

Semester	3
Course	Skill Enhancement
Paper Code	S2CH230311P
Paper Title	Organic Chemistry 3
No. of Credits	Practical: 3
Theory / Practical / Composite	Practical
Minimum No. of preparatory hours per week a student has to devote	4
Number of Modules	
Syllabus	<p>Qualitative Analysis of Single Solid Organic Compounds</p> <p>A. Detection of special elements (N, S, Cl, Br) by Lassaigne's test</p> <p>B. Solubility and classification (solvents: H₂O, 5% HCl, 5% NaOH and 5% NaHCO₃)</p> <p>C. Melting point of the given compound.</p> <p>D. Detection of the following functional groups by systematic chemical tests:</p> <p>Nitrogenous functional groups: Aromatic amino (-NH₂), Aromatic nitro (-NO₂), Amido (-CONH₂, including imide), Anilido (-CO-NH-Ar).</p> <p>Non-nitrogenous functional groups: Carboxylic acid (-COOH), Phenolic -OH, Carbonyl (-CHO and >C=O); Ethylenic unsaturation (C=C).</p> <p>E. Preparation of derivative of the given compound.</p> <p>Core Course-Skill practical-II</p> <p>(I) Chromatographic separation of mixture of organic compounds</p> <p>A. TLC separation of a mixture containing 2/3 amino acids</p> <p>B. TLC separation of a mixture of dyes (fluorescein and methylene blue)</p> <p>C. Column chromatographic separation of leaf pigments from spinach leaves</p> <p>D. Column chromatographic separation of mixture of dyes</p> <p>E. Paper chromatographic separation of a mixture containing 2/3 amino acids</p> <p>F. Paper chromatographic separation of a mixture containing 2/3 sugars</p> <p>(II) Isolation of some natural products</p> <p>A. Isolation of caffeine from tea.</p> <p>B. Isolation of cinnamaldehyde from cinnamon.</p> <p>C. Isolation of curcumin from turmeric.</p> <p>And other similar isolations.</p>

Learning Outcomes	Skill-I: To develop skills on the quantitative estimations of compounds Skill-II: To develop skill on the separation techniques and isolation of natural products	
Reading/Reference Lists	<ol style="list-style-type: none"> 1. Arthur, I. V. Quantitative Organic Analysis, Pearson 2. University Hand Book of Undergraduate Chemistry Experiments, edited by Mukherjee, G. N., University of Calcutta 3. Nad, Mahapatra, Ghosal-Practical Chemistry 4. Sarker, S. D., Nahar, L. Natural Products Isolation, Springer, 2012 	
Evaluation	Practical: 100 CA: Viva: ; Attendance: 5	
Paper Structure for Theory Semester Exam		