FACULTY	FACULTY OF HEALTH SCIENCES & VETERINARY MEDICINE		
SCHOOL	VETERINARY MEDICINE		
DEPARTMENT	VETERINARY PARA-CLINICAL STUDIES		
SUBJECT	SYSTEMIC PATHOLOGY		
SUBJECT CODE	V3803AS		
DATE	NOVEMBER 2024		
DURATION		**MARKS**	150

FIRST OPPORTUNITY EXAMINATION

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Internal Moderator: Prof Charles Ntahonshikira

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This Exam paper consists of 10 (teen) pages including this front page.

QUESTION 1. **[10]**

The photomicrographs below are from an 8-year-old Husky. The owner reported that the dog was anorexic, lethargic, vomiting, diarrheoa with haematochezia, polydipsic and polyuric. The dog eventually died and was brought for postmortem.

A



B



a. Describe the lesions that you can see in photomicrographs A and B. [4]

b. Give the diagnosis of the condition in photomicrograph **A**. [1]

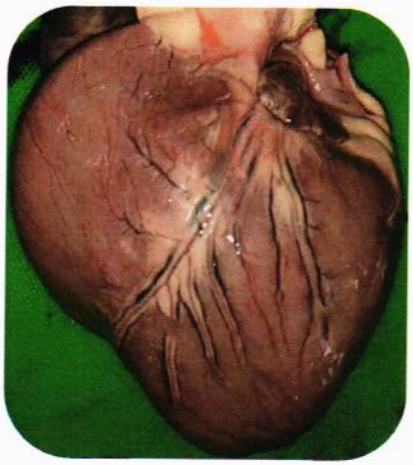
c. Explain how the lesion in photomicrograph **B** developed. [3]

d. List two other tissues and the type of lesion where the lesion shown in photomicrograph B can also develop. [2]

QUESTION 2. **[20]**

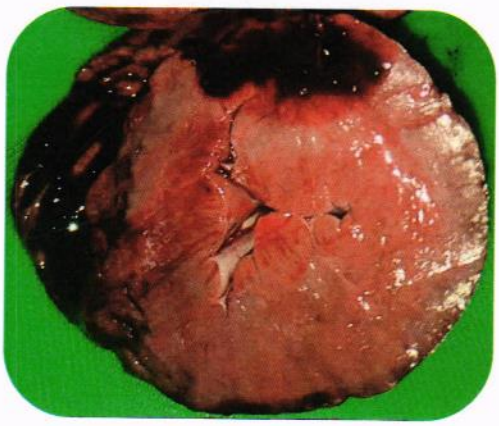
The two (2) photographs **A** and **B** below are from a 2-year-old female Boerboel that collapsed and died suddenly after showing clinical signs that are indicative of heart failure.

A



Neudamm, 2023

B



Neudamm, 2023

a. Describe the significant gross pathological findings as shown in photograph A and B above. [3]

Photograph A

Photograph B

b. Name the side of the heart that is mostly affected. [1]

c. Give the morphological diagnosis as shown in photomicrograph **B.** [1]

d. Discuss the possible causes of such a lesion in dogs. [5]

e. Discuss the pathogenesis of how such a lesion can eventually lead to congestive heart failure. [10]

QUESTION 3 **[20]**

During your pathology rotation, you are presented with a carcass of a dog that has bitten a child. Prior to biting the child, the dog is reported to have displayed an aggressive behaviour, hypersalivation and biting of strange objects.

a. What is the probable disease that this dog was suffering from? [1]

b. Describe how you should collect samples for the suspected disease above to confirm your diagnosis. Specify the type of laboratory tests that you should ask to confirm the diagnosis. For each sample type indicate the transport media that you should use and name at least 8 histopathological findings that you expect for a positive case. [14]

c. Discuss any species differences in the samples that you will collect if the suspected diseased animal was a horse or a cow. [3]

d. Discuss any scenario where the histopathological tests may show a misleading result on the key diagnostic feature. [2]

QUESTION 4. **[6]**

The photomicrograph below is from a lamb in a flock where several lambs were exhibiting some neurological symptoms accompanied with unthriftness, diarrheoa and sudden death



Pathological Basis Veterinary Diseases (2006), 5th Ed., Mosby-Elsevier

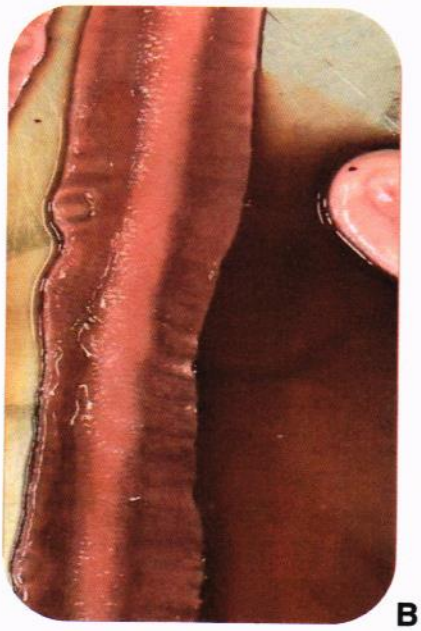
a. Describe the lesion shown by the arrows. [1]
b. Name the bacterial disease where this lesion is common. [1]
c. Describe how the gross pathological findings in this disease develop. [4]

QUESTION 5 **[14 Marks]**

The pictures below are from a 5-month-old puppy that was presented to the postmortem hall at Neudamm. It had died after showing some the following symptoms: lethargy, anorexia, vomiting, fever and dehydration.



A



B



C

a. Describe the pathological lesions shown in the images labeled A-C, respectively. [3]
b. Give one most likely diagnosis of this disease and its etiological agent [1]

c. List 4 other systems that can be affected by this disease and describe the type of lesions caused in these systems. [4]

d. List the samples that you will collect, describe how you will preserve the samples and the tests that you will request. [6]

QUESTION 6

[10]

As a practicing veterinarian, you are presented with an intact male dog that has a history of infertility. On physical examination, you notice that it has only one testis in the scrotum. You conduct surgery and remove the contralateral testis in the abdominal cavity.

a. What condition would you suspect? [2]
b. Describe the gross features you would see in the contralateral testis. [4]

c. Describe the pathogenesis for this condition. [4]

QUESTION 7

[10]

Answer the following questions about testicular tumors dogs.

a. Name three important testicular tumors common in dogs. [3]
b. Name the tumor that appears lobulated, large and firm to hard. [1]

c. Name the testicular tumor that causes feminization in dogs. [1]

d. Describe the sequelae and pathogenesis for feminization of the tumor in c above [5]

QUESTION 8

[15]

PART A

[4]

I. Briefly describe the causes of hyperadrenocorticism.

Part B

[6]

As a practicing veterinarian, you are presented with a dog that had a history of chronic renal failure. On physical examination, you notice the following (as shown in the picture). Examine the gross picture carefully and answer the following questions:



a. Describe the gross lesions seen on the picture. [1]

b. What would be your morphological diagnosis based on the picture? [1]
c. Describe the pathogenesis of the condition (based on the clinical history) [2]
d. Name two other causes of the condition [2]

Part C [5]

Define "osteoporosis", give its main causes, and describe its pathological features:

a. Definition [1]
b. Causes [2]
c. Gross features [2]

QUESTION 9 **[15]**

PART A [5]

Define **any five (5)** of the following terms:

i. Macule [1]
ii. Lichenification [1]
iii. Ulcer [1]
iv. Callus [1]
v. Clefts [1]

PART B [10]

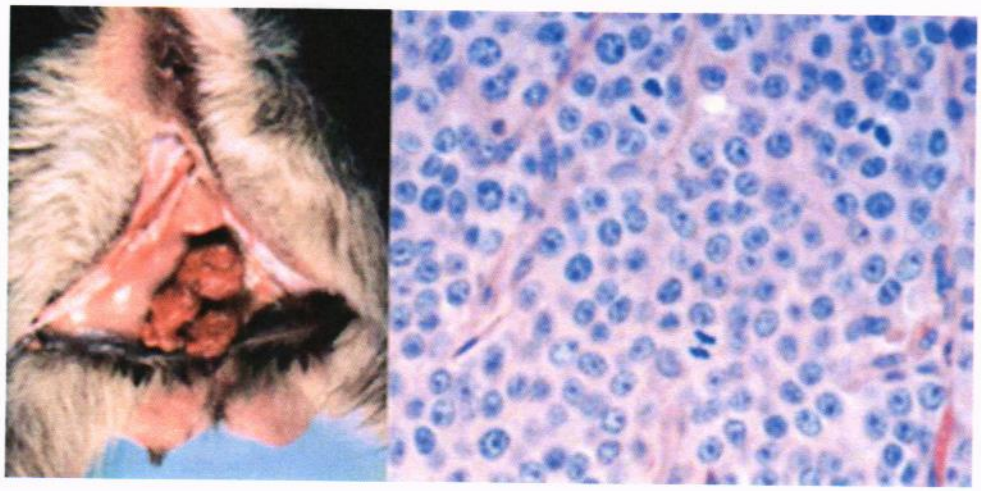
Write short notes on the following:

i. Describe the pathogenesis of Dermatophilosis. [5]
ii. Describe the pathological features of squamous cell carcinoma [5]

QUESTION 10 **[10]**

PART A [5]

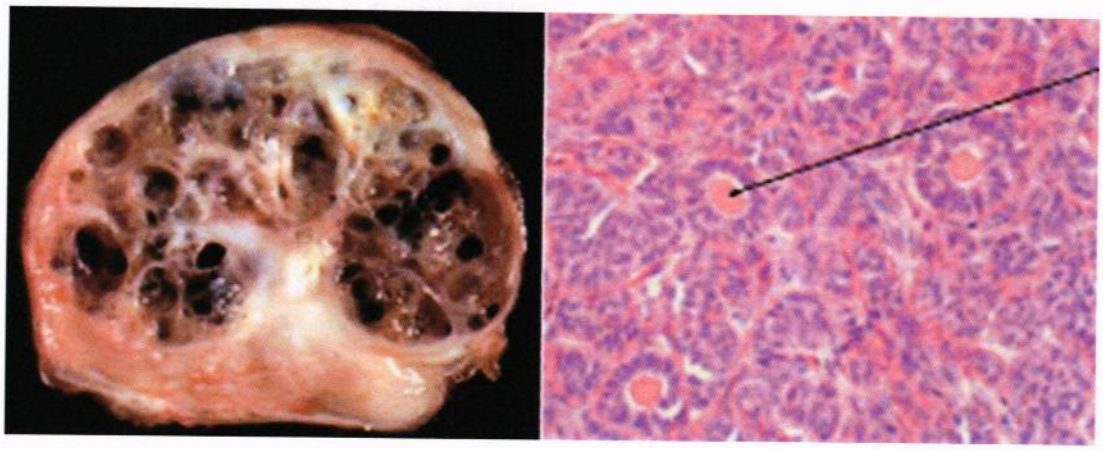
The picture below was taken from a female dog that was presented to a veterinary clinic in Windhoek. After physical examination of the vagina, a biopsy was collected for histopathology. Carefully examine the gross picture and the photomicrograph below and answer the following questions:



a. Describe the gross lesions seen. [2]
b. Describe the microscopic lesions seen. [1]
c. What would be your diagnosis? [1]
d. Describe the pathogenesis of the above condition. [1]

PART B [5]

The gross picture and photomicrograph shown below were obtained from an ovary of a mare that was euthanized after a history of anestrus, nymphomania and stallion-like behavior. Examine the pictures carefully and answer the following questions.



a. Describe the gross lesions seen. [2]
b. Name the microscopic lesion indicated with an arrow. [1]
c. What would be your diagnosis? [1]
d. Explain the pathogenesis for the observed clinical signs [1]

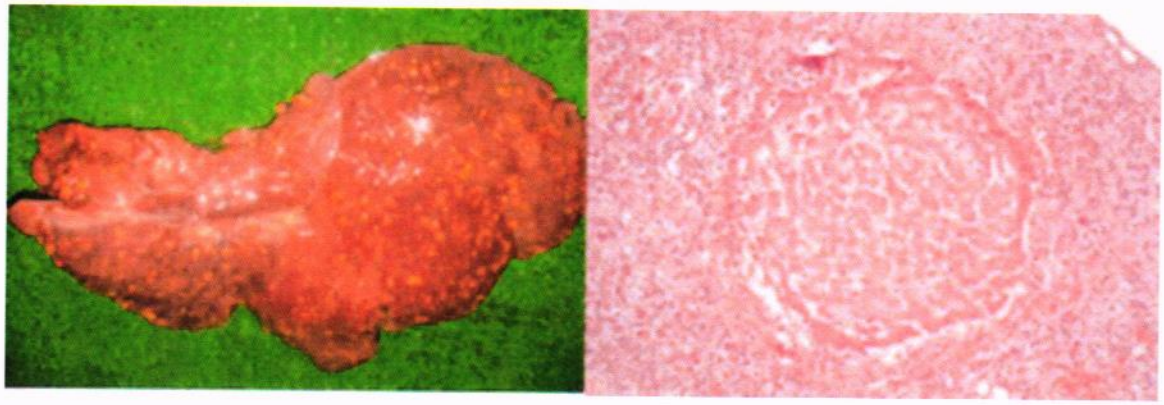
QUESTION 11 **[10]**

PART A [5]

Briefly describe the morphological changes seen in hepatic congestion.

Part B [5]

As a practicing pathologist, you are presented with a dog that died after a history of ascites. Examine the gross and microscopic pictures of the liver below carefully and answer the following questions:



a. Describe the gross lesions seen in the left picture. [2]
b. Describe the microscopic lesions seen on the right picture [2]
c. What is your diagnosis [1]

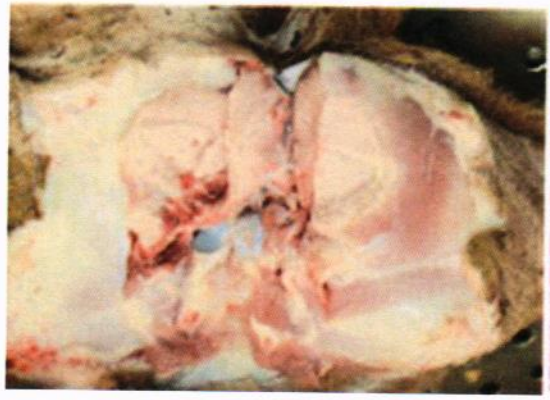
QUESTION 12 [10]

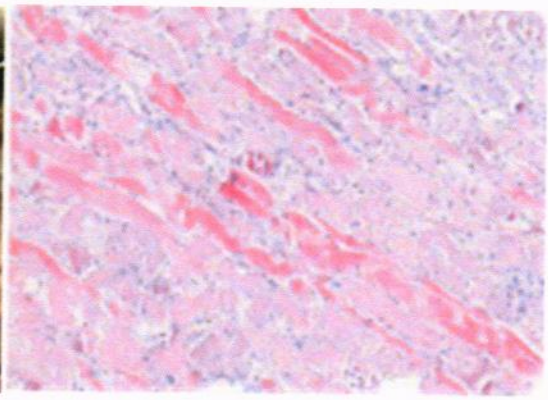
PART A [4]

II. Briefly describe the pathology of hypothyroidism including definition, causes and associated dermatological lesions.

PART B [6]

The picture below was taken from a limb of a rapidly growing lamb that had a history of difficulty rising. Examine the gross and microscopic pictures carefully and answer the following questions:





a. What would be your diagnosis? [1]
b. Describe the microscopic lesions seen on the microphotograph on the right [2]
c. Describe the pathogenesis of the above condition. [1]
d. Name two related conditions that can be seen in pigs. [2]

~~~END OF FIRST OPPORTUNITY EXAMINATION ~~~