

Name\_\_\_\_\_

## **DODVPR Clinical Pathology**

### **2016 Mock Exam**

1. Write your name above and on each page of the exam packet.
2. For each question, select the ONE best answer and mark it on the answer sheet.
3. Use capital letters on your answer sheet.
4. Credit will be given only for correct answers recorded on the answer sheet.
5. All questions for which more than one answer is marked will be recorded as incorrect.
6. No credit will be awarded or deducted for incorrect answers.
7. Turn in BOTH your answer sheet and the exam question packet at the conclusion of the exam.

2016 Clinical Pathology  
Mock Exam

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2016 Clinical Pathology  
Mock Exam

1. Data from a dog

Analyte	Patient	Reference Interval
BUN	67	8-28 mg/dL
Creatinine	3.9	0.5-1.7 mg/dL
Total protein	4.1	5.4-7.5 g/dL
Albumin	1.1	2.3-3.1 g/dL
Cholesterol	554	135-278 mg/dL
USPG	1.019	varies
Urine protein: creatinine ratio	12.2	<0.5

These findings are most consistent with which condition?

- A. Nephrotic syndrome
- B. Pre-renal azotemia
- C. Renal tubular disease
- D. Ethylene glycol toxicosis

2. Predictive values of a test are associated with which?

- A. Sensitivity
- B. Disease prevalence
- C. Specificity
- D. True negatives

3. HYPERphosphatemia can be caused by all of the following EXCEPT?

- A. Tumor lysis syndrome
- B. Dehydration
- C. Hypervitaminosis D
- D. Insulin administration

4. A smear of nasal exudate from a dog reveals many round to oval, 5 – 10 um, red-pink, structures with a thin wall, and rare, very large (up to 100 uM) sporangia containing numerous endospores. What is the most likely interpretation?

- A. Acapsular cryptococcosis
- B. Fruiting bodies of *Aspergillus* sp.
- C. *Rhinosporidium seeberi*
- D. Blastomycosis

5. Which enzyme deficiency results in decreased RBC 2,3 DPG concentration?
- A. Pyruvate kinase
  - B. Phosphofructokinase
  - C. Glucose-6-phosphate dehydrogenase
  - D. Glutathione peroxidase
6. What is a hematogone?
- A. an anucleate erythrocyte cytoplasmic fragment found in birds
  - B. a free erythrocyte nucleus
  - C. another term for distemper inclusions
  - D. another term for a metarubricyte
7. All of the following EXCEPT which are true of a kindlin-3 deficiency?
- A. there is an inability to activate beta integrins
  - B. it is also known as LAD-III
  - C. it is associated with abnormal bleeding
  - D. there is decreased Annexin-5 binding to activated platelets
8. You suspect a patient has uroperitoneum. Which of the following tests are best to confirm your suspicion?
- A. Compare abdominal fluid potassium to serum potassium
  - B. Compare abdominal fluid BUN to serum BUN
  - C. Compare abdominal fluid creatinine to serum creatinine
  - D. Compare abdominal fluid sodium to serum sodium
9. A defect in glucose-6-phosphate may generate which type of poikilocytosis?
- A. Eccentrocytosis
  - B. Echinocytosis
  - C. Acanthocytosis
  - D. Letptocytosis

10. Data from a cow with muscle twitching and an enlarged, atonic rumen. The farmer very recently started feeding a new food.

Analyte	Patient	Reference Interval
BUN	26	10-25 mg/dL
Creatinine	1.1	0.5-2.2 mg/dL
Sodium	160	136-144 mEq/L
Chloride	119	99-107 mEq/L
plasma ammonia	554	45-135 U/L
rumen ammonia	38,935	2500-4000 U/L

What is the most likely reason sodium and chloride levels are high?

- A. Severe dehydration
- B. Water movement into GI tract
- C. Abomasal stasis
- D. Hypotonic dehydration

11. Data from a dog.

Analyte	Patient	Reference Interval
BUN	28	10-25 mg/dL
Creatinine	2.0	0.9-1.7 mg/dL
Calcium	13.4	9.0-11.2 mEq/L
Phosphorous	6.3	2.8-6.1 mEq/L
Sodium	154	145-158 mEq/L
Glucose	91	65-122 mg/dL
USPG	1.011	varies

What is the most likely explanation for the dilute urine?

- A. Nephrogenic diabetes insipidus
- B. End-stage renal disease
- C. Osmotic diuresis
- D. Medullary wash-out

12. You examine a blood smear from a bird and see heterophils that have vacuoles, and red and purple cytoplasmic granules. What is the most likely interpretation?

- A. normal for avian heterophils
- B. degenerative change
- C. toxic change
- D. left shift (equivalent to bands in mammals)

13. Rottweiler dogs have a predisposition for which hematologic disorder?
- A. Chronic granulocytic leukemia
  - B. Myelodysplastic syndrome
  - C. Polycythemia vera
  - D. Hypereosinophilic syndrome
14. Which of the following tests is most sensitive for detecting hypofibrinogenemia?
- A. Thrombin time
  - B. Heat precipitation and refractometry
  - C. Stypven time
  - D. Fibrin(ogen) degradation products (FDPs)
15. Which of the following pattern of changes most closely fits with a compensated respiratory acidosis?

	Blood pH	PCO <sub>2</sub>	HCO <sub>3</sub> <sup>-</sup>
<b>A</b>	decreased	normal	decreased
<b>B</b>	decreased	increased	increased
<b>C</b>	decreased	decreased	decreased
<b>D</b>	decreased	increased	decreased

16. When using a receiver operator characteristic (ROC) curve, a non-discriminatory test has which characteristic?
- A. contacts the top left corner
  - B. contacts the lower right corner
  - C. goes from the axis intersection  $\{(0,0)\}$  to the top right corner
  - D. approaches but does not reach the top left corner
17. A cryptorchid dog presents with pancytopenia. Squamous cells and a few neutrophils are found in a prostate aspirate. What is the most likely diagnosis or interpretation?
- A. Paraneoplastic hyperestrogenism
  - B. Myelophthisis due to metastatic carcinoma
  - C. Lab error and superficial contamination
  - D. Prostatic abscess that ruptured into abdomen
18. Which of the following enzymes can be used as an indicator of passive transfer in calves?
- A. LDH
  - B. GGT
  - C. AST
  - D. SDH

19. Which of the following has the greatest triglyceride content?

- A. LDL
- B. VLDL
- C. HDL
- D. Chylomicrons

20. Hyperglycemia can occur in all of the following EXCEPT?

- A. Pregnancy toxemia
- B. Ethylene glycol toxicosis
- C. Hyperammonemia
- D. Bovine milk fever

21. A vaginal swab that contains over 90% superficial nucleated and anucleate keratinized epithelial cells, rare to no neutrophils and a few bacteria is most consistent with?

- A. Estrus
- B. Proestrus
- C. Diestrus
- D. Anestrus

22. Which of the following changes is most suggestive of ethylene glycol toxicosis?

	measured osmolality	omsol gap
<b>A</b>	increased	within reference interval
<b>B</b>	increased	increased
<b>C</b>	increased	decreased
<b>D</b>	within reference interval	increased

23. Which conditions favor paradoxical aciduria?

- A. hypervolemia, hypochloridemia, metabolic alkalosis
- B. hypovolemia, hypochloridemia, hypokalemia
- C. hypovolemia, hyperchloridemia, hyperkalemia
- D. hypervolemia, hyperchloridemia, hypokalemia

24. A cat has 5 platelets, on average, per 100X objective field. What is an estimated platelet count (#/uL)?

- A. 5,000
- B. 50,000
- C. 100,000
- D. 200,000

25. In a dog with the following laboratory data, the most likely interpretation is:

<u>TEST</u>	<u>PATIENT</u>	<u>REFERENCE INTERVAL</u>
Total T4	0.78	1.5-4.0 μg/dL
TSH	1.2	< 0.6 ng/dL
Anti-thyroglobulin autoantibodies	positive	none present

- A. Secondary hypothyroidism
- B. Lab error; the autoantibodies are lowering total T4
- C. Thyroiditis
- D. Thyroid atrophy