

UNIVERSITY OF MADRAS
B.Sc. DEGREE PROGRAMME IN CHEMISTRY
 SYLLABUS WITH EFFECT FROM 2023-2024

Title of the Course	ENTREPRENEURIAL SKILLS IN CHEMISTRY						
Paper No.	SEC 4						
Category	Skill Enhancement Course	Year Semester	II III	Credits	1	Course Code	224S3A
Instructional hours per week	Lecture	Tutorial	Lab Practice		Total		
	-	-	1		1		
Prerequisites	General Chemistry						
Objectives of the course	The course aims at providing training to <ul style="list-style-type: none"> • develop entrepreneur skills in students • to provide hands on experience to prepare and develop products • develop startups 						
Course Outline	<p style="text-align: center;">UNIT -I</p> <p>Food Chemistry Food adulteration-contamination of food items with clay stones, water and toxic chemicals -Common adulterants. Food additives, Natural and synthetic anti-oxidants, glazing agents (hazardous effect), food colorants, Preservatives, leavening agents, baking powder and baking soda, yeast, MSG, vinegar.</p> <p>Dyes</p> <p>Classification – Natural, synthetic dyes and their characteristics – basic methods and principles of dyeing</p>						

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	<p>UNIT II</p> <p>Hands on Experience (Students can choose any four)</p> <p>Detection of adulterants in food items like coffee, tea, pepper, chilli powder, turmeric powder, butter, ghee, milk, honey etc., by simple techniques.</p> <p>Preparation of Jam, squash and Jelly, Gulkand, cottage cheese.</p> <p>Preparation of products like candles, soap, detergents, cleaning powder, shampoos, pain balm, tooth paste/powder and disinfectants in small scale.</p> <p>Extraction of oils from spices and flowers. Testing of water samples using testing kit.</p> <p>Dyeing – cotton fabrics with natural and synthetic dyes</p> <p>Printing – tie and dye, batik.</p>
Skills acquired from this course	Entrepreneurial skills.
Recommended Text	1. George S & MuralidharanV,(2007) Fibre to Finished Fabric–A Simple Approach, Publication Division, University of Madras, Chennai. 2. Appaswamy G P, A Handbook on Printing and Dyeing of Textiles.
Reference Books	Shyam Jha, Rapid detection of food adulterants and contaminants (Theory and Practice), Elsevier, e Book ISBN 9087128004289, 1 st Edition,2015
Website and e-learning source	https://www.vlab.co.in/broad-area-chemical-sciences
<p>Course Learning Outcomes (for Mapping with POs and PSOs)</p> <p>On completion of the course the students should be able to</p> <p>CO 1: identify adulterated food items by doing simple chemical tests.</p> <p>CO 2: prepare cleaning products and become entrepreneurs</p> <p>CO 3: educate others about adulteration and motivate them to become entrepreneurs.</p>	

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	S	S	S	S	S	S	S	M	S	M
CO2	M	S	S	S	M	S	S	M	M	M
CO3	S	S	S	M	S	S	S	M	S	M

CO-PO Mapping (Course Articulation Matrix)

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CO /PSO	PSO 1	PSO 2	PSO 3	PSO 4	PSO5
CO1	3	3	3	3	3
CO2	3	3	3	3	3
Weightage	6	6	6	6	6
Weighted percentage of Course Contribution to POs	3.0	3.0	3.0	3.0	3.0

Level of Correlation between PSO's and CO's