

V Semester (CC –VII) - Textile Chemistry

Major Divisions

1. Preparation and Bleaching
2. Dyeing
3. Printing
4. Finishing
5. Quality control and pollution control

Unit – I

Preparation and Bleaching:

Impurities present in grey cotton and cotton fabrics.
Objects of singeing – process of singeing.
Objects of Desizing – Acid and Enzyme desizing
Object of Scouring - Process of caustic scouring on Kier machine.
Object of Bleaching- chlorine and peroxide bleaches
Concept of full bleach and use of Bluing agents and optical brightening agents.
Drying on vertical drying range.

Unit - II

Dyeing:

Classification of dyes -- Dyeing of cotton with Reactive dyes, vat dyes and Sulphur dyes – Recipe and procedure– Dyeing of polyester with Disperse dyes – Recipe and procedure Dyeing of Wool, Nylon, Silk with Acid and Basic dyes, dyes, Dyeing of acrylic with basic dyes – Recipe and procedure .

Unit – III

Printing

Comparison between dyeing and printing – styles and methods of printing, Ingredients in printing paste. Batik style on cotton with reactive dyes.
Screen and Rotary screen design preparation –Table screen printing , Flat bed screen printing machine, Rotary screen printing machine Study of curing machine and Steamer

Unit - IV

Finishing

Finishing of cotton fabrics with Stiffeners (Starch, PVA, Polyvinyl Acetate) and softeners (Anionic Cationic and Non-ionic) Anti-crease finish, Sanforizing (Pre-shrinking) – Use of Silicones in finishing . Mercerisation – Mercerising of fabrics using any one type of fabric mercerizing machine – Damping and Calendaring – Finishing using Hot air stenters.

Unit - V

Quality control and Pollution Control.

Importance and Need of Quality control – Determination of wash fastness ISO test 3 and 4-Wet and Dry Rubbing fastness- Light fastness. Principle and relative merits and demerits and computer color matching.

Importance and need of environment protection – Air, water and Noise pollution – Constituents of air, water and noise pollutants with respect of textile industry – A brief study of effluent treatment with a suitable plant lay out (process flow chart only) –Importance of eco-friendly processing – List of banned dyes and chemicals, Eco labels.

Reference Books:

1. Shenai. V.A Technology of Textile Processing Vol.e,
Technology of Bleaching
Edn, 3 1981.,
Sevak Publication
306, Shri Hanuman
Ind. Estate
Gousmbekar Road,
Wadala, Bombay –37
2. Shenai .V.A Technology of Textiles
Processing Vol. II
Chemistry of dyes &
principles of dyeing
Edn.2 1983
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Chemistry of dyes &
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3. Shenai.V.A Technology of Textile
Processing Vol.6 Technology
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4. Shenai.V.A Technology of Textile
Processing Vol.4
Technology of Printing
Edn. 2 1979
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5. Shenai.V.A Technology of Textile
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Technology of Finishing 1987
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