

Test Prior to the GC Lab User Training

The answers must be provided prior to the lab; however, the student should have the knowledge the content without looking at notes. Lack of preparation will result in the cancelation of the lab and its delay to a further date. The uploaded answers must be handwritten.

1. Sketch major components of a gas chromatograph.
2. Sketch split/splitless injector, explain the operation principle and explain the difference between split and splitless injection.
3. What is the purpose of the septum purge?
4. What is a backflash in gas chromatography? How can you limit it?
5. When is a split injection on a gas chromatograph normally preferred?
6. Explain the principle of solvent/cold trapping. How is it performed?
7. Would be the easiest approach to optimize the separation?
8. Why do you optimize linear velocity? Do you have to do it before each analysis? Why yes or no?
9. Apart from getting into big trouble, what will happen if you leave the column heated without the flow?
10. Which chromatographic parameters do you affect when you are changing the splitless time?
11. Explain the principle of FID operation.
12. How high would you set the temperature on FID for the ignition and for the operation?
13. Which part of the instrument defines the volume of the injector?
14. Which physical parameter (property of the analyte) controls elution and separation on a nonpolar stationary phase.
15. What are the main assignments you have to complete within the lab?