FACULTY	**Health Sciences and Veterinary Medicine**		
DEPARTMENT	**School of Veterinary Medicine**		
SUBJECT	**Production Animal Clinical Studies IV**		
SUBJECT CODE	**V3831PP**		
DATE	**July 2023**		
DURATION	**3 hours**	**MARKS**	**150**

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This paper consists of eight (8) pages, including this front page.

Instructions

Read the questions carefully
Answer ALL questions
Write clearly and concisely
Pay attention to the questions, where asked to explain or discuss listing of keywords is not adequate

Second Opportunity Examination

Section A

QUESTION 1:



A four-year-old Swiss Braunvieh cow has hind limb ataxia and collapsed while being led. The hind-limb reflexes are still present.

a) Where do you expect a lesion causing these clinical signs? Why? (3)
b) Give two differential diagnoses of possible lesions. (2)
c) What could you do to come to a diagnosis? (3)

QUESTION 2:

What is the meaning of **hippus**? (1)

QUESTION 3:

a) What is the meaning of **nystagmus**? (1)
b) How does nystagmus help to determine the site of the lesion? (2)

QUESTION 4:

Which parts of the central nervous system are responsible for smooth coordinated voluntary limb movements? Which part has which function? (10)

QUESTION 5:

You are examining an animal with abnormal movement. How do you differentiate whether you are dealing with a neurological deficit or a musculoskeletal disease? (5)

QUESTION 6:

What is the function of the vestibular system? (3)

QUESTION 7:

A farmer was vaccinating very wild weaners which he bought on an auction. Some he had to catch in the neck-clamp to be able to inject them, others jumped on top of each other. Now he sees that one of them has a hanging front limb.

a) What are your differential diagnoses? (3)
b) How will you differentiate them? (3)



QUESTION 8:

Comment on the use of serology to diagnose thrombotic meningoencephalitis (TME) in cattle showing nervous signs. (2)

QUESTION 9:

On your client's farm the second calf with hydrocephalus is born today. Will it be helpful to draw blood from the neonate in order to arrive at a diagnosis whether this problem is caused by a teratogen virus? Motivate your answer. (2)

QUESTION 10:

What is the function of the musculoskeletal system? (5)

QUESTION 11:

Which of the following statements are **false**? (2)

a) Selenium, vitamin E and Sulphur-containing amino acids in the diet work synergistically to protect tissues against oxidative damage.
b) Diets deficient in vitamin E / Selenium permit widespread lipo-peroxidation, resulting in hyaline degeneration and calcification of muscle fibres.
c) Unaccustomed and excessive exercise can accelerate the oxidative processes and precipitate clinical signs.
d) Skeletal muscle (especially large hind limb muscles), diaphragm and cardiac muscle may be affected.
e) Skeletal muscle can regenerate.
f) Cardiac muscle heals by replacement fibrosis.
g) Vitamin E / Selenium is important in young, rapidly-growing calves (2-4 months)
h) Grain-fed yearling calves usually get sufficient vitamin E / Selenium in their diet.
i) Legume pastures, e.g. Lucerne are rich in Selenium.

QUESTION 12:

What are the clinical signs of rickets? (9)

QUESTION 13:

Compare **osteomalacia** and **osteoporosis** under the following topics (11)

a) Cause
b) Changes in the bone
c) Pain

QUESTION 14:

Usually vertical fissures of the claw just appear bad but does not have much clinical importance.

What will lead to significant clinical signs? (2)

QUESTION 15:

What are two lesions of the claw that may occur as a result of laminitis and where will you see this lesion? (6)

Section B

1	A 15-month-old Limousin heifer presents with anorexia and is obtunded. (Fig 1). It belongs to a semi intensive herd of mixed breed individuals living in close proximity with a group of domestic sheep. The rectal temperature is 41.5°C. There is marked photophobia, blepharospasm, and corneal opacity. There are slight mucopurulent ocular and nasal discharges. The muzzle is markedly hyperaemic with sloughing of the overlying epithelium which bleeds readily on contact. There is increased salivation and generalized peripheral lymphadenopathy. The heifer is hyperaesthesic to tactile stimuli, especially around the head. There are no skin lesions.  Fig 1	12
	a. What conditions would you consider? (Most likely first.) [6] b. What is your provisional diagnosis? [1] c. What laboratory tests could be undertaken to confirm your provisional diagnosis? [2] d. What prevention and control measures would you recommend for your provisional diagnosis? [3]	

2	A group of 40 housed 4–6-month-old Friesian heifer calves is presented with numerous 2–6 cm diameter skin lesions distributed over the whole body but especially the head and neck as shown in Fig 2a  Fig 2a The lesions are superficial, dry, white, scaly, and nonpruritic. The affected skin is not thickened. a. What conditions would you consider? (Most likely first.) [3] b. Which further tests could be undertaken? [5] c. What actions/treatments would you recommend? [5]	14
3	A farmer from Omuntele constituency in Oshikoto region lost 15 cattle due to severe diarrhea and most of the pregnant cows aborted last season and some gave birth to calves that he described as poor doers, comparing with the rest of the herd. He bought cattle from Grootfontein auction two (2) years ago and ever since then, he has suffered severe losses. From the history above, you suspect BVD-MD a.Describe how the farmer could have introduced the disease in Omuntele constituency and how the disease has been spreading within the herd. [5] b.Describe why the farmer could have lost more than 15 cattle due to severe diarrhea [5]	10

4	A one-year old healthy Friesian heifer weighing 100kg with a body condition score of 3/5 was presented to the Large Animal Unit of University Veterinary Hospital, Neudamm Campus. The owner complained of yellowish discharge around the left horn following dehorning. The heifer was dehorned one month earlier by its owner using a saw and the wound area was cauterized at the dehorned site with a hot iron. After two weeks, the owner observed that the wound did not heal properly. On physical examination A depression (1cm in diameter x 2cm in depth) was observed at the base of left horn, which had yellowish mucopurulent discharge (Fig 3a). There was swelling and pain with signs of vocalization on palpation of the wound area. The cow was also reluctant to move due to the discomfort while flies were observed perching on the wound.  Fig 4a a. What is your tentative diagnosis? [1] b. How will you manage this case? [6]	7

5.	A cow was presented to your Sate Veterinary Office with a history of necrosis of the left forequarter of the udder (Fig 5a). On examination, the affected left forequarter was swollen, cold, hard to touch, presented a bluish discoloration with presence of one rudimentary teat, foul smelling of the udder along with depression, inappetence from the last 10 days, the left rear and right front quarters were swollen, with substantial inflammation of the right rear quarter. The vitals of the cow were in the normal physiological range (temperature, respiratory rate, ruminations were normal). The owner reported that there was blood in the milk from last four days and the swelling had rapidly spread to all four quarters.  Fig 5a Left quarter of the affected udder showing bluish black discolouration a. What is your tentative diagnosis and give reasons for your answer? [3] b. Discuss treatment options available for this case. [8]	11
6a	List 3 of the most common clinically recognised renal disorders of the upper urinary tract in production animals excluding toxic nephrosis?	3
6b	Toxic nephrosis is a very common condition in ruminants. Discuss the causes of nephrosis (7) and the clinical signs associated with nephrosis [4]. What serum chemistry would you expect with a nephrosis? [7]	18
	END	