

# Forensics

## (General Knowledge)

1. What is the definition of chromatography?
2. What is the difference between a solvent and a solute?
3. What ratio does R<sub>f</sub> represent?
4. Write the balanced chemical reaction made between Calcium Carbonate and Hydrochloric Acid.
5. What protein is hair primarily composed of?
6. How many ridges does the average human adult have on one finger?
7. What does R<sub>f</sub> stand for?
8. What causes fingerprint ridge patterns?
9. Name two uses of Calcium Nitrate.
10. What is the full name for the polymer abbreviated using the letters LDPE?
11. Draw the chemical structure for LDPE.
12. Please name two uses for LDPE.

13. What is the chemical basis for Iodine fuming (Ninhydrin)?
14. What is the chemical basis for dusting (S.P.R.)?
15. What is the full name for the polymer abbreviated using the letters PP?
16. Draw the chemical structure of PP.
17. Please name two uses for PP.
18. What does DNA stand for?
19. Name two uses of Lithium Chloride.
20. What insect is usually the first to come into contact with a dead body?
21. Define the meaning of a diatomic element.
22. Please list all elements that can be diatomic.
23. What are the four nucleotides found in DNA?
24. List two names for the chemical powder  $\text{NaHCO}_3$ .
25. What is the full name for the polymer abbreviated using the letters PVC?
26. Draw the chemical structure of PVC.

27. Please name two uses for PVC.
28. What percentage of the population has arched fingertips?
29. Describe two uses of Boric Acid.
30. What is the full name for the polymer abbreviated using the letters PETE?
31. Draw the chemical structure of PETE.
32. Please name two uses for PETE.
33. What type of molecule is being tested for in ABO blood testing?
34. What does AFIS stand for?
35. What percentage of the population has looped fingerprints?
36. What percentage of the population has arched fingerprints?
37. What causes fingerprint ridge patterns?
38. What property of the nucleotides makes DNA replication possible?
39. What are the four steps of Mass Spectrometry?

40. What are the two primary categories of fibers?
41. What is the full name for the polymer abbreviated using the letters PVC?
42. Draw the chemical structure of PVC.
43. Please name two uses for PVC.
44. What is another name for Fourier transform ion cyclotron resonance mass spectrometry?
45. What does  $m/z$  mean in mass spectrometry?
46. Other than in the hair, where can the protein that primarily comprises hair be found in the human body?
47. What is the full name for the polymer abbreviated using the letters PS?
48. Draw the chemical structure of PS.
49. Please name two uses for PS.
50. Please label the following diagram.  
(Only the three blank lines)

