



## **2011 VCE VET Equine Industry GA 2: Written examination**

### **GENERAL COMMENTS**

Students generally performed very well on the 2011 VCE VET Equine Industry examination, with most students attempting all questions. Some questions required a high level of knowledge and some assessed students' ability to apply this knowledge to scenarios or to incorporate additional information provided in the question. Some students struggled with these types of questions. A lack of knowledge of the physiological systems of the horse persists.

In many cases, high-scoring students coped well with difficult questions but missed out on marks on a variety of questions because they lacked consistent and detailed knowledge of all aspects of the study.

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 3 and 4 units of competence.

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 were expected to provide answers that were consistent with the level of knowledge expected of an employee in the equine industry at Certificate II level. Student responses were, in general, brief and to the point. The space provided for each question and the number of marks allocated should have been 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 require a different approach.

Students need to ensure that they read questions carefully, decide on the best answer and ensure their answers are not repetitive.

Students can prepare for the examination by working through past examination papers and heeding the advice given in previous Assessment Reports. However, 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	1	2	84	12	
2	10	48	40	2	This question was poorly answered, with 4–7 inhalations per minute (option B) being more popular than the correct answer (option C).
3	0	70	22	8	
4	3	82	1	14	
5	3	69	21	8	
6	84	5	2	9	
7	26	33	16	26	Students need to be aware of specific information, particularly about restraints, listed in the units of competence. For example, students should know that a sideline is used on the hind legs.
8	19	7	49	24	

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Question	% A	% B	% C	% D	Comments
9	2	65	16	17	
10	88	2	4	6	
11	15	2	6	76	
12	4	12	84	0	
13	36	26	26	13	Students need to know specific information about the nutritional value of a number of relatively common feeds and additives – soybean has 44% protein, brewer's yeast has 43%, peas have 23% and oats have 9%.
14	24	15	18	43	Knowledge of the parts of each equine system and their function is important. Students should be familiar with the function of the small intestine.
15	6	10	22	61	
16	0	58	2	40	DRABC applies to both equine and human first aid. The 'D' stands for 'danger to the person providing the first aid', and it is the first priority.
17	0	1	1	98	
18	9	10	6	75	
19	7	13	34	47	In scalping, contact is near the coronary band of the hind leg, not upward onto the cannon. Students who knew what scalping was (it is listed in a unit of competence) would know it was consistent with delayed foot breakover.
20	54	30	9	7	

## Section B – Short answer questions

For each question, an outline answer (or answers) is provided. In some cases the answer given is not the only answer that could have been awarded marks.

### Question 1

Marks	0	1	2	3	4	Average
%	1	0	7	29	63	3.6

Possible answers are included in the table below. Students needed to describe two characteristics of each.

Signs of good health in the horse	Characteristics
Normal urine	<ul style="list-style-type: none"> <li>fairly opaque and colourless, or pale yellow</li> <li>passed several times a day</li> <li>passed without strain/pain</li> <li>healthy odour</li> <li>flowing freely</li> <li>no blood</li> </ul>
Normal coat condition	<ul style="list-style-type: none"> <li>glossy/shiny</li> <li>lies flat</li> <li>even, with no bare patches</li> </ul>

### Question 2a.

Marks	0	1	Average
%	52	48	0.5

Commonly used poultices are:

- Animalintex
- bran and Epsom salts
- kaolin (medicinal clay)
- glycerine and Epsom salts
- Amoricaïne.

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Commercial names or general descriptions were accepted.

## Question 2b.

Marks	0	1	2	3	Average
%	16	37	31	16	1.5

Some examples of poultices are:

- Animalintex: medicated lint, hot or cold, can be used on open wounds
- bran and Epsom salts (magnesium sulphate): hot, used for foot problems
- kaolin or Antiphlogistine paste (medicinal clay): hot or cold, bruising, strains, all foot injuries
- glycerine and Epsom salts: cold, coronet abscesses, swollen cannons.

Students needed to explain how the poultice they had selected acts on the affected area or injury. Demonstration of detailed and clear understanding was required to obtain full marks. Responses that contained only a description were not given full marks. For full marks students needed to make reference to part of the action of a warm or a cold poultice. Warm poultices soften the tissues so pus can escape, increase the blood supply to the injured area and thus assist healing, soothe bruising and draw out infection. They are also antibacterial. Cold poultices reduce inflammation, constrict blood vessels and arrest internal haemorrhage. They are also antibacterial.

## Question 3

Marks	0	1	2	3	Average
%	50	32	14	4	0.7

Fat-soluble vitamin	Two sources
A	<ul style="list-style-type: none"> <li>• green pasture</li> <li>• newly made hay</li> </ul>
K	<ul style="list-style-type: none"> <li>• synthesised by gut micro-organisms (they make it themselves)</li> <li>• leafy green matter/green pasture/lucerne hay</li> <li>• soybean oil, canola oil, and olive oil</li> <li>• carrots</li> </ul>

## Question 4

Marks	0	1	2	3	4	Average
%	2	14	39	32	13	2.4

Component	Description of function
Mouth	Gather food and chew, mix with saliva
Oesophagus	With the help of peristalsis, food transfers from mouth to stomach
Caecum	Part of large intestine, contains microbial flora that breaks down cellulose/fibre, hence it acts like a fermentation vat
Small intestine	Commences the breakdown of food into usable nutrients, allows the nutrients to start to be absorbed

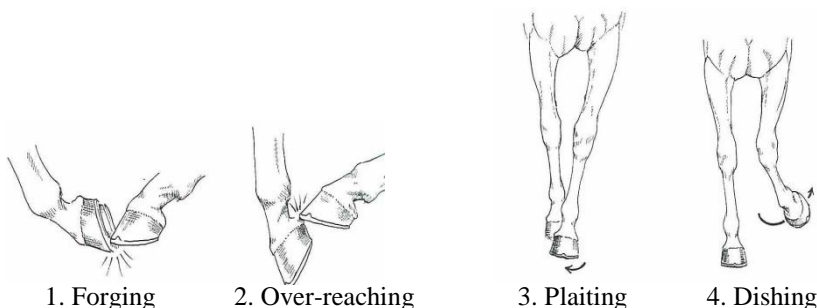
Stomach was not accepted for the fourth line, as both parts of the described function needed to be considered. Digestion begins as soon as food enters the stomach, but the major breakdown occurs in the small intestine where proteins, sugars and fats are absorbed.

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## Question 5

Marks	0	1	2	3	4	Average
%	2	9	22	19	48	3



This question was well done by most students.

## Question 6a.

Marks	0	1	2	Average
%	0	21	78	1.8

Students needed to identify two distinct signs, such as:

- visible lice/eggs
- veterinary diagnosis
- patches of hair rubbed from the coat/raw bleeding skin
- dull coat
- irritated behaviour/scratching.

## Question 6b.

Marks	0	1	2	3	4	Average
%	0	6	29	55	10	2.7

A. Observe horse behaviour and note any abnormalities which may be linked to lice infestation

- rubbing of mane and tail
- early detection produces better treatment

B. Inspect horse coat for patches of hair loss or raw and bleeding skin, particularly around the withers, on the back of the body, the head, mane, tail and fetlocks

- early detection and treatment are important
- need to isolate any horse with the suspected condition
- veterinary assessment can be made
- treatment of small areas more likely to be effective

C. Treat with medication on veterinary advice

- need veterinary diagnosis before treatment, no point in using inappropriate medication, must use correct treatment, otherwise it may be ineffective
- lice respond to specific treatment

D. Treat all horses that have been housed together or near each other

- responses needed to include some reference to fact that lice are contagious

E. Clean and disinfect or replace all rugs, gear and grooming equipment – replace stable bedding if horse has been stabled

- important to break the cycle and prevent reinfestation
- lice and eggs can survive on equipment and reinfest the horse or act as a vector for infecting other horses

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## Question 7a.

Marks	0	1	Average
%	42	59	

An MSDS provides advice about the risks/hazards associated with use of the product. It may suggest emergency action and safe procedures.

It was clear that many students are not familiar with a Materials Safety Data Sheet (MSDS). Students need to know how occupational health and safety issues are related to the *Occupational Health and Safety Act 2004*, industry codes of conduct, MSDS and workplace procedures.

## Question 7b.

Marks	0	1	Average
%	64	36	

Anyone employing people who use the product, including veterinarians or managers, need a copy of the MSDS.

It is not necessary for all people working in an establishment to have a copy of the MSDS; their work is normally governed by workplace procedures based on some of the material available in the MSDS.

## Question 7c.

Marks	0	1	2	Average
%	0	7	93	

Both of:

- gloves/appropriate protective clothing
- protective glasses/mask.

This question was well answered.

## Question 7d.

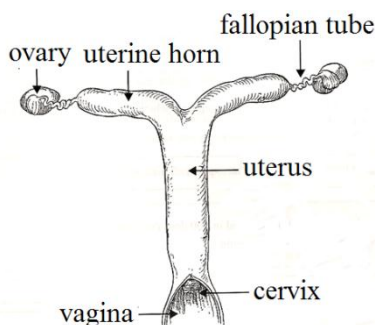
Marks	0	1	2	Average
%	63	27	10	

With sachets, the user is only dealing with a small quantity so any spillage damage will be negligible. Single dose sachets also provide more protection against contact.

In answering this question, students needed to refer to the safety of the user.

## Question 8

Marks	0	1	2	3	4	5	6	Average
%	0	6	17	14	29	12	23	



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## Question 9a.

Marks	0	1	Average
%	24	76	
			<b>0.8</b>

C

## Question 9b.

Marks	0	1	2	Average
%	12	49	39	
				<b>1.3</b>

Lucerne chaff is higher in calcium, which would overcome the low calcium in oats. It is also superior to grass chaff in protein and energy.

The focus of this question was on chaff. Students had access to the data contained in the table and should have provided answers which were consistent with the table's content. Given the availability of data in the question, responses were disappointing.

## Questions 9ci.–ii.

Marks	0	1	2	3	4	Average
%	33	32	22	12	1	
						<b>1.2</b>

### 9ci.

The pellets:

- have about the same energy and protein
- are a superior source of fibre
- have a more appropriate calcium/phosphorous ratio.

Students were not given credit for only stating that pellets were higher in protein or energy.

### 9cii.

The pellets have a lower level of phosphorous, which could be overcome by adding a source of phosphorous (for example, soy bean meal).

Students were given credit for noting that the pellets have a higher amount of protein, which could be compensated for by replacing lucerne chaff with meadow chaff, as it is lower in protein.

In this part of the question students were required to analyse data and synthesise accurate responses. The poor performance indicates a need for more experience with demonstrating higher-order thinking.

## Questions 9di.–ii.

Marks	0	1	2	3	Average
%	20	59	20	1	
					<b>1</b>

### 9di.

The oil would:

- increase energy content (vegetable oil provides 38 MJ/kg compared to 12 MJ/kg for oats). This reduces the total weight of feed so the ration is within the horse's appetite
- provide nutrition for improved coat quality.

### 9dii.

Vitamin E performs as an antioxidant and prevents the oil from becoming rancid, so it should be added to oil as a supplement, particularly if the oil exceeds 500 ml. There may also be a need to supplement for reduced protein when oil replaces oats.

This question was very poorly answered, indicating that very few students had knowledge of the nutritional consequences of replacing concentrates with oil.

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## Question 9e.

Marks	0	1	2	Average
%	21	36	43	1.2

Any two of:

- the horse may have good pasture/hay available
- the pelleted food may not be the only concentrate used
- there is variety in what is classified as moderate work
- different breeds/ages/metabolisms will have different feed requirements for the same weight
- the weight of 600 kg would apply to horses with a range of weights, perhaps even 500 kg to 700 kg.

## Question 10

Marks	0	1	Average
%	86	14	0.2

As horses breathe in cold air and breathe out warm air the horse is cooled and its temperature is controlled.

Alternatively, students could have mentioned that air flow also assists temperature control as it passes over pouches associated with the brain. It could also cool blood by transferring cool air across blood vessels (vasodilation).

## Question 11a.

Marks	0	1	Average
%	25	75	0.8

The scapula of horse 1 makes a smaller angle with the femur. The scapula of horse 2 is more vertical.

Both are 'normal' for different breeds and functions, so discussing normal and abnormal slope did not gain a mark. Students needed to know what the scapula was to answer this question.

## Question 11b.

Marks	0	1	2	Average
%	53	43	4	0.5

A larger area for muscle attachment provides greater support with less strain, but does not necessarily provide greater strength. The horse would have smoother movement and provide a more comfortable ride.

## Questions 11ci.–ii.

Marks	0	1	2	3	Average
%	2	15	45	38	2.2

### 11ci.

The sloping shoulder enables the galloping horse to take longer strides. Hence it takes fewer strides to cover a given distance, meaning it travels faster. There would also be decreased concussion.

### 11cii.

The more horizontal the scapula, the greater the range of motion. In show jumping, the horse can more easily tuck its forelegs in tightly, enabling it to clear higher obstacles.

Part c. was very well answered, indicating that most students understood the relationship between form and function.

## Question 12a.–b.

Marks	0	1	2	3	Average
%	8	28	43	21	1.8

### 12a.

Annually

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## 12b.

Any two of:

- vaccination may reduce the severity of infection. It will minimise the risk of a strangles outbreak and reduces spread within an establishment
- at worst it controls some strains. It is not a perfect vaccine as it does not control all strains of strangles, but it is still the major weapon
- it is a requirement for many competition horses.

## Question 13

Marks	0	1	2	3	Average
%	2	5	28	65	2.6

Many responses were accepted, including:

- excitable/nervous behaviour/shaking
- muscular twitching
- shaking the head
- diarrhoea
- sweating
- picky eating/drinking
- muscle stiffness
- pacing fences/stables
- unwillingness to work
- loose manure
- irritable
- unpredictable or 'spooky' behaviour (kicking, pawing)
- lack of concentration
- increased heart rate
- raised body temperature
- increased respiration
- flared nostrils
- whinnying.

Students needed to distinguish between 'distressed' and 'ill'. 'Showing whites of eyes' was not accepted.

## Question 14

Marks	0	1	2	Average
%	48	29	24	0.8

The linking organs are the lungs. Oxygen-rich air is breathed into the lungs. Blood flows from small capillaries into the thin membranes of the alveoli. It is here that the oxygen is exchanged for carbon dioxide. The carbon dioxide is removed when the air is exhaled.

It was sufficient for students to clearly mention the gas exchange. Details about the membranes and alveoli were not required.

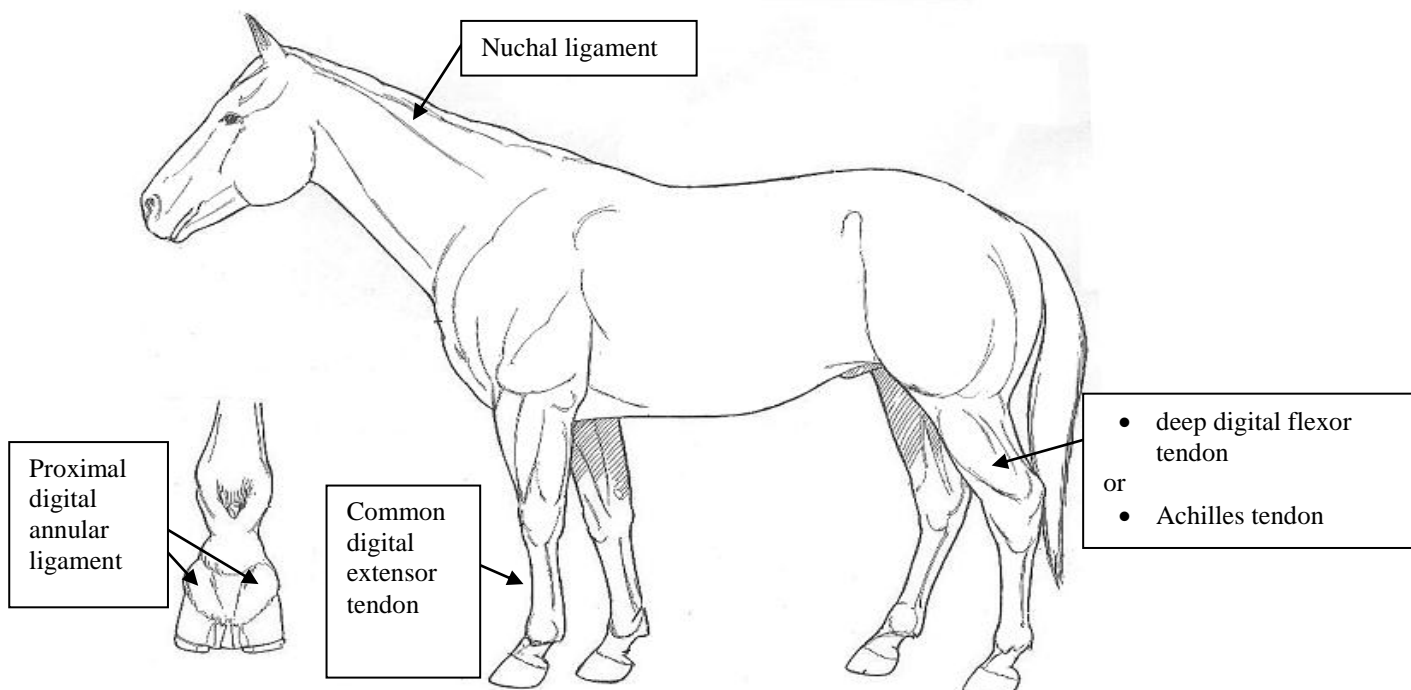


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## Question 15a.

Marks	0	1	2	3	4	Average
%	11	20	51	14	4	1.8



## Question 15b.

Marks	0	1	2	3	Average
%	6	16	43	34	2.1

1. Bending: flexion
2. Straightening: extension
3. Moving inwards towards the centre of the body: adduction

## Questions 15ci.–ii.

Marks	0	1	2	Average
%	46	49	6	0.6

### 15ci.

Tendons join muscle to bone, whereas ligaments generally join bone to bone.

### 15cii.

The purpose of a check ligament is to limit the action of a tendon to prevent injury due to overstretching, particularly in the horse's fetlock. They stabilise action, preventing the back of the fetlock from hitting the ground. They are a special type of ligament which attaches a tendon to a bone. They also form part of the 'stay mechanism' which enables horses to lock their legs while standing.

Students needed to demonstrate precise knowledge when answering this question. Reference to the 'stay mechanism' alone was not sufficient.

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## Question 16

Marks	0	1	2	3	Average
%	5	31	52	12	1.7

Any three of:

- identification records
- owner records
- injury/illness record (may include date of injury)
- veterinary action taken
- prescribed medication
- treatment
- workload allowed
- feed requirements
- veterinary contact details

Answers that included rectal temperature or first aid were not accepted.

## Question 17

Marks	0	1	2	3	4	Average
%	1	2	11	25	61	3.5

