

LESSON PLAN

SUB: Textile Chemical Processing - I

BRANCH: TEXTILE ENGG.

SEMESTER: 3rd

SESSION: 2025-26

NAME OF FACULTY: Birendra Meher (Lect. S-I, Textile Tech.)



**GOVERNMENT POLYTECHNIC,
BHADRAK**


Academic (I/C)
Textile Engg.


Academic Co-Ordinator
Govt. Polytechnic, Bhadrak


Principal
Govt. Polytechnic, Bhadrak

LESSON PLAN

DEPARTMENT OF TEXTILE ENGG, GOVT. POLYTECHNIC, BHADRAK
SUBJECT: Textile Chemical Processing - I Periods: 3 per week **SEMESTER: 3rd**
NAME OF FACULTY: BIRENDRA MEHER **ACADEMIC YEAR: 2025-2026**
Semester From date: 14.07.2025 To Date: 15.11.2025 No. of weeks: 15

Week	Class Day	Theory / Practical Topics
1st	1st	Process sequence for Pretreatment, Colouration and Finishing of textiles.
	2nd	Pre-cleaning, Mending, Stamping, Stitching, Shearing and cropping.
	3rd	Brief idea on Shearing and cropping M/c.
2nd	1st	Objective of Singeing, Hot Plate Singeing & Roller Singeing Method, their drawbacks and advantages.
	2nd	Gas Singeing Method, its drawbacks and advantages.
	3rd	Objectives of desizing, Mechanism of removal of size content.
3rd	1st	Hydrolytic method of desizing.
	2nd	Oxidative method of desizing.
	3rd	Novel method of desizing.
4th	1st	Evaluation of desizing efficiency.
	2nd	Objectives of scouring, Changes taking place during scouring,
	3rd	Mechanism involved in removal of impurities.
5th	1st	Chemical used for Scouring, Recipe and controlling parameters.
	2nd	Scouring of Cotton.
	3rd	Scouring of Wool.
6th	1st	Degumming of Silk.
	2nd	Scouring of Man - made and Blended textiles.
	3rd	Classification of Kier.
7th	1st	Working mechanism of Industrial Kier.
	2nd	Evaluation of Scouring efficiency.
	3rd	Objectives of Bleaching, Classification of Bleaching agents.
8th	1st	Mechanism of Hypochlorite bleaching.
	2nd	Mechanism of Peroxide bleaching.
	3rd	Mechanism of Chlorite bleaching.
9th	1st	Bleaching of Cotton, Silk, Wool, Man-made fibres and Blended textiles by suitable bleaching agents.
	2nd	Optical brightening & Bluing agents.
	3rd	Objectives of Mercerisation, Physical changes occurred after mercerisation of cotton fibre.
10th	1st	Chemical & Structural Changes occurred after mercerization of cotton fibre.
	2nd	Factors affecting mercerisation.
	3rd	Methods of mercerisation of cotton fabric.
11th	1st	Visible spectrum, wavelength and blindness of colour. Metamerism/Isomerism.
	2nd	Additive and subtractive theories. Primary, secondary, tertiary, complementary and contrasting colours.
	3rd	Shade, Tint, Tone, Hue, Value, Chroma, Color wheel.

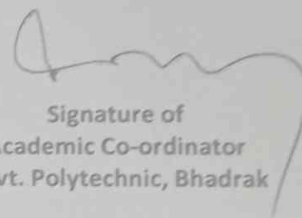
12th	1st	Tristimulus values of colour, Computer colour matching, kubelka-munk equation, reflectance factor, colour- co- ordinates, CIELAB values.
	2nd	Concept of Colour fastness & Grey scale.
	3rd	Introduction to thermodynamics and kinetics of dyeing.
13th	1st	Classification of dyes & Pigments.
	2nd	Basic characteristic of dyes & Dye-fibre interaction.
	3rd	Application of Direct dye on cellulosic fibres.
14th	1st	Application of Reactive dye on cellulosic fibres.
	2nd	Application of Vat & Solubilised Vat dyes on cellulosic fibres.
	3rd	Application of Sulphur dye on cellulosic fibres.
15th	1st	Application of Azoic dye on cellulosic fibres.
	2nd	Application of Acid dye on Wool and Silk.
	3rd	Application of Metal complex dye on Wool and Silk.



Signature of
Lecturer
Textile Engg.



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Academic Co-ordinator
Govt. Polytechnic, Bhadrak