

All new NMR users need to pass the following NMR quiz before attending the training. The answers for the quiz should be sent to the instructor three days before the training day.

NMR BASIC TRAINING QUIZ

1. What does the 400 in AV-400 mean?
2. What do the letters FID stand for and what is an FID?
3. What are TMS, DSS and TSP and what do we use them for in NMR?
4. When you are "locking" the instrument, what nucleus are you using and where is it found?
5. Why do we use deuterated solvents?
6. What is a "good" sample concentration to use when observing protons?
7. What special acquisition conditions are required to correctly integrate signals in a proton spectrum?
8. Why do we **not** usually integrate carbon spectra?
9. What is digital resolution?

10. Why is digital resolution important?
11. Why would one not generally use a very large value for SW?
12. What are zero-order and first-order phase corrections?
13. What depth of solution is usually required in the NMR tube to produce optimum results?
14. What do you need to do before you put your sample into the magnet?
15. When can you put your sample and spinner atop the magnet?
16. What will happen if the lock power is too high and lock gain is too low?
17. What will happen if the lock gain is too high and lock power is too low?
18. What shims do you need to shim with sample spinning?
19. What do you need to do before you eject your sample?

20. What do you do if the workstation is frozen or you have hardware problem?

21. How many NMR spectrometers do we have? What are the charge rates for them?

22. What is the sign-up policy for the AV-400?

23. What is the penalty for using an instrument without first reserving time on that instrument?

24. What do you need to do before you leave the NMR lab?

25. When you are ejecting your sample from the magnet, the light on the sample changer/carousel dome changes from green to white and changes to green again in few seconds. What happens if you pick your sample while the light is still white?

26. What should you do in the case the light on the sample changer dome is red on one of the instruments in CMB309?