



NATIONAL SENIOR CERTIFICATE EXAMINATION
NOVEMBER 2009

EQUINE STUDIES
MARKING GUIDELINES

Time: 3 hours

200 marks

These marking guidelines were used as the basis for the official IEB marking session. They were prepared for use by examiners and sub-examiners, all of whom were required to attend a rigorous standardisation meeting to ensure that the guidelines were consistently and fairly interpreted and applied in the marking of candidates' scripts.

At standardisation meetings, decisions are taken regarding the allocation of marks in the interests of fairness to all candidates in the context of an entirely summative assessment.

The IEB will not enter into any discussions or correspondence about any marking guidelines. It is acknowledged that there may be different views about some matters of emphasis or detail in the guidelines, and different interpretations of the application thereof. Hence, the specific mark allocations have been omitted.

Please note that learners who provided alternate correct responses to those given in the marking guidelines will have been given full credit.

SECTION A**QUESTION 1**

- | | | |
|-----|--|-------------|
| 1.1 | Carbohydrates, fats, proteins, vitamins, minerals, water | (6) |
| 1.2 | 1.2.1 None | (1) |
| | 1.2.2 Simple carbohydrates, proteins, fats, some vitamins and minerals | (1) |
| | 1.2.3 None | (1) |
| | 1.2.4 Complex carbohydrates, some vitamins and minerals | (1) |
| | 1.2.5 Water, some vitamins and minerals | (1) |
| 1.3 | 1.3.1 Calcium | (1) |
| | 1.3.2 Magnesium | (1) |
| | 1.3.3 Potassium/ sodium/ chlorine | (1) |
| | 1.3.4 Iron | (1) |
| | 1.3.5 Iodine | (1) |
| | | [16] |

QUESTION 2

- | | | |
|------|--|-------------|
| 2.1 | The phase of the mare's reproductive cycle when she is not receptive to mating. | (1) |
| 2.2 | The time when the mare is not cycling (i.e. not ovulating). | (1) |
| 2.3 | The process by which the embryo from one mare is placed into another mare to develop to full term. | (1) |
| 2.4 | The stallion runs with the mare herd and mates at will. | (1) |
| 2.5 | A nourishing and protective fluid that is added to an ejaculate before chilling or freezing. | (1) |
| 2.6 | The desire to mate. | (1) |
| 2.7 | The make up of the mare's external genitalia. | (1) |
| 2.8 | A sample of fluids taken to check for the presence of infection. | (1) |
| 2.9 | A sexually transmitted disease. | (1) |
| 2.10 | The loss of pregnancy before the foetus is 300 days old. | (1) |
| | | [10] |

QUESTION 3

- | | | |
|-----|--|------------|
| 3.1 | Absence of infection, age, perineal conformation, breeding history, general health and soundness | (5) |
| 3.2 | Cryptorchidism, presence of infection , lack of ability to get and maintain an erection | (3) |
| | | [8] |

QUESTION 4

- | | | |
|------|-------------------------------|-------------|
| 4.1 | Damaged tendon/ tendonitis | (1) |
| 4.2 | Joint chip/ fracture | (1) |
| 4.3 | Lameness | (1) |
| 4.4 | Worm infestation | (1) |
| 4.5 | Bacterial infection | (1) |
| 4.6 | Laryngeal hemiplegia/ roaring | (1) |
| 4.7 | Laceration | (1) |
| 4.8 | Colic | (1) |
| 4.9 | Uneven wear of teeth | (1) |
| 4.10 | Colic | (1) |
| | | [10] |

QUESTION 5

- | | | |
|------|-----------------------------------|-------------|
| 5.1 | Respiratory | (1) |
| 5.2 | Virus | (1) |
| 5.3 | Orthopaedic developmental disease | (1) |
| 5.4 | Poor | (1) |
| 5.5 | Cardiovascular | (1) |
| 5.6 | Poor | (1) |
| 5.7 | Muscular | (1) |
| 5.8 | Genetic/ diet | (1) |
| 5.9 | Gastro-intestinal | (1) |
| 5.10 | Management | (1) |
| 5.11 | Tooth loss | (1) |
| 5.12 | Poor | (1) |
| | | [12] |

QUESTION 6

- | | | | |
|-----|--------|-----------------------------|-------------|
| 6.1 | 6.1.1 | Cranial/ superior vena cava | (1) |
| | 6.1.2 | Pulmonary vein | (1) |
| | 6.1.3 | Pulmonary artery | (1) |
| | 6.1.4 | Caudal/ inferior vena cava | (1) |
| | 6.1.5 | Right ventricle | (1) |
| | 6.1.6 | Aorta | (1) |
| | 6.1.7 | Right atrium | (1) |
| | 6.1.8 | Left atrium | (1) |
| | 6.1.9 | Left ventricle | (1) |
| | 6.1.10 | Septum | (1) |
| 6.2 | 6.2.1 | A | (1) |
| | 6.2.2 | B | (1) |
| | 6.2.3 | C | (1) |
| | 6.2.4 | B | (1) |
| | 6.2.5 | C | (1) |
| | 6.2.6 | B | (1) |
| | | | [16] |

QUESTION 7

7.1	Rain scald	(1)
7.2	Urticaria	(1)
7.3	Mud fever	(1)
7.4	Ringworm	(1)
7.5	Mange	(1)
7.6	Sweet itch	(1)
7.7	Papilloma	(1)
7.8	Sarcoid	(1)
		[8]

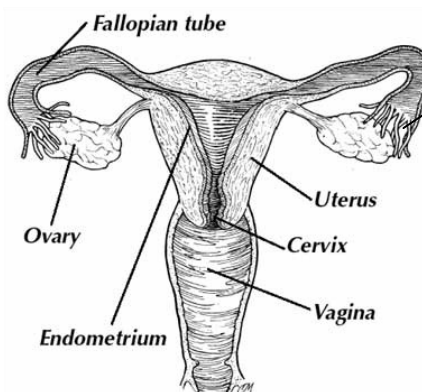
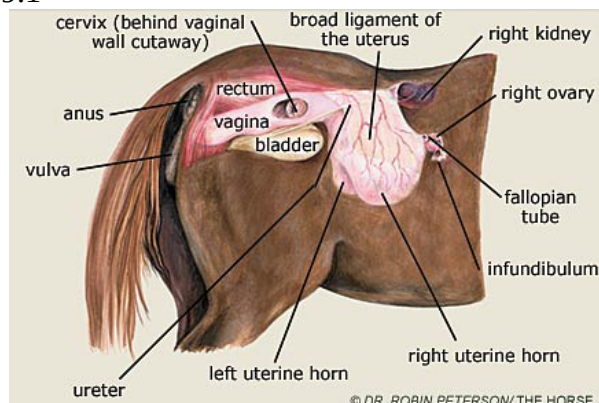
80 marks

SECTION B**QUESTION 8**

- 8.1 8.1.1 Performance Horse 13% , the high protein content is needed for muscle repair and maintenance and it has a relatively high mineral content when compared with the other feeds. (4)
- 8.1.2 Maize Free 12% , the protein content does not need to be as high as for the showjumper but the horse is in work and so does need the 12% protein in his diet for muscle repair and maintenance .The fat in the feed will also help the horse to maintain condition and provide energy if needed , but will prevent the horse from becoming too skittish. (4)
- 8.1.3 Kentucky 15% due the high need for protein that has to be supplied and the high energy requirements which can be met partly by the fat content of the feed (4)
- 8.2 Exercise programme: good variety
sessions too long should be shortened to 40 – 50 minutes
- Feed routine: Dry matter intake too low , should be increased to 15 kg
The % protein is too low , should be increased to 13%
The ratio of concentrate to grass is too low and can be increased to 50:50
Teff is the correct grass to be feeding (7)
- [19]**

QUESTION 9

9.1



Include external genitalia: labia, clitoris

Marks awarded as follows: labels 9, accuracy 1, clarity 1

(11)

9.2 Any of the following methods can be compared:

- A Teaser stationed in a teasing area and mares led to him one by one
- B Teaser stationed in a stable and mares led past the stable one by one
- C Teaser stationed in a teasing area and mares moved down chute past teaser
- D Teaser stationed around the outside of the mares' paddock
- E Teaser stationed in a separate paddock inside the mares' paddock

Award marks as follows:

Correct teasing methods listed ✓✓

Accurate description of each teasing method ✓✓

Correct advantages of each method

(3 × 2 = 6)

e.g. labour saving, stress free for anxious mares, teasing achieved quickly, accurate

Correct disadvantages of each method

(3 × 2 = 6)

e.g. Labour intensive, stressful for mares, teasing takes a long time, difficult to detect mare status accurately

Correct situation in which each method would be used ✓✓

e.g. Situation A and B: THB stud with valuable mares

Situation C: stud with few staff

Situation D and E situation with experienced mares where dominance is not the issue.

(18)

[29]**QUESTION 10**

10.1 Galloping or jumping during fast work , as this activity overextends the tendon causing the fibres to rupture

(2)

10.2 Situation B , as you reduce the chances of re-injury by confining the horse to his stable , hand-walking is essential from the beginning to ensure the correct alignment of the new fibres being laid down by the body and ridden work will reinforce the correct healing of the tendon fibres

(5)

10.3 Yes , due to the high susceptibility of the damaged tendon to re-injury due to the shortened fibres. It is ethical to inform potential buyers that the horse has a predisposition towards injury , especially if the horse is being purchased for a discipline that requires fast or jumping work .

(5)

[12]

QUESTION 11

- 11.1 (1) Remove feed and water
(2) Call vet
(3) Make bed deep and comfortable
(4) Observe the horse (4)

- 11.2 Statement A is false ✓, horses have individual pain thresholds and each horse responds differently/ the most serious type of colic (torsion) often presents initially as a mild colic whereas a gas colic which is less serious often causes the horse a great deal of pain initially ✓.
Statement C is false ✓ as walking or lunging the horse does nothing to ease the pain of the horse ✓.
Statement D is false ✓ as rolling during colic does not put the horse at any more risk of twisting his bowel than rolling when not colicing ✓. (6)
[10]

70 marks

SECTION C

Explanation of symptoms:

This horse suffers from epistaxis ✓. The blood originates in the alveoli ✓ when capillaries surrounding the alveoli rupture ✓ due to the increased pressure on the lungs when the horse is breathing hard during extreme work ✓, e.g. galloping ✓ or endurance ✓. The rupture of capillaries is due to the capillaries being fragile ✓, a defective blood clotting mechanism ✓ or high blood pressure ✓. (9)

The structures that the blood passes in order to reach the nostrils:

Alveolus ✓ alveolar duct ✓ bronchiole ✓ bronchus ✓ trachea ✓ larynx ✓ pharynx ✓ nostril ✓. (8)

Mechanisms by which blood reaches the nostrils:

The blood is swept from the alveoli by cilia ✓ and is assisted by the horse coughing ✓ and by the action of air being expelled from the lungs ✓. (3)

Effect of this condition on the horse's performance:

Epistaxis causes a decrease in performance ✓ due to the surface area for oxygen and carbon dioxide exchange being reduced ✓ by the presence of blood in the alveoli ✓. Thus oxygen demands from muscle cells during hard work cannot be met ✓ and the muscle cells cannot perform their function as required during hard work ✓. (5)

Critique of manager's handling of the situation:

The manager was remiss in that he should have called the vet to confirm his diagnosis ✓. The vet would then have been able to correctly diagnose epistaxis ✓ from the symptoms and by using an endoscope ✓ to look for presence of blood in the trachea ✓. With no temperature it is extremely unlikely that the horse was suffering from a virus ✓, and he was incorrect to assume trauma to the nose with no other signs of swelling or pain ✓ (6)

How the horse should have been managed:

The situation should have immediately been regarded as serious ✓ as it can lead to the death of the horse due to heart failure ✓ as insufficient oxygen is available to the heart during hard work ✓. In a racing and training environment the horse can also stumble and fall ✓ endangering his jockey as well as other horses and jockeys behind him ✓. Following a correct diagnosis from a vet ✓ medication should have been administered ✓ to either harden the capillary walls ✓ or reduce blood pressure ✓ or rectify the deficiency in the clotting mechanism ✓. Rest is essential ✓ to allow the capillary rupture to heal properly ✓, the amount of rest being determined by the severity of the bleed and advised by the vet ✓. The training schedule should resume only on the advice of the vet ✓ and follow a pattern of gradually increasing work ✓ The horse should also be fed on the ground ✓ to assist the flow of blood down the trachea to the nostrils ✓. (14)

Style and structure:

Presence of introduction and conclusion ✓
Succinct sentences ✓
Use of paragraphs ✓
Correct use of scientific language ✓
Evidence of logical flow of thought ✓ (5)

50 marks

Total: 200 marks