CSI: DNA Practice Quiz

1. DNA evidence is less reliable than
   a. fingerprint evidence.
   b. hair and fiber evidence.
   c. Bite mark evidence.
   d. None of the above.

2. The correct order of collecting and processing DNA is
   a. collect evidence, DNA extraction, DNA electrophoresis, DNA profiling.
   b. collect evidence, DNA profiling, DNA electrophoresis, DNA extraction.
   c. collect evidence, DNA electrophoresis, DNA extraction, DNA profiling.
   d. collect evidence, DNA extraction, DNA profiling, DNA electrophoresis.

3. DNA can be used to
   a. determine the age of a suspect.
   b. determine the general health of a suspect.
   c. determine the identity of badly damaged or degraded remains.
   d. determine the height and weight of an unknown suspect.

4. What is the purpose of DNA extraction?
   a. Extract genes from the DNA.
   b. Isolate the DNA from the sample.
   c. Break the DNA into fragments, separate the fragments, identify key genetic codes with radioactive markers, and develop a visual profile of these markers.
   d. Compare known DNA profiles to an unknown sample to determine if a suspect was or wasn’t at a crime scene.

5. What is the purpose of DNA electrophoresis?
   a. Extract genes from the DNA.
   b. Isolate the DNA from the sample.
   c. Break the DNA into fragments, separate the fragments, identify key genetic codes with radioactive markers, and develop a visual profile of these markers.
   d. Compare known DNA profiles to an unknown sample to determine if a suspect was or wasn’t at a crime scene.

6. What is the purpose of DNA profiling?
   a. Extract genes from the DNA.
   b. Isolate the DNA from the sample.
   c. Break the DNA into fragments, separate the fragments, identify key genetic codes with radioactive markers, and develop a visual profile of these markers.
   d. Compare known DNA profiles to an unknown sample to determine if a suspect was or wasn’t at a crime scene.
7. Which piece of evidence is least likely to contain DNA?
   a. blood
   b. saliva
   c. skin tissue
   d. hair

8. Bagging samples is part of
   a. DNA electrophoresis.
   b. DNA profiling.
   c. DNA extraction.
   d. DNA collection.

9. Bursting cells open using a lysis solution followed by a warm water bath is part of
   a. DNA electrophoresis.
   b. DNA profiling.
   c. DNA extraction.
   d. DNA collection.

10. Using the CODIS database is part of
    a. DNA electrophoresis.
    b. DNA profiling.
    c. DNA extraction.
    d. DNA collection.

11. Adding a nylon membrane and x-ray film to the gel tray is part of
    a. DNA electrophoresis.
    b. DNA profiling.
    c. DNA extraction.
    d. DNA collection.

True/False. Determine whether the statement is true or false. Write T if true and write F if false.

12. No two people have the same DNA profile?

13. A DNA profile is a visual display of 15 bands that represent 15 characteristics of the DNA sample?

14. In a paternity investigation, all the bands in the crime scene DNA profile must match all the bands in the suspect’s DNA profile to conclude that both DNA samples are from the same person.

15. For an adult to be the parent of a child, three-fifths of the bands on the two profiles must match.

16. Two half-siblings will have less matching bands in their DNA profiles, than two full-siblings.

17. All hair samples with the medulla intact contain DNA.

18. Latent fingerprints do not contain DNA.

19. Most body fluids contain DNA.

20. There have been documented cases of DNA evidence being faked and planted at a crime scene.
Answer Key
1. a
2. a
3. c
4. b
5. c
6. d
7. d
8. d
9. c
10. b
11. a
12. False. Identical twins have the same DNA
13. False. It is a display of 10 bands
14. False. In a criminal investigation all the bands in the crime scene DNA profile must match all the bands in the suspect’s DNA profile to conclude that both DNA samples are from the same person.
15. False. Half the bands must match.
16. True.
17. False. All the hair samples with the root intact contain DNA.
18. True.
19. False. All body fluids contain DNA.
20. True.