



ALAGAPPA UNIVERSITY

(A State University Established in 1985)



Department of Industrial Chemistry

Value added Courses on

Textile Chemistry

Course code: CHEVA01

Objectives

- To learn about chemistry of textile fibres.
- To learn about pretreatment of textiles.
- To learn about garment dyeing and finishing.

Outcomes

- Properties of various textile fibres.
- Synthesis of different class of dyes
- Dyeing and Finishing of Garments

Summary of the Contents

- Natural and synthetic Fibres
- Pretreatment of textiles
- Dyeing process
- Processing of Garments

Course Coordinator

Dr.S.Thambidurai

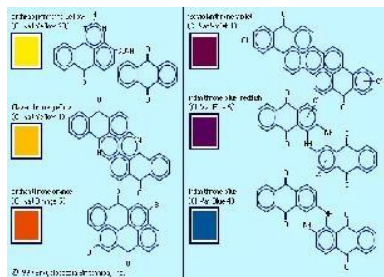
Professor
 Department of Industrial
 Chemistry
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 Karaikudi-630 003

Duration: 30 Hours

Sep – Oct 2021

Target Participants: M.Sc. Industrial Chemistry

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Course code:536VA01	TEXTILE CHEMISTRY	Hours:30
Objectives	<ul style="list-style-type: none"> ➤ To acquire basic knowledge about chemistry of textiles fibres. ➤ To learn about pretreatment importance and process of textiles. ➤ To gain knowledge about garment dyeing and finishing. 	
Unit -I	Natural Fibres: Classification - commercial importance - Cotton, Wool, Silk, Jute - Occurrence - Purification - Chemical constituents - Physical and chemical Properties - Uses. Natural Bamboo fibres - Properties and uses.	
Unit -II	Synthetic Fibres: Polyester - Polyamides- Polypropylene- Polyurethane- Raw materials - manufacturing process - Properties and their uses; Synthetic and Semi synthetic fibres - Spinning methods - Applications.	
Unit -III	Pretreatment of textiles: Introduction - Sizing- Various pretreatment steps- Shearing & cropping - Desizing - Scouring - Bioscouring- Bleaching of Cotton, Rayon and Wool. Mercerization - Significance and benefits. Silk degumming.	
Unit -IV	Dyeing process: Introduction of dyes & pigments - Standardization of dyes- Azo dyes: Diazotization and coupling reactions - Basic dyes: Diphenylmethane and Triphenylmethane dyes - Vat dyes - Reactive dyes - Smart dyes. Concept of Eco friendliness in dyeing techniques.	
Unit -V	Processing of Garments: Pre-Garment stage - Garment stage processing -Various Departments - Garment Finishing - General precautions - Stain removal - Principle and Procedure - Dry Cleaning - Laundry process- Types - mechanism and applications.	
Outcomes	<ul style="list-style-type: none"> ➤ To know about various types of textile fibres and its suitability. ➤ To learn about different class of textile dyes and its synthesis ➤ To overlook about textile and garment industries. 	

Recommended Text Books

1. Susheela Dantiyagi, 1980, "Fundamentals of Textiles and their care", Orient Long mann Ltd.
2. Production of Synthetic Fibres, Vaidya A.A., Prentice Hall of India Pvt. Ltd., New Delhi, 1988.
3. Reactive Dyes for Textile Fibres, Renfrew A., A. Hunter M., SDC Publ., Bradford, 1999.

Reference Books

1. Shenai. V.A, 1991, "Textile Fibres" (Vol. I), Mahajan Publishers, Ahmedabad, India.
2. Textile Fibres, Shenai V.A., Vol-1, Sevak Publications, Bombay, 3rd edition, 1991.
3. Textile Chemistry, Peters R.H, Vol-3, Elsevier Publishing Company, London, 1975.