

BACHELOR OF SCIENCE in CHEMISTRY (HONS)
SEMESTER – VI

ORGANIC AND PHYSICAL CHEMISTRY PRACTICAL
Paper Code: CH- 611P

CH- 611P ORGANIC AND PHYSICAL CHEMISTRY PRACTICAL

PRACTICAL: 100 Marks
(Organic: 67 marks; Physical: 33 marks)
145 Hours

Organic Laboratory:

- A. Qualitative analysis: Identification of Organic Compounds, Detection of extra elements (N, S and halogens) and functional groups – phenolic, carboxylic, carbonyl, esters, amines, nitro, anilide, alcohol, halogen derivative of hydrocarbons and hydrochloride in simple organic compounds. Analysis should include detection of elements, functional group, and preparation of a solid derivative. A completely dried sample of the derivative should be submitted to the examiner.
- B. Organic preparation:
 - (a) Acetylation of salicylic acid, aniline, glucose and hydroquinone. Benzoylation of aniline and phenol.
 - (b) Aliphatic electrophilic substitution: Preparation of iodoform from ethanol and acetone.
 - (c) Electrophilic aromatic substitution: Nitration: Preparation of m-dinitrobenzene, p-nitroacetanilide. Halogenation: Preparation of p-bromoacetanilide, 2, 4, 6-tribromophenol.
 - (d) Diazotisation/coupling: Preparation of methyl orange and methyl red.
 - (e) Oxidation: Preparation of benzene from toluene. (f) Reduction: Preparation of aniline from nitrobenzene.

Physical Laboratory

- 1. To study changes in conductance in the following systems
 - (a) strong acid-strong base
 - (b) weak acid-strong base and
 - (c) mixture of strong acid and weak acid-strong base.
- 2. Study the kinetics of the following reactions
 - (a) Acid hydrolysis of methyl acetate with hydrochloric acid, volumetrically or conductometrically.
 - (b) Saponification of ethyl acetate.
- 3. Verification of Lambert-Beer's Law
- 4. Determination of pK (indicator) for phenolphthalein or methyl red.
- 5. Study the formation of a complex between ferric and thiocyanate (or salicylate) ions.

Any other experiment carried out in the class.
