

# 2021 VCE VET Equine Studies external assessment report

## General comments

The 2021 VCE VET Equine Studies written examination covered content from the following units of competency:

- VU22682 Implement horse health and welfare practices
- VU22683 Implement and monitor horse feeding programs
- VU22684 Relate equine form to function
- VU22686 Identify and describe equine physiology

The examination contained questions from the Certificate III competencies for the first time in this assessment format. Questions such as Question 10 on equine metabolic syndrome were drawn from the new state-accredited course. The examination also gave students opportunities to demonstrate their knowledge through the illustration and annotation of some responses in addition to a written response. Many students took advantage of this opportunity and used diagrams to support their answers.

Overall, students demonstrated their knowledge of safe work practices around horses, equine welfare and breed characteristics well.

There were issues with students not reading the questions accurately and therefore not addressing the required key points in their responses. In the questions that required longer, more detailed responses, students struggled with expression and communicating their answers. There was a tendency to lose focus in an answer or to relate an answer to the student's chosen discipline in equine sports.

## 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 resulting in a total more or less than 100 per cent.

## Section A – Multiple-choice questions

Question	Correct answer	% A	% B	% C	% D
1	C	23	0	51	26
2	D	0	1	2	97
3	A	88	6	1	5
4	C	11	3	78	8
5	B	3	73	1	24
6	A	94	0	4	3
7	B	19	44	35	3
8	A	75	13	12	1
9	B	12	62	13	14
10	C	24	6	63	7
11	D	15	41	9	35
12	A	85	14	1	0
13	A	95	4	0	2
14	B	1	85	11	3
15	A	68	6	12	14
16	D	15	22	26	37
17	D	11	15	15	59
18	A	48	20	27	4
19	B	7	82	8	3
20	C	31	25	30	15

## Section B

### Question 1

Marks	0	1	2	Average
%	29	41	30	1.0

Correct answers included any two responses from the following:

- aids digestive function, needed for fermentation process in hind gut, prevention of impaction in digestive system causing colic
- if not clean / is stagnant/polluted with manure, horses will not drink, causing insufficient fluid in digestive system
- provides oxygen / supports respiration
- maintains hydration of horse, supports circulatory system by lowering blood pressure
- aids in removing toxins from body
- supports thermoregulation through sweating.

This is a good example where students gave generalised responses that did not answer the question. Commonly, students gave non-specific answers that focused on horses getting sick from bacteria in their water but did not make the connection to the impact upon feeding.

### Question 2a.

Marks	0	1	2	Average
%	55	30	15	0.6

Responses must have included 'infection'. Injury of some type causing bruising to sole or penetrating wound (e.g. stone bruise, hail pick) that introduces bacteria, followed by an infection that begins between the sole or wall and the sensitive internal tissues/laminae of the foot. As it progresses up or around the wall it becomes painful and causes lameness.

Other signs or symptoms include:

- swelling in lower leg
- heat on the exterior hoof wall
- pain due to pressure
- pus when abscess bursts/pops
- area of hoof affected may be tender or hot
- change in regular gait.

### Question 2b.

Marks	0	1	2	Average
%	7	42	50	1.5

Two marks were given for any two of the following:

- a poultice on the hoof to soften the hoof and draw out the abscess and encourage it to burst/pop out. It is recommended horses with foot abscesses be given a tetanus antitoxin if not vaccinated for tetanus.
- keep hoof clean and dry during healing process
- veterinary/farrier attention is recommended. Farrier or veterinarian locates abscess to cut affected area to support drainage.

### Question 3

Marks	0	1	2	Average
%	37	34	30	0.9

Two marks were given for any two of the following:

- ewe neck – neck dips, concave appearance, often low set, thicker appearance on underside of neck
- creation of ‘u’-shape from poll to wither
- swan neck is dipped near the wither and arches at the top one-third / near the poll.

Students gave answers that were too generalised by answering that a swan neck was an arched neck rather than explaining the conformation features.

### Question 4

Marks	0	1	2	3	4	Average
%	5	12	29	33	22	2.6

Two marks were given for these common signs:

- fever (39–40.5°C) / conjunctivitis / depression / nasal discharge / cough / lack of appetite / possible swelling of the lymph glands around the throat
- depression / neurological signs leading to lack of coordination, weakness, difficulty in urinating and defecating and becoming recumbent (unable to stand up)
- paralysis affecting mainly hind limbs.

This question asked students to list two common signs that a horse infected with equine herpes virus may display. A common response from students was that horses will have trouble breathing, which is not a sign or a correct answer to this question.

Two marks were given for actions/measures taken:

- Horses showing the early signs of the disease must be isolated and examined by a veterinarian.
- Identify, isolate and test close contacts of affected horse.
- Restrict movement of all horses on and off property and follow strict biosecurity measures (i.e. foot baths, hand disinfection and the prevention of equipment sharing). Thorough cleaning and disinfecting equipment, gear and transport.

### Question 5a.

Marks	0	1	2	Average
%	84	3	13	0.3

Two marks were given for the following:

- Windgalls are the result of irritation to the joint surfaces or joint capsule, caused through wear and tear over time, overwork or injury.
- Small painless/soft/puffy enlargements/swelling just above the fetlock on forelegs or hind legs of horse.

This was often answered incorrectly. Students did not read the question properly and assumed the condition had something to do with the windpipe or girth galls.

## Question 5b.

Marks	0	1	Average
%	84	16	0.15

One mark was given for any of the following:

- overworking a young, heavy horse, particularly on hard surfaces
- poor conformation
- improper trimming of horse's hooves
- ligament, tendon or joint capsule tears
- articular cartilage in the joint being injured.

## Question 6a.

Marks	0	1	2	Average
%	25	11	65	1.4

One mark was given for any of the following:

- allows control of bodily functions and responds to demands in an appropriate and coordinated manner
- the nervous system receives external stimuli, which are analysed and integrated and then a response is produced.

## Question 6b.

Marks	0	1	2	Average
%	35	39	26	0.9

Two marks were given for any two of the following:

- stiff slow gait
- spasm of third eyelid
- excessive sensitivity to touch and sound
- anxious expression, sawhorse stance
- loss of appetite
- difficulty eating
- muscle spasms and twitching.

## Question 6c.

Marks	0	1	2	Average
%	62	23	15	0.6

Two marks were given for two injections administered one month apart followed by a booster one year later.

## Question 7

Marks	0	1	2	3	Average
%	2	22	36	39	2.1

Any three of the following were correct:

- dished head
- jibbah or larger sinus cavity
- large wide-set eyes
- fine head
- large nostrils
- fine muzzle
- curved-in ears
- defined jowl
- well-defined bone structure
- well-defined chin groove.

Students were able to identify the required breed characteristics of an Arabian horse's head and explain the role of each feature.

## Question 8

Marks	0	1	2	3	4	5	6	Average
%	44	18	7	9	8	8	5	1.7

Two marks were given for causes:

- calcium deficiency induced by a diet with a persistent lack in calcium, excess in phosphorus and/or imbalanced calcium to phosphorus ratio or grazing oxalate-rich pastures
- diet high in bran or lack of quality pasture.

Two marks were given for any two of the following symptoms:

- enlargement of facial features (swelling of the jaw as the bones enlarge)
- lameness: horses appear stiff and have a shortened gait
- ill-thrift: loss of condition even though they have access to ample feed
- noisy breathing during exercise (upper airways can become obstructed due to swollen bones)
- loose and shifting teeth
- prone to shin bruising
- irritability.

Two marks were given for recommended treatment. The response needed to include the calcium:phosphorus ratio with calcium equal to or greater than phosphorus.

Drawn from the new training package, this question saw students either answer with great detail and accuracy or struggle to express themselves in a longer response question. The question required students to discuss the causes, symptoms and recommended treatment. Generally, students focused more on one aspect of this question when answering rather than addressing all elements of the question.

The following are sample answers to this question.

- The diet should be balanced to meet your horse's calcium and phosphorus requirements and have a calcium to phosphorus ratio of at least 1:1, ideally 2:1, up to 7:1. Phosphorus should not be supplied in excess. Di-calcium phosphate and limestone can be added to increase the calcium content of the diet. Feeds and supplements to provide an optimal Ca:P ratio of 2:1.

- Horses should graze grasses that are low in oxalates where possible. If they graze on high-oxalate grasses, the growth of a legume component in the pasture, such as lucerne, is highly recommended due to their high calcium content. Horses grazing oxalate-rich grass should be supplemented with additional calcium. Those with high calcium requirements, such as gestating or lactating mares and growing horses, require even higher levels of calcium to be added to their diet.

### Question 9a.

Marks	0	1	Average
%	31	69	0.7

The correct response was paddling.

### Question 9b.

Marks	0	1	2	Average
%	70	22	8	0.4

The correct response was side bone – additional strain down the outside of the leg / tendon strain through irregular gait movement, leading to extra bone growth generally on the outside edge of the bone. This affects performance, causes pain and can cause lameness.

### Question 10a.

Marks	0	1	2	3	Average
%	43	30	20	6	0.9

Correct answers included:

- insulin resistance
- laminitis
- obesity
- increased drinking and urination
- lethargy
- difficulty losing weight.

### Question 10b.

Marks	0	1	2	3	Average
%	19	34	32	15	1.45

Any three of the following were accepted:

- avoid sweet feeds or feeds high in sugars/carbohydrate
- avoid large quantities of green grass
- feed low-sugar hay – feed plenty of forage and/or fibre
- smaller, more frequent hard feeds if needed.

## Question 11a.

Marks	0	1	2	Average
%	15	45	40	1.3

One mark was awarded for the importance of grass and one mark for the importance of chewing.

Grass (any one of the following):

- Grass is an important source of energy/nutrients/fibre.
- Grass contains proteins/fibre/vitamins/minerals.
- Digestion and physiology are reliant on consistent grazing with a lowered head.

Chewing:

- Chewing is important as horses only produce saliva when they chew, which is an important buffer for the horse's acidity in the stomach to promote healthy digestion.
- Chewing grinds down food through mechanical processing of feed to allow travel through the oesophagus without choking or impaction colic in intestines or colon.

Students often failed to recognise that grass is a source of nutrients in their answers.

## Question 11b.

Marks	0	1	2	3	Average
%	4	5	27	64	2.5

Any three of the following were accepted:

- fresh smelling
- dust free
- even colour
- not warm/hot
- moisture free
- free from contaminants such as mice/rat droppings, sticks, weeds, mould.

## Question 11ci.

Marks	0	1	Average
%	48	52	0.5

1% to 1.5% body weight of horse required to feed out daily.

Students did not always address the quantity percentage correctly.

## Question 11cii.

Marks	0	1	Average
%	70	30	0.3

For 430 kg it would be 4.3–6.45 kg of hay per day.



## Question 12

Marks	0	1	2	3	4	Average
%	18	18	27	26	11	2.0

Horse	Energy requirements	Nutritional needs
yearling	High-energy diet for growth and muscle development	High protein and calcium diet for growth, with slightly more roughage than concentrates to facilitate digestion
performance horse	High-energy diet for heavy workload, competition schedule, peak performance output and fitness	High protein for muscle repair and development with greater concentrates due to energy requirements for competition Supplements – electrolytes due to heavier workload and greater sweating – mineral loss

## Question 13

Marks	0	1	2	3	4	5	6	Average
%	7	6	11	20	20	15	21	3.7

Body part	Conformation feature	Benefit to racing	Benefit to show riding
neck	good length of rein <i>or</i> higher set neck <i>or</i> well-muscled neck	stretch for running <i>or</i> good reach of stride in gallop and assist in support for stretch <i>or</i> balance benefits for galloping / 'balancing aim'	in proportion to body working into the bridle, good reach, open through gullet <i>or</i> upward frame ability to carry and work into contact for collection and engagement <i>or</i> mobility to carry head and neck, correct frame pleasing to eye
shoulder	sloping angle	good length of stride – cover ground at speed	freedom of movement, extending stride
hind quarter	well-muscled, strong	for powerful push in gallop	supports engagement, collection, impulsion for movement in showing

This question asked students to identify conformation traits in a thoroughbred and their benefits to racing and showing. Students were able to identify and explain the features of a sloping shoulder in this breed of horse but were not as accurate in describing the features of a thoroughbred's hind quarter and its relationship to performance.

## Question 14

Marks	0	1	2	3	4	Average
%	65	22	8	4	1	0.6

Impaction colic occurs when the bowel, usually the large intestine, is blocked by a firm mass of food.

Treatment: administration of fluids and/or liquid paraffin via a stomach tube.

Spasmodic colic occurs when the bowel is contracting in an abnormal manner creating painful spasms and somewhat of an 'overactive' gastrointestinal tract. Spasmodic colic usually responds very well to anti-spasmodic drugs.

## Question 15

Marks	0	1	2	Average
%	62	33	6	0.5

One mark was given for feature identified and one mark for movement.

- Feature: Upright shoulder, upright pastern or downhill build.
- Movement: paddling, greater concussion from jarring action or more weight carried on forelimbs.

## Question 16a.

Marks	0	1	2	Average
%	10	60	30	1.2

Any two of the following were accepted:

- remove the horse to a quiet, safe environment
- bring in a companion horse to help keep the horse quiet
- move horse to wash bay
- move horse to appropriate area for treatment
- restrict movement of horse
- have a clean bucket and water ready
- have other forms of restraint available (e.g. twitch, rearing bit).

## Question 16b.

Marks	0	1	2	Average
%	8	57	36	1.3

Any two of the following were accepted but the response must have included circulatory/cardiovascular system for full marks:

- skin system
- circulatory/cardiovascular system
- muscular system.

## Question 16c.

Marks	0	1	2	Average
%	4	43	52	1.5

The following answers were correct:

- hosing to clean the wound
- bandaging to reduce bleeding.

## Question 16d.

Marks	0	1	2	Average
%	1	17	82	1.8

Any of the following hazards were accepted for one mark:

- kicking
- biting
- rearing
- striking
- crushing.

Any of the following items of equipment were accepted for one mark:

- work boots
- helmet
- disposable gloves.

## Question 17a.

Marks	0	1	2	Average
%	28	16	56	1.3

When a horse is said to be 'on the forehand' it means that the overall impression is that the horse carries the majority of its weight on its shoulders and fore legs.

Any one of the following was accepted:

- harder to engage hind quarters to allow swing and tracking up
- overall balance carrying downhill
- more prone to stumbling.

## Question 17b.

Marks	0	1	2	Average
%	46	13	42	1.0

Any one explanation from the following:

- rump high – downhill appearance causing more weight on forelegs
- low set or ties in low neck – harder for the horse to lift through the wither and shoulder in front
- large head balance is going to be more downward in front – hard for horse to lift
- no wither – downhill appearance – hard to lift over shoulder.

## Question 18a.

Marks	0	1	2	3	Average
%	5	17	50	28	2.0

Any three of the following:

- not wearing boots
- leg striking
- unbalanced or hard working on hard ground
- poor hoof balance
- young horses in heavy work
- poor confirmation, such as offset cannon
- direct trauma.

## Question 18b.

Marks	0	1	2	3	Average
%	4	19	49	28	2.0

The answer required the following for three marks:

- rest until splint settles or becomes non active
- make sure horse is wearing protective boots when working
- regular hoof care.

Students also showed a solid understanding of splints, their causes and preventative measures in Question 18. Their answers were clear and addressed the requirements of the question.