

SAMPLE QUESTIONS
ABC TECHNICAL SPECIALIST EXAMINATION DRUG ANALYSIS

1. **Which of the following pairs of compounds are enantiomers?**
 - A. psilocin and psilocybin
 - B. LSD and Lampa
 - C. d-cocaine and l-cocaine
 - D. phentermine and methamphetamine

2. **How will the R_f values for eluents most likely be affected if a TLC tank is not kept saturated with the developing solvent?**
 - A. They will increase.
 - B. They will decrease.
 - C. They will increase or decrease unpredictably.
 - D. They will not be affected.

3. **With which one of the following drugs will the Marquis reagent NOT produce a colored reaction product?**
 - A. morphine
 - B. mescaline
 - C. amphetamine
 - D. barbiturate

4. **Which one of the following reagents would be most useful for visualization and differentiation of the various cannabinoids separated from a marijuana extract on a TLC plate?**
 - A. Ninhydrin and UV light
 - B. Dragendorff reagent
 - C. Fast blue 2B
 - D. Fluram

5. **Which one of the following terms names the functional group responsible for the absorption of ultraviolet or visible radiation?**
 - A. chromophore
 - B. auxochrome
 - C. bathochrome
 - D. hypsochrome

6. **If the IR absorbance spectrum for a previously unidentified drug matches that of an l-amphetamine HCL standard, which of the following would be a justifiable conclusion?**
- A. The unknown is l-amphetamine hydrochloride.
 - B. The unknown could be d-amphetamine hydrochloride.
 - C. The unknown could be l-amphetamine sulfate.
 - D. The unknown could be methamphetamine hydrochloride.
7. **The term “theoretical plate” refers to which one of the following parameters in gas chromatography?**
- A. retention time
 - B. polarity
 - C. efficiency
 - D. stationary phase thickness
8. **An underivitized methanol extract of a mushroom sample is injected into a GC/MS and provides a mass spectrum which matches that of a psilocin standard. Which of the following statements represents a correct conclusion regarding the mushroom?**
- A. Psilocin is present.
 - B. Psilocybin is present.
 - C. Psilocybin is not present.
 - D. Psilocin and/or psilocybin may be present.
9. **Which one of the following terms is a trade name for chlordiazepoxide?**
- A. Librium
 - B. Valium
 - C. Xanax
 - D. Haldol
10. **250 mg of heroin standard is dissolved in 25 mL of a solvent. 1mL of this solution is added to 5 mL of an internal standard solution and then diluted with more solvent to a final volume of 10 mL. What is the final concentration of the heroin standard?**
- A. 0.10 mg/mL
 - B. 0.25 mg/mL
 - C. 1.00 mg/mL
 - D. 2.50 mg/mL

11. **In collecting evidence from a gun found during a drug raid in which a dead body was discovered, which one of the following steps should be accomplished first?**
- A. Photograph the gun.
 - B. Unload the gun.
 - C. Dust the gun for fingerprints.
 - D. Remove a bloodstain from the barrel.
12. **Which of the following phrases BEST describes the term “chain of evidence”?**
- A. Documented proof of the integrity of evidence.
 - B. Document presented in lieu of testimony by an expert.
 - C. Documented proof the evidence was analyzed.
 - D. Documented proof of where the prisoner is being kept.
13. **What is an MSDS?**
- A. A document of chemical safety.
 - B. An instrument for chemical analysis.
 - C. A technique for testing DNA.
 - D. A type of explosive material.
14. **Which one of the following arrangements lists colors of the visible spectrum in order of decreasing wavelength?**
- A. Orange, violet, blue, green
 - B. Orange, green, blue, violet
 - C. Violet, blue, green, orange
 - D. Violet, green, blue, orange
15. **In microscopy, which one of the following terms describes the relationship between retardation and thickness?**
- A. Aberration
 - B. Dispersion
 - C. Scattering
 - D. Birefringence
16. **The equivalent weight of a compound is 60. How much of this compound (in pure form) will be needed to make a 100mL solution of 0.1 N strength?**
- A. 600 mg
 - B. 6.0 g
 - C. 0.06 g
 - D. 60.0 g