Particle Characterization: Module 10, Lecture 28

1. What can & cannot be detected with ion & gas chromatography?
2. What are some challenges in nano-particle characterization?
3. What is the precursor to AFM?
4. How does an AFM work for physical characterization of a particle?
5. How does an AFM work for chemical characterization of a particle?
6. What are the 3 modes of operation of an AFM? When do you use each?
7. What are the two measurement methods in contact mode? When do you use each?
8. What are the two measurement methods in non-contact mode? When do you use each?
9. How can “snap-in” be prevented?
10. On what basis is stiffness of AFM cantilever selected?
11. What are some drawbacks of an AFM?
12. What were Hulls’ discoveries that led to the development off the XRD?
13. State Bragg’s Law and its implications for XRD analysis.
14. How does an XRD spectrum yield info on composition, crystallinity and size of particles?
15. Is an XRD useful as a process-control tool in manufacturing?