

Branch Name:	B.Sc. Chemistry
Program Code:	SC203
Course Name:	Basics of Synthetic dyes
Course Code:	2SC1030521
Pre-requisite Course:	Fundamentals of Chemistry (up to S.Y.B.Sc.)

Course Objectives:

1. To meet the growing demand of Advanced Courses in Industrial chemistry.
2. To help the colleges to update and modernize their laboratories.
3. To redesign the courses the special emphasis on local requirements, environment, to link the courses with requirements of the industries and research.
4. Comprehension of principles of industrial chemistry and learning of current applications.
5. The primary goal of this course is to make students aware of how chemical process can be designed, developed and employed in as sustainable manner.

Teaching and Examination Scheme:

Teaching Scheme (Hours per week)				Evaluation Scheme (Marks)				
Lecture (L)	Tutorial (T)	Practical (P)	Credit	Theory (Marks)		Practical (Marks)		Total (Marks)
				University Assessment	Continuous Assessment	University Assessment	Continuous Assessment	
2	--	-	2	35	15	-	-	50

Subject Contents:

Sr. No	Topic	Lectures	Weightage
1	Introduction: Synthetic Dyes, Chromospheres, Chromogens, Oxochroms, Bathochromic shift, Hypsochromic shift, Definition & Difference between Dyes and Pigments, colour and constitution-Witt's theory, Classification of Dyes: According to constitution & According to method of applications.	16	50%
2	Synthesis and uses: Congo Red, Eosin, Alizarin, Crystal violet, Indigo, Phenolphthalein, Methylene Blue, Eriochrome Black -T, Acridine, Tetrazine.	16	50%

Course Outcomes:

- ❖ Have solid foundations in the fundamentals of industrial chemistry.
- ❖ Are capable to use this knowledge for designing experiments related to industrial chemistry.
- ❖ Are capable to identify chemical problems and explore new areas of research in industrial chemistry.
- ❖ Are capable to use up to date library searching and retrieval methods to obtain information about novel chemical process and issues related to industrial chemistry.

Reference Books:

- 1 Synthetic Dyes by Venkatramanan
2. Synthetic Dyes by G.R.Chatwal & Anand
3. Synthetic Dyes and Drugs by O.P.Agrawal
4. Chemistry of synthetic dyes by I.G.Vashi

List of Open Source Software/learning website:

1. <https://swayam.gov.in>
2. <https://nptel.ac.in>
3. <http://onlinelibrary.wiley.com>
4. https://en.wikipedia.org/wiki/Main_Page

Course Learning Outcomes (CLO): On completion of this course, the students will be able to:

CLO	Description	Bloom's Taxonomy Level
CLO1	Learn introduction of dyes	Learning
CLO2	Understand basic concepts of dyes and pigments	Understanding
CLO3	Understand basic concept of colour constitution of dyes	Understanding
CLO4	Learning classification of dyes	Learning
CLO5	Synthesis and uses of Dyes	Learning & Applying

Mapping of CLOs with Pos & PSOs

Course Learning Outcomes	Program Outcomes (POs)								
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CLO1	H	L	L	L	L	M	L	M	M
CLO2	H	M	L	L	M	L	L	H	L
CLO3	H	H	H	M	H	L	L	M	L
CLO4	H	M	L	L	H	M	L	L	L
CLO5	M	H	M	M	H	H	M	M	L

H: High, M: Medium, L: Low