

I Year II Semester

L T P C

Code: 17CH211

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**APPLIED/ ENGINEERING CHEMISTRY LABORATORY
(ECE and CSE)**

1. Introduction to chemistry laboratory – Molarity, Normality, Primary, Secondary, standard solutions, volumetric titrations, quantitative analysis, qualitative analysis etc.
2. Trial Experiment – Determination of HCl using standard Na₂CO₃ solution.
3. Determination of KMnO₄ using standard oxalic acid solution.
4. Determination of Ferrous iron using standard K₂Cr₂O₇ solution.
5. Determination copper using standard K₂Cr₂O₇ solution.
6. Determination of alkalinity of a sample containing Na₂CO₃ and NaOH.
7. Determination of Total hardness of water sample using standard EDTA solution.
8. Determination of copper using standard EDTA solution.
9. Determination of pH of the given sample solution using pH meter.
10. Conductometric titration between strong acid and strong base.
11. Conductometric titration between strong acid and weak base.
12. Determination of zinc using standard EDTA solution.

Outcomes:

The students entering into the professional course have very little exposure to lab classes. The experiments introduce volumetric analysis, redox titrations with different indicators, EDTA titrations, and then they are exposed to a few instrumental methods of chemical analysis. Thus at the end of the lab course, the student is exposed to different methods of chemical analysis and use of some common employed instruments. They thus acquire some experimental skills.

Reference Books:

1. A Textbook of Quantitative Analysis, Arthur J. Vogel.
2. Dr. JyotsnaCherukuri (2012) Laboratory Manual of engineering chemistry-II, VGS Techno Series
3. Chemistry Practical Manual, Lorven Publications.
K. Mukkanti (2009) Practical Engineering Chemistry, B. S. Publications.