

1.	Title of the course	Chemistry of Heterocyclics and Natural Products
2.	Course number	CY606L
3.	Structure of credits	3-0-0-3
4.	Offered to	PG
5.	New course/modification to	Modification To CY6025/18
6.	To be offered by	Department of Chemistry
7.	To take effect from	July 2022
8.	Prerequisite	Nil
9.	<p>Course Objective(s): To impart knowledge on rationalization of the structure, reactivity, and biological significance of heteroaromatic compounds and Natural products. To introduce validated synthetic methods for heterocyclic compounds with one, or more heteroatoms would motivate students to improve own thinking power in organic synthesis. To provide knowledge on the isolation and synthesis of biologically active natural products and thereby motivate the students to realize the importance of the natural products.</p>	
10.	<p>Course Content: Heterocyclic Chemistry: Nomenclature and classification of heterocyclic compounds; Structure, preparation and reactions of: a) three, four, five and six membered heterocyclic analogues containing one or more heteroatoms; b) fused ones containing one or more heteroatoms. Chemistry of Natural Products: Introduction, Occurrence and isolation, function, general properties, nomenclature, and classification of alkaloids, Steroids, Terpenoids and Flavonoids. Isolation, structure, structural elucidation, synthesis, chemical properties, stereo chemistry of Quinine, Morphine, Cholesterol, Ergosterol, Citral, Menthol, Camphor, rutin, quercetin, vitamin A, Vitamin B, Vitamin C and Vitamin D.</p>	
11.	<p>Textbook(s):</p> <ol style="list-style-type: none"> 1. Bhat S V, Nagasampagi B A and Sivakumar M, <i>Chemistry of Natural Products</i>, 1st Edition, Narosa Publishing House (2013). 2. Pedersen S F and Myers A M, <i>Understanding the Principles of Organic Chemistry: A Laboratory Course</i>, 1st Edition, Cengage Learning (2010). 	
12.	<p>Reference(s):</p> <ol style="list-style-type: none"> 1. Gilbert J C and Martin S F, <i>Experimental Organic Chemistry: A Miniscale & Microscale Approach</i>, 6th Edition, Cengage Learning (2015). 2. Pavia D L, Kriz G S, Lampman G M and Engel R G, <i>A Microscale Approach to Organic Laboratory Techniques</i>, 6th Edition, Cengage Learning (2016). 	