



NATIONAL SENIOR CERTIFICATE EXAMINATION
NOVEMBER 2013

EQUINE STUDIES

Time: 3 hours

200 marks

PLEASE READ THE FOLLOWING INSTRUCTIONS CAREFULLY

1. This question paper consists of 12 pages. Please check that your question paper is complete.
 2. You are required to answer **all** the questions.
 3. All answers must be written in the Answer Book provided to you.
 4. Answers must be numbered exactly as the questions are numbered.
 5. Read the questions carefully.
 6. It is recommended that you spend approximately 1 hour on each section.
 7. It is in your own interest to write legibly and present your work neatly.
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SECTION A**QUESTION 1**

State whether the following statements are **True** or **False**.

- 1.1 A horse in moderate work should ingest 4% of its body weight in dry matter daily.
- 1.2 Adding oil to a horse's feed will allow for less concentrate to be fed and still meet the energy requirements of the horse.
- 1.3 Respiratory – locomotary coupling is only seen in the walk and trot.
- 1.4 Rabies affects the central nervous system of the horse.
- 1.5 Strangles vaccination is given once a year.
- 1.6 Horses should be dewormed every change of season.
- 1.7 The small intestine is 21 – 27 meters in length.
- 1.8 The **only** function of the pancreas is to excrete pancreatic enzymes into the small intestine to digest protein.
- 1.9 Food stays in the stomach for up to 6 hours before moving into the small intestine.
- 1.10 Selenium and vitamin E are important in muscle function.

[10]

QUESTION 2

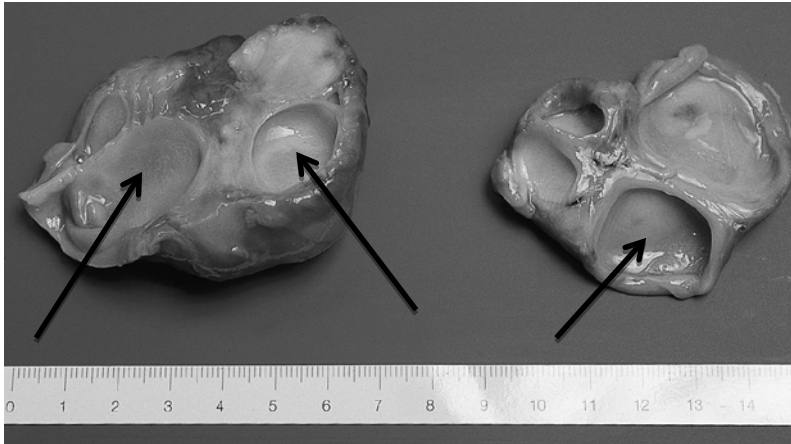
- 2.1 Which of the following represents the correct order of the parts through which spermatozoa pass?
 - A Testis → vas deferens → epididymis → ureter
 - B Vas deferens → seminal vesicles → ureter
 - C Testis → epididymis → vas deferens → urethra
 - D Vas deferens → prostate gland → urethra
- 2.2 The female equine reproductive system contains which of the following parts?
 - A uterus, vulva, fallopian tubes
 - B uterus, ovaries, urethra
 - C prostate, urethra, cervix
 - D ureter, fallopian tubes, cervix

- 2.3 The lining of the air passages is covered with
- A alveoli.
 - B mucous.
 - C numerous cilia.
 - D rings of cartilage.
- 2.4 Horses have the ability to relax in the standing position with little fatigue due to a stay mechanism present in both the fore and hind limbs.
Which one of the following is found in the fore limb?
- A rectus femoris muscle
 - B tarsal check ligaments
 - C biceps brachii muscle
 - D biceps femoris muscle
- 2.5 Arteries are responsible for carrying blood
- A to the heart.
 - B at a high pressure.
 - C which is deoxygenated.
 - D which is high in carbon dioxide.
- 2.6 What are three early signs of strangles in a horse?
- A sweating, runny nose, elevated temperature
 - B head held low, dull eye, runny nose
 - C elevated temperature, looking at the belly, dull eye
 - D swelling in the lymph nodes, runny nose, elevated temperature
- 2.7 When developing a feed ration for a mature gelding, the ratio of calcium to phosphorous should be
- A 2:1
 - B 5:2
 - C 5:1
 - D 8:1
- 2.8 What is quidding?
- A bolting of food
 - B excessive head tossing
 - C food falling from the mouth
 - D saliva dripping from the mouth
- 2.9 A foal is standing up on its toes.
This indicates
- A the splint bones are broken.
 - B the pedal bones are broken.
 - C excess tension in the deep digital flexor tendons.
 - D excess tension in the common digital extensor tendons.

2.10 Which one of the following statements is true?

- A Tendons connect bone to bone.
- B Ligaments have a protective sheath around them.
- C Tendons are used to transfer muscle energy to the skeleton.
- D Tendons and ligaments have exactly the same function in the equine.

2.11 The picture below is of a mare's ovary cut in half:



[From: Module EV2904, Equine Reproduction and the Management of Mares and Stallions, Darley]

The arrows are pointing to the

- A follicles.
- B corpus luteum.
- C corpus haemorrhagicum.
- D fimbriae.

2.12 The tetanus vaccine should be administered

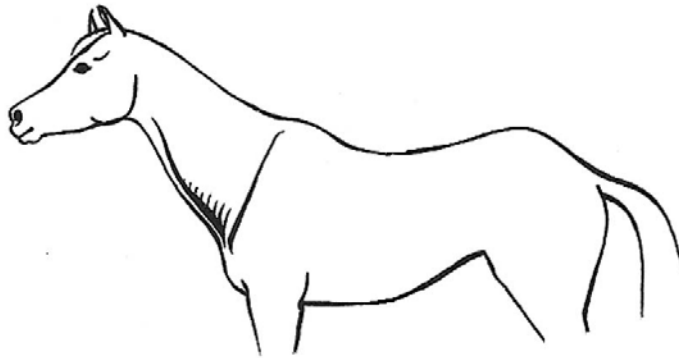
- A intravascularly.
- B subcutaneously.
- C intramuscularly.
- D orally.

2.13 A hook can appear on the back edge of the lateral incisor teeth at

- A 3 years of age.
- B 7 years of age.
- C 6 years of age.
- D 5 years of age.

2.14 Electrolytes are body salts lost in sweat.
An electrolyte replacement product must contain

- A vitamin B12, calcium and phosphorus.
- B chloride, sodium and potassium.
- C folic acid and amino acids.
- D None of the above.



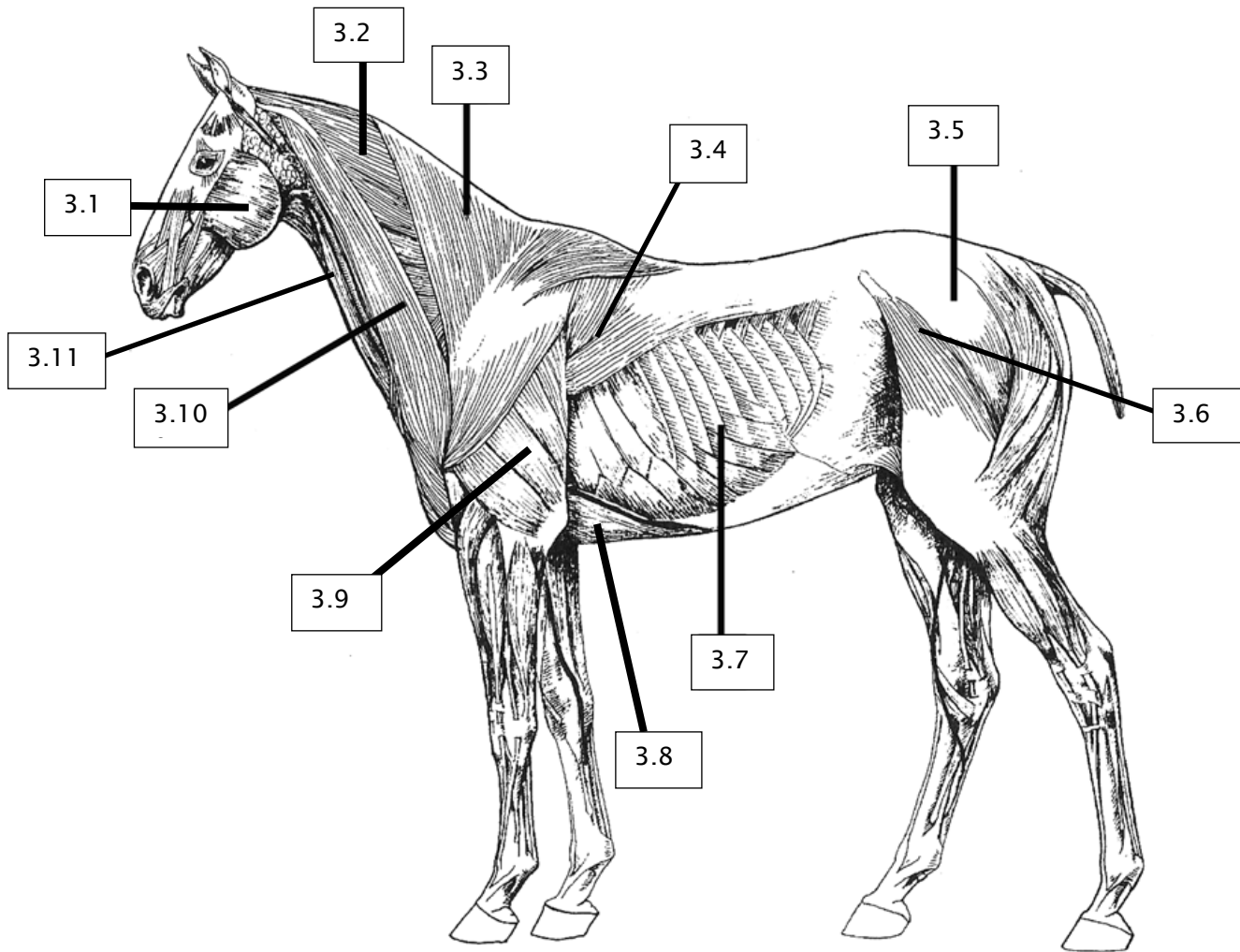
2.15 Which list best describes the conformation of this horse's head, neck and back?

- A dish face, ewe neck, goose rump
- B dish face, swan neck, roach back
- C Roman nose, ewe neck, roach back
- D Roman nose, swan neck, goose rump

[15]

QUESTION 3

Label the following muscles.

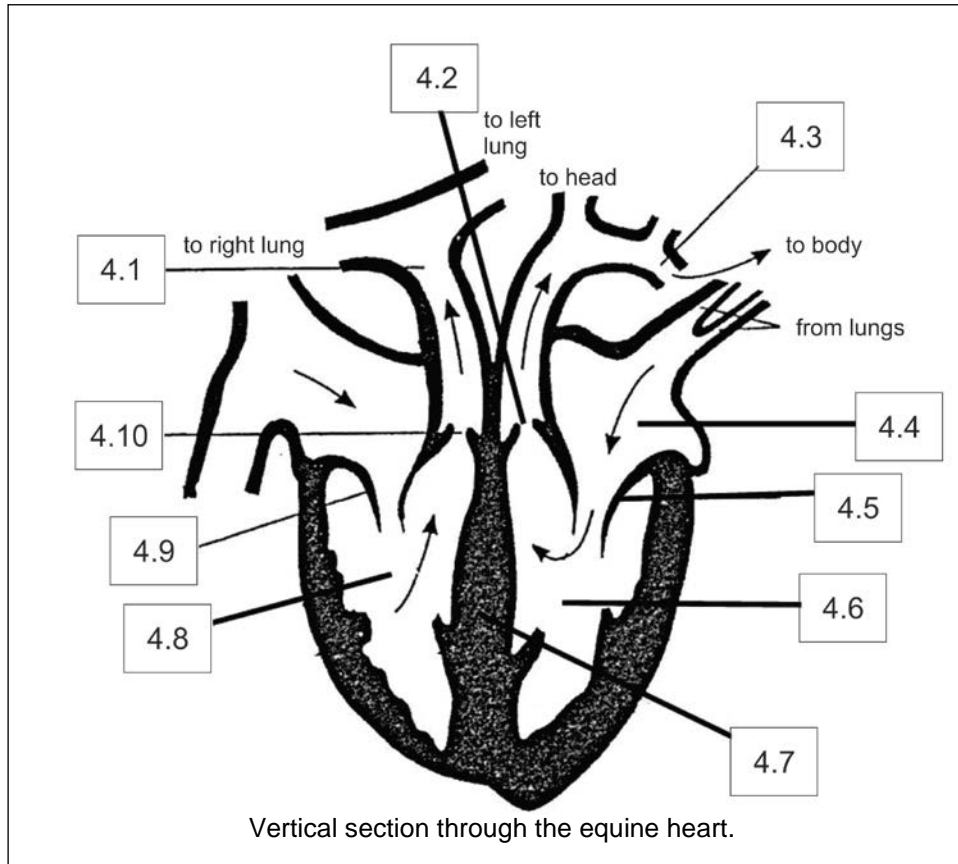


[<<http://www.vcaa.vic.edu.au>>]

[11]

QUESTION 4

Label the heart.



[Introduction to Horse Biology by Zoe Davies. Fig (7.2)]

[10]

QUESTION 5

Give the term used for the description below:

- 5.1 The appearance of an organism as a result of its genetic makeup.
- 5.2 When loss of water from the body is greater than the intake of water.
- 5.3 The process whereby the vulva of a mare is stitched up.
- 5.4 Cycle of the heart when the muscles are relaxed and the heart is filling with blood.

[4]

QUESTION 6

In relation to greasy heel, list the most important points when

- 6.1 treating a mild case.
- 6.2 treating an acute/severe case.
- 6.3 preventing greasy heel.

[3]

QUESTION 7

List **four** factors that may influence the water requirements of a paddocked thoroughbred gelding.

[2]

QUESTION 8

Describe **three** ways in which conventional pasture hay differs from Lucerne hay.

[3]

QUESTION 9

When checking a horse's shoes to determine if it is safe for the horse to compete, there are a number of signs to look for. For each of the areas below, identify one check that should be made.

- Hoof wall
- Nails
- Shoes

[3]

QUESTION 10

The circulatory system of a horse can determine its health status. Name **four** external tests relating to the circulatory system that can be used to assess a horse's health and state the normal range of measurements for each.

[8]

QUESTION 11

List **six** parts of the respiratory system through which air travels for oxygen to reach the blood.

[6]

QUESTION 12

12.1 What is a tongue tie?

12.2 When is a tongue tie used?

[2]

QUESTION 13

Identify **three** typical causes of an increase in the heart rate of a horse.

[3]

80 marks

SECTION B**QUESTION 14**

An aged dry mare tends to lose condition coming into winter. This mare is unable to eat any more bulk than she is presently getting.

Describe two health checks and **one** feeding strategy that is likely to assist the mare to maintain weight and explain why these strategies are likely to assist her in maintaining weight.

[4]**QUESTION 15**

The following are conditions that horses could experience in a commercial stable. For each condition, give **three** symptoms/indicators of the condition and **one** cause.

- Condition 1 – Colic
- Condition 2 – Laminitis
- Condition 3 – Azoturia

[12]**QUESTION 16**

A wide range of pre-mixed feeds is now available for horses. Describe the advantages and disadvantages of using pre-mixed feeds.

[6]**QUESTION 17**

Cyathostomes or small strongyles are worms of the horse that cause much concern for owners.

- 17.1 Describe the Cyathostome lifecycle. (3)
- 17.2 Why would a faecal float be of no use with Cyathostomes? (1)
- 17.3 Name one chemical dewormer that is effective against encysted cyathostomes. (1)
- 17.4 What signs can be seen with these worms and why does the horse sometimes only get ill after you have dewormed them? (5)

[10]

QUESTION 18

Horses are seasonal breeders. How do stud farms ensure they are already cycling by the time breeding season starts?

[3]**QUESTION 19**

Describe the **anatomical** passage of hay through the horses' digestive tract from the mouth until expulsion. No detail on the digestive processes is required.

[15]**QUESTION 20**

- 20.1 Compare the main difference in the connections that tendons and ligaments make. (4)
- 20.2 The horse pictured below pulled up lame after eventing. This picture was taken the day after the event. Study the picture and answer the questions that follow.



- 20.2.1 What is this horse suffering from? (1)
- 20.2.2 Evaluate why event horses are at a greater risk from this type of injury. (2)
- 20.2.3 How would you treat an acute injury of this nature? (3)
- 20.2.4 After an injury of this nature, how long before the horse could be returned to work? (1)
- 20.2.5 How would you prevent this type of injury? (5)
- 20.2.6 You are looking to buy an open event horse and came across one that had suffered from this type of injury in his past. Would you, in your opinion, consider buying him? Justify your answer with sound reasoning. (4)

[20]**70 marks**

SECTION C**QUESTION 21**

You have arrived at your yard to find your horse struggling to breathe with swollen occipital fossiae. The horse is running a fever of 40 degrees Celsius and is anorexic. On the gums and under the tongue there are small petechial haemorrhages.

Write an essay whereby you describe what condition your horse is suffering from and what causes this condition. You need to explain in detail the different types or forms of the disease that can occur, what organ systems they affect, symptoms seen and what their prognosis is. Discuss why this disease can affect import and export of horses. Lastly determine how you would prevent this disease in your yard.

Health care	30
Anatomy	10
Writing skills	10

[50]

50 marks

Total: 200 marks