

**2013 Miniboard Exam
Clinical Pathology Blank**

Candidate # _____

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1. Which of the following enzymes is secreted from pancreatic acinar cells in its *inactive* form?
 - a. Cholesterol esterase
 - b. Phospholipase
 - c. Amylase
 - d. Trypsin
 - e. Lipase

2. Which species is *most* susceptible to vitamin D deficiency rickets?
 - a. Sheep
 - b. Dog
 - c. Cat
 - d. Pig
 - e. Ox

3. Evaluate the following clinical pathology data from a dog and select the *most likely* diagnosis from the list below.

Serum Calcium	↑
Serum Phosphorus	↓
Serum PTH	↓

- a. Renal secondary hyperparathyroidism
 - b. Primary hyperparathyroidism
 - c. Hypercalcemia of malignancy
 - d. Hypervitaminosis D
 - e. Acidosis
-
4. Which of the following correctly illustrates the metabolism of heme in mammals?
 - a. Heme → Bilirubin → Bilirubin·Albumin → Biliverdin → Conjugated Bilirubin
 - b. Heme → Biliverdin → Bilirubin → Bilirubin·Albumin → Conjugated Bilirubin
 - c. Heme → Bilirubin → Bilirubin·Albumin → Conjugated Bilirubin → Biliverdin
 - d. Heme → Conjugated Bilirubin → Bilirubin·Albumin → Bilirubin → Biliverdin
 - e. Heme → Bilirubin → Conjugated Bilirubin → Bilirubin·Albumin → Biliverdin
-
5. Evaluate the following clinical pathology data from a dog and select the *most likely* diagnosis from the list below.

Folate	↓
Cobalamin (B ₁₂)	N
TLI	N

- a. Exocrine pancreatic insufficiency
- b. Proximal small intestinal disease
- c. Diffuse small intestinal disease
- d. Distal small intestinal disease

e. Bacterial overgrowth

6. Evaluate the following clotting panel from a dog and select the most likely diagnosis from the list below.

Platelet count	N
BMBT	N
APTT	↑
PT	↑
TT	N
FDP	N

- a. Disseminated intravascular coagulation
- b. Congenital fibrinogen deficiency
- c. vonWillebrand's disease
- d. Prekallikrien deficiency
- e. Liver disease

7. Evaluate the following thyroid panel from a dog and select the most likely diagnosis from the list below.

Total T4	↓
free T4	↓
TSH	↑
TgAA	Negative

- a. Thyroiditis without thyroid dysfunction
- b. Idiopathic thyroid atrophy
- c. Normal thyroid function
- d. Lymphocytic thyroiditis
- e. Nonthyroidal illness

8. All of the following are causes of microcytic erythrocytes EXCEPT:

- a. Pyridoxine deficiency
- b. Portosystemic shunt
- c. Copper deficiency
- d. Folate deficiency
- e. Iron deficiency

9. All of the following are actions of vitamin D EXCEPT:

- a. Enhances phosphorus reabsorption from the glomerular filtrate
- b. Stimulates the absorption of phosphorus from the intestine
- c. Enhances absorption of calcium from the intestine
- d. Stimulates the release of calcium from the bone
- e. Inhibits the release of phosphorus from bone

10. Evaluate the following serum chemistry panel from a dog and select the most likely diagnosis from the list below.

Parameter	Patient	Ref. Range	Units
Phosphorus	10.2	2.9-5.3	mg/dL
Sodium	143	142-152	mEq/L
Potassium	5.5	3.9-5.1	mEq/L
Chloride	99	110-124	mEq/L
TCO2	11.5	14-26	mEq/L
Calcium	8.6	9.1-11.7	mg/dL

- a. Chronic diarrhea
 - b. Chronic vomiting
 - c. Intrathoracic mass
 - d. Upper GI obstruction
 - e. Ethylene glycol toxicosis
11. Which of the following clinical pathologic findings is most predictive of mortality following severe trauma in rhesus macaques?
- a. Elevated serum bicarbonate
 - b. Elevated serum lactate
 - c. Increased base excess
 - d. Decreased blood pH
 - e. Decreased anion gap
12. Glucose-6-phosphate is the rate limiting enzyme in which of the following erythrocyte metabolic pathways?
- a. Embden-Meyerhof pathway
 - b. Pentose phosphate pathway
 - c. Rapoport-Luebering pathway
 - d. Superoxide dismutase pathway
 - e. Methemoglobin reductase pathway
13. All of the following are evidence of toxic change in neutrophils *except* ____.
- a. Döhle bodies
 - b. Cytoplasmic basophilia
 - c. Cytoplasmic vacuolation
 - d. Pink cytoplasmic granulation
 - e. Nuclear hypersegmentation
14. A postalbumin shoulder on the serum electrophoretogram is highly suggestive of severe liver disease in the ____; hypoalbuminemia is an inconsistent finding in this species.
- a. Horse
 - b. Bird
 - c. Dog
 - d. Cat
 - e. Ox

15. Evaluate the following serum chemistry panel from a horse and select the *most likely* diagnosis?

ALP	N
AST	↑
ALT	↑
LDH	↑

- a. Hepatic necrosis
 - b. Biliary obstruction
 - c. Skeletal myopathy
 - d. Cholangiocarcinoma
 - e. Lower abdominal obstruction
16. ALT is a useful liver-specific indicator of hepatocellular injury in all *except* ____.
- a. Rats
 - b. Dogs
 - c. Primates
 - d. Hamsters
 - e. Guinea pigs
17. The most common type of acute myeloid leukemia in dogs, cats, and horses is ____ leukemia.
- a. Acute undifferentiated
 - b. Acute myeloblastic
 - c. Myelomonocytic
 - d. Promyelocytic
 - e. Monocytic
18. All of the following are positive acute phase proteins *except* ____.
- a. Ceruloplasmin
 - b. Transthyretin
 - c. Haptoglobin
 - d. Hepcidin
 - e. Ferritin
19. Decreased serum fructosamine concentrations are expected in cats with all of the following *except* ____.
- a. Panhypoproteinemia
 - b. Pheochromocytoma
 - c. Hypoalbuminemia
 - d. Hyperthyroidism
 - e. Hyperinsulinism

20. Which of the following profiles is most consistent with a diagnosis of canine renal tubular acidosis?

	Anion Gap	Chloride (Ref. Range 110-124 mEq/L)	Sodium (Ref Range 142-152 mEq/L)	pCO ₂
a.	↑	115	147	N
b.	↑	108	150	↓
c.	↓	118	149	N
d.	N	105	148	↑
e.	N	130	145	↓

21. The patient in choice “c” in the question above (#20) is most likely to also be ____.

- Diabetic
- Epileptic
- Hypoxemic
- Hypercalcemic
- Hypomagnesemic

22. Urine volume and urine specific gravity are inversely related in all of the following canine conditions except ____.

- Hyperadrenocorticism
- Hypoadrenocorticism
- Diabetes insipidus
- Diabetes mellitus
- Pyometra

23. A urine protein:creatinine ratio in a dog of 2.0 is most consistent with ____.

- Normal
- Tubular disease
- Muscle wasting
- Renal amyloidosis
- Glomerulonephropathy

24. The single most useful test for evaluating synovial fluid is ____.

- Viscosity
- Total protein
- Mucin clot test
- Nucleated cell count
- Cytologic examination

25. A diagnostic test with 50% specificity is performed on a population of 1000 animals, and results in 600 positive and 400 negative results. There are 100 false positives. What is the true prevalence of disease in the population?

- 33%
- 50%
- 60%
- 75%

e. 80%