

N.I.T. Mizoram
Department of Chemistry

Subject: Chemistry Laboratory
Code: CHP 1201

(L-T-P: 0-0-2)
Credit: 2

- Exp. No. 1: Determination of viscosity by Redwood viscometer.
- Exp. No. 2: Determination of critical micelle concentration (cmc) of commercial soaps by surface tension/conductance method.
- Exp. No. 3: Verification of Beer-Lambert's law and determination of concentration of unknown solution by spectrophotometer.
- Exp. No. 4: To study the adsorption of acetic acid on activated charcoal.
- Exp. No. 5: Determination of dissociation constant of weak acid using a pH meter.
- Exp. No. 6: Determination of cloud point of polymers and the effect of additives.
- Exp. No. 7: To determine the rate constant of acid catalyzed hydrolysis of methyl acetate conductometrically.
- Exp. No. 8: To find the strength of unknown supplied acid by conductometric titration (strong acid vs. strong base).
- Exp. No. 9: Estimation of hardness of water by complexometry.
- Exp. No. 10: Synthesis and characterization of metal(acetylacetonate): Mn (III)/Fe (III).
- Exp. No. 11: Estimation of Fe^{2+} by permanganometry.
- Exp. No. 12: Preparation of drug molecule: Paracetamol/Aspirin.
- Exp. No. 13: Isolation of natural products like Caffeine/Lactose.
- Exp. No. 14: Preparation of nylon 6,6.
- Exp. No. 15: Find out number of components in organic mixture and determination of R_f of each component using thin layer chromatography.
- Exp. No. 16: Find out the m.p. of a binary mixture of organic compounds by varying the composition and determine the composition of the unknown mixture.

NOTE: Any ten experiments from the above shall be performed

Text/Reference Books:

1. Practicals in Physical Chemistry, P.S. Sindhu, Macmillian 2006.
2. Vogel's textbook of quantitative inorganic analysis, including elementary instrumental analysis, A.I. Vogel, 5th Edition, Addison-Wesley Longman, Incorporated, 1989.
3. Comprehensive Practical Organic Chemistry Preparation and quantitative Analysis, V.K. Ahluwalia, Renu Aggarwal, University Press India LTD, 2000.
4. J.R. Mohrig, T.C. Morrill, C.N. Hammond and D.C. Neckers, Experimental organic chemistry, W.H. Freeman and Co., 1998.
5. N.K. Vishnoi, Advanced Practical organic chemistry, Vikash publishing housing Pvt. LTD., 1996.
6. B.S. Furniss, A.J. Hannaford, P.W.G. Smith, and A.R. Tatchell, Vogels textbooks of practical organic chemistry, 5th Ed., ELBS longman, 1994.