

# GUJARAT TECHNOLOGICAL UNIVERSITY

## B.E. SEMESTER : VIII

### TEXTILE PRODUCTION

Subject Name: **TECHNOLOGY OF DYEING - III**

<b>Sr. No.</b>	<b>Course Contents</b>	<b>Total Hrs</b>
<b>1.</b>	Nature Of Dye Fibre Bonds: Physical, Chemical And Mechanical Forces	<b>08</b>
<b>2.</b>	Kinetics And Thermodynamics Of Dyeing Process: Introduction, Laws Of Diffusion , Diffusion In Steady State And Non Steady State, Influence Of Various Factors, Adsorption Isotherms, Affinity, Heat Of Dyeing, Entropy Of Dyeing	<b>10</b>
<b>3.</b>	Donnan Theory Of Membrane Equilibrium	<b>10</b>
<b>4.</b>	Study Of Thermodynamic And Kinetic Aspects Of Various Dyes - Fibre Systems Such As Direct, Vat, Reactive, Azoic Dyes On Cellulose, Acid Dyes On Nylon And Wool, Cationic Dyes On Acrylic Fibres And Disperse Dye On Polyester. Concept Of Cohesive Energy Density And Solubility Parameter In Polyester Dyeing	<b>10</b>
<b>5.</b>	Compatibility Of Dyes On Different Groups On Fibres E.G. Acid Dyes On Nylon, Direct Dyes On Cotton, Disperse Dyes On Polyester & Cationic Dyes On Acrylic & CDPET Fibres	<b>10</b>

#### **Practical:**

This shall be based on prescribed syllabi.

#### **Text Books:**

<b>Sr. No.</b>	<b>Title</b>	<b>Author</b>
1.	Dyeing & Chemical Technology Of Textile Fibres	E.R.Trotman
2.	Chemistry Of Dyes And Principle Of Dyeing	V. A. Shenai

#### **Reference Books:**

<b>Sr. No.</b>	<b>Title</b>	<b>Author</b>
1.	Chemistry Of The Textile Industry	C. M. Carr
2.	Theory Of Colouration Of Textiles	Alan Johnson
3.	Dyeing Of Textile Materials, The Scientific Basis And The Techniques Of Application.	Ceggara Jose