FACULTY	HEALTH SCIENCES AND VETERINARY MEDICINE		
SCHOOL	VETERINARY MEDICINE		
DEPARTMENT	PARA-CLINICAL		
SUBJECT	SYSTEMIC PATHOLOGY		
SUBJECT CODE	V3803AS-FIRST OPPORTUNITY EXAMINATION		
DATE	NOVEMBER 2023		
DURATION	3 HOURS	**MARKS**	150

REGULAR EXAMINATION

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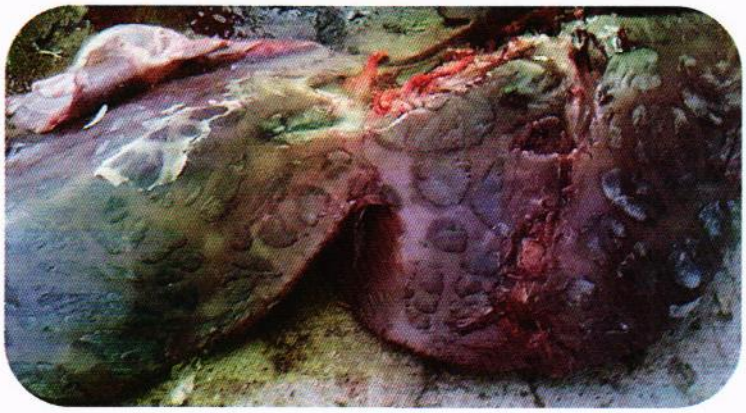
This EXAMINATION paper consists of 7 (Seven) pages including this front page.

Instructions:

1. Follow the instructions preceding each section
2. Answer all questions
3. Write neatly and legibly
4. Please be reminded that cheating in the examination will result in a failed grade
5. **Hand in this question paper together with the answer booklet**

QUESTION 1 [10]

The picture below is from a steer that died acutely. This farmer lost about 20 other cattle in the same kraal. On postmortem a characteristic finding as shown in the picture below was observed on several of the dead animals.



Source: Mutjavikua, 2019.

a. Describe the lesions shown. [1]
b. Give the pathological diagnosis. [1]
c. Give one factor that precipitates to such kind of lesions. [1]
d. Discuss the pathogenesis of how these kinds of lesions develop and what eventually leads to the death of the animals. [7]

QUESTION 2 [10]

The pictures below are from a 7 year old Cocker Spaniel that had presented with serum concentration levels of urea and creatinine above 40mg/dL and 2mg/dL respectively. The owner reported that the dog was anorexic, vomiting, lethargic, polydipsic and polyuric were the main clinical signs detected. The dog eventually died and was brought for postmortem.



a. Describe the lesions that you can see. [1]

b. Give the tentative diagnosis of this condition [1]

c. Discuss the non-renal lesions that can be associated with this condition, for each non-renal lesion discuss the mechanism involved. [8]

QUESTION 3. **[15]**

You are called out to a farm. On arrival you find 3 pigs and 2 cows dead as shown in the picture below. The farmer reports that the animals manifested a brief period of excitement followed by depression, stupor, respiratory distress, staggering, convulsions and death.



Enrique Aburto, March 2014: Cornell Veterinary Medicine

a. List post-mortem changes displayed by the animals in this picture. [2]

b. State your differential diagnoses. [4]
c. Give the most LIKELY diagnosis. [1]
d. Which other lesions do you expect to find in these carcasses? [5]
e. Describe the precautionary measures and diagnostic procedures that you will undertake. [3]

QUESTION 4 **[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. Which disease would you suspect this dog may be suffering from? [1]

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

c. Discuss any species differences in the samples that you would collect if the suspected diseased animals was a horse or an ox. [3]

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

QUESTION 5 **[15]**

Give a detailed description of how you would conduct a general post mortem examination of the respiratory system.

QUESTION 6 **[15]**

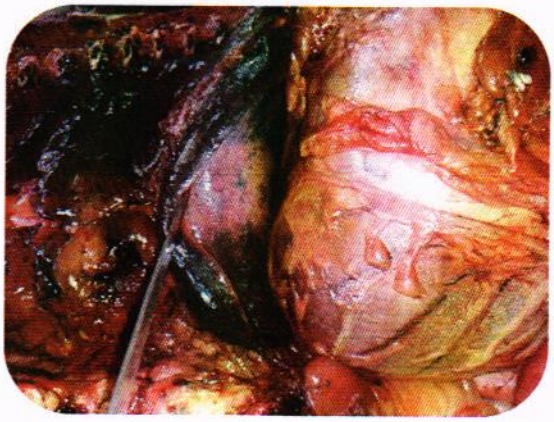
The pictures below are from a German Shepherd Dog belonging to the Nampol K9 Unit with a history of sudden death. On physical examination during the postmortem, the carcass was bloated, the mucous membranes were congested, and blood was oozing from the nose.



A



B



C

All Images: UNAM 2021

1. Describe the gross pathological lesions shown in the pictures B and C. [4]
2. Give the pathological diagnosis. [1]
3. Discuss the gross changes that result from this condition. [5]
4. Discuss the pathogenesis of this condition and explain why the animal eventually dies. [5]

QUESTION 7 [15]

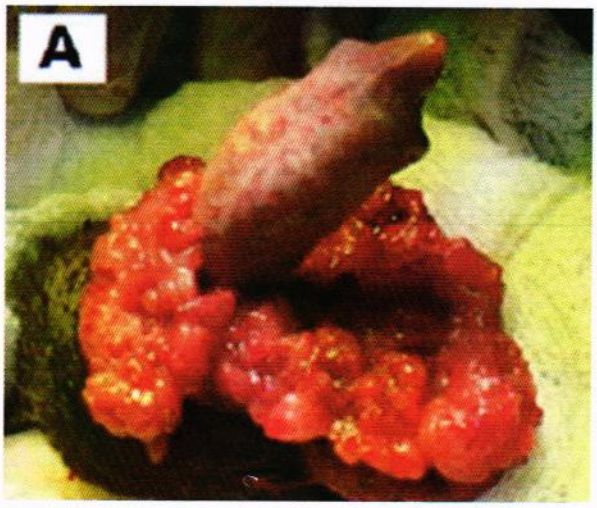
Give a detailed description of the step by step procedure of how you would conduct a general post mortem examination of the heart during the postmortem using the inflow-outflow dissection method.

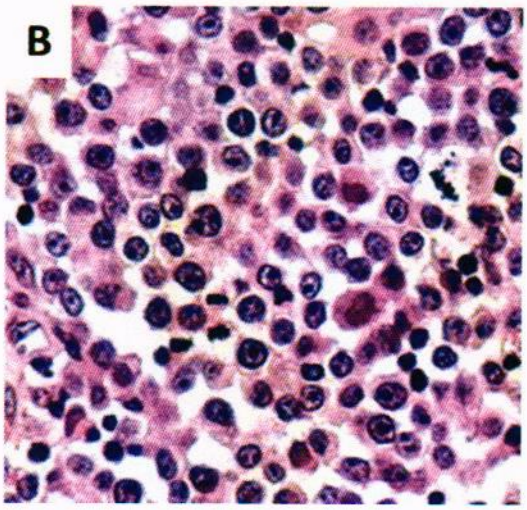
QUESTION 8 [10]

Describe in details the pathological features and morphological sequelae of hyperadrenocorticism. [10]

QUESTION 9 [10]

The picture below was taken from a male dog that was presented to a veterinary clinic in Windhoek. After physical examination of the penis, a biopsy was collected for histopathology (right). Examine the gross and microscopic pictures and answer the following questions:





a. Describe the gross lesions seen (A). [2]

b. Describe the microscopic lesions seen in the microphotograph (B). [1]
c. What would be your diagnosis? [1]
d. What would be your differential diagnosis based on histopathology only? [1]
e. Describe the pathogenesis of the above condition. [3]
f. Name two common tumors than can be seen in the vagina of dogs. [2]

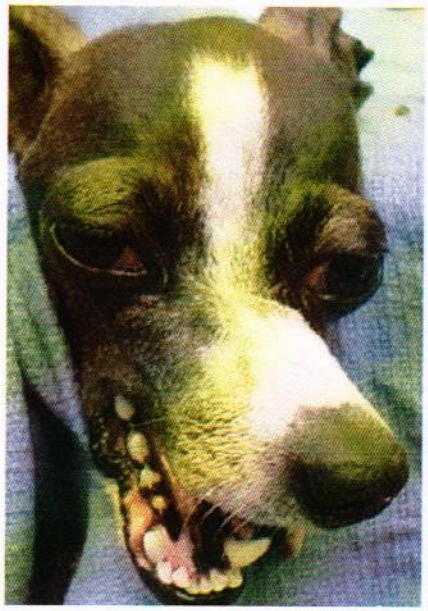
QUESTION 10 [10]

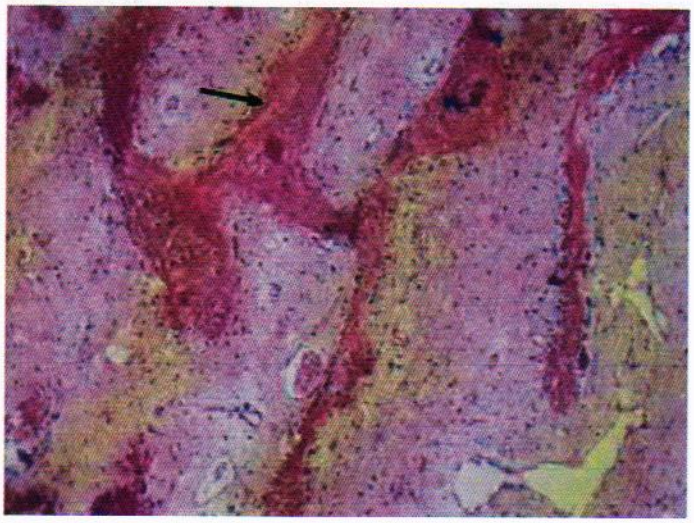
Answer the following questions about cystic ovaries in animals:

a. Name three common non-neoplastic cysts found in ovaries. [3]
b. Name the most common cyst seen in cows and describe the gross features of the named cyst. [3]
c. Briefly describe 4 extraovarian lesions of cystic ovaries in cows. [4]

QUESTION 11 [10]

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 and histopathology pictures of the maxillary bone carefully and answer the following questions:





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

b. Describe the histopathological lesions. [1]
c. What would be your morphological diagnosis based on the pictures? [1]
d. Describe the pathogenesis of the condition (based on the clinical history). [3]

e. Name two other causes of the condition. [2]
f. Describe the gross pathological features of osteoporosis. [2]

QUESTION 12 [10]

Write short notes on **any two (2)** of the following:

a. Pathogenesis of Orf (Contagious ecthyma). [5]

b. Epitheliogenesis imperfecta (aplasia cutis) [5]

c. Mast cell tumours in dogs [5]

~END OF EXAMINATION~