

Home to take Test for LAB I

The answers provided to this test has to be handwritten/students need to have knowledge also when asked.

1. Sketch major components of gas chromatograph.
2. What is the difference between a chromatograph and a chromatogram?
3. Sketch split/splitless injector, explain operation principle, and explain difference between split and splitless injection.
4. Why do you use a septum purge?
5. 5. What is a backflash in gas chromatography? How can you limit it?
6. A split injection on a gas chromatograph is normally preferred when?
7. Explain principle of solvent/cold trapping. How is it performed?
8. Does solvent trapping affect the separation?
9. Would be the easiest approach to optimize the separation?
10. Why do you optimize linear velocity? Do you have to do it before each analysis? Why yes or no.
11. Apart from getting into big trouble, what will happen if you leave column heated without the flow?
12. What do you actually control when you are changing the splitless time? How will the splitless time affect your chromatogram?
13. What are the typical dimensions of capillary column? Sketch a cross section of a capillary column and explain major parts. What is the purpose of the coating?
14. When operating GC-FID, list all the gas supplies you need and explain their purpose
15. Explain principle of operation of FID.
16. How high would you set the temperature on FID for the ignition and for the operation?
17. Which part of the instrument defines the volume of the injector?
18. Which physical parameter (property of the analyte) controls elution and separation on a nonpolar stationary phase.
19. What is the Van Deemter curve? How do you use it?
20. What are the main assignments you have to complete within the lab? How will you go about them?
21. What do you expect to learn from each assignment?