory conditions in the horse.
2. Discuss, with reference to specific equine diseases, how genotype can influence disease expression.

P.T.O FOR SECTION B

THE ROYAL COLLEGE OF VETERINARY SURGEONS

DIPLOMA IN EQUINE INTERNAL MEDICINE

TUESDAY 30 JULY 2002

**PAPER I
BASIC SCIENCES**

SECTION B

Candidates are required to answer **ALL TEN** of the following questions.

Allow 9 minutes per question.

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3. Describe the potential role of free radicals in causing equine neurological diseases with reference to medical treatments that may be used to minimise free radical-induced neuropathology.
 4. **Outline** with a diagram the mechanisms underlying the production and drainage of aqueous humour in the horse.
 5. What evidence do you know that supports or contradicts the hypothesis that equine grass sickness is a toxicoinfection with *Clostridium botulinum* type C?
 6. **List** the **FIVE** conditions associated with vasculitis in horses and describe the clinical features of **ONE** of these.
 7. Describe the ancillary aids that can corroborate a clinical diagnosis of equine motor neuron disease.
 8. By means of a flow diagram describe the pathogenesis of disseminated intravascular coagulation.
 9. Describe (with diagrams as appropriate) the neurological control of micturition.
 10. Describe the pathophysiology of airway obstruction as it occurs in the horse with chronic obstructive pulmonary disease (COPD), also known as 'heaves'.
 11. Describe the aetio-pathogenesis of pericardial and pleural effusions in the horse.
 12. Write **short notes** on the pathophysiology of hypovolaemia with specific reference to electrolyte and acid/base changes.
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THE ROYAL COLLEGE OF VETERINARY SURGEONS

DIPLOMA IN EQUINE INTERNAL MEDICINE

TUESDAY 30 JULY 2002

**PAPER II
CLINICAL ASPECTS
(3 hours)**

Candidates are required to answer **FIVE** of the following **six** questions.

Allow 35 minutes per question.

Illegible handwriting or failure to answer the question in the form requested 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.

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1. Describe in detail the pathogenesis of equine hyperadrenocorticism (Cushing's disease) and **FOUR** of its common sequelae.
 2. **List** the potential adverse effects of oral quinidine sulphate when used to treat atrial fibrillation. Discuss the pathophysiological mechanisms underlying these effects. Describe how you would detect, investigate and manage each of these adverse effects.
 3. Discuss the aetiopathogenesis of gastric ulceration in foals and in adult horses.
 4. Discuss the epidemiology of *Clostridium difficile* infection in horses. Describe the clinical signs, diagnosis and management of horses with *Clostridium difficile* colitis.
 5. Summarise current opinion on the pathogenesis of exercise-induced pulmonary haemorrhage.
 6. Discuss the value and limitations of transcutaneous abdominal ultrasonography in investigation of horses with colic.

The Royal College of Veterinary Surgeons

DIPLOMA IN EQUINE INTERNAL MEDICINE EXAMINATION

PAPER I

(Basic Sciences)

Monday 28 April 1997

(3 hours)

SECTION A

Two long-answer questions of which a candidate must choose one question only to answer in approximately 1 1/2 hours

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

1. Describe in detail the mechanism of reperfusion phenomena as a factor in tissue injury following an ischemic insult to the central nervous system.
2. Discuss the clinical laboratory features of the hyperlipaemia syndrome. Describe the pathogenesis of this disorder including possible reasons for the apparent susceptibility of pony breeds.

P.T.O FOR SECTION B

The Royal College of Veterinary Surgeons

**DIPLOMA IN EQUINE INTERNAL MEDICINE EXAMINATION
PAPER I**

(Basic Sciences)

Monday 28 April 1997

(3 hours)

SECTION B

Ten compulsory short-answer questions to be answered in approximately 1 1/2 hours (allowing some 9 minutes for each question)

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

1. Describe the physiological mechanisms responsible for the co-ordination of cardiac contraction in the horse.
2. Write *short notes* on the metabolic effects of endotoxin in the horse.
3. Hypertonic 7% saline has been recommended as a resuscitation fluid in certain situations. Describe the anticipated impact of the rapid intravenous administration of 2 litres of 7% saline in a horse with regard to changes in body fluid compartments, plasma electrolyte concentrations and acid-base balance.
4. Write *short notes* on the value of dietary fat in the horse.
5. Describe the mechanism by which selenium exerts a protective effect against the development of white muscle disease.
6. Write *short notes* on the cough reflex in the horse.
7. Describe the basic mechanisms of oedema formation.
8. Describe the typical haematological features including the haemogram, bone marrow, serum iron and iron binding capacity in a horse with anaemia secondary to an internal abscess of several months duration.

P.T.O. for Questions 9 and 10

9. Describe the pathogenesis of photosensitization in horses associated with chronic liver failure.

10. Explain the anticipated alterations in the white cell and differential count observed immediately following intense exercise at racing speed, and the anticipated alterations some four hours after this intense exercise.

The Royal College of Veterinary Surgeons

DIPLOMA IN EQUINE INTERNAL MEDICINE EXAMINATION

PAPER II

(Clinical Aspects)

Monday 28 April 1997

(3 hours)

This paper consists of six questions of which a candidate must choose five to answer (which allows some 35 minutes for each question)

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

1. Phenylbutazone toxicity has been described in the horse. Explain the circumstances which may contribute to its toxicity, and describe the associated lesions and their pathogenesis.
2. Describe the clinical signs, histologic features and treatment modalities and your reasons for a given prognosis in an adult horse with pemphigus foliaceus.
3. Describe the typical clinical signs and clinical course of grass sickness in horses. Describe how the gross and histologic lesions in this disease relate to the clinical signs.
4. Describe your approach to a horse which is presented with anisocoria and unilateral miosis and prolapse of the third eyelid.
5. Define the term "Failure of Passive Transfer" and describe the major causes for this.
6. Describe what is known of the pathogenesis of the lesions in the neurological form of EHV-1 [equine rhinopneumonitis] infection, and indicate the management recommendations you would make once the disease had been confirmed on a property.