

PRACTICALS (102202)

OBJECTIVES :-

1. To conduct separation and estimation of amount of metal ions in binary metal ion mixture.
2. To Perform/demonstrate the techniques involved in organic binary mixture separation specially solid- liquid mixture.
3. To perform distillation techniques for purification of organic compounds.
4. To use/ apply the technique of separation , crystallization derivatization and function group detection.
5. To use the methods for the preparation of useful compounds using named reaction.
6. To interpret the experimental results obtained by refractometer, spectrophotometer, Ph meter, potentiometer.
7. To conduct the experiment on various instrumental techniques.
8. To describe the principles behind the experiment performed in the laboratory.

Code : 102202	PRACTICAL	4 CREDITS
Inorganic Chemistry	II. Separation and estimation of amount of metal ions from the following mixture solutions 1. Copper- Nickel 2. Nickel- Zinc 3. Iron- Magnesium	8 Hours/ Week
Organic Chemistry	Single Stage Preparations: - i) p-nitro acetanilide from acetanilide. ii) Dibenzylidene acetone from Benzaldehyde The preparations should be carried out using (0.02 to 0.05 mole) of the starting material. ii) The yield, melting point and TLC of the recrystallised product should be recorded.	
Physical Chemistry	Non-Instrumentation. 1. Determine the molecular refraction of methyl acetate, ethyl acetate, n-hexane and carbon tetrachloride and calculate the refraction of CH ₂ , C, H and O atoms. 2. To study the effect of surfactants (sodium chloride) on surface tension of given liquid. 3. To determine the radius of molecule by viscosity measurements.	
Analytical Chemistry	1. To determine the lead and tin content of a solder alloy by titration with EDTA. 2. To determine amount of Cu(II) present in the given solution containing a mixture of Cu(II) and Fe(II). 3. To determine number of nitro groups in the given compound using TiCl ₃ .	

Reference Books :

1. Quantitative Inorganic Analysis including Elementary Instrumental Analysis by A. I. Vogels, 3rd Ed. ELBS (1964)
2. Vogel's textbook of quantitative chemical analysis, Sixth Ed. Mendham, Denny, Barnes, Thomas, Pearson education
3. Standard methods of chemical analysis, F. J. Welcher
4. Standard Instrumental methods of Chemical Analysis, F. J. Welcher
5. W.W.Scott."Standard methods of Chemical Analysis",Vol.I, Van Nostrand Company,Inc.,1939. 6. E.B.Sandell and H.Onishi,"Spectrophotometric Determination of Traces of Metals",PartII,4th Ed.,A Wiley Interscience Publication,New York,1978.