

Semester-IV					
Programme	BS Chemistry	Course Code	Chem-233	Credit Hours	1
Course Title	Organic Chemistry Lab		Course Type	Major	
Course Introduction					
<p>This course helps students to gain experimental skills for different organic transformations, separation and identification of two components in a mixture of unknown compounds via systematic physical and chemical tests.</p> <p>Organic Preparations Synthesis of aromatic nitro, halogens, amines, carboxylic acid, aldehyde and related compounds. (Depending upon the availability of chemicals and reagents) Organic syntheses may include different oxidation and reduction reactions.</p> <p>Quantitative and Qualitative Analysis Physical/ Chemical separation of mixture containing two Compounds, identification, confirmation and derivatization.</p>					
Learning Outcomes					
<p>On the completion of the course, the students will:</p> <ol style="list-style-type: none"> 1. Understand the key concepts of organic synthesis 2. Familiarize with organic preparations and quantitative analysis 					
Course Content				Assignments/Readings	
Week 1	Organic Preparations: Preparation of 2,4,6-nitrophenol from phenol			Literature survey	
Week 2	Preparation iodoform using ethanol			Search out problems synthesis and their solution.	
Week 3	Preparation 2,4-dihydroxy acetophenone				
Week 4	Preparation of azalactone				
Week 5	Preparation of glucosazone				
Week 6	Synthesis of phthalimide				
Week 7	Preparation of tetrahydro carbazole			Literature survey	
Week 8	Mid Term Examinations				
Week 9	Mixture Analysis Separation of given mixture of benzoic acid resorcinol			Write name and chemistry of reactions involved	
Week 10	Separation of given mixture of benzoic acid resorcinol			Search out problems in mixture analysis and their solution.	
Week 11	Separation of given mixture of benzamide and cinnamic acid			Write name and chemistry of reactions involved	
Week 12	Separation of given mixture of urea and alpha-naphthol				
	Separation of given mixture of diphenylamine and benzophenone				

Week 13	Separation of given mixture of glucose and beta-naphthol	
Week 14	Separation of given mixture of thiourea and salicylic acid	
Week 15	Separation of given mixture of naphthalene and glycine	Write name and chemistry of reactions involved
Week 16	Final Term Examinations	
Textbooks and Reading Material		
<ol style="list-style-type: none"> 1. Vogel's Textbook of Practical Organic Chemistry (5th Ed.) by A.I. Vogel et al. Longman, UK, 1989. 2. Advanced Practical Organic Chemistry, by J. Leonard, B. Lygo, G. Procter, CRC. 1994. 3. Advanced Practical Organic Chemistry (2nd Ed.) by N.K. Vishnoi, Vikas Publishing House Pvt. Ltd. India, 1996. 4. K.N. Williamson and K.M. Masters, <i>Macroscale and Microscale Organic Experiments</i>, published by Cengage learning, 2011. 5. J.J. Li, C. Limberakis and D.A. Pflum, <i>Modern Organic Synthesis in Laboratory</i>, Oxford University Press, 2007. 6. J. Leonard, B. Lygo and G. Procter Nelson, <i>Advanced Practical Organic Chemistry</i>, Thames Ltd. UK, 2001. 		
Teaching Learning Strategies		
<ol style="list-style-type: none"> 1. Lectures 2. Group Discussion 3. Laboratory work 4. Seminar/ Workshop 		
Assignments: Types and Number with Calendar		
<ol style="list-style-type: none"> 1. Lab activities and practical performance from week 1 to week 16. 2. Literature review based assignment relevant to the course will also be given during the course. 3. Maintain record of all Practicals in note book under the following headings: Theory, Procedure, Chemicals, Observations and Results, Precautions 		