Forensic Science Final Exam Review

Unit 1: Introduction to Forensics & Crime Scene Analysis
1. What are the three most basic types of crime scene recording methods? Name and describe them.
2. What are the parts that need to be included on all crime scene sketches?
3. What is a chain of custody document and why is it important in an investigation?
4. Explain the difference between evidence that has class characteristics and evidence that has individual characteristics.
5. What is Locard’s Exchange Principle and how is this principle important to forensic science?
6. What are four main reasons for the increase of crime labs in the United States?
7. Which agency maintains the largest crime laboratory in the world?
8. Who established the first crime lab?
9. What is the oldest crime lab in the U.S.?
10. What are the different units of a crime lab? Give an example of evidence that would be sent to each unit.
11. Which unit has the responsibility for the examination of body fluids and organs for the presence of drugs and poisons?
12. Forensic odontology refers to the study of ____________________.
13. What is the Frye vs. United States case and how did it influence admissible evidence?
14. Who is Alphonse Bertillon?

Unit 2: Analysis of Glass
15. How is glass made and what kind of crystal does it have?
16. How is Pyrex glass different from regular glass?
17. What is tempered glass and where is it typically used?
18. What is laminated glass and where is it typically used?
19. One of the distinguishing characteristics of different glasses is the refractive index. What is the refractive index?
20. List 4 properties of glass that allow for its classification?
21. What is a radial glass fracture?
22. What is a concentric glass fracture?
23. By looking at the hole, how can you tell which side of the glass is the entry side and which is the exit side?
24. What is the "3 R Rule" for analyzing the fracture pattern?
25. What are the three categories of substances found in glass?

Unit 3: Hair, Fiber & Fingerprint Analysis
26. Why is the cortex important in the hair shaft?
27. What part of the hair shaft contains scales?
28. What is the medulla?
29. What is the difference between a natural and synthetic fiber? Which natural fiber is the most common?
30. What is AFIS? How is it important to fingerprint evidence?
31. Besides identification, why are having fingerprints important?
32. What are minutiae points and how are they important to the individuality of fingerprints?
33. What is the difference between a visible, latent, and plastic fingerprint?
34. What are the three types of fingerprint patterns?
35. What is the most common type of fingerprint pattern? The rarest type of pattern?
36. What substance, used to recover latent fingerprints, gives a purple print after processing?
37. Pigment granules that impart hair with color are found in the ___________________ of the hair shaft.
38. What are the three stages of hair?
39. In what stage can a hair most readily be removed from the scalp?
40. How many deltas are in each an arch, a loop, and a whorl? (You need three answers)

Unit 4: DNA Analysis
41. What does “DNA” stand for?
42. What are the base pairing rules? How do they contribute to DNA’s ability to be replicated?
43. What is CODIS and how does it help forensic scientists?
44. Describe the process of PCR and explain why it is important to Forensic Science.
45. What is the difference between mtDNA and nDNA analysis?
46. What is the sugar component of DNA called?
47. What is the backbone of the DNA structure composed of?

Unit 5: Toxicology & Chemical Forensics
48. What are the drug classifications and what are some examples of each?
49. What is the Controlled Substances Act?
50. Who is known as the “Father of Forensic Toxicology”?
51. What are the different color tests and what drugs do they identify?

Unit 6: Blood & Spatter Analysis
52. What can the shape of the bloodstain tell us about the crime?
53. What is a luminol test?
54. What is the Kastle-Meyer Color Test?
55. What does a blood stain that has impacted a site at LESS than 90 degrees look like?
56. What shape does a blood stain that has impacted a site at a 90 angle have?
57. What is the difference between low velocity, medium velocity, and high velocity blood spatter?
58. What would be the correct packaging be for bloodstained material found at a crime scene? Why would you use this type of packaging?
59. Generally, bloodstain diameter ________ as height increases.
60. What is the difference between the parent drop, the spine, and the satellite?

Unit 7: Arson & Explosives
61. What would be the correct packaging be for burned material found at a crime scene? Why would you use this type of packaging?

Unit 8: Firearms, Ballistics & Other Impressions
62. What is the fire triangle? What are the three components?
63. Define flash point.
64. What are accelerants?
65. What is the point of origin? How is it determined?
66. Is a search warrant needed to search a fire scene?
67. Compare and contrast low and high explosions.
68. Compare and contrast primary and secondary explosions.

Unit 9: Document Analysis
69. What are striations? How do they help when examining firearm evidence?
70. A bullet is recovered at a crime scene and a gun is found nearby. What is the next step for determining if this bullet was fired from that particular firearm?
71. What is the difference between lands and grooves?
72. What is ballistics?
73. What are the elements that are present in gunshot residue?
74. What is the database where images of fired bullets can be searched?
75. What can gunshot residue determine?
76. What is rifling?