



Assignment No. 1

ANALYTICAL TECHNIQUES IN CHEMISTRY

Course Code: CHL4101

Semester: II

Course Title: Engineering Chemistry

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1. What are the various parts which comprise the construction of a general spectrophotometer? Elaborate with the help of a block diagram.
2. Draw a comparison between the construction of a UV and IR spectrophotometer on the basis of source of radiation, material of cuvette, detector and diagram of its assembly.
3. Explain the process of TLC for separating a mixture of amino acid in detail.
4. What are the different types of transitions possible in UV-VIS spectroscopy? Explain with the help of diagram and also arrange them in the order of increasing energy.
5. What are the various modes of vibrations encountered in IR spectroscopy? Elaborate with the help of a flow chart.
6. What are the two laws of absorption? Derive a relationship between them.
7. State and describe various intensity and absorption shifts in the UV –VIS spectra.
8. Draw a diagram to show various changes possible in the energy levels in Spectroscopy.