**Forensics Final Exam**

**Your Score:**

Highest Possible Score: 100

**Multiple Choice:** For each of the following questions, circle the letter of the answer that best answers the

1. Where is a body stored before an autopsy?
   - A. Placed in a refrigeration unit at the nearest police station.
   - B. It held in a refrigeration unit in the morgue
   - C. It is stored in a cooler with ice in the morgue

2. Most deaths occur in the presence of
   - A. Strangers
   - B. No one, alone with witnesses
   - C. Friends and family.

3. Two pieces of evidence, which would be the responsibility of the Firearms Unit are
   - A. wood and drugs
   - B. discharged bullets and cartridge cases
   - C. ammunition and blood

4. What security measures are taken to prevent counterfeiting?
   - A. Padlock icon and Security Screen
   - B. Security Checklist and Watermark
   - C. Safety Paper and Secret Strip

5. __________ glass tubes 6 to 10 mm in diameter and from 25 to 40 cm in length filled with layers of different densities.]
   - A. Radial Lines
   - B. Soil
   - C. Density-Gradient Tube

6. The medullary index measures what
   - A. An estimate of the length of the hair taken up by the medulla
   - B. An estimate of the color of the hair taken up by the medulla
   - C. An estimate of the width of the hair taken up by the medulla.

7. Two common types of arsenic are:
   - A. Pesticides and insecticides
   - B. Pesticides and Narcotics
   - C. Stimulants and insecticides

8. What is a diener?
A. A morgue attendant who is responsible for moving and cleaning the body  
B. Someone who oversees all procedures in a morgue  
C. A morgue attendant that is responsible for tagging all evidence  

9. How many chromosomes are there in a human cell?  
A. 64  
B. 46  
C. 32  

10. If defensive wounds are found on the victim where would you look for evidence of the identity of the perpetrator and what would you hope to find?  
A. perpetrator’s finger nails  
B. victim’s finger nails  
C. victim’s hands  

11. ________ glass which has been tempered so as not to crack or slither in the fashion of normal glass  
A. Tempered Glass  
B. Stress Marks  
C. Density-Gradient Tube  

12. What is the main purpose for examining a hair found at the crime scene?  
A. To establish whether the hair originates from a human or animal.  
B. To establish whether the hair color.  
C. To establish whether the hair originates from a child or adult.  

13. What is a “gross exam”?  
A. Overall exam  
B. An exam with a horrible odor  
C. The largest part of the exam]  

14. ________ a drop of a chemical reagent is added to a small quantity of the drug on a microscopic slide. After a short time, a chemical reaction ensues, producing a crystalline precipitate.  
A. Mass Spectrometry  
B. Marquis  
C. Microcrystalline Test  

15. ________ are made by using a chemical or mechanical abrasive.  
A. Copies  
B. Erasures  
C. Exemplar  

16. The two most common solvents in a poisoning is ________.  
A. Ethanol & Water  
B. Rat Poisoning and Orange Juice  
C. Bleach and Milk  

17. Where do a person’s VNTRs come from?
A. A specific location in a person’s DNA.
B. The genetic information donated by his or her parents
C. A genetic abnormality.

18. What type of information would you hope to get from drugs found at a crime scene?
   A. Type and Visual
   B. Visual and Comparison
   C. Type and Strength of drug

19. What is a trait?
   A. It is not a person’s hair color, eye color or the color of skin
   B. It is a characteristic that two friends share.
   C. It is a notable feature or quality in a person.

20. ___________ the process performed on chromatography to develop is invisible components of
    samples.
   D. Visualize
   E. Molarity
   F. Solvents

21. What is the easiest way to rule out Accidental Death?
   A. Complete the autopsy
   B. Reconstruct what happened by first determining what did happen.
   C. Reconstruct what happened by first determining what didn't happen.

22. The complete set of instructions for making a human being is found where?
   A. DNA
   B. Gene
   C. Trait

23. __________ are accomplished by adding content with similar ink or print to change the original
    context.
   A. Obliterations
   B. Alterations
   C. Prints

24. What is the name of the document you signed the evidence out on?
   D. Custody Form
   E. Sign out sheet
   F. Chain of Custody

25. Does every cell in the body contain DNA?
   A. No, cells that has abnormalities do not contain DNA.
   B. Yes, without DNA a cell could not exist.
   C. No, Mature red blood cells and cornified cells in the skin, hair, and nails contain no nucleus.

26. What does a pathologist look for in an electrocution?
A. Charring or burn marks around the point where the electricity first entered the body.
B. Charring or burn marks around the body.
C. Charring or burn smell around the point where the electricity first entered the body.

27. _______ any disintegrated surface material, both natural and artificial, that lies on or near the earth's surface
   A. Concentric Cracks
   B. Soil
   C. Radial Cracks

28. _______ glass fractures lines which form on the surface opposite that of the penetrating force
   D. Soil
   E. Concentric Cracks
   F. Radial Lines

29. What is the function of the protein hemoglobin?
   G. Capture and carry oxygen.
   H. Carry and release oxygen.
   I. Capture and process oxygen.

30. _______ is a calculated quantity that denotes the strength of a solution; most often the strength of an acid or base between 0 and 12
   J. Vizualize
   K. Molarity
   L. Centrate

31. [To which forensic unit should a green leafy plant that was to be found trampled at a crime scene be sent?]
   A. Physical and Biological
   B. Chemical and Physical
   C. Biological

32. _______ techniques of thin-layer and gas are especially well suited to the needs of the drug analyst, because they separate drugs from their diluents while providing for their tentative identification.
   A. Mass Spectrometry
   B. Van Urk
   C. Chromatography

33. _______ spiral marks placed on the inside of a barrel to insure bullets will exit the barrel with a rotating motion.
   A. Striations
   B. Caliper
   C. Barium and Anatomy

34. Where is vitreous humor normally located?
   A. Inside the eye
   B. Inside the mouth
C. inside the stomach

35. What do genes tell the cell to make?
   A. Traits
   B. Calcium
   C. Proteins

36. What is headspace?
   A. Screens for alcohol
   B. Screens for intelligence
   C. Screens for blood abnormalities

37. ________ portions of this is found on hands of a person who has fired a weapon.
   A. Striations
   B. Forgery
   C. Caliper

38. Where is a body stored before an autopsy?
   A. Placed in a refrigeration unit at the nearest police station.
   B. It held in a refrigeration unit in the morgue
   C. It is stored in a cooler with ice in the morgue

39. Signing another person's name to a check is an example of:
   A. Literary Forgery
   B. Forgery
   C. Honesty

40. ________ can readily separate a drug from other substances which may be present in the drug preparation, however, it suffers from the drawback of not being able to provide the analyst with a specific identification of the material under investigation
   A. Marquis
   B. Mass Spectrometry
   C. Microcrystalline Test

41. How many markers are typically used by labs?
   D. 13
   E. 46
   F. 21

42. ________ glass tubes 6 to 10 mm in diameter and from 25 to 40 cm in length filled with layers of different densities.
   A. Density-Gradient Tube
   B. Radial Crack
   C. Soil

43. If a pistol and some ammunition was to be found at a crime scene, what kind of analysis should be performed?
A. Visual and Chemical
B. Comparison and Microscopic
C. Origin and Comparison

44. Where are defensive wounds commonly found?
   A. hands, fingers and arms of the victim
   B. hands, fingers and feet of the victim
   C. [hands, fingers and arms of the perpetrator]

45. What is an Autopsy?
   A. A way to test DNA, for abnormalities
   B. An exam requested by families for medical treatments
   C. A routine postmortem examination performed by a pathologist on a patient who has died.

46. [How is DNA packaged to fit into the small space of a cell nucleus?]
   A. They are packed into compact units called a gene
   B. They are packed into compact units called chromosomes
   C. They are squeezed into a trai]

47. ________ the part of a hair contained within the protective layer of the cuticle and made up of spindle-shaped cortical cells aligned in a regular array, parallel to the length of the hair.
   A. Shaft
   B. Cortex
   C. Cuticle

48. ________ the surfaces of the original bore remaining between the groves.
   A. lands
   B. Caliper
   C. Groves

49. Which drug is this: implies a state of lethargy or sluggishness.
   A. Narcotics
   B. Hallucinogens
   C. Depressants

50. How long does an autopsy take?
   A. 4-6 weeks
   B. 4-6 days
   C. 4-6 months

51. What is the standard dress of a person while performing an autopsy?
   A. [a. Scrubs, hair net, glasses and rubber gloves
   B. Scrubs, gowns, two pairs of gloves, shoe covers, and a plastic face shield.
   C. Safety glasses, gloves, gown and mask

52. How are exit wounds different than entrance wounds?
A. They are usually larger than entrance wounds.
B. They are usually smaller than entrance wounds.
C. There are no differences

53. _________ the diameter of the gun barrel, measured between opposite Lands.
   A. Caliper
   B. Lands
   C. Groves

54. _________ is an appendage of the skin that grows out of an organ
   A. Shaft
   B. Cuticle
   C. Hair Follicle

55. Each strand of DNA contains a sequence of bases (also called nucleotides). What are the four bases?
   A. adenine, guanine, cytosine and geranium
   B. adenine, thyme, cytosine and clove
   C. adenine, guanine, cytosine and thymine

56. The selective absorption of light by drugs in the UV and IR regions of the electromagnetic spectrum is _____________.
   A. Spectrophotometry
   B. Chromatography
   C. Scott Test

57. [What kind of analysis should be performed with a suicide note found at a crime scene?] 
   A. Comparison, Visual, Microscopic and Chemical
   B. Comparison, Visual and Biological
   C. Microscopic, Visual Physical and Origin

58. What is the approximate growth rate for hair?
   A. Approximately 4 centimeters per month.
   B. Approximately one centimeter per week
   C. Approximately one centimeter per month

59. Exemplar is...
   A. Handwriting guidelines
   B. A handwriting sample
   C. A handwriting comparison

60. Which drug is this: depressant action on the central nervous system?
   A. Narcotics
   B. Hallucinogens
   C. Depressants
61. _______ measures the diameter of the medulla relative to the diameter of the hair shaft, normally expressed as a fraction
   A. Medullary index  
   B. Morphology  
   C. Medulla

62. Two pieces of evidence, which would be the responsibility of the biology Science Unit.
   A. Paints and Soil  
   B. Glass and Plants  
   C. Wood and Plants

63. How long would the DNA in one human cell be?
   A. 3 meters long  
   B. 3 centimeters’ long  
   C. 2 millimeters’ wide]

64. _______ costs the United States between 10-14 million per year.
   A. Erasures  
   B. Alterations and obliterations  
   C. Check fraud and counterfeiting

65. Drugs that can cause marked alterations in normal thought processes, perceptions, and moods are:
   A. Narcotics  
   B. Hallucinogens  
   C. Depressants

**True or False:** For each statement, circle True or False.

True      False  66. The shaft is composed of these three layers: Cuticle, Cortex, Medulla.
True      False  67. Barbiturates are Depressants which create a feeling of well-being, relaxation, and induce sleep
True      False  68. The Physical Science Unit is where you would send paint to.
True      False  69. [Apples are smells that are associated with cyanide poisoning during an autopsy?]
True      False  70. By examining a bullet hole in a pain of glass it is possible to identify the size of the penetrating bullet.
True      False  71. Groves are spiral marks placed on the inside of a barrel to insure bullets will exit the barrel with a rotating motion.
True      False  72. Rat poison is a common substance that contains arsenic.
True      False  73. You hope to get Origin and Composition from soil collected at a crime scene.
True      False  74. Hydrochloric acid is HC3
True      False  75. For a concentric fracture, the perpendicular end always faces the surface on which the force originated.
True      False  76. Any document that has been darkened by unknown causes is called
True      False  77. Blood cannot be identified as coming from a male or female
True      False  78. Deoxyribo Nucleic Acid is DNA

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True  False  79. The Brain is washed with a solvent before Analysis
True  False  80. VNTR stand for Variable Number Tandem Repeaters.
True  False  81. Concentric fracture lines form on the surface opposite that of the penetrating force.
True  False  82. You can distinguish a hair that has been bleached or dyed from a natural hair?
True  False  83. Humans have 2,400 genes
True  False  84. CSI over sees Counterfeiting]
True  False  85. Lands are portions of this is found on hands of a person who has fired a weapon.

Fill in the Blank: Into each sentence below, copy a term from the word bank that correctly completes the sentence.

Asphyxiation  Centrifuge  Locus  Rifting  Stimulants
Biology  Concentric Cracks  Morphology  Serology  Stress Mark
Carbon Monoxide  Indented Writing  Obliterations  Spinal Cord  Tattooing

86. After the top of the skull is lifted off the _______ holds the brain in the head?
87. The _______ Unit is where you send blood to.
88. _______ occurs when an impression is left on sheets of paper that were below the original sheet of paper.
89. _______ are white fracture lines which are observed microscopically on a cross section of glass
90. _______ are drugs that stimulate the central nervous system.
91. _______ is a machine which uses centrifugal force to separate a precipitate and a centrate.
92. A _______ is the specific location of a gene or DNA sequence or position on a chromosome.
93. _______ are made by using a chemical to remove the original text or by blacking out the original text completely.
94. _______ is the term given to blocking the airway so that the individual on the receiving end cannot breathe and ultimately dies.
95. _______ is a common toxic gas death?
96. _______ are glass fractures lines which form on the same side as the penetrating force
97. _______ is the analysis of the properties and effects of serums.
98. _______ remains the hairs most characteristic forensic feature?
99. _______ as it is sometimes referred to, is when the gunpowder will spray around the area of the wound and burn to the skin as it is hot on being fired from a weapon.
100. _______ the impression of groves placed on the inner surface of a barrel.