Programme: M. Sc. (Chemistry, Part-II)
Course Code: OCC-505
Title of the Course: Organic mixture separation and identification
Number of Credits: 3 **Effective from** AY: 2019-20

Prerequisites for the course:	Should have studied the relevant theory and practical courses in Organic Chemistry at M. Sc. Part-I levels.	
Course Objective:	To translate certain theoretical concepts learnt earlier into experimental knowledge by providing hands on experience of basic laboratory techniques required for organic separations.	
Course Outcome	Students shall gain the understanding of: 1. Separation of organic components based on solubility. 2. Separation of organic components based on functionality. 3. Separation of organic components based on boiling points. 4. Distillation, recrystallization and derivatisation. 5. Safe and Good laboratory practices, handling laboratory glassware, equipment and chemical reagents.	
Content:	Three component mixture separation based upon differences in the physical and the chemical properties of the components. Elemental and functional group analysis and determination of physical constants of the individual compounds. Derivative preparation, its recrystallization and m. p. of each component and characterization of each component and its derivative by m. p. comparison. (Minimum 12 experiments of 6h each.) Assessment to be done through a 6hr examination comprising of an experiment emphasizing separation of mixture, elemental analysis of all three components and preparation of derivative of any one component suggested by examiner and recording of the physical constants and an oral assessment.	72 hours
Pedagogy:	Lectures/ pre-lab and post-lab exercises/ laboratory work /assignments/ presentations/ self-study/ Case Studies etc. or a combination of some of these. Sessions shall be interactive in nature to enable peer group learning.	
References/Readings	1. N.K. Vishnoi, *Advanced Practical Organic Chemistry*, Vikas Publishing, 2009, 3rd Ed. 2. A. I. Vogel, *Elementary Practical Organic Chemistry: Part 1- Small Scale Preparations*, Pearson, 2010, 2nd Ed. 3. A. I. Vogel, *Elementary Practical Organic Chemistry: Part 2 –*	

	Qualitative Organic Analysis, Pearson, 2010, 2nd Ed. 4. A. I. Vogel, *Elementary practical organic chemistry: Part 3- Quantitative organic analysis*, Pearson, 2010, 2nd Ed. 5. F G Mann & B C Saunders, *Practical Organic Chemistry*, Pearson, 2009, 4th Ed. 6. A.R. Tatchell, B.S. Furnis, A.J. Hannaford & P.W.G. Smith, *Vogel's Textbook of Practical Organic Chemistry*, Longman, 1989, 5th Ed.	