



ADVANCED TEXTILE PRINTING TECHNOLOGY

PROF. KUSHAL SEN

Department of Textile Engineering
IIT Delhi

TYPE OF COURSE : Rerun | Elective | UG/PG

COURSE DURATION : 8 weeks (18 Jan' 21 - 12 Mar' 21)

EXAM DATE : 21 Mar 2021

PRE-REQUISITES : Should have basic knowledge of dyeing and printing, would help if has studied courses in textile chemical processing.

INTENDED AUDIENCE : Students, teachers and persons working in textile industry, textile chemical processing

INDUSTRIES APPLICABLE TO : Not any in particular, All textile processing industries would value

COURSE OUTLINE :

This course would cover the fundamentals conventional printing, the complexities and limitations. Introduce the concept of transfer printing and mainly cover the sublimation transfer printing which is commercially being used. The next logical development in textile printing has been the direct digital printing of textiles. The concept, the advantage, principles of ink-jet technology, complexities involved, general machinery, the inks and requirements of pre- and post treatments.

ABOUT INSTRUCTOR :

Currently a Professor in the Department of Textile Technology, IIT Delhi. Areas of specialization include textile chemical processing, texturing, and structure-property correlation.

COURSE PLAN :

Week 1: Recall conventional printing, colourants: dyes and pigments

Week 2: Thickeners, viscosity, rheology, discharge –resist style

Week 3: Transfer printing, transfer paper printing, dyes and inks

Week 4: Mechanism of sublimation transfer, Free path length , general machinery

Week 5: Introduction to digital printing, ink-jet printing principles: continuous jetting

Week 6: Drop-on-demand principle, general machinery

Week 7: Pre-treatment, ink-types and substrate, pigment inks

Week 8: Disperse inks, acid inks , reactive inks