



NATIONAL SENIOR CERTIFICATE EXAMINATION
NOVEMBER 2013

EQUINE STUDIES

MARKING GUIDELINES

Time: 3 hours

200 marks

These marking guidelines are prepared for use by examiners and sub-examiners, all of whom are required to attend a standardisation meeting to ensure that the guidelines are consistently interpreted and applied in the marking of candidates' scripts.

The IEB will not enter into any discussions or correspondence about any marking guidelines. It is acknowledged that there may be different views about some matters of emphasis or detail in the guidelines. It is also recognised that, without the benefit of attendance at a standardisation meeting, there may be different interpretations of the application of the marking guidelines.

SECTION A**QUESTION 1**

- 1.1 False
- 1.2 True
- 1.3 False
- 1.4 True
- 1.5 False
- 1.6 True
- 1.7 True
- 1.8 False
- 1.9 False
- 1.10 True

[10]**QUESTION 2**

- 2.1 C
- 2.2 A
- 2.3 C
- 2.4 C
- 2.5 B
- 2.6 D
- 2.7 A
- 2.8 C
- 2.9 C
- 2.10 C
- 2.11 A
- 2.12 C
- 2.13 B
- 2.14 B
- 2.15 A

[15]**QUESTION 3**

- 3.1 Masseter muscle
- 3.2 Splenius muscle
- 3.3 Trapezius muscle
- 3.4 Latissimus dorsi muscle
- 3.5 Gluteal muscle
- 3.6 Tensor Fascia Lata
- 3.7 Intercostal muscle
- 3.8 Descending pectoral muscle
- 3.9 Triceps muscle
- 3.10 Brachiocephalic muscle
- 3.11 Sternocephalic muscle

[11]

QUESTION 4

- 4.1 Pulmonary artery
- 4.2 Aortic valve (semilunar)
- 4.3 Aorta
- 4.4 Left Atrium
- 4.5 Mitral valve (bicuspid)
- 4.6 Left ventricle
- 4.7 Septum
- 4.8 Right ventricle
- 4.9 Tricuspid valve (atrioventricular valve)
- 4.10 Pulmonary valve (semilunar valve)

[10]**QUESTION 5**

- 5.1 Phenotype
- 5.2 Dehydration
- 5.3 Caslicks
- 5.4 Diastole

[4]**QUESTION 6**

- 6.1 Trim long feathers, wash antiseptic, keep dry
- 6.2 (Clip, wash clean) and inject anti-inflammatory and antibiotic
- 6.3 Keep out of wet muddy paddocks, clean legs every day

[3]**QUESTION 7****Half mark for each point:**

- Ambient temperature
- Exercise
- Amount of dry food/concentrate and hay fed
- Amount of salt in feed
- Weight of horse

[2]**QUESTION 8**

- Lucern is higher in calcium
- Lucerne is higher in protein
- Lucern is more palatable

[3]

QUESTION 9

Hoof Wall: check for cracks in wall and ensure not growing over shoe (long toe)

Nails: all in place and not loose, clenches strong

Shoes: not loose and straight with not too much wear (smooth) and with enough room for expansion

[3]**QUESTION 10**

Capillary refill time less than 3 sec

Colour of mucous membrane pink

Heart rate/Pulse rate –28 – 40 bpm

Skin tent – less than 1 sec

[8]**QUESTION 11**

(Nostrils)

Nasal sinuses

(Pharynx)

Trachea

Bronchus

Bronchiole

Alveoli duct

Alveoli

[6]**QUESTION 12**

12.1 A string tied around the horses tongue

12.2 To stop dorsal displacement of the soft palate

[2]**QUESTION 13**

Pain

Exercise

Fever

[3]

80 marks

SECTION B**QUESTION 14**

Check teeth – so it can chew food efficiently without quidding
 Check deworming – so all nutrients are going to the horse
 Add oils to feed – horses digest fat efficiently and can extract large amounts of energy from fat without taking up bulk space in the digestive tract

[4]**QUESTION 15****Condition 1 – Colic**

SYMPTOMS: Sweating, rolling, pawing, looking at flank (3)

CAUSE: Dehydration (impaction), eating too soon after exercise, stress, abrupt change in feed, poor quality hay, worms, eating too much or too quickly at one time. (1)

Condition 2 – Laminitis

SYMPTOMS: leaning back stance (weight off fore feet), walking on egg shells/ reluctance to walk, heat over coronary band, pedal bone rotation and sinking. (3)

CAUSE: lush grazing, excess carbohydrates, chronic bute, concussion (overweight on hard surface) (1)

Condition 3 – Azoturia

SYMPTOM: sweating, muscle fasciculation/contractions (knotted hind quarters), reluctance to move, shows pain, myoglobinuria, (3)

CAUSE: EPSM (glycogen storage dysfunction), RER (genetic), work after a day's rest with no decrease in concentrates. (1)

[12]**QUESTION 16**

ADVANTAGE: Easy to handle/store, already balanced (vit and mineral), feed according to recommendations on bag, less dust if pelleted

DISADVANTAGE: one mix doesn't suit all horses (can't individualise each horse's feed), expensive, loose the art of feeding horses by adding supplements may unbalance the feed may contain allergen for specific horse

[6]**QUESTION 17**

17.1 Ingest larvae from field migrate into large intestine wall and encyst emerge as adults lay eggs (3)

17.2 Faecal float only shows eggs if adults are present and laying with cyathostomes there are times when there are only encysted larvae before they hatch as adults so there are worms but no eggs to detect on faecal. (1)

17.3 Panacur 5 days OR moxidectin once off (1)

17.4 Often no signs otherwise weight loss and bloody diarrhoea and colic after deworming adults die encysted larvae emerge releasing toxins that make horse ill (5)

[10]**QUESTION 18**

Increase daylight length
 Increase nutrition
 Increase warmth

[3]**QUESTION 19**

Mouth (teeth, tongue, lips pharynx)
 Oesophagus
 Cardiac sphincter
 Stomach
 Pyloric sphincter
 Small intestine
 Duodenum
 Jejunum
 Ileum
 Ileocaecal valve
 Hindgut/large intestine
 Caecum
 Large colon (RVC, sternal flexure, LVC, pelvic flexure, LDC, diaphragmatic flexure, RDC)
 Small colon
 Rectum

[15]**QUESTION 20**

- 20.1 Tendons connect muscle to bone. Ligaments connect bone to bone, and tendon to bone. (4)
- 20.2 20.2.1 Bowed or strained tendon (1)
- 20.2.2 They are at great risk due to the increased strain placed on the tendons, as there is entire weight bearing on one leg on landing after a jump or while galloping and there is overextension of the fetlock joint. Muscle fatigue can also increase the risk of tendon strain (2)
- 20.2.3 Cold hose or ice, stable rest and immobilisation with bandaging, anti-inflammatories. (3)
- 20.2.4 The more severe the injury the longer the recovery period about 12 – 15 months
- 20.2.5 Warm up and cool down properly, stretch exercises, tendon boots, muscle fitness and strength, hose legs after work (5)

20.2.6 No, when tendons heal, they heal with sub-strength, type 2 collagen fibres that are more prone to re-strain or damage in the future, as they have less stretch than the original fibres as a leisure horse it may be fine but as an event horse that puts strain on its tendons it would not be a wise buy due to high risk of restraint

(4)
[20]

70 marks

SECTION C**QUESTION 21****KNOWLEDGE:**

Health care 30

Anatomy 10 (see)

AHS is an Orbi virus.

Highly infectious, non-contagious, vector borne viral disease.

9 strains or serotypes.

Affects all equid species (horses, mules and donkeys) except zebra who are resistant.

Vector host is culicoides midge who likes wet warm conditions, is most active at sunrise and sunset. Two types: one won't enter a stable, the other will so need more protection than just stabling.

Causes respiratory and circulatory damage, accompanied by fever and loss of appetite.

Most prevalent in rainy, warm season (February and March).

Disappears with frost when midges die.

Midges found world-wide but virus only in SA this is why import/export is so strict.

Small area in the cape that is AHS free and this allows for quarantine and export. No vaccinations allowed in surrounding areas of this free zone.

Four forms: Lung (Dunkop), Heart (Dikkop), Mixed form and AHS fever.

Dunkop (lung)

- High fever (41 degrees)
- Respiratory distress – mouth open and head down
- Froth/foam discharge out nose
- Sudden death
- 90% mortality rate

Dikkop (heart)

- Fever followed by swelling of head and eyes
- Whole head may swell
- Loss of ability to swallow
- Colic symptoms due to oedema in gut lining
- Terminal signs of bleeding in mucous membranes of eye and mouth
- Slower onset of death (4 – 8 days from start of fever)
- 50% mortality rate

Mixed form

- Characterised by both symptoms

Fever form

- Mild
- Runs temperature
- Generally good prognosis

Diagnosis

- Diagnosis by blood tests (during fever stage)
- AHS is a controlled disease, owners are by law required to notify the local state veterinarian of any suspected cases.

Prevention

- Vaccinate (see details below)
- Ensure yard has no standing water puddles/wet muck heaps nearby
- Purple insect light by dam (away from stable) – don't want to attract to stables
- Inside at high risk periods (morning and evening)
- Cover windows with shade cloth (80%)
- Fans (to blow away midges who can't fly against high winds)
- Spray with insecticides (deet – tabard/peaceful sleep) – spray sick horse and others as it can transmit from viral horse to others.

MYTH: smoke drums, feeding garlic, moving to higher ground.

Vaccinations: where possible use a veterinarian to administer vaccination. Do not break the cold chain of the vaccination. Inject a healthy horse (TPR and appetite normal). Given subcutaneously. It is a series of two vaccinations done three weeks apart. Done between August and October (low vector activity), to give horse time to build up antibodies before peak season (March and April).

Treatment: involves symptomatic treatment and support.

50 marks
