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

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This paper consists of eleven (11) 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 parts / organs / tissues does BSE (Bovine spongiform encephalopathy) cause pathology? (3)

QUESTION 2

Your client imported a two-and-a- half to three-year-old bull from South Africa, the bull was fed with several other bulls to round him off for the auction where your client bought him. Within a week of arriving in Namibia the bull had a high fever (up to 41,8ºC) and was very depressed. Nervous signs then manifested including muscle tremors, circling, ataxia, paresis, paralysis and paddling movements. Within a day the bull became comatose and died.

The bull was insured and your client called you to do a post mortem. At necropsy you found several dark reddish-brown patches in the brain. The diameters of these patches were half to three centimetres in diameter. They were in the grey and white matter in the brain and in the spinal cord.

What is your diagnosis? (2)

QUESTION 3

A farmer used elastrator bands for castration of his calves. Several calves were already five to six-month-old and the elastrator band did not work properly. Now there are three calves with elastrator bands on their swollen testes and they are walking stiffly. One calf died and another is recumbent showing typical tetanus symptoms. The farmer calls you to prevent further losses.

How will you handle the case? (5)

QUESTION 4

A farmer phones you to report that his cow is constipated. It is the second day and she is getting weaker. She is falling and does not manage to get up. She is not eating and seems to be nauseous because she has saliva running out of her mouth.You come the next day to the farm and the cow is dead. You do a post mortem and do not find any gross pathology.

What is the most likely diagnosis? (1)

QUESTION 5:

What happens if a pregnant cow gets infected with *Leptospira monocytogenes* and the bacteria reaches the uterus? (7)

QUESTION 6:

A bull is recumbent. You diagnose a spinal cord problem at the second thoracic vertebra where he hurt himself when he was entrapped under a pole in the crush. With this lesion you expect the bull to be alert; but he seems quite depressed and apathetic.

What may be the cause of this? (4)

QUESTION 7:

The old bull started a fight with the young bull which was bought at the auction recently. Now the new bull is depressed and walks in circles to the left. You do a clinical examination and realize that the young bull is blind in the right eye. If you shine a light into the eye, the pupil contracts.

a) Where do you expect the lesion to be? (2)
b) Motivate your answer. (4)

QUESTION 8:

The farmer has a case of dystocia in a heifer. He pulled out the big calf with force. But now the heifer is struggling to get up on her hind limbs.

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

QUESTION 9:

Your client has a problem with Brahman cattle which are getting prepared for the upcoming agricultural show walking with a stiff gait. There are some dairy cattle on the farm with the same problem.

a) What is your most likely diagnosis? (1)

b) Give two differential diagnoses. (2)

c) What would you do to prevent the problem in the cattle which are getting prepared for the upcoming agricultural show an also in the dairy herd? (10)

QUESTION 10:

What is the most likely diagnosis in each of the following bovines? In both cases the right hind limb does not take weight properly. (2)

Motivate your answer. (2)

a) Bovine one:



(i) Diagnosis?

(ii) Motivation?

b) Bovine two:



(i) Diagnosis?

(ii) Motivation?

QUESTION 11:

A Brahman heifer that calved recently is struggling to walk. It seems that her hind legs do not want to bend. But if she manages to walk a few strides she starts to walk nearly normally and you can hardly see any problem. However, usually after standing the trouble starts again.

(a) What is the most likely diagnosis? (1)

(b) What will you do to allow her to raise her calf? (1)

(c) If she manages to walk normally because of what you did (question (b) above) what will your advice be to the farmer? Why? (2)

QUESTION 12:

Which statements are wrong concerning Bovine Ephemeral Fever (BEF)? (3)

a) The virus does survive for long periods outside its vertebrate or invertebrate host
b) The virus is rapidly inactivated by the high concentrations of lactic acid which develops in the muscles of cattle after death.
c) Fomites, body discharges or tissues play an important part in the transmission of BEF.
d) There is evidence of antigenic or immunogenic diversity within the BEF virus population.
e) RSA and Namibia do have BEF especially in good rainy seasons and near open water.
f) In general, one attack of BEF confers life-long immunity.
g) In Africa serological evidence of BEF virus has been found in a number of species of free-living ruminants.
h) BEF virus is contained in the leukocyte fraction of the blood during fever
i) Pulmonary and subcutaneous emphysema is seen in a small number of BEF cases.

QUESTION 13

Which bovines on a farm are most susceptible to Blackquarter? (4)

QUESTION 14:

Omphalophlebitis is a predisposing factor to polyarthritis in calves. Give three differential diagnoses to omphalophlebitis and how you would differentiate them. (6)

QUESTION 15

You are examining a lame heifer. You looked at the heifer walking and suspect the problem is originating in one of the claws of the left hind limb. How will you go about performing the clinical examination in order to come to a diagnosis?
(7)

Section B

1	A group of 40 housed 4–6-month-old Freisian heifer calves is presented with numerous 2–6 cm diameter skin lesions distributed over the whole body but especially on the head and neck as shown in Fig 1a  Fig 1a The lesions are superficial, dry, white, scaly, and non-pruritic. The affected skin is not thickened. a. What conditions would you consider? (Most likely first.) [3] b. Which further tests could be undertaken? [4] c. What actions/treatments would you recommend? [5] d. Are there any special concerns? [1]	13

2	You received a call from a farmer based in Gobabis whose 2-month-old calf has just died and they have several other calves of the same age presenting with swollen joints, anorexia and weakness. He managed to send pictures of the sick calves and from the post mortem done by the assistant at the farm. See Figs 2a - 2d below  Fig 2a  Fig2b  Fig 2c  Fig 2d a.Discuss the pathogenesis of the polyarthritis in these calves. [5] b.Outline how abnormalities of the umbilicus and umbilical remnants including the urachus might predispose to urinary tract infections in calves [5]	10

3a	Bovine farcy is a chronic granulomatous inflammation of the skin lymphatics and draining lymph nodes of cattle. Little is known about this disease but Governments in Africa believe that bovine farcy is responsible for certain economic losses. Discuss why little attention has been paid to this disease (3). Highlight its economic importance [3]	6
3b	Discuss the veterinary Importance of *Hypoderma lineatum* also commonly called the Warble fly	5
4	A few animals in the herd have presented with skin lesions confined to the non-pigmented areas as shown in the pictures below in Fig 4a and Fig 4b. The affected skin is dry and raised at the periphery from normal healthy pigmented skin. On cows, the skin of the teats appears dry and 'papery'. The farmer also reports that these animals often have a red nose during the summer. A blood sample was taken for complete blood count and serum biochemistry analyses and results are shown below. Table 1	12

Parameter	**Result**	**Reference Value**
PCV	0.22L/L	0.24-0.46 L/L
Icteric index	50 Units	< 15 Units
Total bilirubin	178.4 µmol/L	1.7-27.2 µmol/L
Conjugated bilirubin	108.2 µmol/L	<10.2 µmol/L
y-GT	407 U/L	<25 U/L



Fig 4a



Fig 4b

a. What conditions would you consider? (Most likely first.) [2]
b.What are the possible causes? [6]
c.What advice would you offer for management and prevention? [4]

5	A group of beef cattle presents with 4 weeks' history of pruritus and extensive hair loss especially over the shoulder, neck, and ears as shown in the picture below in Fig 5a. The cattle are frequently observed rubbing against walls and fence posts.  Fig 5a a.What conditions would you consider?[4] b.Which further tests could be undertaken?[4] c.What actions/treatments would you recommend? [5] d.Are there any consequences of this problem? [2]	15

6	A 9-month-old (340 kg) Holstein bull, which has been dull and inappetant for the past 2 days, presents with a large swelling of the ventral abdomen which extends from the scrotum to the prepuce as shown in Fig 6a. The bull often adopts a wide stance with the hindlimbs placed further back than normal. There is frequent bruxism (teeth grinding). The rectal temperature is 38.5°C. The bull stands with the tail head raised and shows frequent tail swishing but only a few drops of urine rather than a continuous flow are voided. The drops of urine are slightly blood-tinged. There are numerous calculi on the preputial hairs. The swelling of the ventral abdominal wall pits under pressure.  Fig 6a a.What conditions would you consider? [5] b.What further clinical examinations should be undertaken? [2] c.What control measures could be adopted? [7]	14
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