

**PROGRAMME NAME: M.Sc. (CHEMISTRY)**  
**YEAR: I**  
**SEMESTER-II**  
**COURSE NAME: ANALYTICAL CHEMISTRY-II**

Note:-attempt all questions.

1. Calculate the  $t_{max}$  according to the Beer Lambert's law.
2. What is IR spectroscopy? Explain its instrumentation and application.
3. Write short notes on.
  - a. Types of bending in IR spectroscopy
  - b. Application of UV-& Visible spectroscopy.
4. Explain the theory & instrumentation of NMR.
5. Write short notes on
  - a. Spin spin coupling
  - b. Shielding & deshielding effect.
6. Explain the an-isotropic effect of NMR spectroscopy.
7. What is Mc-Lafferty rearrangement?
8. Explain the application of mass spectroscopy.
9. Explain the fragmentation of alcohol and ketenes.
10. Explain the Instrumentation and application of AAS.