FACULTY	**Faculty of Health Sciences and Veterinary Medicine**		
DEPARTMENT	**School of Veterinary Medicine**		
SUBJECT	**Production Animal Clinical Studies III**		
SUBJECT CODE	**V3851PA**		
DATE	**May 2026**		
DURATION	**3 Hours**	**MARKS**	**150**

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This paper consists of seventeen (11) pages, including this front page.

Instructions

Read the questions carefully

Answer ALL questions

Write clearly and concisely

Pay attention to the questions. When asked to explain or discuss, a list of keywords alone is inadequate.

First Opportunity Examination

Section A

Question 1

Often, during postmortem examination, you do not see any gross lesion in the case of meningoencephalitis caused by *Listeria monocytogenes* infection. What do you expect to see in cases where macroscopic pathology is present? (5)

Question 2

What are the histopathologic findings in a case of thrombotic meningoencephalitis? (6)

Question 3

What postmortem findings will point to a case of botulism in cattle in an extensive farming system? (3)

Question 4

Your client has a three-year-old heifer in his dairy. She slipped and from then began limping severely in her hindquarter. You consider that it may be a dislocation of the hip joint. Describe your approach to aid in making a diagnosis. (14)

Question 5

Your client is breeding bulls. He started to feed them concentrate in August to get them into good condition for the auction. Now (nearly two weeks later), they seem to walk stiffly.

a) What is your most likely diagnosis? (1)
b) What will you do to solve the problem? (5)

Question 6

What is the scientific or veterinary term for the congenital foot abnormality in cattle where only one claw has developed on the foot (lay term: mule foot)? (1)

Which two cattle breeds are more prone to this defect? (2)

Question 7

You diagnosed sub-acute white muscle disease in a group of calves. Comment on the prognosis of this case. (3)

Question 8

In November, you are called to a farm with several lame or stiff cattle. What are your differential diagnoses? (5)

Question 9

You are called to treat a bovine with a hind limb fracture. What will influence your decision whether to treat the animal or advise slaughter? (6)

Question 10

You are examining a bovine with a condition affecting the nervous system. During your examination, you pull the animal's tail to one side and bring him out of balance.

What information can you gain from this action? (2)

Question 11

A cow grazing next to the road was bumped by a lorry while trying to cross the road. Now she is walking in circles to the left side. With further examination, you realize that the left eye is blind, although there is still a pupillary reflex. Where do you expect a lesion to be located? (2)

Question 12

The show bull for your client is getting halter-trained. He was tied up on the halter. When the owner came to check on his well-being, he saw the following signs:

- drooping of the ear and lip,
- ptosis of the upper eyelid on the right side,
- deviation of the nostrils to the left side,
- collection of food in the cheeks of the right side,
- or drooling from the right side of the mouth.

What is the most likely diagnosis? (2)

Question 13

Large animals that are recumbent because of spinal cord disease are usually bright and alert. What may be the reasons for them not to be alert? (4)

Question 14



Give two differential diagnoses for the problem on this cow's left front limb. (2)

Question 15

a) Which nerves of a cow are prone to trauma in cases of difficult calving due to a big calf? (2)
b) Which clinical signs do you expect to find? (3)
c) Which nerve of a big calf being pulled out of a cow in posterior presentation is prone to trauma? (1)
d) Which clinical signs do you expect to find? (3)

Question 16

How significant is the result if you draw blood from a (neonate) calf and find antibodies against a certain virus in the serum? (2)

Question 17

Although known teratogenic viruses may cause diverse diseases in **mature animals**, similar, if not identical, brain malformations may be induced by them in the **foetus**. What influences the different malformations that a virus will cause? (1)

Section B

Part I: MCQs (1 mark each = 15 marks)

Q1. Sheeppox and goatpox belong to the genus:
A. Orthopoxvirus
B. Avipoxvirus
C. Capripoxvirus
D. Parapoxvirus

Q2. Cowpox lesions are most often found on:
A. Teats and udder
B. Coronary band
C. Muzzle and lips
D. Perineum

Q3. Bovine papular stomatitis is caused by a:
A. Capripoxvirus
B. Parapoxvirus
C. Herpesvirus
D. Retrovirus

Q4. Pseudocowpox in cattle most commonly causes lesions on the:
A. Teats and udder of lactating cows
B. Muzzle
C. Distal limbs
D. Perineal region

Q5. Orf (contagious ecthyma) primarily affects:
A. Cattle
B. Sheep and goats
C. Horses
D. Pigs

Q6. Bovine herpes mammillitis (pseudo-lumpy skin disease) is caused by:
A. Bovine herpesvirus 1
B. Bovine herpesvirus 2
C. Bovine herpesvirus 4
D. Bovine papillomavirus 1

Q7. Dermatophilosis in cattle is caused by:
A. *Dermatophilus congolensis*
B. *Nocardia asteroides*
C. *Corynebacterium pseudotuberculosis*
D. *Mycobacterium bovis*

Q8. A classic predisposing factor for dermatophilosis is:
A. Dry, dusty conditions
B. Prolonged wetting of the skin and trauma
C. High dietary protein
D. Vaccination

Q9. Dermatophytosis in cattle is most commonly caused by:
A. *Trichophyton verrucosum*
B. *Microsporum canis*
C. *Aspergillus fumigatus*
D. *Candida albicans*

Q10. Infectious bovine keratoconjunctivitis is primarily associated with:
A. *Mycoplasma bovis*
B. *Moraxella bovis*
C. *Moraxella ovis*
D. *Chlamydia psittaci*

Q11. *Sarcoptes scabiei* in cattle primarily causes:
A. Deep burrowing mange with severe pruritus
B. Superficial tail-head mange
C. Follicular mange with nodules
D. No pruritus

Q12. Chorioptes bovis infestation is typically found on:
A. Head and neck
B. Tail head, perineum, and hind limbs
C. Muzzle and eyes
D. Generalized body

Q13. Demodex bovis lesions are best described as:
A. Ulcerative plaques on the teats
B. Firm nodules containing caseous material along the neck and shoulders
C. Moist, exudative dermatitis on the back
D. Crusting around the eyes

Q14. Which lice group is blood-sucking in cattle?
A. Mallophaga
B. Chewing lice
C. Anoplura
D. Tabanidae

Q15. Hypoderma bovis infestation typically leads to:
A. Mange lesions
B. Warbles (subcutaneous nodules) on the back
C. Footrot
D. Ulcers on teats

Part II Short answers [60]

1. A 3-year-old Holstein cow in Namibia presents with fever, a marked drop in milk yield, and multiple firm, round nodules (0.5–5 cm) on the neck, back, perineum, and udder. Some nodules are ulcerated, with "sit-fast" necrotic cores. Several in-contact cattle show similar lesions and enlarged superficial lymph nodes. The farmer reports a high number of biting flies and the recent introduction of cattle from a neighboring region.



Fig 1a



Fig 1b

Questions

a) What is your tentative diagnosis and causative agent? [1]
b) Most important differential diagnoses? [5]
c) Outline a treatment plan for affected animals. [3]

d) Highlight treatment [5] and control/prevention [5] measures on this farm? [10]

2. A 10-month-old feedlot steer is presented with a history of straining to urinate, dribbling small amounts of urine, and restlessness. On exam, the animal is tachycardic, shows signs of colic, and has a firm, painful swelling along the ventral abdomen and prepuce. The farmer has been feeding a high-grain diet with minimal roughage and no salt supplement.

Questions

a) From the history and the clinical presentation, what is your most likely diagnosis? [2]
b) Describe the underlying pathophysiology (why did this occur)? [4]
c) List your three important differentials [3]
d) What are your longer-term prevention strategies? [10]

3. A farmer in the Otjozondjupa Region reports that 10 of his 40 cattle have developed a sudden onset of profuse sweating, hyperemia of the muzzle and conjunctiva, and severe dermatitis with peeling of the skin in large sheets. The animals are febrile (40.5°C) and in severe pain. The farmer found numerous ticks on the animals – medium-sized, reddish-brown with banded legs.



Fig 3a

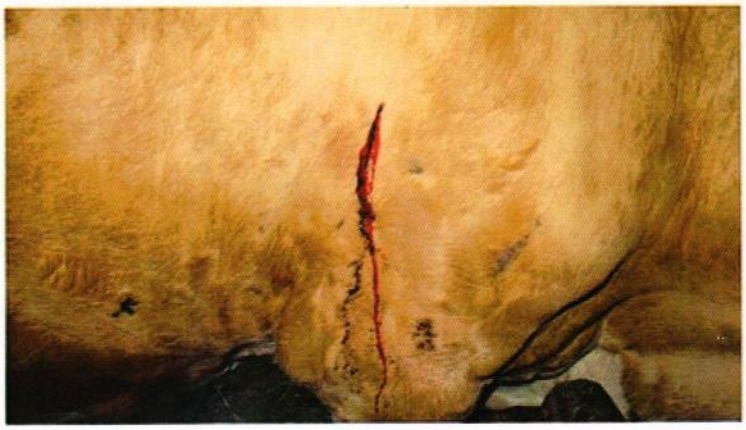


Fig 3b

Questions

a) What is the most likely diagnosis, and which tick species causes it? [2]
b) Why is this condition particularly important in Namibia? [1]
c) Describe your emergency treatment. [5]
d) How would you prevent this on the farm? [4]

4. During the dry season in the Khomas Region, you examine a 5-year-old cow with multiple bleeding nodules (2–5 mm in diameter) on the neck, shoulder, and back. The lesions ooze blood that dries into a crust. The animal is otherwise healthy. The farmer reports that lesions appear mainly in spring.



(a)



(b)

Fig 4

a) What is the most likely diagnosis, and name the parasite and its vector? [3]

b) Why does bleeding occur? [2]

d) How would you confirm the diagnosis? [3]

e) What treatment would you recommend? (2)

END OF EXAM