

Test for LAB I

The answers provided to this test has to be handwritten

1. Sketch major components of gas chromatograph.
2. What is the difference between chromatograph and chromatogram?
3. Explain difference between split and splitless injection: sketch injector, explain operation principle.
4. Why do you use septum purge?
5. What is the backflash in gas chromatography? How can you control it?
6. A split injection on a gas chromatograph is normally preferred when:
7. Explain principle of solvent trapping. How is it performed?
8. Does solvent trapping affect the separation?
9. How would you optimize the separation?
10. Why do you optimize linear velocity?
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.

14. When Operating GC/FID which gas supplies you need and why?
15. Explain principle of operation of FID.
16. How high would you set the temperature on FID?
17. Which part of the instrument defines the volume of the injector?
18. Which physical parameter controls elution on a nonpolar stationary phase.