FACULTY	**Faculty of Health Sciences and Veterinary Medicine**		
DEPARTMENT	**School of Veterinary Medicine**		
SUBJECT	**Production Animal Clinical Studies III**		
SUBJECT CODE	**V3851PA**		
DATE	**June 2025**		
DURATION	**3 Hours**	**MARKS**	**150**

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This paper consists of nine (9) 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

List the three most common means of disease transmission of *Histophilus somni* in cattle. (3)

QUESTION 2

In a group of forty steers, which were bought at an auction last month, two showed **nervous signs** yesterday. One of them died and the other is recumbent. You are going out to examine the case. You suspect that it is caused by *Histophilus somni*.

What histological findings do you expect if your presumptive diagnosis is correct? (5)

QUESTION 3

A farmer called you because several cattle died. After doing your first investigations you suspect that this is an outbreak of botulism. It is impossible to send samples to the laboratory. What else may help you to support your diagnosis? (7)

QUESTION 4

The farmer had a cow with dystocia. He pulled out a very big calf. Now the cow shows **hindlimb weakness** with a **dropped hock** and **knuckling of the fetlock**. Damage to which nerve will cause these clinical signs after the dystocia? (1)

QUESTION 5

How do you diagnose a **sacroiliac luxation?** (2)

QUESTION 6

What are the causes of interdigital hyperplasia? (3)

QUESTION 7

When trimming the bovine claw during examination of the foot, you find red haemorrhagic areas on the sole.

Give two differential diagnoses. How will you differentiate between them? (4)

QUESTION 8

What **lesion** will you find **on post mortem** in the locomotory form of vitamin E / Selenium deficiency? (2)

Where in the body may you find the lesion especially in calves? (4)

Which pathologic changes will you see on **histopathology** with Vitamin E / Se deficiency? (2)

QUESTION 9

What are the advantages and disadvantages of slaughtering a cow with a fractured leg? (5)

QUESTION 10

The six and a half year old bull is suddenly struggling to rise and is hesitant to mount the cows. Now he even is dragging the digits with the dorsum of the fetlock on the ground.

What is the most likely diagnosis? (1)

QUESTION 11

Which statements are wrong concerning Bovine Ephemeral Fever (BEF)? (2)

a) The virus does **not survive long 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 12

What is the cause of rickets? (3)

What clinical signs do you expect amongst animals suffering from rickets? (9)

QUESTION 13

With which diseases is *Amblyomma hebraeum* (the tropical bont tick) associated? (2)

QUESTION 14

With which diseases is *Amblyomma variegatum* (the tropical bont tick) associated? (4)

QUESTION 15

You were called to treat a young ox with nervous signs. When you arrive the animal has died already. You suspect that this may be a case of **heartwater** .

What is the cause of this disease? (1)

How will you make a definite diagnosis? (5)

QUESTION 16

Give two reasons why serological tests for heartwater may show false positive results. (2)

QUESTION 17

Under what circumstances does **urea poisoning** occur? In each case explain how this leads to poisoning. (8)

Section B

1	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 1a  Fig 1a 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? [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 months old calf has just died and has 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 (2). Highlight its economic importance [3]	6
3b	Discuss the veterinary importance of *Hypoderma lineatum* also commonly called the Warble fly	5
4	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.	12

Table 1

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

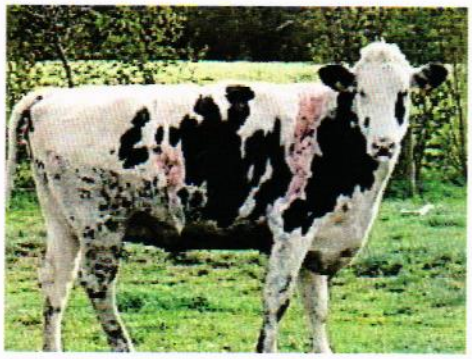
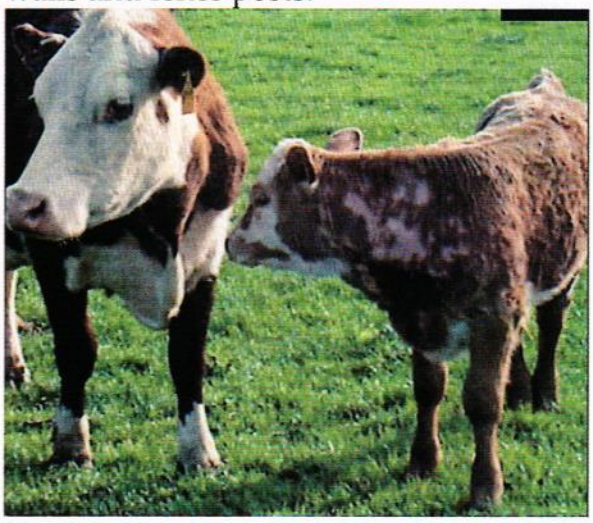


Fig 4a



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 thehindlimbs 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 continous 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
	END OF EXAMINATION	