

Course: Skill Enhancement (Semester 4)

Semester _____	4		
Paper Number	HCHSE4021P (100 MARKS)		
Paper Title	Analytical Methods in Chemistry-2		
No. of Credits	2		
Theory/Composite	Practical		
No. of periods assigned	Th: 0 Pr: 2		
Name of Faculty member(s)	Dr. Ankur Ray Dr. Rahul Sharma Dr. Rina Ghosh		
Course description/objective	<i>The students will get a flavour of some synthetic techniques and spectral characterization as well as some critical analysis.</i>		
Syllabus	<ol style="list-style-type: none">1. Determination of quantum yield of fluorescence of anthracene / pyrene by taking quinine sulphate as standard.2. Determination of the Arsenic content of water from different sources by atomic absorption spectroscopy.3. Synthesis and characterisation of biologically active organic compounds.4. Multistep organic synthesis involving rearrangement reactions.5. Geometrically optimised theoretical structure and the shape of molecular orbitals of simple molecules like H₂O, CH₄, and NH₃ using open source quantum chemistry software.6. Synthesis, Purification & spectral Characterization of a 4d transition metal complex		
Texts			
Reading/Reference Lists	<ol style="list-style-type: none">1. Mendham, J., A. I. <i>Vogel's Quantitative Chemical Analysis</i> 6th Ed., Pearson, 2009.2. Vogel, A. I. <i>Elementary Practical Organic Chemistry, Part 2: Qualitative Organic Analysis</i>, CBS Publishers and Distributors.3. Mann, F.G. & Saunders, B.C. <i>Practical Organic Chemistry</i>, Pearson Education(2009).		
Evaluation	<table border="1"><tr><td>Practical: 100 marks <i>(Continuous Assessment)</i></td></tr><tr><td>Internal Assessment Exams: 80 Viva:15 Attendance: 5</td></tr></table>	Practical: 100 marks <i>(Continuous Assessment)</i>	Internal Assessment Exams: 80 Viva:15 Attendance: 5
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