

VTNE Self Study: Domain 4

Laboratory Procedures — 20 Practice Questions

1. A blood smear should ideally be prepared:
 - A. After refrigeration for 24 hours
 - B. Immediately after blood collection
 - C. After centrifugation
 - D. Only if anemia is suspected
2. Which anticoagulant tube is most appropriate for a CBC?
 - A. Red top tube
 - B. Serum separator tube
 - C. EDTA (purple top) tube
 - D. Sodium citrate tube
3. Which urinalysis finding is most concerning for a urinary tract infection?
 - A. Specific gravity of 1.040
 - B. Glucose negative
 - C. Bacteria and white blood cells present
 - D. Pale yellow color
4. Which fecal test is commonly used to identify intestinal parasite ova?
 - A. Direct smear only
 - B. Fecal flotation
 - C. Blood smear
 - D. Cytology slide preparation
5. Which of the following is considered a laboratory quality control measure?
 - A. Using expired reagents
 - B. Running control samples on analyzers
 - C. Storing samples at room temperature indefinitely
 - D. Skipping calibration
6. A 6-year-old Labrador presents for lethargy and pale mucous membranes. CBC results show low RBC, low HCT, low HGB. What abnormality is MOST likely present?
 - A. Polycythemia
 - B. Anemia
 - C. Leukocytosis
 - D. Thrombocytosis
7. A veterinary technician collects blood for chemistry analysis but leaves the sample on the counter for several hours before centrifuging. Which result may be negatively impacted?
 - A. Fur color
 - B. Serum quality and chemistry accuracy
 - C. Dental health
 - D. Fecal flotation findings
8. Which urine collection method provides the least contamination for culture?
 - A. Free catch
 - B. Catheterization
 - C. Cystocentesis
 - D. Litter box collection
9. During microscope evaluation of an ear cytology, the technician observes numerous budding yeast organisms. What organism is MOST likely present?
 - A. Giardia
 - B. Malassezia
 - C. Hookworms
 - D. Coccidia
10. A chemistry analyzer control sample falls outside the expected range. What is the BEST next step?
 - A. Continue running patient samples
 - B. Recalibrate or troubleshoot before proceeding
 - C. Ignore the result
 - D. Repeat patient samples only
11. A patient's urine specific gravity is 1.010. What does this MOST likely suggest?
 - A. Highly concentrated urine
 - B. Normal feline urine
 - C. Poor concentrating ability or isosthenuria
 - D. Sample contamination only
12. A dog presents with vomiting and diarrhea. Fecal flotation reveals oval eggs consistent with hookworms. What zoonotic concern exists?
 - A. Rabies transmission
 - B. Cutaneous larva migrans
 - C. Ringworm only
 - D. No zoonotic risk
13. Which white blood cell is MOST associated with parasitic infection or allergies?
 - A. Neutrophil
 - B. Lymphocyte
 - C. Eosinophil
 - D. Monocyte
14. A cat presents for PU/PD. Urinalysis: Glucose Positive, Ketones Negative, SG 1.020. Which disease process is MOST suspected?
 - A. Renal failure only
 - B. Diabetes mellitus
 - C. Liver disease
 - D. Intestinal parasitism
15. Which stain is commonly used for cytology evaluation?
 - A. Wright-Giemsa or Diff-Quik
 - B. Chlorhexidine
 - C. Gram stain only
 - D. Alcohol prep
16. A blood smear reveals toxic neutrophils and elevated WBC count. What process is MOST likely occurring?
 - A. Viral suppression
 - B. Significant inflammation or infection
 - C. Dehydration only
 - D. Hypoglycemia
17. A technician accidentally submits a hemolyzed blood sample for chemistry testing. Which analyte is MOST likely to be affected?
 - A. Potassium
 - B. Hair growth
 - C. Platelet estimate only
 - D. Urine pH
18. Which laboratory practice BEST supports biosafety?
 - A. Eating in the laboratory
 - B. Wearing gloves and proper PPE
 - C. Recapping needles by hand
 - D. Reusing contaminated slides
19. During fecal evaluation, motile trophozoites are identified on a direct smear. Which parasite is MOST likely?
 - A. Giardia
 - B. Tapeworm
 - C. Hookworm
 - D. Roundworm
20. A hospitalized dog suddenly develops petechiae and bruising. CBC results reveal severe thrombocytopenia. Which blood component is decreased?
 - A. Red blood cells
 - B. White blood cells
 - C. Platelets
 - D. Plasma proteins

Answer Key & Explanations

Domain 4: Laboratory Procedures

1. **B** — Smears should be prepared immediately
2. **C** — EDTA preserves cellular morphology for CBCs
3. **C** — WBCs + bacteria suggest infection
4. **B** — Fecal flotation identifies ova
5. **B** — Controls verify analyzer accuracy
6. **B** — Low RBC/HCT/HGB = anemia
7. **B** — Delayed processing affects chemistry values
8. **C** — Cystocentesis minimizes contamination
9. **B** — Malassezia appears as budding yeast
10. **B** — QC failures require troubleshooting first
11. **C** — 1.010 suggests isosthenuria
12. **B** — Hookworms can cause cutaneous larva migrans
13. **C** — Eosinophils increase with parasites/allergies
14. **B** — Glucosuria strongly suggests diabetes mellitus
15. **A** — Diff-Quik/Wright-Giemsa commonly used
16. **B** — Toxic neutrophils indicate inflammation/infection
17. **A** — Hemolysis falsely elevates potassium
18. **B** — PPE protects staff and patients
19. **A** — Giardia trophozoites are motile
20. **C** — Thrombocytopenia = low platelets

Scoring Guide

18–20 Correct: VTNE Ready | 15–17 Correct: Strong Understanding | 12–14 Correct: Review Needed in Key Areas | Below 12: Focused Study Recommended