

B.Sc. II Year
Paper XIV (CH-207) Practical

M.Marks:60

Time: 7 Hrs.

(One day in two sessions i.e. 9:00AM-12:30PM and 1:30PM-5:00PM)

Section– A (Inorganic)

1.Gravimetric Analysis:

Quantitative estimations of, Cu^{2+} as copper thiocyanate, Ni^{2+} as Ni – dimethylglyoxime and Al^{3+} as oxinate. 2.

Colorimetry:

To verify Beer - Lambert law for $\text{KMnO}_4 / \text{K}_2\text{Cr}_2\text{O}_7$ and determine the concentration of the given $\text{KMnO}_4 / \text{K}_2\text{Cr}_2\text{O}_7$ solution.

3. **Preparations:** Preparation of Cuprous chloride, tetra ammine cupric sulphate, chrome alum, potassium trioxalatochromate(III) and Nickel Hexammine chloride.

Section-B (Physical)

1. To determine the CST of phenol – water system.
2. To determine the solubility of benzoic acid at various temperatures and to determine the ΔH of the dissolution process.
3. . To determine the enthalpy of neutralization of a weak acid/ weak base vs. strong base/ strong acid and determine the enthalpy of ionization of the weak acid/ weak base.
4. To determine the enthalpy of solution of solid calcium chloride.
5. To study the distribution of iodine between CCl_4 and water. 6.
Determine rate constant of hydrolysis of $\text{CH}_3\text{COOC}_2\text{H}_5$.

Section-C (Organic)

Systematic identification (detection of extra elements, functional groups, determination of melting point or boiling point and preparation of at least one pure solid derivative) of the following simple mono and bifunctional organic compounds: Naphthalene, anthracene, acenaphthene, benzyl chloride, *p* - dichlorobenzene, *m* - dinitrobenzene , *p* - nitrotoluene, resorcinol , hydroquinone, □- naphthol, □ - naphthol, benzophenone, ethyl methyl ketone, benzaldehyde, vanillin, oxalic acid, succinic acid, benzoic acid, salicylic acid, aspirin, phthalic acid, cinnamic acid, benzamide, urea, acetanilide, benzanilide, aniline hydrochloride, *p*- toluidine, phenyl salicylate (salol), glucose, fructose, sucrose, *o*-, *m*-, *p* - nitroanilines, thiourea.

Distribution of marks

1	.Section A	15 marks
2	.Section B	15 marks
3	.Section C	15 marks
4	.Viva-voce	05 marks
5	.Lab Record	10 marks

