

VTNE Self Study: Domain 1

Pharmacy & Pharmacology — 20 Practice Questions

1. A dog weighs 22 lb and requires a medication dosed at 5 mg/kg PO q12h. What dose should the technician administer?

- A. 25 mg
- B. 50 mg
- C. 75 mg
- D. 100 mg

2. Which route of administration bypasses first-pass metabolism by the liver?

- A. Oral (PO)
- B. Rectal (PR)
- C. Intravenous (IV)
- D. Subcutaneous (SQ)

3. A veterinary technician notices respiratory depression after opioid administration. Which adverse effect is most likely occurring?

- A. Hypertension
- B. CNS stimulation
- C. Respiratory suppression
- D. Increased GI motility

4. Which medication classification is commonly used to reduce inflammation and pain?

- A. Antibiotic
- B. NSAID
- C. Anticonvulsant
- D. Antifungal

5. A controlled substance logbook must include:

- A. Technician payroll information
- B. Patient body condition score
- C. Drug amount dispensed and remaining balance
- D. Vaccine expiration dates

6. Which of the following is the best site for administering a vaccine in a cat according to feline vaccination guidelines?

- A. Between the shoulder blades
- B. Distal limb
- C. Lumbar region
- D. Neck

7. Which statement best describes pharmacokinetics?

- A. How drugs affect the body
- B. How the body absorbs, distributes, metabolizes, and eliminates drugs
- C. Drug interactions at receptor sites
- D. Mechanism of antimicrobial resistance

8. A veterinarian prescribes 250 mL over 5 hours. What is the fluid rate in mL/hr?

- A. 25 mL/hr
- B. 40 mL/hr
- C. 50 mL/hr
- D. 60 mL/hr

9. A medication label reads "Give 1 tablet BID for 14 days." What does BID mean?

- A. Once daily
- B. Twice daily
- C. Every other day
- D. Every 12 minutes

10. Which route is most appropriate for emergency drug administration during CPR?

- A. Oral
- B. Topical
- C. Intravenous
- D. Intramuscular

11. Which of the following medications would most likely require careful monitoring of kidney function?

- A. NSAIDs
- B. Antacids
- C. Antihistamines
- D. Topical shampoos

12. Vaccines should generally be stored at which temperature?

- A. Frozen at 0°F
- B. Room temperature
- C. Refrigerated at 35–46°F (2–8°C)
- D. Heated before administration

13. A 44-lb dog requires 2 mg/kg of a medication. The medication concentration is 20 mg/mL. How many milliliters should be administered?

- A. 1 mL
- B. 2 mL
- C. 4 mL
- D. 8 mL

14. Which term describes the effect of a drug on the body?

- A. Pharmacokinetics
- B. Pharmacodynamics
- C. Bioavailability
- D. Half-life

15. A veterinary technician should question a prescription if:

- A. The drug label includes the expiration date
- B. A known contraindication exists with the patient's condition
- C. The medication is flavored
- D. The veterinarian wrote the order clearly

16. Which of the following routes is considered parenteral?

- A. Oral
- B. Intravenous
- C. Rectal
- D. Sublingual

17. Which medication schedule classification has the highest abuse potential?

- A. Schedule II
- B. Schedule III
- C. Schedule IV
- D. Schedule V

18. A drug with a short half-life will:

- A. Remain in the body longer
- B. Require less frequent dosing
- C. Be eliminated more quickly
- D. Never reach therapeutic levels

19. Which patient should receive the most caution when administering NSAIDs?

- A. Young healthy dog
- B. Patient with renal disease
- C. Vaccinated puppy
- D. Healthy cat after nail trim

20. A medication order states "administer SQ." What route should the technician use?

- A. Into the vein
- B. Under the skin
- C. Into the muscle
- D. By mouth

Answer Key & Explanations

Domain 1: Pharmacy & Pharmacology

1. **B** — $22 \text{ lb} = 10 \text{ kg} \times 5 \text{ mg/kg} = 50 \text{ mg}$
2. **C** — IV bypasses first-pass metabolism
3. **C** — Respiratory suppression is common with opioids
4. **B** — NSAIDs reduce inflammation and pain
5. **C** — Controlled substances require tracking dispensed and remaining amounts
6. **B** — Distal limbs are recommended in cats
7. **B** — Pharmacokinetics = what the body does to the drug
8. **C** — $250 / 5 = 50 \text{ mL/hr}$
9. **B** — BID = twice daily
10. **C** — IV route provides fastest systemic access
11. **A** — NSAIDs can impact renal function
12. **C** — Refrigerated at $35\text{--}46^{\circ}\text{F}$ ($2\text{--}8^{\circ}\text{C}$)
13. **B** — $44 \text{ lb} = 20 \text{ kg} \times 2 \text{ mg/kg} = 40 \text{ mg} / 20 \text{ mg/mL} = 2 \text{ mL}$
14. **B** — Pharmacodynamics = what the drug does to the body
15. **B** — Contraindications should always be questioned
16. **B** — IV is parenteral
17. **A** — Schedule II has highest abuse potential among listed choices
18. **C** — Short half-life = quicker elimination
19. **B** — NSAIDs require caution in renal disease
20. **B** — SQ = subcutaneous (under the skin)

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