FACULTY	**Faculty of Health Sciences and Veterinary Medicine**		
DEPARTMENT	**School of Veterinary Medicine**		
SUBJECT	**Production Animal Clinical Studies III**		
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This paper consists of ten (10) 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

First Opportunity Examination

Section A

QUESTION 1

In which of the following conditions would you **NOT** expect the animal to have a stiff gate? (1)

a) aphosphorosis
b) rickets
c) *Crotalaria* poisoning
d) osteomalacia
e) osteoporosis
f) fluorosis
g) bovine ephemeral fever
h) polyarthritis

QUESTION 2

Which of the following statements concerning *Ehrlichia ruminantium* are wrong? (3)

a) Organisms can often be found in morulas.
b) Organisms can often be found in the cytoplasm of endothelial cells.
c) Colonies of organisms can vary in size.
d) The size of *E ruminantium* granules can vary in smears from the same animal.
e) The size of *E ruminantium* granules can vary between colonies on the same smear.
f) The size of *E ruminantium* granules are usually uniform within a particular colony.
g) Generally, small-sized organisms are found in larger colonies and vice versa.
h) The smaller organisms are usually referred to as *elementary bodies* and are the proliferative stage
i) The larger organisms are usually referred to as *reticulated bodies* and represent the infective stage,
j) The medium seized organisms are usually referred to as *intermediate bodies*.
k) In case of heartwater the amount of effusion seen, particularly in body cavities, is not necessarily proportionate to the concentration of parasitic colonies detected.
l) Serodiagnosis may show a false positive result.

QUESTION 3

Which of the following statements are false concerning *Listeria monocytogenes:* (2)

a) *Listeria monocytogenes* is gram-negative,
b) non-acid-fast,
c) non-spore forming,
d) short, rod-shaped bacteria.
e) The organism may withstand low temperature pasteurization of milk.
f) It is not tolerant to freezing.
g) It may be found in dairy products in which it constitutes a danger to human health.
h) Healthy sheep and goats may be subclinical carriers of *L. monocytogenes.*
i) Poor quality silage (pH > 5.5) have been associated with outbreaks of listeriosis.
j) *L. monocytogenes* is an intracellular organism.

QUESTION 4

Which statement is false concerning **meningoencephalitis**? (1)

Affected animals

a) are depressed.
b) walk in circles.
c) show in coordination,
d) often show tilting of the head
e) show evidence of unilateral facial nerve paralysis characterized by drooping of the lips, ears and eyelids,
f) often show central blindness
g) show paralysis of the muscles of the jaw and pharynx which interferes with mastication and swallowing.
h) Have sometimes impaired respiration.

QUESTION 5

Is serum of a neonate calf helpful to make a diagnosis of a viral disease?

Motivate your answer. (4)

QUESTION 6

What are the two most important **foetal factors** determining the teratogenic effect of a viral infection? (2)

QUESTION 7

Why are ruminants prone to develop foetal teratology if the mother was affected by a virus during the first trimester of pregnancy? (3)

QUESTION 8

You examine a disease outbreak in a feedlot. Several steers show nervous signs, one is paralysed and one died. You suspect *Stenocarpella maydis* (=Diplodia maydis) toxicity.

Which part of the brain will you send for histopathology? (1)

What histopathologic changes would you expect if your diagnosis is correct? (2)

QUESTION 9

Calves kept at home when the cows went out to pasture are showing nervous signs typical for lead poisoning. They were able to go to the scrapyard where old car batteries are lying around. Therefore you decide to treat them for lead poisoning. What treatment will you give? (6)

QUESTION 10

Why are heartwater cases in Namibia less severe than in South Africa? (4)

QUESTION 11

Name two diseases where damage to vascular epithelium plays an important role in the pathogenesis. (2)

QUESTION 12

Your client is telling you that he is injecting his cows every three month with vitamin A. He is injecting 2 ml as instructed on the bottle. No dose is given for calves. He wants to know whether he can inject his calves with the same dose, because he sets the syringe on 2 ml. Therefore it is easier to inject all the animals with same amount. What will you advise the farmer? Motivate your answer. (3)

QUESTION 13

A farmer phones you because his heifer calf fractured her front leg. He cannot get the calf to a veterinarian. What will you advise him to do? (7)

QUESTION 14

What is the cause of nutritional muscular dystrophy in cattle, also known as white muscle disease? (1)

Which cattle on the farm are mostly affected? (2)

Which syndromes are known? (3)

QUESTION 15

What problems do you expect with poor conformation manifested by an abnormal "pastern to ground angle"? (2)

QUESTION 16

A farmer has already had three cases of septic arthritis in his recently born calves. What should he do to prevent more cases in the calves which will be born soon? (2)

QUESTION 17

You are called to examine a two year old heifer with hind limb lameness. You suspect coxo-femoral luxation.

Which clinical signs will you look for to confirm your diagnosis? (9)

QUESTION 18

Which of the following statements are false concerning botulism caused by *Clostridium botulinum*? (2)

a) Botulism is caused by the ingestion of the strict anaerobe *Clostridium botulinum* bacteria.
b) The disease is most common in ruminants, horses, water birds and humans.
c) The disease is characterized by paresis and progressive paralysis of the skeletal muscles.
d) The toxins are moderately resistant to enzymic proteolysis under natural conditions but can be destroyed by heating to 80°C for 10 minutes.
e) Glutaldehyde will kill the spores slowly.
f) The organism is commonly found in soil, vegetation and occasionally in the intestinal contents of mammals, fish and birds.
g) The most common sources of toxin for livestock, include carcass material in the veld, hay, silage, chicken litter and water.
h) In ruminants cases of sporadic botulism usually occur in areas where phosphate deficient vegetation/soils induce pica.
i) Small animal carcasses, especially tortoise carcasses can remain toxic for up to one month or less.

QUESTION 19

a) Which findings on a post mortem would support a diagnosis of botulism. (4)
b) What samples will you take to confirm your diagnosis? (6)

QUESTION 20

You helped to pull out a calf in a dystocia case. The cow struggles to get up and you diagnose problems with the obturator nerve. What will you do to prevent further complications? (3)

Section B

1	A 15-month-old Limousin heifer presents with anorexia and is obtunded as shown in (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 hyperaesthetic to tactile stimuli, especially around the head. There are no skin lesions.  Fig 1	12
	a. What conditions would you consider and state your provisional diagnosis? [6] b. What laboratory tests could be undertaken to confirm your provisional diagnosis? [3] c. What prevention and control measures would you recommend? [3]	

2	A one-year old healthy Friesian heifer weighing 250kg 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 as shown in Fig 2.. 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 2a	7
	a. What is your tentative diagnosis? [1] b. How will you manage this case? [6]	

3	A 6-year-old beef cow presents with 2 weeks' history of poor appetite and weight loss. The cow calved 2 months ago. The rectal temperature is 39.2°C. The ocular and oral mucous membranes are slightly pale. The heart rate is 70 beats per minute. The respiratory rate is 24 breaths per minute with no abnormal sounds detected on auscultation of the chest. The ruminal contractions are reduced in strength and frequency. The cow is passing normal faeces. The cow makes frequent attempts to urinate but only a small amount of urine is voided which contains some flecks of blood and a small amount of pus. The cow resents rectal palpation, which reveals thickened bladder wall and ureters a. What conditions would you consider? [7] a. What is your tentative diagnosis? [1] b. How could you confirm your provisional diagnosis? [7] c. What is the prognosis? [1] d. What treatment would you recommend [2]	18
4	An 18-month-old homebred ram presents with a large firm subcutaneous swelling below the angle of the right mandible, shown in Fig 4 which has been noted by the farmer for the past 2 weeks. The swelling has not reduced in size despite 4 consecutive days' treatment with procaine penicillin. Inspection reveals no skin lesions in other rams in the group. On Fine needle aspiration a pasty thick yellow-green pus with a foul odour is withdrawn from the lesion. You have confirmed Caseous lymphadenitis, a chronic and subclinical disease of sheep and goat  Fig 4 **a.** What would you do to help this farmer? (Treatment and control measures) [10] b.What is the economic importance of this condition in small stock? [4]	14

5	A 5-year old, approximately 500 kg Cross-breed Holstein (from a dairy with 185 cows) cow was referred to the Department of Production Animal Clinical Studies, School of Veterinary Medicine, UNAM, for the treatment of a multiple large, ulcerated and hemorrhagic masses at the left side of the neck in vicinity of the jugular furrow (Fig 5a), on the tongue (Fig 5b) and on the chest (Fig 5c). The size of the masses range in size. History indicated that the condition began three months previously as a small, walnut-size swellings that gradually enlarged over this period.  Fig 5a  Fig 5b  Fig 5c a. What is your likely diagnosis (why) and state the causative agent [3] b. Briefly discuss treatment options that are available and highlight precautionary measures to be taken to prevent toxicity with the use of some of the drugs of choice [6]	9
6	a. Define the term "skin allergy" in the context of cattle health and provide examples of common allergens that affect cattle	6
	b. Discuss the principles of management and treatment of skin allergies in cattle	9
	END OF EXAMINATION	