



**2012 VCE VET Equine Industry GA 2: Written examination**

**GENERAL COMMENTS**

In general, students performed very well on the 2012 VCE VET Equine Industry examination, with most students attempting all questions. Some questions required a high level of knowledge, and synthesis of existing knowledge and the additional information provided on the paper, and some students appeared to struggle with this. A lack of knowledge of the physiological systems of the horse persists, despite this being commented on in previous assessment reports.

In many cases, high-scoring students coped well with difficult questions but few students scored highly across all questions. Students and teachers should be aware of the required skills and knowledge and how these relate to the elements, performance criteria and range statements listed in the units of competency. Well-prepared students should be able to answer questions on anything specifically referred to in a unit of competency.

In Section B, the following general approaches were followed in allocating marks.

- If three responses were required and five responses were given, only the first three responses were assessed.
- If contradictory answers were given, or answers were repetitive, full marks were not awarded.
- Responses that did not address the subject of a question were not awarded any marks.

Students had improved their ability to provide answers that were consistent with what is expected of an employee in the equine industry at Certificate II level, and displayed a clear awareness of the limits within which they should take action without instructions from their supervisors. Student responses were, in general, brief and to the point, but there were occasions when only a few words were used and the meaning was either unclear or the response was trivial. The space provided for each question and the number of marks allocated should be used as a guide to the length of the answer required. Students should be aware that instructions to 'list', 'describe' and 'explain' are different and each requires a different approach.

Students should prepare for this examination by working through past examination papers and heeding the advice given in previous assessment reports. Students and teachers need to appreciate that their knowledge needs to be up-to-date, as changes in accepted practices can be quite rapid in the equine industry.

**SPECIFIC INFORMATION**

**Section A – Multiple-choice questions**

The table below indicates the percentage of students who chose each option. The correct answer is indicated by shading.

Question	% A	% B	% C	% D	Comments
1	2	95	3	0	
2	26	2	69	2	Normal granulation involves cells covering a wound. Proud flesh formation is excessive granulation. This was an example of students not reading the question carefully enough.
3	2	85	3	10	
4	88	1	0	10	
5	2	53	0	44	Students are expected to be familiar with common industry terms for conditions.
6	15	0	82	2	
7	41	31	14	13	The distinction between open and closed wounds is a requirement in a unit of competency.
8	0	0	98	2	
9	11	1	3	84	
10	34	25	7	33	Students needed to be aware that some diseases are caused by bacteria and some are caused by viruses. The distinction is necessary in order to understand treatment requirements.
11	1	74	8	16	
12	12	83	1	4	

# 2012 Assessment Report



Question	% A	% B	% C	% D	Comments
13	16	61	14	9	
14	5	17	50	28	Students need to know how much energy is required to support rest and the various degrees of exercise.
15	16	80	3	1	
16	2	65	17	15	
17	80	7	6	5	
18	85	7	4	4	
19	20	9	21	49	Knowledge of prohibited substances is required in a unit of competency.
20	3	31	60	5	Students needed to be aware of the distinction between intravenous and intramuscular.

## Section B

This report provides sample answers or an indication of what the answers may have included. Unless otherwise stated, these are not intended to be exemplary or complete responses.

### Question 1

Marks	0	1	2	3	4	Average
%	0	9	25	50	15	2.7

trachea	8
alveolus	10
nasal cavity	2
pharynx	7

Many students were unable to make a distinction between the location (and function) of the pharynx and the larynx.

### Question 2a.

Marks	0	1	2	Average
%	13	47	40	1.3

- Cut or straighten the clenches by using pincers, a buffer or a file.
- Ease the shoe from the heel towards the toe on either side of the shoe. If necessary, remove each nail individually with pincers, a hammer or a nail puller.

Some students mentioned remove the nails then remove the shoe – once the nails are removed the shoe will no longer be attached.

### Question 2b.

Marks	0	1	2	3	Average
%	5	19	48	28	2.0

Farrier equipment involved in removal of the shoe includes

- hammer
- pincers
- nail pullers
- buffer
- file (rasp).

# 2012 Assessment Report



Some students mentioned 'clenchers', which is an uncommon name for a tool for fitting a shoe. This should not be confused with 'clenches', which are the bent ends of nails. Many students could only identify two pieces of equipment.

## Question 3

Marks	0	1	2	Average
%	4	14	82	1.8

Photograph 1

- overbite
- overshot jaw
- parrot mouth
- brachygnathism

Photograph 2

- underbite
- undershot jaw
- sow mouth
- bulldog mouth
- monkey mouth
- prognathism

Common equine terms were all that was required, but technical terms were acceptable.

## Question 4

Marks	0	1	2	3	Average
%	24	34	24	19	1.4

Nutrient	Function
vitamins or minerals	<ul style="list-style-type: none"> <li>• Minerals are involved in the formation of structural components of bone, muscle, blood and other tissue.</li> <li>• Minerals are associated with metabolic enzyme activity and in energy utilisation.</li> <li>• Each vitamin has a specific role to play in the body's maintenance and growth. If you are deficient in any one of the vitamins, either through an insufficient amount of the compound in your diet or a physiological disorder that makes you unable to adequately absorb or utilise the vitamin, you can develop potentially life-threatening health conditions.</li> <li>• They have anti-oxidant properties.</li> <li>• They have hormonal influences.</li> </ul>
water	<ul style="list-style-type: none"> <li>• Water is essential to the process of digestion.</li> <li>• It facilitates uptake of water soluble nutrients.</li> <li>• It maintains efficiency of blood flow, cellular metabolic activity and vital organ function.</li> <li>• It assists in temperature control.</li> </ul>
protein	<ul style="list-style-type: none"> <li>• Protein provides amino acids, which are the building blocks for growth and repair of body tissue.</li> </ul>

Hydration by itself was considered to be an insufficient function for water, and 'relationship to energy' was insufficient as a response for protein.

Answers were often too vague and superficial, and did not reflect accurate knowledge of the functions.

## Question 5

Marks	0	1	2	Average
%	27	34	39	1.1

Most students referred to malpresentations, which could include

- one front hoof backwards (stuck inside before the cervix rim)

# 2012 Assessment Report



- the head is bent backwards – lateral or ventral deviation of the head
- one or both back legs are forward
- posterior presentation
- upside down foal (dorsopubic position)
- foot nape presentation – forelimbs lie on top of the foal's head
- dog-sitting presentation (hip-flexed posture)
- hip lock – the foal's hips can become engaged with the side wall of the pelvic ring
- elbow lock
- shoulder lock
- foal on its side (dorsoileal position)
- flexion of the knees.

## Correction

- The veterinarian will pull or push the foal and turn it to reposition it correctly.

Other descriptions of dystocia were also accepted, but Caesarean section by the veterinarian was not accepted as a correction. Repeating information given in the question was not awarded a mark. The student's example needed to be a specific description to get the first mark.

Dystocia is a general term for foaling difficulties. A normal foaling position is any form of presentation where the two front hoofs and the nose are in the diving position, followed by the back legs extending backwards.

## Question 6

Marks	0	1	2	3	4	5	Average
%	20	24	17	10	6	24	2.3

1	coccygeal
2	sacral
3	lumbar
4	thoracic
5	cervical

The question asked specifically for spinal groups. This question was poorly answered, particularly given the central position of the spinal column in the horse's skeletal system.

## Question 7

Marks	0	1	2	3	4	Average
%	6	9	28	39	18	2.5

Any four of

- change to lighter rugs
- check adequate water supply
- check that the horse and rugs are dry
- inspect the paddock for any damage caused by the weather
- check for additional injuries from activity on wet ground
- remove wet feed
- check for loose shoes
- apply a flyveil (and sunscreen).

Student responses needed to be a consequence of changed weather conditions.

## Question 8

Marks	0	1	Average
%	80	20	0.2

Either of

- knock kneed
- in at the knees.

# 2012 Assessment Report



## Question 9a.

Marks	0	1	2	Average
%	32	44	24	0.9

Appropriate responses could include

- the total feed weight does not exceed the horse's appetite
- lucerne chaff compensates for low calcium in the oats
- the energy level is adequate, principally because of the oats
- the food quantity is adequate for the work
- the feed combination cost
- feeds have long shelf life.

Two distinct points were required for two marks.

## Question 9b.

Marks	0	1	2	3	Average
%	14	48	32	6	1.3

In Question 9b. students were being assessed on their interpretive skills as much as their knowledge. The ability to analyse the table's content was essential, as was the ability to distinguish the major factors from those that were relatively unimportant.

### 9bi.

Soy meal has higher energy and protein, better calcium to phosphorus ratio, and higher calcium and phosphorus.

### 9bii.

Students needed to focus on excess protein and its consequences, such as leading to ammonia in urine.

A decrease in fibre was irrelevant as a large proportion of the diet consisted of pasture and chaff.

### 9biii.

Students were expected to focus on situations where there was a specific need for higher protein, such as for muscle development, need for weight gain or if a mare is pregnant.

This would not be recommended for a foal as it can lead to Developmental Orthopaedic Disease. Focusing on energy increase was also not correct.

## Question 9c.

Marks	0	1	Average
%	12	88	0.9

Molasses provides more protein and calcium but has lower energy. It provides better palatability. Vitamin E would need to be supplemented if oil is fed.

## Question 10a.

Marks	0	1	2	Average
%	6	37	58	1.5

A short-term incident could be the consequence of

- worm presence
- diet
- incorrect feeding
- infection
- feed change
- spring grass.

# 2012 Assessment Report



## Question 10b.

Marks	0	1	Average
%	65	35	0.4

Chronic diarrhoea could be the result of

- previous worm damage
- worm infestation
- ulcer
- colitis
- peritonitis.

Students needed to demonstrate an understanding of the difference between short-term and chronic. Using 'worm infestation' in response to both parts a. and b. was unsatisfactory.

## Question 11a.

Marks	0	1	Average
%	87	13	0.1

Check ligaments are the exception as they join tendons to bone.

This question was poorly answered.

## Question 11b.

Marks	0	1	Average
%	68	32	0.3

Skeletal muscles are associated with movement and are voluntary and can be fast or slow twitch. Smooth muscles are found in the hollow parts of the body and are involuntary. This would be in places like the stomach, intestines, blood vessels, reproductive tract and urinary tract. They are not associated with the heart.

This was a fairly basic question that was poorly answered. Students needed to make a statement about both types of muscles.

## Question 12a.

Marks	0	1	Average
%	23	77	0.8

Most students answered correctly that they have a responsibility to report their suspicions to their manager.

It was good to see that students have learnt that they have limited independent authority as an employee.

## Question 12b.

Marks	0	1	2	Average
%	6	49	46	1.4

A bowed tendon is a tearing of tendon fibres, either in the superficial flexor tendon or the deep digital flexor tendon, on either the front or hind leg. Treatment could involve

- ice and cold water
- application of an appropriate cold poultice
- systemic anti-inflammatories (not just reduce inflammation)
- injection with an anti-inflammatory and cortisone
- injecting lesions with hyaluronic acid
- restricting movement to the stable or yard
- bandage for support.

Students needed to provide two distinct components. Performing an ultrasound for treatment (but not diagnosis) was acceptable, but calling the vet was not acceptable because treatment was asked for.

# 2012 Assessment Report



## Question 13a.

Marks	0	1	Average
%	14	86	

Conformation can be defined in numerous ways, such as

- alignment of the parts of the horse's body
- the way a horse is put together
- the relationship between form and function (the relationship between the parts of the horse and the task it must perform).

Mention of form was enough; there was no need to mention function.

## Question 13b.

Marks	0	1	2	3	Average
%	6	12	36	46	

Anatomy	Ridden show horse	Draught horse
shoulders	lighter boned, with a sloping shoulder	straighter (more vertical) shoulders
neck	longer, high neck – the neck should be finer through the throat latch area	massive neck
feet	large, but (normally) well-shaped, neat feet	larger, 'dinner plate' feet

This question provided students with the opportunity to demonstrate that good conformation implies a different physical structure depending on the purpose to which the horse is put.

## Question 14a.

Marks	0	1	2	Average
%	21	21	58	

Many answers were possible. Students needed to demonstrate a relationship between their selected health problem and its cause.

Problem health condition	Deficient nutrient
<ul style="list-style-type: none"> <li>• poor vision or bone remodelling in growing horses</li> <li>• tendon weakness</li> <li>• reduced mucous membrane integrity</li> </ul>	vitamin A
<ul style="list-style-type: none"> <li>• deficient energy production processes</li> <li>• poor performance</li> </ul>	B group vitamins
<ul style="list-style-type: none"> <li>• depressed calcium uptake</li> </ul>	vitamin D
<ul style="list-style-type: none"> <li>• reduced fertility and breeding performance in mares and stallions</li> </ul>	vitamin E
<ul style="list-style-type: none"> <li>• dehydration</li> </ul>	water
<ul style="list-style-type: none"> <li>• anaemia</li> </ul>	iron, cobalt, copper
<ul style="list-style-type: none"> <li>• faded coat (known as 'sunbleaching')</li> <li>• yellowing of coat</li> </ul>	copper, zinc
<ul style="list-style-type: none"> <li>• goiter</li> <li>• reduced metabolism</li> </ul>	iodine
<ul style="list-style-type: none"> <li>• poor muscle development</li> <li>• predisposed to 'tying up'</li> <li>• lower fertility in mares</li> </ul>	selenium

# 2012 Assessment Report



Problem health condition	Deficient nutrient
<ul style="list-style-type: none"> <li>• irritability</li> <li>• twitching</li> <li>• spasm</li> <li>• hypersensitivity</li> </ul>	Magnesium
<ul style="list-style-type: none"> <li>• reduced fermentation products (which are digestive enzymes for optimum feed utilisation)</li> </ul>	yeast
<ul style="list-style-type: none"> <li>• abnormal bone development</li> <li>• intermittent lameness</li> <li>• loose teeth</li> <li>• stunted growth in youngsters</li> <li>• ruptured tendons</li> <li>• increased chance of fractures</li> <li>• 'Big head disease' (Osteodystrophia fibrosa) – a deformity of the facial bones</li> </ul>	calcium
<ul style="list-style-type: none"> <li>• goiter</li> <li>• reduced metabolism</li> </ul>	iodine
<ul style="list-style-type: none"> <li>• reduced appetite</li> <li>• poor growth</li> <li>• dry thickening skin</li> </ul>	zinc

## Question 14b.

Marks	0	1	2	Average
%	36	38	27	0.9

Problem health condition	Excess nutrient
<ul style="list-style-type: none"> <li>• interference with copper, causing copper deficiency symptoms</li> </ul>	zinc
<ul style="list-style-type: none"> <li>• excess ammonia in the urine</li> </ul>	protein
<ul style="list-style-type: none"> <li>• founder</li> </ul>	carbohydrates, fat
<ul style="list-style-type: none"> <li>• interference with selenium absorption</li> <li>• causes zinc deficiency</li> </ul>	copper
<ul style="list-style-type: none"> <li>• prevention of copper absorption</li> </ul>	sulphur
<ul style="list-style-type: none"> <li>• reduced zinc levels</li> </ul>	iron
<ul style="list-style-type: none"> <li>• inhibits calcium absorption</li> </ul>	phosphorus
<ul style="list-style-type: none"> <li>• inhibition of phosphorus absorption</li> <li>• irritability</li> <li>• twitching</li> <li>• spasm</li> <li>• hypersensitivity</li> </ul>	calcium
<ul style="list-style-type: none"> <li>• interference with phosphorus absorption</li> </ul>	manganese
<ul style="list-style-type: none"> <li>• goiter</li> <li>• reduced metabolism</li> </ul>	iodine
<ul style="list-style-type: none"> <li>• ammonia in urine</li> </ul>	protein
<ul style="list-style-type: none"> <li>• bone lesions and lameness due to softening and thickening of bone tissue</li> </ul>	fluorine



# 2012 Assessment Report



## Question 15

Marks	0	1	Average
%	57	43	0.4

As the lame foot touches the ground, the head bobs up; as the sound foot touches the ground, the head drops.

Students needed to give specific information about the footfall of the lame foot, at least.

## Question 16a.

Marks	0	1	2	Average
%	8	24	68	1.6

The major signs on pneumonia are

- not eating
- diarrhoea
- lethargy (fatigue)
- fever
- respiratory difficulty
- coughing
- increased respiratory rate
- heaving flanks
- flaring nostrils
- nasal discharge
- chest pain (standing with legs apart)
- elevated temperature and pulse.

## Question 16b.

Marks	0	1	Average
%	48	52	0.5

Severe cases of pneumonia can lead to

- fluid around the lung (pleural effusion)
- reduced capacity of the lungs to function
- lung abscesses
- alveoli (lung) blocked with mucus
- narrowing of the nasal passages.

## Question 17a.

Marks	0	1	Average
%	4	96	1.0

Manual handling includes

- moving bags of feed
- lifting feed/water buckets
- picking up manure
- carrying cumbersome items
- moving a mounting block
- setting up for a competition
- lifting tailgates
- attaching a float to car.

## Questions 17b.

Marks	0	1	2	Average
%	7	35	58	1.5

Appropriate answers included

- share the load
- only lift light weights
- use mechanical aids (trolley, fork lift, wheelbarrow)

# 2012 Assessment Report



- use correct PPE that is specifically related to manual handling (for example, gloves).

Regardless of the answer to part a., an appropriate way to minimise the risk of injury needed to be given.

## Question 18

Marks	0	1	2	Average
%	10	23	67	1.6

A prophet's thumb is a dent (indentation) or hollow in the flesh, mainly on the neck or shoulder. A whorl is a small area where the hair grows, spirals or fans in the opposite direction from the surrounding area.

The key thing was relating prophet's thumb to flesh or skin, and relating whorl to hair.

## Question 19

Marks	0	1	2	Average
%	4	25	71	1.7

Some possible answers included

- move away from the horse (stand clear)
- call for assistance
- undo the lead rope so the horse does not become tangled
- close any gates to secure the horse
- remove items that could cause injury to the horse
- restrict the horse
- get a helmet.

Students' answers needed to show that they understood the scenario and how to maximise safety.

## Question 20

Marks	0	1	2	Average
%	27	52	21	0.9

cryptorchidism

- This is incomplete castration. It makes the horse act more as an entire male, and can lead to unpredictable behaviour in relation to mares in particular.

sloping vulva

- The vulva is sloping forward and not vertical as it should be. With an abnormally sloping vulva, faeces can enter the vagina as the mare defecates, which can lead to infection entering the reproductive tract, can cause windsucking through the vulva and discomfort for a ridden mare.

irregular ovulation

- This is a deviation from the normal ovulation cycle, making it difficult to achieve pregnancy. It can also mean unpredictable behavioural issues.

For full marks students needed to describe two effects. They needed to describe the effect and not the condition.

## Question 21

Marks	0	1	2	3	Average
%	1	3	19	78	2.8

There are many signs which could be checked, including

- appetite
- free movement
- condition of faeces
- condition of urine
- listlessness
- capillary refill time
- colour of mucus membranes
- horse's demeanour (behaviour)

# 2012 Assessment Report



- coat condition (general appearance)
- pinch test – hydration and nasal discharge.

## Question 22a.

Marks	0	1	2	3	Average
%	7	15	39	39	2.1

## Question 22b.

Marks	0	1	2	3	Average
%	11	19	34	36	1.9

Students needed to be aware of the relationship between parts a. and b. of this question. Part b. required a statement of the impact of the aspect of good conformation on the horse's movement. If the answer to part a. had no relationship to movement, then no marks were available in b. Examples can be seen in the list of possible answers below. There was a need to develop a clearer relationship between the aspect of conformation and its relation to movement.

Students needed to be more technically correct in describing conformation features. Students do not necessarily need to know about a lot of features, but they do need to be precise about some.

### Show horse

- adherence to breed standards
- specific conformation characteristics that suit its class or event
- sound limbs
- free movement of the joints
- powerful hind quarters
- neck not set on too low: collected appearance
- throat latch clean and not thick: flexion at the poll
- long, sloping shoulder: allows full extension of the forelegs and free flowing movement
- relatively flat croup: allows the horse to work with its hindquarters under itself, creating impulsion
- absence of splints
- appropriate pastern angle
- straight legs (viewed from head or tail)

### Dressage horse

- sound limbs
- free movement of the joints
- powerful hind quarters
- neck not set on too low: collected appearance
- throat latch clean and not thick: flexion at the poll
- long, sloping shoulder: allows full extension of the forelegs
- relatively flat croup: allows the horse to work with its hindquarters under itself, creating impulsion
- relatively long back

### Racehorse or trotter/pacer

Racehorse (Students could focus on aspects of either a 'stayer' or a 'sprinter' or both.)

- balance and symmetry
- clean cut head: reflecting intelligence and good breeding
- long, tapering neck emerging low from the chest
- flat, sloping shoulder: long stride length, easy action
- neck not too thin: maximum air intake
- neck not too thick: able to extend fully
- withers well defined
- short and strong back (mainly sprinter)
- deep heart girth and well sprung ribs: space for heart and lung capacity
- faultless foreleg conformation; straight legs: needs to sustain tremendous concussion before bones are set
- long, well-muscled forearm, short cannon
- lean-legged: thick legs seldom remain sound

# 2012 Assessment Report



- large, flat, perfectly aligned knees
- freedom of movement behind: hindquarters are able to straighten out and cover more ground
- powerful hindquarters
- relatively straight and level croup, 25° to 30° with the ground (long croup for sprinters)
- strong loin
- short femur turned outward at the hip: angles the horse's hock slightly inward, enabling the horse to collect itself more easily
- foreleg pasterns slope at about 47° to 54°; hind pasterns slightly steeper

## Trotter/pacer

- high head and neck set
- long back
- sloping croup
- comparatively upright shoulder
- wide open nostrils, considerable width between the jaws and a long, graceful neck: aids adequate air intake
- straight legs with good width between: reduces the chance of interference
- knees broad but not thick: knee action is important – bend the leg at the knee to make sure the hoof can touch the elbow
- pasterns can be straighter than flat race horses: smooth ride not necessary

## Jumping horse

- powerful and bold: able to carry the rider over a series of jumps willingly
- long sloping shoulder: allows full extension of the forelegs, free flowing movement, able to collect up legs over jump
- laid-back but high withers
- well-defined elbow
- powerful hindquarters: to push off cleanly
- high hip and thick stifle
- long loin: trait of animals geared for jumping
- steeply angled croup and high tail set: able to draw hind legs up under body
- long, sloping femur closing angle of hip and stifle joints: aids in pushing
- short cannons and clean joints: essential for soundness
- relatively short back

## Question 23a.

Marks	0	1	2	3	4	Average
%	2	6	21	34	37	3.0

- Hazard (the cause of a risk): It is not possible for the horse to be ridden past the groomed horse without the risk of either horse feeling threatened or restricted. The horses are in a confined space that is partially blocked by one of the horses.
- Risk (exposure to the chance of injury): Either horse may become agitated and move unpredictably or kick out. Either horse may be injured. In attempting to avoid injury, one of the horses may cause either rider to be injured.
- Likelihood: Virtually any answer could be given here. Depending on the experience of the student or the type of venue, the likelihood could vary from unlikely to likely.
- Possible consequence: Either horse could be injured. The rider's injuries could range from superficial injury to death.

Students needed to identify the hazard and complete an analysis of the consequences. Since a specific scenario was given, a distinction between hazard and risk was expected.

## Question 23b.

Marks	0	1	Average
%	31	69	0.7

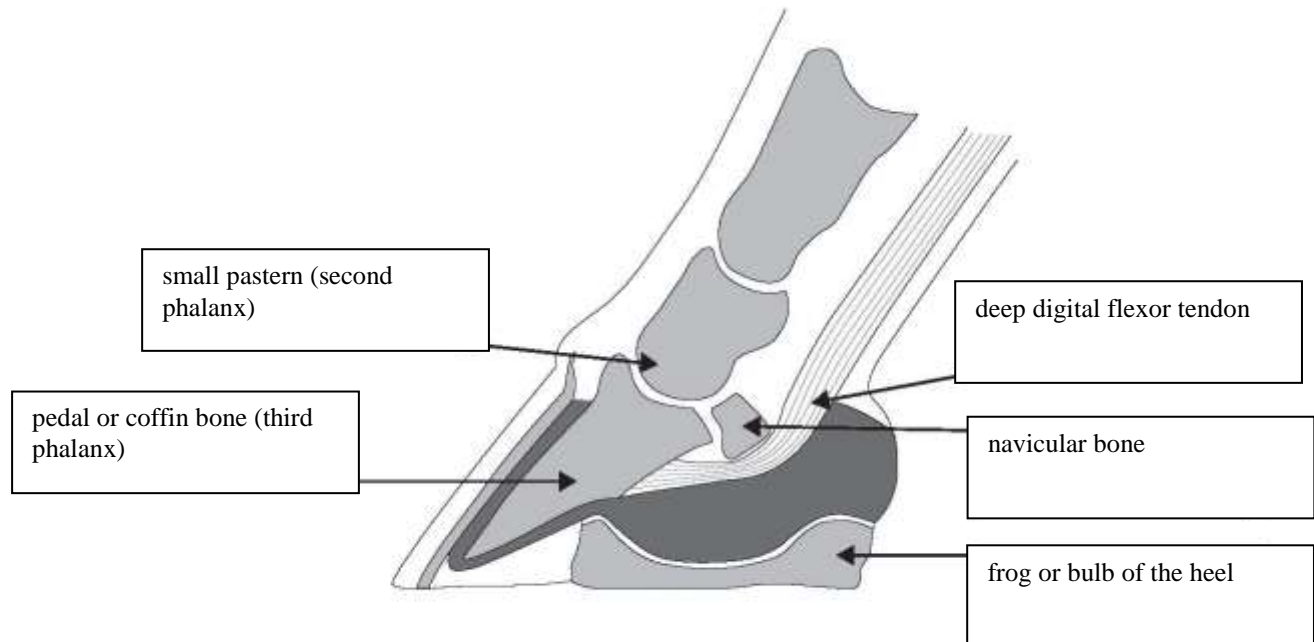
The principle solution would be to prohibit grooming in the laneway. Prohibiting riding in the laneway would also be acceptable.

# 2012 Assessment Report



## Question 24

Marks	0	1	2	3	4	5	Average
%	5	13	19	18	28	19	3.1



Flexor tendon was also considered to be sufficient in place of 'deep digital flexor tendon'.