

2017 VCE VET Equine Studies

General comments

Overall, students performed well on the 2017 VET Equine Studies examination. Most students attempted all questions in both sections of the examination.

While students had a good understanding of breed and conformation characteristics, there were many students who lacked associated knowledge of conformation faults and soundness issues. This was evident across both sections of the examination.

Generally, students had a good comprehension of the equine systems, with the exception of the reproductive system, about which students demonstrated a lack of knowledge overall. A lack of knowledge was also evident with horse health, where some students lacked a thorough overall understanding of signs of common illnesses and diseases. Most students addressed the horse feeding components very well and displayed a good comprehension of this unit throughout the examination.

Students should pay particular attention to question wording. Many students misread questions, especially where exceptions applied (such as 'excluding accidents') or reference was made to a specific horse type (such as signs of gastric ulcers for a foal). Answers that were too generalised or did not specifically relate to the question were not awarded marks.

The 2017 written examination contained a variety of questions, covering content from the following units of competency:

- VU21402 Implement horse health and welfare practices
- VU21403 Implement and monitor a horse feeding program
- VU21404 Relate equine form and function
- VU21406 Equine physiology.

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

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	18	82	0	0	
2	1	2	15	82	
3	0	0	15	85	
4	3	78	7	11	

Question	% A	% B	% C	% D	Comments
5	1	5	91	3	
6	54	12	12	22	
7	5	30	34	30	Various tropical pastures are the common cause of bighead. Many students answered native dry pasture or oaten hay.
8	15	51	30	3	
9	41	7	2	50	The question asked about the majority of the concussion in the hind limb, but many students answered the fetlock, which relates to the front legs. Students needed to use their underpinning knowledge to differentiate between the front and hind limbs concussion absorption.
10	59	14	10	18	The endocrine system is critical in maintaining homeostasis, regulating the levels of salt and water in the blood and blood glucose. Blood pressure and volume relate to the level of water in the blood, and water enters through the digestive system. The cardiovascular system's main function is the transportation of blood, nutrients, waste and hormones, and the urinary system's main function is to filter the blood and remove waste. While the urinary system has a role in homeostasis and the regulation of blood pressure and volume, it is the endocrine system that is the main system that works in conjunction with the digestive system.
11	46	34	18	1	Supplementary feeding refers to providing any extra feed in addition to pasture. Many students did not understand the meaning of this term.
12	2	4	89	6	
13	7	57	22	14	
14	8	0	73	19	
15	58	22	15	5	
16	2	18	22	58	
17	51	25	22	2	
18	18	17	46	18	Subcutaneous injections are administered under the skin. Many students lacked knowledge about different types of injections and their 'preferred' sites.
19	62	17	10	11	
20	9	2	84	5	

Section B

Question 1

Marks	0	1	Average
%	34	66	0.7

The main sign of Australian stringhalt involves the exaggerated lifting movement of hind legs.

Question 2

Marks	0	1	Average
%	48	52	0.5

Students needed to detail the skin-tenting test, which involves a pinch fold of the neck skin. The neck skin should go back to normal by the count of two.

Question 3

Marks	0	1	Average
%	45	55	0.6

The pacing gait is a two-beat gait of lateral pairs.

Many students confused the pace with the trot and detailed diagonal pairs.

Question 4a.

Marks	0	1	2	Average
%	5	18	78	1.8

Indications that inflammation may be present include:

- heat
- swelling
- tenderness/pain/soreness.

Question 4b.

Marks	0	1	Average
%	21	79	0.8

Suitable first-aid treatments are:

- cold-hosing
- cold water
- cooling gel
- cold therapy
- icing
- ice boots.

Calling the vet or administering anti-inflammatory drugs does not constitute first-aid treatment.

Question 5

Marks	0	1	2	3	Average
%	23	10	27	40	1.9

Poor quality hay exhibits the following conditions. It:

- smells bad
- is discoloured
- is rancid
- is not sweet
- is not fresh
- is mouldy
- is dusty
- is contaminated with foreign objects/dirt/sticks/vermin/vermin droppings
- is contaminated with the presence of poisonous/excessive weeds/is infested with weeds
- is damp/wet.

Students were not awarded a mark for answering that poor quality and unsuitable hay lacks nutrients/energy/fibre/calcium or is too dry/old.

Question 6

Marks	0	1	2	Average
%	18	30	52	1.4

Students were required to explain that zoonotic disease is a disease transmissible between horses and humans.

Examples that specifically relate to horses include:

- Hendra virus
- ringworm
- anthrax
- leptospirosis.

Question 7

Marks	0	1	2	Average
%	41	28	31	0.9

- Overreaching – the toe of the hind foot strikes the back of the pastern or heel of the forefoot on same side
- Forging – the toe of the hind foot strikes the sole of the front foot on the same side

Many students confused these two gait abnormalities.

Question 8

Marks	0	1	Average
%	59	41	0.4

Acceptable answers were:

- azoturia
- tying up
- Monday morning disease.

Question 9a.

Marks	0	1	2	Average
%	24	25	51	1.3

- A growing horse – ratio 1:1
- A mature horse – ratio within the range of 1:1 to 6:1

Question 9b.

Marks	0	1	2	Average
%	18	41	41	1.3

Feedstuff high in calcium includes:

- lucerne chaff
- lucerne hay.

Feedstuff high in phosphorus includes:

- soybean meal
- canola meal
- cottonseed meal
- barley
- rice bran
- wheat bran
- pollard
- oats
- sorghum.

Students were not awarded marks for naming commercial mixes or giving brand names.

Question 10

Marks	0	1	2	Average
%	39	32	29	0.9

The forelegs carry 60–65% of the horse's weight and are therefore subject to more concussion and trauma (injury, pressure or impact).

Overall, this question was not well answered.

Question 11a.

Marks	0	1	Average
%	59	41	0.4

The correct veterinary term is laminitis.

Founder was not accepted.

Overall, this question was not well answered. It demonstrated students' inability to examine three different problems in horses that may all result in a serious condition.

Question 11b.

Marks	0	1	2	3	Average
%	39	21	18	22	1.3

Possible signs include:

- front legs stretched out
- hind legs placed under abdomen to relieve weight on front feet
- rocking back on heels
- heat in feet
- bounding digital pulse/bounding pulse in main artery to foot
- horse very reluctant to move
- horse may lie down
- severe lameness.

Question 11c.

Marks	0	1	2	3	Average
%	65	10	10	15	0.8

The physiological consequence would be rotation of the pedal/coffin bone.

The explanation needed to cover the breakdown of the bond between the sensitive and insensitive laminae due to inflammation from restricted blood supply, which results in the deep digital flexor tendon pulling down/rotating the pedal bone.

Question 12a.

Marks	0	1	2	Average
%	48	31	21	0.8

Preventable causes include:

- high-speed exercise
- jumping a very young horse
- working too fast on hard surfaces
- improper balance of hoof through poor shoeing
- excess body condition/obesity
- too heavy a rider for the horse
- failure to use protective fetlock/knee/hock boots when required
- failure to treat joint injuries promptly.

Responses that included nutrition were not awarded marks as this was not joint-specific.

Many students misread this question and gave responses detailing how to prevent joint injury, rather than giving preventable causes.

Question 12b.

Marks	0	1	2	Average
%	24	46	31	1.1

Unpreventable causes include:

- conformation faults in fore or hind limbs
- ageing

- arthritis
- genetic defects.

Many students answered injury or accidents for Question 12b. but the question clearly stated 'excluding accidents'.

Question 13

Marks	0	1	2	Average
%	22	22	55	1.4

The endocrine system's function is to secrete regulatory hormones.

Abnormalities of the system include:

- Cushing's syndrome/disease
- thyroid abnormality.

Question 14a.

Marks	0	1	2	3	Average
%	2	14	48	36	2.2

Potential problems include:

- water can be contaminated by feed from bin
- places the horse in a dangerous position for anyone entering the stable when the horse is eating feed/eating from the hay net/drinking
- places the horse too close to the stable door
- the hay net impedes easy access to the stable
- hay spillage into the breezeway is a slipping hazard.

This question was generally well answered.

Question 14b.

Marks	0	1	2	3	4	Average
%	10	20	21	17	32	2.5

Students needed to place the food, water and hay net with regard to occupational health and safety considerations and justify this arrangement with an explanation.

Question 15a.

Marks	0	1	2	Average
%	28	39	33	1.1

The two functions that the male and female reproductive systems have in common are gamete production and hormone production.

Question 15b.

Marks	0	1	2	3	4	Average
%	49	22	14	10	6	1.1

- Cryptorchidism – one or both testicles retained in the abdomen; retained testes do not produce viable sperm so fertility is negatively affected.

- Pooling urine – urine reflexes/collects in the vagina and can enter the uterus through the cervix during oestrus; urine is spermicidal and can cause irritation, which may result in infection, leading to problems with conception.

Students showed poor knowledge of the reproductive system.

Question 16

Marks	0	1	2	3	4	5	6	7	8	9	Average
%	1	0	4	4	8	14	17	15	16	20	6.4

Students needed to select an appropriate horse breed for each of the purposes in the examples and give reasons for their selection, making reference to its breed characteristics and conformation features. Many students did not link the characteristics/features with the intended purpose.

- A horse to pull a wagon at a family holiday camp
Breed: Clydesdale, Percheron, draft breed
Reasons:
 - quiet and tractable temperament/'gentle giant'/docile, so is suitable around families/children
 - straighter shoulder for strength, for pulling loads
 - well-muscled and strong, for pulling loads
 - large feet for firm grip when pulling loads
 - large springy heels act as shock absorbers under pressure of hauling heavy loads
 - large arched strong neck suited to harness
 - cow hocks give traction in heavy conditions
- A pony club mount for a confident eight-year-old beginner rider
Breed: Connemara, Welsh pony/cob, Australian riding pony
Reasons:
 - excellent all-rounder/versatile for pony club activities
 - tough/strong, for a whole day at pony club
 - agile/athletic, so good at all disciplines
 - intelligent/sensible, so suitable for a beginner
 - tractable, so suitable for a beginner
 - sure-footed/well-balanced, so suitable for a beginner
 - compact/appropriate size for a child rider
 - well-sloped shoulders and pasterns, for a smooth ride

Arabian was not accepted for this scenario.

- A horse for stock work
Breed: Australian stock horse
Reasons:
 - intelligent and good stock sense
 - tough/durable/good endurance/stamina, for working cattle all day
 - mild manner/good temperament/calm/responsive, so not excitable when dealing with stock
 - clean gullet for easy air intake
 - good length of neck gives balance on rough terrain
 - sloping shoulder/pastern, for smooth ride
 - well-defined withers to maintain saddle placement
 - cow sense
 - compact strong hooves that withstand rough terrain

Or quarter horse

- gentle/easy-going disposition/calm temperament, so not excitable dealing with stock
- wide gullet for ease of air intake
- smooth gaits, for rider comfort in long hours in saddle
- sure-footed
- compact build with ability to start/stop/turn with ease and balance for various terrains
- broad chest/heavily muscled, for pushing stock
- cow sense.

Question 17a.

Marks	0	1	2	3	Average
%	1	16	55	28	2.1

Question 17b.

Marks	0	1	Average
%	26	74	0.8

For Question 17a. students were required to give examples of eating behaviours that could indicate a potential health problem in a horse. For Question 17b. they were required to explain the associated potential health problem for one of the examples given in Question 17a.

Examples of eating behaviours and resultant health problems are:

- quidding/dropping food – dental problems/inability to properly chew/digest food, especially grains
- bolting food/eating too fast/eating too quickly – choking
- leaving food/loss of appetite – colic, gastric ulcers, cold/virus/respiratory infection
- picky eater/intermittent eating – gastric ulcers
- eating manure – sign of nutrient deficiency/stress.

Question 18

Marks	0	1	2	3	4	Average
%	4	12	13	29	41	2.9

Biosecurity measures include:

- isolate horse
- limit personnel attending the sick horse
- attend to the isolated horse last for daily routines
- immediately report to supervisor/vet confirmation of illness required
- monitor temperature (twice a day) of other horses in stable
- wash hands with soap and water/sanitiser between handling horses
- wear PPE (disposable gloves/face mask/overalls)
- use disinfectant baths for footwear
- disinfect all gear and equipment used on sick horse
- notify authorities at race day venue
- notify transport company
- dispose of any biohazardous wastes/fluids/sharps/refuse appropriately
- remove bedding from stable and disinfect
- ask service providers to disinfect themselves and equipment before and after attending the horse.

This question was well answered overall. Students who answered 'check vital signs' were not awarded a mark.

Question 19a.

Marks	0	1	Average
%	77	23	0.3

The cause of roaring is the paralysis of the laryngeal nerve/partial paralysis of the larynx or paralysis of left arytenoid cartilage.

Question 19b.

Marks	0	1	Average
%	68	32	0.3

The larynx is affected.

Question 19c.

Marks	0	1	2	Average
%	45	34	21	0.8

Signs of roaring include:

- decreased performance
- exercise intolerance
- tires easily
- whistling when breathing
- roaring when breathing
- wheezing when breathing
- rasping noises when breathing.

Answers that simply stated abnormal/noisy/strange breathing were not accepted.

Question 20a.

Marks	0	1	2	Average
%	54	35	11	0.6

Signs include:

- lying on back
- salivation/frothy salivation
- teeth grinding
- diarrhoea
- intermittent nursing/suckling/reluctance to suckle
- poor body condition
- pot belly
- rough hair/coat
- poor growth/failure to thrive/weight loss.

'Loss of appetite' was not awarded a mark.

Many students related their responses to a performance horse rather than a foal, but foal was specified in the question.

Question 20b.

Marks	0	1	Average
%	76	24	0.3

Reasons include:

- stress induced by separation from dam/weaning
- interrupted/infrequent feeding/not being fed enough.

Question 21

Marks	0	1	2	3	4	Average
%	15	3	32	10	40	2.6

Students were asked for two strategies for minimising the worm burden and an explanation of why each strategy is effective.

Strategies and explanations include:

- collect manure – removes eggs/larvae
- give young horses the cleanest paddocks – to prevent/reduce infection
- use feed bins/hack racks/don't feed on ground – prevents contamination of feed by eggs/larvae
- harrow/smudge paddocks – exposes eggs/larvae to heat/light, which kills them
- rotational grazing/rest paddocks – breaks the life cycle of the parasite
- cross-grazing – cattle and sheep ingest eggs that do not live in their systems
- remove bot eggs – breaks lifecycle
- don't overstock – reduces infection of pasture.

Faecal egg count is not a strategy and was not awarded a mark.

Question 22

Marks	0	1	2	3	4	5	6	Average
%	5	16	35	16	18	5	5	2.6

- Parrot mouth
 - upper incisors/teeth/jaw protrudes over lower incisors/teeth/jaw so jaws are not aligned
 - top jaw longer than bottom jaw/overbite
 - elongated lower incisors/teeth continue to erupt and can cause ulceration on the roof of the mouth/dental issues
 - horse has problems grazing, as incisors do not meet and this can effect body condition
 - horses will often ingest dirt, which can cause digestive upsets/colic
 - molars develop hooks because of a lack of alignment, which causes ulceration of cheeks/requires more regular dental treatment
- Flat feet
 - hoof is large and the sole is close to the ground/sole is flat rather than concave, so prone to sole bruising and lameness
- Calf knees
 - backward deviation of the carpus/knee, resulting in strain on the ligaments and tendons that run down the back of the front leg
 - can also result in chip fractures to the bone at the front of the knee, which can lead to arthritis.