2014 Examination Report

VICTORIAN CURRICULUM AND ASSESSMENT AUTHORITY

State Government Victoria

2014 VET Equine Industry GA 3: Examination

GENERAL COMMENTS

In 2014, students were assessed on the elements, performance criteria and underpinning knowledge and skills in the following units of competency.

- VPAU322 – Respond to equine injury and disease
- SISOEQO408A – Determine nutritional requirements for horses
- VPAU323 – Relate equine form and function
- AHCHBR201A – Monitor horse health and welfare
- VPAM325 – Equine anatomy and physiology

In Section B, a number of students showed excellent understanding of underpinning knowledge across all units of competency. Students generally showed good knowledge of common conditions, and on the whole understood the distinction between a hazard and a risk with occupational health and safety (OH&S).

A number of students misread questions. It is important to identify clearly what a question is asking in order to respond appropriately. For example, 'identify the visible signs' means identify an effect evident through observation of the horse's demeanour or condition (not through taking vital statistics), rather than providing a possible diagnosis of what the condition may be.

Students need to prioritise answers where a specific number of response points are asked for, rather than responding with a lengthy or random list. Examination techniques require selective processes, and students should provide the responses they consider the most important or relevant, as only the first written required number are accepted. A number of students wrote extended answers in margins, when the space provided for the answer was adequate for a correct response.

The VCAA website provides past exams and examination reports with answers. These are valuable resources for preparation for undertaking the end-of-year examination. Students are advised and strongly recommended to use these resources to gain understanding of question types and appropriate answers.

SPECIFIC INFORMATION

This report provides sample answers or an indication of what answers may have included. Unless otherwise stated, these are not intended to be exemplary or complete responses.
The statistics in this report may be subject to rounding errors resulting in a total more or less than 100 per cent.

Section A – Multiple-choice questions

Question	% A	% B	% C	% D	% No Answer	Comments
1	99	1	0	0	0	
2	0	5	62	33	0	
3	65	8	26	1	0	
4	23	11	9	58	0	
5	2	65	2	31	0	
6	5	1	17	77	0	
7	7	24	42	26	1	The minimum proportion of roughage that should be fed to a stabled horse is 50% (option B). A number of students selected 80% (option D); however, this would be the ration for a horse in light work but kept on pasture. A horse should be fed 1–1.5% of its body weight in roughage per day. Stabled horses require half their feed as roughage, such as chaff and hay, to maintain healthy gut function. Stabled horses fed a high percentage of concentrates are prone to digestive problems.
8	89	5	4	2	0	
9	11	1	74	14	0	

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Question	% A	% B	% C	% D	% No Answer	Comments
10	11	9	51	29	0	The gait of pacers when racing is that they move alternating lateral pairs of fore and hind legs with a moment of suspension in the air (option C). Pacers wear gear (hopples) to maintain this action, and to prevent them from 'breaking' their gait, for which they can be disqualified during a race. Students should be familiar with which gaits have a period of suspension (all four legs off the ground).
11	34	41	13	12	0	The minimum age for vaccination of foals against tetanus, strangles and EHV (equine herpesvirus) is three months or 12 weeks, to ensure protection. Coverage is important as tetanus bacteria are commonly found in the environment; for example, in soil, dust and manure where horses and foals graze. Mares can be given a tetanus–strangles booster two weeks prior to foaling to protect foals younger than three months. Strangles and EHV are highly contagious once an outbreak occurs in horse populations, so risk can be high. Foal vaccination at three months to cover all three is standard practice in the industry.
12	37	30	17	16	0	The joint that does the most work in the hind limb is the hock, as it is weight-bearing as well as creating upward propulsion and forward motion, and the loading on the hock during movement is significant. While the stifle (option C) extends every time the hock does, it is not weight-bearing to the same degree, and this is also true of the hind fetlock (option D), which bears less weight than the front fetlock.
13	51	28	19	3	0	The hormones in pooling urine can kill an embryo. Ovarian cysts (option A) and irregular ovulation (option D) often preclude conception, or presence of an embryo. Cryptorchidism (option C) affects males only.
14	10	3	78	9	0	
15	7	4	82	7	0	
16	13	7	16	65	0	
17	27	31	27	15	0	Sunflower seeds have the highest digestible energy, at 17.5%; soybean meal (option A) is 14%, cracked maize (option C) is 14.2% and oats (option B) are 12%.
18	7	79	5	9	0	
19	7	71	17	5	0	
20	61	3	36	0	0	Option A of using a syringe is the most common practice for delivering worm treatment. However, (higher ability students or) those who fully understood where worms cause problems in horses (in the stomach and intestines), will have been able to assess or establish that immediate delivery to the horse's stomach via a tube is the most effective method, as all of the chemicals are immediately at the site (the stomach) where they need to begin their task of eliminating worms, without needing to first travel through the digestive organs leading to the stomach.

Section B

Question 1

Marks	0	1	2	3	4	Average
%	4	24	39	26	8	**2.1**

Any four of:

- very sunken rump
- deep cavity under tail
- skin tight over bones
- very prominent backbone
- very prominent pelvis/protruding hips
- marked ewe neck
- ribs easily visible.

Students needed to show familiarity with the condition scoring criteria terminology used in the industry. Adjectives were important to express the extreme degree of condition; for example, 'very sunken', 'very prominent', 'deep'. 'Ewe neck' on its own was not acceptable as that can be a conformational feature rather than a condition problem. General terms such as 'little to no fat covering' or 'emaciated overall' or reference to lack of muscle did not receive marks as these are not specific criteria used in standard condition scoring.

Question 2

Marks	0	1	2	Average
%	63	14	22	**0.6**

- The equine small stomach is designed for continuous input, hence small feeds are often preferable to large rations fed once a day.
- The teeth – horses rely on their teeth to chew and obtain nutrition, hence teeth are critical in the digestive system, as they impact the horse's overall health and longevity.

Question 3

Question 3a. was generally answered well, but many students did not accurately identify the key aspects for Question 3b., which was 'the inflammation of the sensitive laminae within the hoof' and some identified pedal bone rotation here as well as in Question 3d.

Most students could identify three management strategies successfully for this common condition (Question 3c.), and many could successfully identify that 'rotation of the pedal bone' was the further specific physiological result of this condition, if left untreated (Question 3d.).

3a.

Marks	0	1	Average
%	10	90	**0.9**

Either:

- laminitis
- founder.

3b.

Marks	0	1	2	Average
%	28	53	18	**0.9**

Inflammation of the sensitive laminae (layers); the hoof

3c.

Marks	0	1	2	3	Average
%	3	11	37	49	**2.3**

Any three of:

- restrict diet to hay/roughage; no concentrates in diet

- avoid grazing on lush pasture
- restrict access to pasture
- 'lock up' in spring
- feed soaked/poor quality hay
- exercise regularly/minimise work on hard ground
- reduce weight
- feed founder-reducing supplement
- regular hoof care
- grazing muzzle
- graze in the late afternoon, evening and night.

3d.

Marks	0	1	2	Average
%	30	25	45	**1.2**

Students needed to identify rotation (one mark) of the pedal bone (one mark) or the coffin bone, third phalanx, distal phalanx or *os pedis* – an extreme case where the hoof capsule detaches.

Question 4

4a.

Marks	0	1	Average
%	93	7	**0.1**

Many students were unable to identify large strongyles, and some responded with just 'strongyles'; however, the inclusion of 'bloodworm' in the question distinguishes large strongyles from small strongyles. Large strongyles do damage in both small and large arteries before returning to the large intestine (hence 'bloodworm'), while small strongyles do their major damage in the gut wall, while encysted or upon eruption.

4b.

Marks	0	1	Average
%	30	70	**0.7**

Any one of:

- in the faeces (or manure or droppings) of infected horses
- from pasture
- ingested
- via the bloodstream.

4c.

Marks	0	1	2	3	4	Average
%	6	12	18	31	33	**2.7**

Any four of:

- pick up manure in small paddocks
- do not store manure piles in grazed paddocks
- cross-grazing with other species, such as cows
- rotational grazing (rest paddocks)
- harrow paddocks
- worm new arrivals
- give young horses the cleanest paddocks
- use feed bins or hay racks rather than feed off the ground
- remove bot eggs from legs and body in autumn
- do not overstock paddocks
- conduct a faecal egg count
- rotate active ingredients in wormers
- introduce dung beetles.

A number of students wrote 'rotate wormers', which could not be awarded a mark because that could refer to simply changing the brand of wormer rather than the active ingredients. Many students mentioned dung beetles, which was awarded a mark as they would be useful long term as part of an integrated pasture management system. A number of

students referred to isolating horses with worms, rather than treating them. Some erroneously stated that washing all of the equipment and gear was a management strategy to minimise parasite burdens of paddocked horses.

Question 5

Students struggled to clearly express relevant descriptions of the chosen movement. Students were awarded marks if they mentioned the aspects of the movement listed below. No marks could be awarded if the terms were not clearly explained; that is, general terms like 'coming through from behind' needed reference to the anatomical aspects. Some students gave lower leg or foot faults (for example, pigeon-toed) as faults that would limit the movement, but upper body action provides the motor for motion.

5a.

Marks	0	1	2	Average
%	36	39	25	**0.9**

Any one of:

- engagement: hindquarters stepping well under the horse's body (one mark) and increased flexion of the joints of the hindquarters in the weight-bearing phase (one mark).
- elevation: increasing engagement of hindquarters shifts horse's centre of gravity back (one mark) allowing the movement of forehand to become lighter and higher (one mark)
- extension: at the walk, trot or canter, lengthening of the stride/increased ground coverage (one mark), while maintaining tempo and impulsion from hindquarters (one mark).

5b.

Marks	0	1	2	Average
%	44	43	13	**0.7**

Any one of:

- engagement: any two of:
  - straight hocks
  - camped out behind
  - upright pasterns
  - long back/roach back/sway back
  - weak loins
- elevation: any two of:
  - straight hocks
  - camped out behind
  - upright pasterns
  - long back
  - roach back
  - sway back
  - straight/upright shoulder
- extension: any two of:
  - straight hocks
  - camped out behind
  - upright pasterns
  - long back
  - roach back
  - sway back
  - straight/upright shoulder.

Some students gave 'short pasterns' as a response, but it is not the length of the pastern that has the greatest impact, it is the angle of the pastern, so 'upright pasterns' was the correct response.

Question 6

Marks	0	1	2	3	4	5	6	7	8	Average
%	0	0	0	1	2	6	20	37	34	**6.9**

This question was answered well by most students, who provided appropriate points and examples of situations. Many students, however, did not relate answers to the first statement in the question, that 'Personal protective equipment (PPE) is used when treating a sick or injured horse'. Students should make sure that they read questions fully and respond as indicated, although in this case any response with a scenario that was handler-related was accepted.

There were two key factors in this question: to identify **how** the specified item of PPE protects the handler and to identify a **different situation** for the use of each PPE item. Some answers referred to riding, and these responses could not be awarded marks as the opening statement clearly referred to 'handler', meaning the handler on the ground. Students needed to be specific, for example, 'disposable gloves protect the handler's skin or hands' and 'respiratory masks prevent inhalation or breathing in of airborne contaminants'.

Question 7

7a.

Marks	0	1	2	3	Average
%	4	32	49	14	**1.8**

Students on the whole gave important points about strategies to prevent travel sickness. Many, however, missed out on a mark as the industry-recommended time for breaks where horses are unloaded on a long road trip is every four to six hours.

Any three of:

- adequate ventilation
- do not travel in the heat of the day
- rug appropriately (so as not to overheat the horse)
- ensure horses are in good health/condition pre-travel
- ensure horses have good hydration pre-travel
- tie horses so they can lower their heads and expel dust/mucus/fluid build-up
- take a rest break every four to six hours, unload horses and walk or give the horses an opportunity to lower their heads to prevent dust/mucus build-up; offer feed and water
- ensure good truck/float hygiene
- use absorbent floor covering to minimise fumes from urine and manure; clean out float during stops
- if feeding hay while travelling, use soaked hay to avoid dust
- avoid unnecessary medication
- travel horses backwards or on an angle if possible.

7b.

Marks	0	1	2	3	Average
%	15	44	33	8	**1.4**

There was misconception that biosecurity requirements and quarantine are the same. Quarantine is a state, period or place of isolation in which people or animals that have arrived from elsewhere or been exposed to infectious or contagious disease are placed. Biosecurity is a set of disease control measures designed to break the cycle of and reduce the spread of infectious diseases. These are the practices that were asked for in this question.

Any three of:

- horses placed in an isolation (or quarantine) area
- disinfect float/truck/equipment used
- safely dispose of any waste from float/truck
- do not touch other horses on the property; only touch the horses you are there to deliver
- wash hands thoroughly before leaving
- disinfect boots
- keep detailed records of horses transported and properties visited.

Question 8

8a.

Marks	0	1	2	Average
%	11	47	43	**1.3**

Any two of:

- move horse to a safe and secure area

- tie horse up in wash bay or on hard clean ground
- have clean bucket and water ready or hose nearby
- tie horse's tail up
- remove first aid bandage if deemed safe to do so (considering weather, flies, etc.)
- ensure horse is calm
- try to restrict the horse's movement to prevent further bleeding.

8b.

Marks	0	1	2	Average
%	3	23	74	**1.7**

The handler should stand on the same side as the vet (one mark), be facing or angled towards the vet or the back of the horse, with the right hand holding the lead rope close to the clip and the left hand with folded lead rope should be against the point of the shoulder (one mark).

8c.

Marks	0	1	2	3	Average
%	3	4	15	78	**2.7**

Three of:

- the horse runs forward and knocks handler
- the horse steps on handler's foot
- the horse swings its head and knocks the handler
- the horse bites the handler
- the horse strikes with a foreleg
- the horse rears
- the horse kicks
- incorrect handling of bio-waste, i.e needles.

Question 9

Marks	0	1	2	3	4	Average
%	21	13	21	12	33	**2.2**

Students generally answered this question well. Some students were unable to provide an example of a tendon or a ligament; any correct example was acceptable and awarded a mark.

One mark for each of:

- tendons join/connect muscle to bone
- ligaments join/connect bone to bone.

One mark for each example of a tendon or ligament:

- tendons: extensor tendon, lateral digital extensor tendon, common digital extensor, deep/superficial digital flexor, biceps brachii, extensor carpii radialus
- ligaments: suspensory, nuchal, interosseous, digital sesamoidean, annular, inferior check.

Question 10

Marks	0	1	2	Average
%	38	2	60	**1.2**

An acceptable answer included the following points:

- first beat is off/right hind
- second beat is off/right fore and near/left hind
- third/last beat is near/left fore, followed by a period of suspension.

Students needed to give the correct footfall sequence to be awarded two marks. A number of students were clear on their knowledge of this, but others were not able to identify the footfalls correctly.

Question 11

Marks	0	1	2	3	4	5	6	7	8	9	10	Average
%	0	0	1	4	9	12	23	20	17	9	5	**6.5**

Students needed to provide the effects on horse health in the first part of the question and then the visible signs of this ill health; a number of students instead provided a diagnosis (for example, dehydration or colic), and then did not provide any visible signs of this.

Using dusty feed

- upper/respiratory tract irritation – coughing (especially during exercise) and snorting to clear nasal passages, some nasal discharge
- allergic response manifested as chronic obstructive pulmonary disorder (COPD)/heaves/broken wind – trouble breathing, accelerated breathing rate, reduced ability to exercise, visible 'heave line' along the abdominal muscles, cough, nasal discharge
- eye irritation – excessive watery discharge.

Making a sudden change in diet

- colic – digestive process is affected resulting in excess gas build-up, impaction/inflammation of the intestines or painful contractions of the smooth muscles in the intestines, obvious distress, pawing, looking at flanks, kicking at belly, rolling, lying down, patchy sweating, increased respiration rate, refusal of food and water, inability to digest food

Providing an inadequate amount of water

- dehydration – dark syrupy urine, tucked up in the flanks, hard/dry manure covered in mucus, increased respiratory rate, shallow breathing, capillary refill in excess of two seconds, dry gum/eyes, pale mucous membranes, tenting of skin on neck when pinched
- impaction colic from insufficient water in digestive system, which leads to blockages in the intestines – obvious distress, pawing, looking at flanks, kicking at belly, rolling, lying down, patchy sweating, increased respiration rate, refusal of food and water, constipation.

Question 12

12a.

Marks	0	1	2	3	Average
%	10	54	29	7	**1.3**

Many students answered this question well; however, a number responded with unnecessary actions, such as 'call a vet'. Responses needed to be simple, practical tasks as expected of an industry employee. One mark was awarded for each of the following.

- clean out the feed bin, putting the leftover feed into another container because of hygiene concerns
- show the leftover feed to the stable manager/foreman straight away, as a loss of appetite could indicate the horse is unwell
- record the information as appropriate, as detailed records for each horse must be maintained

12b.

Marks	0	1	2	3	Average
%	11	24	36	29	**1.8**

Any three of:

- horse looks depressed/dull
- horse is lethargic (not 'mood')
- horse is sweaty
- horse has abnormal nasal discharge
- horse has abnormal respiration
- box is in an unusual state for this horse (messy or clean)
- horse has not drunk usual amount of water
- abnormal type or amount of manure or urine
- presence of gut sounds.

Question 13

13a.

Marks	0	1	2	3	Average
%	0	7	42	51	**2.4**

Horses develop 'sharp edges' (one mark) to their teeth because of rotation of the lower jaw or from grinding food, particularly grains. Many students appropriately mentioned the importance of teeth impacting on a horse's ability to eat and obtain nutrition for survival.

Also, any two of:

- dropping food/quidding
- unsteady head/head tossing/bit snatching/excessive champing when ridden when this behaviour was not present previously
- refusing to be bridled
- one-sided contact
- excess saliva
- bad breath/halitosis
- losing weight
- bolting food
- eating very slowly
- refusing to eat
- swelling of the face
- cribbing/chewing at rails/fences when this behaviour was not present previously.

13b.

Marks	0	1	Average
%	14	86	**0.9**

Every 6–12 months, twice a year, annually or every 12 months

Question 14

Marks	0	1	2	3	4	Average
%	37	7	7	20	29	**2**

The integumentary system is composed of the skin, hair and hooves.

Any three of:

- protects against sun's radiation
- prevents entry of microorganisms
- part of the immune system
- prevents dehydration
- helps regulate body temperature
- carries nerves for temperature variation, pressure and pain
- social function in interaction with other horses
- synthesises vitamin D.

Question 15

Only a few students could identify the groups of vertebrae and provide the correct number of bones, which is essential knowledge in the equine anatomy and physiology unit.

15a.

Marks	0	1	2	3	4	Average
%	57	26	7	6	4	**0.8**

Region	Group of vertebrae	Number of vertebrae
1	cervical	7
2	*thoracic*	*18*
3	lumbar	6 (or 5)
4	sacral	5 (fused – 1)
5	coccygeal or caudal	average of 18

15b.

Marks	0	1	Average
%	88	12	**0.1**

Many students were not able to make a clear statement that (one of):

- after T18, there are no ribs to support the weight
- the spinal column is not supported by the rib cage after this point
- after T18, the spinal column is not supported
- the weakest part of the back is past T18 or last rib.

A number of students stated ‘because that is where the saddle is placed’ or ‘that is the strongest part’, which are obvious but do not address why there and not past T18. Once again it is necessary to note that students should read the question carefully.