PRACTICALS (202202)

OBJECTIVES : -

1. To conduct separation and estimation of amount of metal ions in binary metal ion mixture.
2. To use the methods for the preparation of useful compounds using named reaction.
3. To conduct the experiment on various instrumental techniques.
4. To describe the principles behind the experiment performed in the laboratory.
5. Able to handle colorimetric instrument for analysis.

Code : 202202	**PRACTICAL**	**4 CREDITS**
Inorganic Chemistry	**Separation and estimation of amount of metal ions from the following mixture solutions:-** 1.Copper- Barium 2. Iron –Aluminum 3. Copper- Iron	8 Hours/ Week
Organic Chemistry	**Single Stage Preparations:-** 1. p-Bromo acetanilide from acetanilide. 2. 1,4-dichlorobenzene from p-chloroaniline 3. Benzophenone from benzene (Friedal Craft) 4. Cyclohexanone to adipic acid. 5. Benzaldehyde to cinnamic acid 6. P – aminobenzoic acid to p-chlorobenzoic acid	
Physical Chemistry	**Instrumentation: -** 1. Determine the pK1 and pK2 value of phosphoric acid by pH metry 2. Determine the indicator constant of given indicator by colorimetric measurements. 3. Study of kinetics of inversion of cane sugar. 4. Determine the solubility of benzoic acid in water at different temperature and hence its heat of solution. 5. Determine the formula of the complex formed between Cu(II) and ammonia by distribution method. 6. Determine the velocity constant of hydrolysis of ester.	
Analytical Chemistry	**Colormetric Analysis of elements:-** Estimation of metal ions, pk value of metal ions, Estimation of mixture of metal ions	

Reference Books :

1. Systematic experimental physical chemistry – T. K. Chondhekar & S.W. Rajbhoj

2. Experiments in chemistry – D.V. Jahagirdar

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.