

**Instructions (shown before students start the test)**

**Introduction (shown after students start the test)**

Following this introduction, you will be taking a sample practice test to help you learn to navigate taking a virtual forensics test. This is not a full blown test but a sampling of a variety of questions on many of the topics in this event.

**1. (1.00 pts)**

Identify the following powder by chemical name (not formula) based on these test results: substance burned lavender and turned green upon heating with Benedicts.

**2. (1.00 pts)**

Identify the following powder by chemical name (not formula) based on these test results: substance reacted in HCl and turned clear in iodine.

**3. (1.00 pts)**

Identify the following powder by chemical name (not formula) based on these test results: substance formed a precipitate in NaOH and boiled off water and sizzled in a flame.

**4. (1.00 pts)**

Identify the following powder by chemical name (not formula) based on these test results: substance was not soluble in water or NaOH, no reaction in HCl, Benedicts or iodine.

**5. (1.00 pts)**

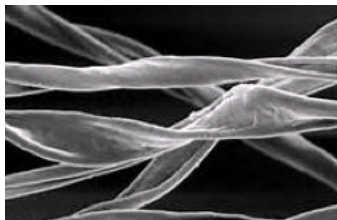
Identify the following powder by chemical name (not formula) based on these test results: substance turned green in a flame and appeared to float in water.

**6. (1.00 pts)**

A fiber was placed into a flame and the following was observed: it shriveled and smelled like burning hair. Name the fiber.

**7. (1.00 pts)**

Identify the following fiber:



8. (1.00 pts)

Identify the following hair:



9. (1.00 pts) The unknown plastic floated when placed in water and sank vegetable oil. Name the unknown plastic.

10. (1.00 pts) What is the correct order of performing PCR (Polymerase Chain Reaction)?

- A) Anneling, Extending, Denaturing
- B) Extending, Anneling, Denaturing
- C) Denaturing, Annealing, Extending
- D) Denaturing, Extending, Annealing
- E) None of the Above
- F) All are correct, order does not matter.

11. (1.00 pts)

This right handed fingerprint is an example of an ulnar loop.



True  False

12. (1.00 pts) What does the Rf stand for in chromatography?

13. (1.00 pts) What blood type is the universal acceptor?

14. (1.00 pts) In the formula for the Index of refraction,  $n=c/v$ , the c stands for \_\_\_\_\_.

15. (1.00 pts) Ninhydrin is best used for finding fingerprints on paper or cardboard and yields an orange or purple image.

True  False

**16. (1.00 pts)** Which of the following invented DNA Fingerprinting

- A) Kary Mullis
- B) Sir Alec Jefferies
- C) M. S. Tswett
- D) Jacob Thompson
- E) None of the above

**17. (1.00 pts)** What are the four stages in the mass spectrometer in correct order?

- A) Detection, Deflection, Acceleration, Ionization
- B) Deflection, Acceleration, Ionization, Detection
- C) Detection, Acceleration, Deflection, Ionization
- D) Detection, Ionization, Acceleration, Deflection
- E) Ionization, Acceleration, Deflection, Detection
- F) Ionization, Deflection, Detection, Acceleration

**18. (1.00 pts)** What type of soil has large grains and does not contain organic material?

**19. (1.00 pts)** What is the purpose of the ejector in the firearm?

**20. (1.00 pts)** Shotguns do not have rifling.

True  False

**21. (1.00 pts)** How long does the first instar of a blow fly take?

**22. (1.00 pts)** Describe algor mortis.

**23. (1.00 pts)** A transfer blood stain is when a bloody surface comes into contact with another surface.

True  False

24. (1.00 pts) The highest m/z value is the \_\_\_\_\_.

25. (1.00 pts) The catagen phase of hair growth cycle is the phase where 85% of all hairs are in.

True  False

I hope you found this helpful and learned a lot!