



NATIONAL SENIOR CERTIFICATE EXAMINATION
NOVEMBER 2011

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.

SECTION A**QUESTION 1**

- 1.1 Obesity
- 1.2 Lack of milk
- 1.3 Incorrect development of bones and joints
- 1.4 Upright pasterns/club foot, etc.
- 1.5 Muscle wastage
- 1.6 Loose, liquid faeces
- 1.7 Infertility
- 1.8 Pain
- 1.9 Sweating/rolling/looking at flank
- 1.10 Impaction colic

[10]**QUESTION 2**

- 2.1 A substance that promotes excretion of urine
- 2.2 An instrument for visualising the inside of cavities
- 2.3 Inflammation of the kidneys
- 2.4 Prediction of the course and outcome of a condition
- 2.5 Sudden in onset
- 2.6 Of long duration
- 2.7 A collection of blood which forms a mass
- 2.8 Existing at or before birth
- 2.9 Relating to the heart and blood vessels
- 2.10 Surgery to the larynx to rectify laryngeal hemiplegia

[10]**QUESTION 3**

- 3.1 African Horse Sickness
- 3.2 Tetanus
- 3.3 Equine Influenza
- 3.4 Rabies
- 3.5 Strangles
- 3.6 Biliary
- 3.7 Equine Herpes Virus rhino pneumonitis
- 3.8 Pneumonia
- 3.9 Ringworm
- 3.10 Wobbler syndrome

[10]

QUESTION 4

- 4.1 Freedom from Hunger and Thirst – by ready access to fresh water and a diet to maintain full health and vigour. (2)
- 4.2 Freedom from Discomfort – by providing an appropriate environment including shelter and a comfortable resting area. (2)
- 4.3 Freedom from Pain, Injury or Disease – by prevention or rapid diagnosis and treatment. (2)
- 4.4 Freedom to Express Normal Behaviour – by providing sufficient space, proper facilities and company of the animal's own kind. (2)
- 4.5 Freedom from Fear and Distress – by ensuring conditions and treatment which avoid mental suffering. (2)
- [10]**

QUESTION 5

- 5.1 d
- 5.2 e
- 5.3 f
- 5.4 a
- 5.5 g
- [5]**

QUESTION 6

- 6.1 Endometrium
- 6.2 Broad ligaments
- 6.3 Ovary
- 6.4 Vulva
- 6.5 Clitoris
- 6.6 Vestibule
- 6.7 Vagina
- 6.8 Cervix
- 6.9 Fimbriae
- 6.10 Oviduct
- [10]**

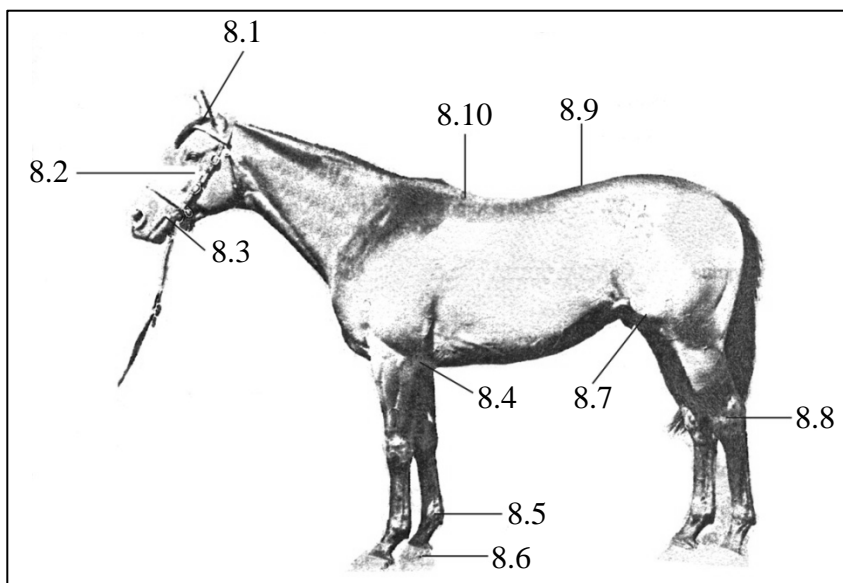
QUESTION 7

- 7.1 Live cover
- 7.2 Artificial Insemination
- 7.3 No chance for semen mix-up
- 7.4 Higher dose of semen into mare
- 7.5 Dangerous or horses and handlers
- 7.6 Labour intensive
- 7.7 Safer for horses
- 7.8 Mare does not have to travel to stud
- 7.9 Increased veterinary involvement and bills
- 7.10 Lower success rate
- 7.11 Gynaecological health of mare
- 7.12 Fertility of stallion
- 7.13 Success of mating
- 7.14 Quality of semen
- 7.15 Quality of veterinary care

[15]

QUESTION 8

- 8.1 Poll evil
- 8.2 Sinusitis
- 8.3 Wolf tooth
- 8.4 Capped elbow
- 8.5 Sesamoiditis
- 8.6 Navicular syndrome
- 8.7 Locking stifle
- 8.8 Arthritis
- 8.9 Kissing Spine
- 8.10 Saddle sore



[10]

80 marks

SECTION B**QUESTION 9**

- 9.1 9.1.1 Hacking out 2 – 4 times per week, walk trot canter only. (1)
- 9.1.2 Approximately 1 hour work 6 times per week. Walk, trot, canter, some strenuous work, e.g. jumping and galloping. (1)
- 9.1.3 Approximately 1½ – 2 hours work 6 times per week. Walk, trot, canter, plus strenuous activity, e.g. galloping, jumping, polo match. (1)
- 9.2 Lucerne hay is high in protein. (1)
- 9.3 Range given to accommodate horses of different weights. (1)
- 9.4 Decrease amount of concentrates (1) and increase amount of Eragrostis hay (1) (2)
- 9.5 Fibre slows the passage of nutrients through the gut so more can be absorbed (1); Fibre digested in the large intestine keeps the bacterial population high which is essential for vitamin (especially vitamin B) production (1); roughage keeps digestive tract clear from blockage (1) (3)
- [10]**

QUESTION 10

- 10.1 No (1) The horse is still growing (1) and so has higher protein requirements (1) Carbohydrate consumption should be less (1) to prevent orthopaedic developmental disease from occurring (1) Vitamin and mineral intake is also essential and is not mentioned here (1) (any 5)
- 10.2 Yes (1) The high intake of carbohydrates is needed due to the amount of work the horse is doing (1) The moderate protein intake is needed for repair and maintenance of muscle tissue (1) The fats are needed as a reserve energy source (1) Mineral and vitamin content of diet is not mentioned, but is vital (1) (5)

Note: some learners may argue that this diet is not correct due to the fact that modern day thinking is to feed more fats and less carbohydrates. This argument is acceptable provided it is correctly justified.

[10]

QUESTION 11

Feed program: This horse is losing weight and needs to be fed a correct diet (1). He should receive approximately 16,25 kg or more of dry matter feed (650 kg body weight × 2,5%) per day (1). Of the 16,25 kg of feed, approximately 40 – 50% should be concentrated (6,6 – 8,1 kg) (1) and the remainder should be high quality (1) roughage (1), e.g. teff and lucerne (1). The concentrates should be high in protein, i.e. 14% + (1), moderate in simple carbohydrates (1) and relatively high fats (1). (any 8)

Feed schedule: Feed 3 – 4 times per day (1). Give hay (1) and fresh water (1) ad lib. (any 2)

[10]

QUESTION 12

- 12.1 Slow twitch muscle fibre – high proportion (1); fast twitch low oxidative – low proportion (1); fast twitch high oxidative – moderate proportion (1) (3)
- 12.2 Slow twitch – walk, trot and maintaining posture (1); fast twitch low oxidative – fast, explosive work (1) not really used in dressage; fast twitch high oxidative – fast work for longer periods, e.g. extended trot and canter (1) (3)
- 12.3 No (1) as training develops all muscle fibres (1), it cannot change the proportion of muscle fibres (1) which is genetically determined (1) (4)
- [10]**

QUESTION 13

- 13.1 The disease is caused by the bacteria *Clostridium tetani* (1) entering the horse's body through a cut (1). The bacteria then multiplies and produces a toxin (1) which causes the symptoms (3)
- 13.2 Virus (1), e.g. EHV or other (1); Fungi (1), e.g. ringworm or other (1); protozoa (1), e.g. Biliary or other (1) (Any 2 for 4 marks)
- 13.3 The injection contains an anti-toxin (1) which can neutralise the toxin rapidly and so alleviate symptoms (1) (2)
- 13.4 Put the horse in a darkened stable (1) ensure the horse is in a quiet environment (1) put the water and feed within easy reach (1) feed bran mash (1) (any 2)
- 13.5 13.5.1 No (1)
- 13.5.2 The vaccine contains a modified form of the bacteria so that the body can become immune to the bacteria. (1)
- 13.6 *Colstridium Tetani* can also infect people (1) and result in the person suffering from tetanus (1) (2)
- [15]**

QUESTION 14

- 'Be away from physical barriers' (1)
 Surround the breeding area with a fence (1)
 To prevent horses escaping if one breaks loose (1) (3)
- 'The mare is restrained by a halter' (1)
 Put a bridle or twitch on the mare (1)
 To ensure she is under control at all times (1) (3)
- '... and wears no other equipment' (1)
 It might be appropriate to put other equipment on the mare, e.g. kick boots, shackles, hood (1)
 To ensure she and the stallion are protected from harm (1) (3)
- '... washed with warm water' (1)
 Wash with mild soap (1)
 To stop soap from killing all the functional bacteria around the vulva and risking an infection after breeding (1) (3)
- '... allowed to approach the mare at the speed he chooses' (1)
 Stallion must approach mare at a slow walk (1)
 To prevent the mare from getting a fright and becoming anxious (1) (3)
- [15]**

70 marks

SECTION C**Discussion of colics and how they are caused (max 30 – 35 marks)**

- Cubes are chewed in mout (1)
 and swallowed down oesophagus (1)
 to enter the stomach (1).
 In the stomach the cubes are mixed with acid and enzymes (1)
 to begin the digestive process (1).
 If a pony has gorged himself on too many cubes he may force too much food into the stomach (1)
 which is a relatively small organ (1).
 The stomach can then distend (1)
 causing discomfort (1)
 COLIC: Gastric Dilation (1) (10)
 and may even rupture (1).
 COLIC: Gastric rupture (1)
 The food then passes from the stomach to the small intestine (1)
 where absorption of protein (1), simple carbohydrates (1) and fats (1) should occur.
 However, if food is continuously being pushed from stomach into small intestine due to more food entering the stomach (1)
 very little absorption can occur (1)
 and the bulk of the food is passed into the large intestine (1).

Poorly digested food upsets intestinal motility (1)
resulting in a (10)

COLIC: spasmodic colic (1)

The poorly digested food then enters the caecum (1) and large colon (1),
where the micro-organisms usually break down complex carbohydrates (1).

However, due to the relatively large volume of simple carbohydrates, proteins and fats
entering the large intestine (1)

due to the small absorption rate of these nutrients in the small intestine (1)

the micro-organism population is unbalanced (1)

and some populations needed in large amounts may die off (1)

while others normally present in small amounts may increase in number (1).

This change in the micro-organism population leads to poor digestion of fibre (1) (10)
which can result in a

COLIC: impaction colic (1).

The change in the micro-organism population can also lead to excess gas production (1)
which would result in a

COLIC: Flatulent/gas colic (1).

This excess gas could lead to the bowel twisting (1) resulting in

COLIC: obstructive colic (1) (5)

Treatments (max 10 – 15 marks)

Gastric dilation is treated by stomach pumping (1) by a vet (1)

Gastric rupture cannot be treated easily (1) and normally results in death (1)

Spasmodic colic is treated by antispasmodic drugs (1) administered by vet (1). Walking
horse (1) will help alleviate pain (1) and prevent injury to horse (1)

Impaction colics are treated by rectal massage to help dislodge impaction (1), drenching
with liquid paraffin (1) administered via a stomach tube (1). Gentle exercise may help
dislodge impaction (1)

Gas colics are treated with liquid paraffin (1) administered via a stomach tube (1) and it
may be necessary to puncture gas pocket (1) to relieve pressure of gas (1)

Obstructive colics are treated with surgery (1) (10)

Style and structure: 5 marks awarded as follows:

Grouping of ideas into paragraphs (1)

Correct use of language (1)

Correct use of terminology (1)

Flow of essay (1)

Introduction and conclusion present (1) (5)

50 marks

Total: 200 marks