

Module code	SC-4329		
Module Title	Medicinal Natural Products		
Degree/Diploma	Bachelor of Science (Chemistry)		
Type of Module	Major Option		
Modular Credits	2	Total student Workload	4 hours/week
		Contact hours	2 hours/week
Prerequisite	None		
Anti-requisite	None		
Aims			
Towards the completion of this module, students will be able to understand the importance of secondary metabolites, their biosynthetic pathways and isolation methods and develop spectral interpretation skills			
Learning Outcomes			
<i>On successful completion of this module, a student will be expected to be able to:</i>			
Lower order:	50%	- Understand the importance of secondary metabolites in plants - Understand the basic principles of biosynthetic pathways in plant and labelling techniques for plant characterisation.	
Middle order:	30%	- describe different methods of structural elucidating of plant derived natural products - interpret the data of IR, MS and 2D NMR techniques for structural elucidation of natural product of plant origin.	
Higher order:	20%	- working independently and cooperatively in group discussion in the interpretation of data for structural determination of organic compounds.	
Module Contents			
- Secondary Metabolites: Classes of non-nutritional organic compounds in nature; Biosynthetic pathways in plants; Studies of biosynthesis; Labelling techniques; Isolation methods for plants; Classification, chemical properties and pharmacology of alkaloids and important plant-derived drugs; Bioassay methods.			
- Structural elucidation of plant derived natural products: Application of IR, MS and 2D NMR techniques such as HSQC (HMQC), HMBC, H1 -H 1 COSY, DQF-COSY, INADEQUATE and NOESY for the structure determination of organic small molecules of plant natural product e.g. Menthol.			
Assessment	Formative assessment	Tutorial and feedback	
	Summative assessment	Examination: 60% Coursework: 40% - 2 written assignments (20%) - 2 class tests (20%)	