

**INDIAN INSTITUTE OF HANDLOOM TECHNOLOGY
POST DIPLOMA IN TEXTILE PROCESSING
REGULATION 2021**

SEMESTER I

PDTP101 : FIBRE SCIENCE

	L	T	P	C
COURSE OBJECTIVES	3	0	0	3

To make the students understand about the introduction of different fibres, polymers and their manufacturing processes.

Unit 1	INTRODUCTION OF TEXTILE FIBRES & POLYMERS AND THEIR CLASSIFICATION	9
	1. Fibers -Definition, Classification on fibers, important characteristics of Textile fibers:	
	2. Classification of polymer - Homo polymer, Co-Polymer, Atactic, Syndiotactic and isotactic polymer, branch & linear polymer.	
	3. Types of polymerization addition and condensation, orientation.	
	4. Fiber structure, Concept of Crystallinity, Amorphous region, Glass transition temperature and melting point.	
Unit 2	MANUFACTURING PROCESS OF SYNTHETIC FIBRES AND TEXTURIZING	9
	1. Techniques of Spinning of manmade fibers: Wet Spinning, Dry Spinning& Melt Spinning.	
	2. Application of Spin Finish.	
	3. Texturizing, Importance of Texturizing process, Types of texturizing process.	
Unit 3	STRUCTURE AND PROPERTIES OF NATURAL FIBRES	9
	1. Structure, Physical & Chemical properties of Cotton, Wool and Silk.	
	2. Formation of hydro and oxy cellulose.	
	3. Concept of Zwitter ion & Isoelectric region in Protein Fibres.	
Unit 4	MANUFACTURING PROCESS OF REGENERATED &POLYESTER FIBRES WITH THEIR PROPERTIES	9
	1. Manufacturing process of viscose fiber, Cellulose acetate, Lyocell	
	2. Physical and Chemical properties of Viscose, cellulose acetate and Lyocell.	
	3. Manufacturing process of polyester fiber, Physical and chemical properties of polyester fiber.	
	4. Concept of heat setting.	



Unit 5 MANUFACTURING PROCESS OF POLYAMIDES,
POLY ACRYLONITRILE AND OTHER FIBRES WITH
THEIR PROPERTIES

9

1. Manufacturing process of Nylon-6 & Nylon-66. Physical and Chemical properties of Polyamide fibers.
2. Manufacturing process of Acrylonitrile fibers. Physical and Chemical properties of Acrylonitrile fiber.
3. Manufacturing process of PE & PP fibers. Physical and Chemical properties of PE & PP fibers.

Total: 45 Hour

COURSE OUTCOMES

At the end of the study of this course, the students will be able to learn

- CO1 Textile fibres their structures and classification, Types of polymers and polymerization
- CO2 Types of spinning techniques and texturizing process
- CO3 Structure and properties of natural fibres
- CO4 Properties and manufacturing process of regenerated and polyester fibre
- CO5 Manufacturing processes and properties of synthetic fibres

TEXT BOOK

- 1 Gupta, V.B., Kothari, V.K., Manufactured Fibre Technology, Springer Netherlands, 1997
- 2 S P Mishra, Fibre Science and Technology, New-Age International Ltd...New Delhi, 199
- 3 Vaidya A A, Production of Synthetic Fibres, Prentice Hall of India, New Delhi, 1988

REFERENCE BOOK

- 1 Cook Gordon J, Hand Book of Textile fibre, Vol.I and II, Woodhead Fibre Science series, UK, 1984
- 2 Ed. M Lewin and E M Pearce, Hand Book of Fibre Chemistry, Merceel Dekker Inc., 1998
- 3 Shenai V A, Textile Fibre, Sevak Publications, Mumbai
- 4 R.W. Moncrieff, Manmade Fibres, Butterworth, London
- 5 Gowariker V R, Viswanathan N V and Sridhar J, Polymer Science, New Age International Ltd., New Delhi, 1996.
- 6 B.L. Deopura, B. Gupta, Man-Made Fibres.
- 7 Chemical Technology of Fibrous Materials by F. Sadov.

PDTP102 : TECHNOLOGY OF PREPARATORY PROCESSING OF TEXTILES

L T P C

COURSE OBJECTIVES

4 0 0 4

To make the students understand morphology, chemical aspects and composition of raw Cotton, Wool and Silk. Study of preparatory processes of different textile fibres and evaluation of defects and damages.

- Unit 1 INTRODUCTION TO PREPARATORY PROCESSES OF COTTON MATERIAL 12
1. Morphological and chemical aspects of Cotton.
 2. Composition of Raw Cotton.
 3. Dry Preparatory Process viz. Mending, Stitching, Shearing & Cropping, Spotting and Singeing.
 4. Need for preparation of Grey Goods for dyeing and printing.
 5. Desizing, scouring and bleaching of cotton with Hypo Chlorites, Hydrogen Peroxide and Sodium Chlorite.
 6. Comparative study of various methods of bleaching.
 7. Solvent scouring.
 8. Introduction to Mecerization.
- Unit 2 INTRODUCTION TO PREPARATORY PROCESS OF PROTEIN FIBRES 12
1. Morphological, Chemical aspects and composition of raw Wool and Silk.
 2. Methods of scouring Wool (Suint, Emulsion, Solvent and Freezing) and its machines.
 3. Milling of Woollens.
 4. Methods of Degumming silk with soap, mild alkali and enzymes.
- Unit 3 STUDY OF PRETREATMENTS OF PROTEIN AND SYNTHETIC FIBRES. 12
1. Bleaching of Wool with Hydrogen Peroxide.
 2. Bleaching of Silk with Hydrogen Peroxide.
 3. Setting process for Woollens viz. Potting, Crabbing and Decatising.
 4. Need for preparatory treatment for important manmade fibres viz. Polyester, Nylon and Acrylic.
 5. Method of Scouring and Bleaching for Polyester, Nylon, Acrylic.
- Unit 4 STUDY OF DIFFERENT TEXTILE WET PROCESSING MACHINES 12
1. Description and working of Singeing M/c, Kier and J-Box.
 2. Preparatory process sequences for different cotton Materials (for white, to be Dyed in pale and medium shades and / or to be printed goods).
 3. Working & Principle of machines like Hydroextractor, Winch & Scutcher.

- Unit 5 STUDY OF CONTINUOUS BLEACHING AND GARMENT WASHING MACHINES. STUDY OF AUXILIARIES AND DEFECTS AND DAMAGES IN PREPARATORY PROCESSES. 12
1. Working of continuous bleaching ranges and garment washing machines.
 2. A review of chemical auxiliaries used in preparatory processing of textile viz. Surfactants, sequestering agents, wetting agents, detergents and optical brighteners.
 3. Defects & damages caused in Singeing, Scouring and Bleaching.

Total: 60 Hour

COURSE OUTCOMES

At the end of the study of this course, the students will be able to learn

- CO1 Structure of cotton, Dry and wet preparatory processes of cotton
- CO2 Structure and Preparatory processes of protein fibres
- CO3 Bleaching of protein fibres and preparatory process for man made fibres
- CO4 Machines used in preparatory processes and process sequence for different cotton materials.
- CO5 Defects caused in preparatory processes, working of bleaching ranges and chemical auxiliaries used in preparatory processes

TEXT BOOK

- 1 Chemical Processing of Textiles by Dr. C.V. Kaushik and Mr. Antao Irwin Josico, NCUTE
- 2 Technology of Scouring and Bleaching, Trotman E.R., Griffin, London, 1968.
- 3 Technology of Textile processing Vol. II, III & VI by Dr. V A Shenai
- 4 Technology of Dyeing by Dr. V A Shenai
- 5 Guide to Wet Textile Processing Machines by J. N. Shah, Elsevier Science & Technology

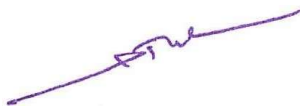
REFERENCE BOOK

- 1 Technology of Bleaching and Mercerizing, Shenai V.A., Sevak Publication, Bombay, Vol. - 3, 3rd edition, 2003
- 2 Textile Bleaching, Steven A.B., Pitman and Sons, London.
- 3 Textile Preparation and Dyeing, Asim Kumar Roy Choudhury, Oxford and IBH Publishing Co. Pvt. Ltd., 2006.

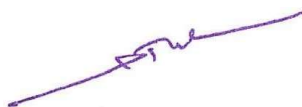
PDTP103 : TECHNOLOGY OF DYEING – I

	L	T	P	C
COURSE OBJECTIVES	4	0	0	4

To make the students understand the basic concepts of dyeing. Definition of dyes and pigments. Classification of dyes according to their application methods. Process of dyeing for cotton, wool and silk.




Unit 1	INTRODUCTION OF DYES AND PIGMENTS &CLASSIFICATION OF DYES	12
	<ol style="list-style-type: none"> 1. Definition of Dyes, Pigments, Auxochrome and Chromophore. 2. Classification of dyes with respect to their application on Textile Fibres. 3. Criteria for selection of dyes. 4. Basic concepts involved in dyeing such as substantivity, Solubility, affinity, theory of dyeing & role of Zeta Potential in Cotton. 5. Basic parameters of dyeing viz. Percentage of shade, Percentage of exhaustion, percentage expression and effects of MLR. 	
Unit 2	PRINCIPLES AND APPLICATION METHODS OF DIRECT, AZOIC AND SULPHUR DYES.	12
	<ol style="list-style-type: none"> 1. Principles and methods of application of Direct Dyes with function of chemicals used and effect of process conditions. 2. After treatments of cotton dyed with Direct dyes. 3. Principle and methods of application of Azoic with function of chemicals used and effect of process conditions. 4. Principle and methods of application of Sulphur Dyes with function of chemicals used and effect of process conditions. 	
Unit 3	PRINCIPLE AND APPLICATION METHOD OF VAT AND REACTIVE DYES	12
	<ol style="list-style-type: none"> 1. Classification of Vat dyes in accordance with their chemical constitution 2. Principle and methods of application of vat dyes on cotton 3. Principle and methods application of Solubilized vat dyes on cotton 4. Classification of Reactive dyes. Concept of Mono functional and Bi-functional Reactive dyes. 5. Principle and methods of application of Reactive dyes on cotton. 	
Unit 4	MECHANISM AND METHOD OF DYEING OF WOOL AND SILK	12
	<ol style="list-style-type: none"> 1. Structural concept of wool and silk in relation to their dyeing i.e. amphoteric character and iso-electric region 2. Dyeing of wool with Acid dyes, Chrome dyes and Metal Complex dyes 3. Dyeing of Silk with Acid dyes& Metal Complex dyes 4. Mechanism of acid dye dyeing on wool and silk 	
Unit 5	WORKING PRINCIPLE OF WET PROCESSING MACHINES AND CONCEPT OF BANNED DYES	12
	<ol style="list-style-type: none"> 1. Concept of Banned dyes. 2. Description and working of various machines used for wet processing viz. Jigger, Winch, Cabinet hank dyeing machine, Yarn Package dyeing machine and Padding Mangle 	




Total: 60 Hour

COURSE OUTCOMES

At the end of the study of this course, the students will be able to learn

- CO1 Classification of Dyes, Basic concepts & parameters used in dyeing
- CO2 Application of direct, azoic and sulphur dyes on cotton
- CO3 Application of Vat, solubilized vat and reactive dyes on cotton
- CO4 Application of acid, chrome and metal complex dyes on protein fibres
- CO5 Banned dyes and working of various processing machines

TEXT BOOK

- 1 Chemical Processing of Textiles by Dr. C.V. Kaushik and Mr. Antao Irwin Josico, NCUTE
- 2 Technology of Scouring and Bleaching, Trotman E.R., Griffin, London, 1968.
- 3 Technology of Textile processing Vol. II, III & VI by Dr. V AShenai
- 4 Technology of Dyeing by Dr. V AShenai
- 5 Guide to Wet Textile Processing Machines by J. N. Shah, Elsevier Science & Technology
- 6 Chemical Processing of Textiles by M.V.sapatnekar

REFERENCE BOOK

- 1 Technology of Bleaching and Mercerizing, Shenai V.A., Sevak Publication, Bombay, Vol. - 3, 3rd edition, 2003
- 2 Textile Bleaching, Steven A.B., Pitman and Sons, London.
- 3 Textile Preparation and Dyeing, Asim Kumar Roy Choudhury, Oxford and IBH Publishing Co. Pvt. Ltd., 2006
- 4 Dyeing and Chemical Technology of Textile Fibres by E.R.Tortman
- 5 Glimpses of Textile Processing by R.R.Chakarvarty
- 6 Hand book of textile processing machinery by R.S. Bhagwat

PDTP104 : INTRODUCTION TO TEXTILE MANUFACTURE

	L	T	P	C
COURSE OBJECTIVES	3	0	0	3

To make the students understand about fibres, Spinning, Weaving preparatory and types of looms

Unit 1	INTRODUCTION OF TEXTILE FIBRES, YARN & FABRIC	9
	1. Basic terms and definition used in textile manufacture.	
	2. Introduction to various textile fibres used in the industries.	
	3. Classification of various types of yarns (single, folded & fancy etc.) & overview of their general properties,	
	4. Classification of various types of fabrics (Woven, Knitted & non-woven fabrics etc.)	
Unit 2	INTRODUCTION OF SPINNING	9

1. Flow chart of spinning for cotton, woollens and worsted yarn.
 2. Outline of processes involved in cotton spinning such as Blow room. Carding, drawing, combing, speed frame, ring frame & winding process.
 3. Outline of reeling, throwing process involved in silk.
- Unit 3 INTRODUCTION OF WEAVING PREPARATORY. 9
1. Defects and Damages in yarn manufacture.
 2. Yarn numbering systems and basic calculations.
 3. Outline of weaving preparatory process such as weft winding, warping, sizing, Beaming, Drawing and denting.
 4. Outline of sizing process with its objectives and ingredients used.
- Unit 4 INTRODUCTION OF ELEMENTARY WEAVES & KNITTING 9
1. Introduction of elementary weaves (Plain, twill, satin, sateen).
 2. Introduction of knitting and types of knitting machines.
 3. Comparison between general properties of woven and knitted fabrics.
 4. Machines used in knitting
- Unit 5 INTRODUCTION OF DIFFERENT LOOMS AND DEFECTS OF FABRIC. 9
1. Introduction of different types of handlooms, power looms and shuttleless looms.
 2. Study of passage of warp on loom, calculations for yarn weight and fabric weight.
 3. Study of various types fabric defects.

Total: 45 Hour


COURSE OUTCOMES

At the end of the study of this course, the students will be able to learn

- CO1 Basic Terms and textile fibres used in textile manufacturing, classification of yarns and fabrics
- CO2 Spinning processes for cotton/woollen/worsted yarn and silk reeling
- CO3 Various weaving preparatory processes, yarn numbering system
- CO4 Introduction of elementary weaves and type of knitting machines
- CO5 Types of handlooms, yarn/fabric weight calculation and types of fabric defects

TEXT BOOK

- 1 Marks. R and Robbinson. A. T. C, "Principle of Weaving", 1976.
- 2 Talukdar M. K., Sriramulu P. K. and Ajgaonkar D. B, "Weaving Machine, Mechanism, Management", 1998.
- 3 Banerjee N.N, "Weaving Mechanism", 1982.
- 4 Sengupta, "Weaving Calculation", 1963.
- 5 TAI, "Weaving Tablets", 2013.
- 6 Lord.P.R and Mohamad, "Weaving: Conversion from yarn to Fabric", 1982.
- 7 Textile Mathematics Vol 3 by J E Booth.
- 8 Fabric Manufacture Vol 1 & 2 by NCUTE.




9 V.B. Gupta & V.K. Kothari, Manufactured Fibre Technology.

REFERENCE BOOK

- 1 Hanton, WA, "Mechanics for Textiles Student an Introduction to the study of mechanics for Textiles student", 1960.
- 2 Greenwood, Hony., "Hand book of weaving and manufacturing", 2nd Edition, 1954.
- 3 Rama Verma, "Handloom weaving", 1959.
- 4 David Ezakia, "Preparatory Process for weaving with calculation: including Development of the modern Power Loom"
- 5 Z Grosicki, "Watsons Textile Design and Colour ", 2nd Edition

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PDTP105 : FIBRE IDENTIFICATION & TECHNICAL ANALYSIS PRACTICE

	L	T	P	C
COURSE OBJECTIVES	0	0	3	1.5

To make the students understand about estimation of various auxiliaries used in processing and identifications of fibres

LIST OF PRACTICALS /ACTIVITIES

1. Analysis of water sample for assessment of various types of hardness.
2. Estimation of Soda Ash sample assessment of its percentage purity.
3. Estimation of Caustic Soda sample for assessment of its percentage purity.
4. Estimation of Bleaching powder sample for assessment of its percentage purity.
5. Estimation of Hydrogen peroxide sample for assessment of its percentage purity.
6. Estimation of Sulphuric acid sample for assessment of its percentage purity.
7. Estimation of Hydrochloric acid sample for assessment of its percentage purity.
8. Estimation of Sodium hydrosulphite sample for assessment of its percentage purity.
9. Identification of textile fibres by microscopic test.
10. Identification of textile fibres by burning test.
11. Identification of textile fibres by solubility test.
12. Analysis of blended yarn and fabric comprising of cotton, viscose and polyester.

Total: 30 Hour

COURSE OUTCOMES

At the end of the study of this course, the students will be able to learn

- CO1 Assessment of water hardness
- CO2 Estimation of alkalies
- CO3 Estimation of bleaching agents
- CO4 Estimation of mineral acid
- CO5 Tests for identification of textile fibres and blend analysis

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PDTP106 : PREPARATORY TEXTILE PROCESSING PRACTICE

	L	T	P	C
COURSE OBJECTIVES	0	0	6	3

To make the students understand about the preparatory processes of cotton, protein fibres and polyester.

LIST OF PRACTICALS /ACTIVITIES

1. Desizing of cotton fabric by Acid Steeping Method.
2. Desizing of cotton fabric by Enzyme Method.
3. Scouring of cotton yarn/fabric.
4. Bleaching of cotton yarn/fabric with Hypochlorite Method.
5. Bleaching of cotton yarn/fabric with Hydrogen Peroxide Method.
6. Optional Whitening of bleached cotton fabric by opticalbrightners.
7. Degumming of Silk yarn/fabric.
8. Bleaching of Silk yarn/fabric.
9. Scouring of Woollens yarn/fabric.
10. Bleaching of Woollens yarn/fabric.
11. Bleaching of pure synthetic fabric with sodium chlorite.

Total: 60 Hour

COURSE OUTCOMES

At the end of the study of this course, the students will be able to learn

- CO1 Methods of desizing of cotton
- CO2 Bleaching of cotton
- CO3 Scouring and bleaching of wool and silk
- CO4 Bleaching of synthetic fibres

PDTP 107 : TEXTILE DYEING PRACTICE – I

	L	T	P	C
COURSE OBJECTIVES	0	1	2	3

To make the students understand about dyeing of cotton and protein fibres with different dyes.

LIST OF PRACTICALS /ACTIVITIES

1. Dyeing of cotton with direct dyes.
2. After treatments of cotton dyed with direct dyes using cationic dye fixing agent.
3. Study of effect of temperature on dyeing of cotton.
4. Study of effect of MLR on dyeing of cotton.
5. Study of effect of electrolytes on dyeing of cotton.
6. Dyeing of cotton with azoic dyes.
7. Dyeing of cotton with vat dyes.
8. Dyeing of cotton with reactive dyes.
9. Dyeing of cotton with sulphur dyes.
10. Dyeing of cotton with solubilised vat dyes.
11. Dyeing of silk and wool with acid dyes.
12. Dyeing of silk and wool with metal complex dyes.
13. Practice on Shade Matching (self shade).

Total: 60 Hour

COURSE OUTCOMES

At the end of the study of this course, the students will be able to

- CO1 Effect of temperature, MLR, Electrolyte on dyeing of cotton
- CO2 Dyeing of cotton with various dyes
- CO3 Dyeing of wool and silk
- CO4 Shade matching

SEMESTER II

PDTP201 : TEXTILE TESTING & QUALITY CONTROL

COURSE OBJECTIVES	L	T	P	C
	4	0	0	4

To make the students understand about various testing of yarn and fabric.

- Unit 1 INTRODUCTION OF TEXTILE TESTING 12
1. Objectives of textile testing.
 2. Importance and Methods of Sampling.
 3. Elements of Statistics, Measures of Dispersion.
 4. Standard Atmospheric Conditions, Humidity and its effect on Textile Testing.
 5. Determination of Moisture Regain & Moisture content.
- Unit 2 INTRODUCTION OF COUNT & EVENNESS TESTER 12
1. Count Testing Methods viz. Analytical Balance, Knowle's Balance, Quadrant Balance, Beesley's Balance.
 2. Evenness testing using visual Examination, Cutting & weighing and Electronic Capacitance Methods.
 3. Factors affecting Yarn evenness its impact on fabric properties.
- Unit 3 PRINCIPLE OF TWIST AND YARN STRENGTH TESTER 12
1. Yarn Twist and its effect on fabric properties.
 2. Measurement of twist by Straightened Fibre Method.
 3. Tensile Testing of Yarn-terms and definitions.
 4. Principle of strength testing e.g. C.R.L., C.R.E. and C.R.T.
 5. Lea strength and single Yarn Testing Machines.
 6. Instron Strength Testing equipment.
- Unit 4 INTRODUCTION OF FABRIC PHYSICAL TEST 12
1. Testing of fabric Strength Ballistic, Tear Bursting strength.
 2. Testing of yarn strength Concept of C.S.P.& R.K.M.
 3. Pilling tendency and its measurement using I.C.I. Pilling Test.
 4. Measurement of abrasion resistance.

Unit 5 INTRODUCTION OF DIFFERENT TESTS & TEXTILE TESTING TERMINOLOGY 12

1. Measurement of Crease Recovery.
2. Measurement of Bending length.
3. Measurement of Thickness.
4. Measurement of Drape.
5. Concept of TQM and QC.

Total: 60 Hour

COURSE OUTCOMES

At the end of the study of this course, the students will be able to learn

- CO1 Objectives, elements of statistics & standard atmospheric condition for testing
- CO2 Count and evenness testing methods
- CO3 Twist, CRT, CRE, CRL and strength testing methods
- CO4 Yarn and fabric strength testing, Measurement of pilling and abrasion resistance
- CO5 Crease recovery, bending length, thickness and drape. Concept of TQM/ QC

TEXT BOOK

- 1 Booth J.E., "Principle of Textile Testing", Butterworth Publications, London, 1989
- 2 Saville B.P., "Physical Testing of Textiles", Textile Institute, Manchester, 1998
- 3 Kothari V. K., "Testing and Quality Management", Progress in Textile Technology Vol.1, IAFL Publications, New Delhi, 1999
- 4 Textile Testing by Angappan
- 5 Textile Testing by NCUTE

REFERENCE BOOK

- 1 Ruth Clock and Grace Kunz., "Apparel Manufacture – Sewn Product Analysis", Upper Sadle River Publications, New York, 2000
- 2 Pradip V. Mehta., "Managing Quality in the Apparel Industry", NIFT Publication, India, 1998
- 3 Sara J. Kadolph., "Quality Assurance for Textiles and Apparels", Fair child Publications, New York, 1998
- 4 Slater K., "Physical Testing and Quality Control", The Textile Institute, Vol.23, No.1/2/3 Manchester, 1993
- 5 Textile testing web course content <https://nptel.ac.in/courses/116/102/116102029/#>

PDTP202 : SOFT SKILLS & PERSONALITY DEVELOPMENT

COURSE OBJECTIVES	L	T	P	C
	3	0	0	3

To make the students understand to learn soft skills, personality development and managerial skills.

Unit 1 SOFT SKILL AND ETHICAL ISSUES IN

9

MANAGEMENT

1. Introduction: Soft Skill, Ethics, Moral & Professional Skill.
2. Goal Setting, Life and Career Planning.
3. Human Perception: Understanding people.
4. Developing Potential and Self- Actualization, and Spiritual Intelligence.

Unit 2 INDIVIDUAL BEHAVIOUR AND STRATEGIC MANAGEMENT 9

1. SWOT-Analysis: Self-Assessment, Identifying Strength & Limitations.
2. Habits: Identifying Good and Bad Habits, Will-Power and Drives.
3. Developing Self-Esteem and Building Self-Confidence, Significance of Self-Discipline.
4. Attitudes, Types of Attitudes, Factors Affecting Attitudes.
5. Constructive Thinking Exploring & Managing Challenges.

Unit 3 PERSONALITY AND COMMUNICATION 9

1. Introduction to Personality: Personality Determinants, Theories in Personality.
2. Human Growth and Behaviour, Motivational Theory.
3. Communication Skills: Communicating Clearly, Understanding and Overcoming Barriers.
4. Intra Personal Communication and Body Language.
5. Inter Personal Communication and Relationship.

Unit 4 FUNDAMENTAL OF MANAGEMENT AND ENTREPRENEURSHIP 9

1. Management: Meaning, Nature and its Importance.
2. Leadership Skills: Introduction, Concept of Leadership, Qualities of a Good Leader.
3. Entrepreneurship Skill: Entrepreneurship Traits, Types of Entrepreneurs, Its Scope in Textile.
4. Team Management Skills: Concept, Team Management Techniques and its importance.
5. Role and Importance of Management in Handloom and Textile Industries.

Unit 5 SOCIAL MANAGEMENT 9


1. Critical Thinking and Problem Solving Skill, Mnemonic Techniques, Self Hypnotism.
2. Out of Box Thinking and Lateral Thinking Skill as a Tool of Creativity.
3. Life-long Learning and information Management Skill.
4. Stress Management: Type of Stress, Meditation and Concentration Techniques.
5. Presentation Skills: Preparation of Presentation, Project Reports and Resume.

Total: 45 Hour

COURSE OUTCOMES

At the end of the study of this course, the students will be able to learn

- CO1 Soft skill, goal setting and human perception
- CO2 SWOT analysis, Habits, attitude and constructive thinking



- CO3 Personality development, motivation & communication skills
- CO4 Management, Leadership, Entrepreneurship, Team management skills and their importance
- CO5 Critical thinking, presentation and information management skill, stress management

TEXT BOOK

- 1 Personality Development and Soft Skills, By Barun K. Mitra
- 2 Professional Ethics and Personality Development, By Nandini Srinivasan.
- 3 The ACE of Soft Skill, By Gopaldaswamy Ramesh & Mohadeven Ramesh.
- 4 Communication Skills, By Sanjay Kumar & PuspaLata.
- 5 Management and Entrepreneurship in Indian Environment, By Vachaspati Mishra.

REFERENCE BOOK

- 1 Stress Management: A Comprehensive Guide to Wellness, By Edward A. Charlesworth and Ronold G. Nathan.
- 2 You Can Win: A Step by Step Tool for Top Achievers, By Shiv Khera

PDTP203 : TECHNOLOGY OF DYEING-II

COURSE OBJECTIVES	L	T	P	C
	4	0	0	4

To make the students understand the dyeing of synthetic fibres with their methods of dyeing and working principle of different dyeing machines, study of fastness properties.

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|--------|--|----|
| Unit 1 | DYEING OF POLYESTER | 12 |
| | <ol style="list-style-type: none"> 1. Brief description of Structural parameters of polyester making it difficult to dye. 2. Need, Principle, Methods of Heat setting Polyester & its effect on dyeing behavior. 3. Approaches for dyeing-Variou methods of dyeing Polyester involving use of chemical and thermal energy. 4. Carrier dyeing and H.T.H.P. dyeing of polyester. | |
| Unit 2 | WORKING OF HTHP DYEING MACHINES | 12 |
| | <ol style="list-style-type: none"> 1. Brief description of parts and working of HTHP Beam dyeing machine, Jet Dyeing Machine, Soft Over Flow dyeing machines. 2. Thermosol method of dyeing polyester. 3. Outlines of the common defects and damages while dyeing polyester on above machines. | |
| Unit 3 | DYEING OF POLYAMIDES & ACRYLICS | 12 |
| | <ol style="list-style-type: none"> 1. Structural concepts of polyamides (Nylon6 and Nylon66) affecting their dyeing behavior. 2. Dyeing of Nylon with Disperse, Acid& Metal complex dyes. 3. Process details including time, temperature, pH and functions of chemicals used. 4. Structural concepts of Acrylic affecting their dyeing behavior. 5. Introduction to Method of Dyeing Acrylic with Cationic and Disperse dyes. | |

- Unit 4 PROCESS SEQUENCE OF DIFFERENT BLENDS, FUNCTION OF AUXILIARIES AND INTRODUCTION OF GARMENT DYEING MACHINE. 12
1. Introduction and objectives of blending.
 2. Process sequence of blended textiles comprising of P/C, P/V, Acrylic/Wool & P/W.
 3. Function of Auxiliaries used in dyeing, viz. Levelling agents, exhausting agents, wetting agents, acid liberating agents, dispersing agents & Retarders.
 4. Working of Garment dyeing machines.
- Unit 5 INTRODUCTION TO COLOUR FASTNESS 12
1. Concept of fastness and grey scale.
 2. Determination of Washing Fastness of Dyed materials.
 3. Determination of Light Fastness of Dyed materials.
 4. Determination of Rubbing Fastness of Dyed materials.
 5. Determination of perspiration Fastness of Dyed materials.
 6. Common defects observed in dyeing and their remedies.

Total: 60 Hour

COURSE OUTCOMES

At the end of the study of this course, the students will be able to learn

- CO1 Factors affecting polyester dyeing, heat setting and various method of dyeing polyester
- CO2 Working of HTHP dyeing machines and their defects and damages
- CO3 Polyamide and acrylic dyeing with different dyes
- CO4 Process sequence of various blends, function of auxiliaries and garment dyeing m/c
- CO5 Determination of various fastness and common defects in dyeing

TEXT BOOK

- 1 Technology of Dyeing –VI By Dr. V.A. Shenai
- 2 Processing of Polyester Cellulosic Blends By Vaidya & Trivedi.
- 3 Processing Synthetic Fibres By Datte & Vaidya.
- 4 Chemical Processing of Textiles By Dr. C.V. Koushik and Mr. Antao Irwin Josico.
- 5 Textile Chemical Processing Vol. I By Jitendra Kumar

REFERENCE BOOK

- 1 Processing Synthetic Fibres By Schmidlin.
- 2 Chemical Technology of Fibrous Materials By F. Sadov
- 3 The Chemistry of Dyeing By John K. Wood
- 4 Basic Principles of Textile Coloration By D. Broadbent

PDTP 204 : TECHNOLOGY OF PRINTING-I

	L	T	P	C
COURSE OBJECTIVES	4	0	0	4

To make the students understand the about the Methods of Printing, preparation of blocks and Screens and Styles of printing ingredients used in printing paste.




Unit 1	INTRODUCTION TO TEXTILE PRINTING	12
	1. Introduction to Printing.	
	2. Preparatory processes for Printing.	
	3. Introduction to Non-Mechanized and mechanized printing.	
	4. Design, Colour, Layout and repeat in printing textiles.	
Unit 2	PREPARATION PROCESS OF BLOCK & SCREENS	12
	1. Block making and working with blocks in printing textiles.	
	2. Principle of making hand screens.	
	3. Equipment and working with hand screens printing.	
	4. Preparation of Printing Screens.	
Unit 3	WORKING OF PRINTING MACHINES	12
	1. Advantages and disadvantages of blocks and screens.	
	2. Working of Semi-automatic, fully automatic flat bed screens printing machines	
	3. Working of rotary screen printing machine, making of rotary screens.	
	4. Advantages and disadvantages of the above printing machines.	
Unit 4	INTRODUCTION TO STYLES OF PRINTING AND INGREDIENTS OF PRINTING PASTE WITH AFTER TREATMENTS OF PRINTED GOODS	12
	1. Study of various ingredients used in print paste formulation.	
	2. Introduction to styles of printing, direct, discharge and resist.	
	3. After treatments of printed textiles viz. ageing, steaming and curing.	
	4. Introduction to pigment printing and function of various ingredients.	
Unit 5	PRINTING OF COTTON WITH SYNTHETIC AND NATURAL DYES.	12
	1. Direct style printing of cotton with direct dyes, reactive dyes and pigments.	
	2. Advantages and disadvantages of pigment printing.	
	3. Natural dyes used in printing, its limitations and advantages over synthetic dyes.	
	4. Printing with Natural dyes.	

Total: 60 Hour


COURSE OUTCOMES

At the end of the study of this course, the students will be able to learn

- CO1 Printing and preparatory processes, terms used in printing
- CO2 Block and screen printing by hand
- CO3 Working of various printing machines with its advantages and disadvantages
- CO4 Printing Styles, after treatments, Print paste formulation and pigment printing
- CO5 Direct style printing of cotton by various dyes, merits and demerits of pigment printing

TEXT BOOK

- 1 Technology of printing by V.A. Shenai
- 2 Textile Printing By D.G. Kale
- 3 Textile Printing by R. S. Prayag




REFERENCE BOOK

- 1 Handbook of Textile processing machinery – R.S. Bhagwat1999
- 2 An Introduction to Textile printing by W Clarke.

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PDTP205 : TEXTILE TESTING PRACTICE

	L	T	P	C
COURSE OBJECTIVES	0	0	6	3
Testing of yarn and fabric with evaluation of fastness properties.				

LIST OF PRACTICALS /ACTIVITIES

1. Determination of count of yarn by Beesley's/Knowles/Quadrant Balances.
2. Determination of count of yarn by using Wrap reel and Physical Balance.
3. Assessment of yarn evenness using visual assessment instruments.
4. Determining the yarn twist on yarn twist testers.
5. Determination of yarn strength by using lea strength tester.
6. Determination of fabric tensile strength by tensile strength tester.
7. Assessment of pilling property by using pilling boxes.
8. Determining crease recovery property of fabric by creasing testers.
9. Determining fabric thickness by thickness gauge.
10. Assessment of abrasion resistance.
11. Determination of class of dye on coloured textile material/dyestuff power.
12. Assessment of washing fastness by ISO-I, II, III, IV & V.
13. Assessment of rubbing fastness of dyed fabric by using Crock meter.
14. Assessment of Sublimation fastness of dyed fabric.
15. Assessment of light fastness of coloured textiles using light fastness tester.
16. Assessment of perspiration fastness of dyed fabric

Total: 60 Hour

COURSE OUTCOMES

At the end of the study of this course, the students will be able to learn

- CO1 Yarn count and yarn evenness/ twist
- CO2 Yarn and fabric strength, pilling and crease recovery
- CO3 Fabric thickness, abrasion resistance and class of dye on fabric
- CO4 Various fastness properties

-

PDTP206 : TEXTILE DYEING PRACTICE-II

	L	T	P	C
COURSE OBJECTIVES	0	1	2	3
Preparatory process of synthetic fibres and their dyeing with different dyes.				

LIST OF PRACTICALS /ACTIVITIES

1. Scouring and bleaching of Polyester.
2. Scouring and bleaching of Nylon.
3. Scouring and bleaching of Acrylic.

4. Dyeing of Polyester with Disperse dyes by carrier method.
5. Dyeing of polyester with Disperse-dyes by HTHP method.
6. Dyeing of P/C with disperse and Vat/reactive dyes (solid/cross/reserve shades).
7. Dyeing of nylon with acid dyes and metal complex dyes.
8. Dyeing of nylon with disperse dyes.
9. Dyeing of acrylics with cationic dyes.
10. Dyeing of acrylics with disperse dyes.
11. Practice of shade matching (compound shades).

Total: 60 Hour

COURSE OUTCOMES

At the end of the study of this course, the students will be able to learn

- CO1 Scouring and bleaching of synthetic fibres
- CO2 Dyeing of polyester and P/C Blend in various combinations
- CO3 Dyeing of nylon and acrylic
- CO4 Shade matching

PDTP207 : COMPUTER COLOUR MATCHING PRACTICE

	L	T	P	C
COURSE OBJECTIVES	0	0	3	1.5
Study of various modules of CCM				

LIST OF PRACTICALS /ACTIVITIES

1. Calibration of spectrophotometer.
2. Colour specification (L, a, b, C, H) analysis for the given samples.
3. K/S Data Generation for the dyed/printed sample.
4. Prediction of recipe for the dyed/printed sample using CCM
5. Batch Correction of the dyed sample using CCM..
6. Measurement of delta-E / Matching of shades of the given samples.
7. Pass Fail, Shade sorting & Library.
8. Cost analysis of different recipes using CCM.
9. Metamerism Analysis of different recipes using CCM.
10. Fastness Assessment using CCM.
11. Comparison of fastness assessment between manual and CCM .
12. Whiteness index measurement of given white samples.
13. Yellowness measurement of given white samples

Total: 30 Hour

COURSE OUTCOMES

At the end of the study of this course, the students will be able to learn

- CO1 Spectrophotometer and its calibration, Colour specification(L,a,b, C, H)
- CO2 K/S data, recipe prediction and batch correction
- CO3 Pass-Fail analysis, cost analysis and metamerism
- CO4 Fastness assessment, whiteness and yellowness index




SEMESTER III

PDTP301 : TECHNOLOGY OF PRINTING-II

	L	T	P	C
COURSE OBJECTIVES	4	0	0	4

To make the students understand about the Styles of Printing, methods of cotton, silk and polyester printing. Study of traditional methods of printing.


Unit 1	INTRODUCTION OF STYLES OF PRINTING	12
	1. Introduction and Chemistry involved in discharge and resist style of printing.	
	2. Study of various discharging agents.	
	3. Methods of producing white and colour discharge effects on cotton dyed with vat, reactive and azoic colours.	
Unit 2	PRINTING OF SILK	12
	1. Methods and process sequences of printing with acid& metal complex dye on silk	
	2. Methods of producing white and colour discharge effects on silk.	
Unit 3	PRINTING OF POLYESTER	12
	1. Methods of printing polyester with disperse dyes by direct and discharge style of printing.	
	2. Methods of printing polyesters/cotton blends with pigments.	
Unit 4	INTRODUCTION TO ADVANCE METHOD OF TEXTILE PRINTING	12
	1. Transfer printing and various machines used in transfer printing on textiles & its limitations.	
	2. Digital printing – Chemistry and technology, study of various ink-jet system and its merits & demerits.	
	3. Printing of knitted garments.	
Unit 5	Introduction to Traditional Styles of Printing	12
	1. Kalamkari	
	2. Batik	
	3. Tie& Dye (Bandhani)	
	4. Ajrakh Printing	
	5. Bagru printing & Sanganeri Print	
	6. Khadi (White & Colored)	
	7. Flock printing	

Total: 60 Hour

COURSE OUTCOMES

At the end of the study of this course, the students will be able to learn

- CO1 Printing by discharge style on cotton
- CO2 Direct and Discharge Printing of silk
- CO3 Printing of polyester with disperse dyes and P/C blend with pigments



- CO4 Transfer printing and Digital printing, printing of knitted goods
 CO5 Traditional styles of printing

TEXT BOOK

- 1 Technology of printing –R.S.Prayag
- 2 Textile Printing-Prof.D.G.Kale
- 3 Technology of printing-Dr. V.A.Shenai
- 4 Digital Textile printing by Susan Carden

REFERENCE BOOK

- 1 An introduction to Textile printing-W.Clark
- 2 Basic Principles of Textile Colouration-A.D.broadbent
- 3 Textile printing-By Leslie WC Miles

PDTP302 : TECHNOLOGY OF FINISHING

COURSE OBJECTIVES	L	T	P	C
	4	0	0	4

To make the students understand the about the textile finishing application of different finishing chemicals and their effects.

Unit 1	INTRODUCTION TO TEXTILE FINISHING	12
	<ol style="list-style-type: none"> 1. Commercial importance of finishing and its classification. 2. Resin finishing: Mechanism of creasing, Types of Resins. 3. Anti crease, wash and wear, durable press resin finishing. 4. Mercerization and structural changes taking place in mercerization. 5. Yarn and fabric mercerizing machines. 6. Liquor ammonia mercerization 	
Unit 2	INTRODUCTION TO FUNCTIONAL FINISHES PART-1	12
	<ol style="list-style-type: none"> 1. Concept of Flame proof & flame retardancy. 2. Concept of pyrolysis, Flame retardant finishes for cotton, Concept of waterproof and water repellent Finishes, Mildew proof finishes and Rot proof finishing. 3. Durable & temporary finishes, Antimicrobial, Aroma finish, UV Protection finishes, Bio-polishing. 	
Unit 3	INTRODUCTION TO FUNCTIONAL FINISHES PART-2	12
	<ol style="list-style-type: none"> 1. Soil Release Finishing: Mechanism of soil retention. 2. Various soil releases finishes for cotton, Polyester and its blends. 3. Detail study of antistatic finishes. 4. Anti pilling Finishing 	
Unit 4	INTRODUCTION TO MECHANICAL, FOAM FINISH & HEAT SETTING	12




1. Detail study about mechanical finishing of textile materials like Calendaring, Raising, Sanforising, Peach finishing.
2. Object of Heat setting.
3. Various methods of heat setting and mechanism of heat setting.
4. Foam Finishing: Detailed study of various techniques of foam application.
5. Drawbacks of foam finishing.

Unit 5 INTRODUCTION OF ADVANCE FINISHING OF POLYESTER AND SOFTENERS 12

1. Mechanism in the weight reduction of PET by using alkali: Micro encapsulation techniques in finishing process.
2. Study about cationic, reactive and silicon emulsion softeners.
3. Introduction to Nano Finishing.

Total: 60 Hour

COURSE OUTCOMES

At the end of the study of this course, the students will be able to learn

- CO1 Finishing and its classification, Anti crease finishing & mercerization
- CO2 Flame proof & flame retardant finish, water proof & water repellent finish & other functional finish
- CO3 Soil release, anti static and anti pilling finishes
- CO4 Various mechanical finishes, heat setting and foam finishing
- CO5 Advance finishing techniques and types of softeners

TEXT BOOK

- 1 Technology of finishing by V.A. Shenai
- 2 Technology of finishing by R.S. Prayag
- 3 Textile finishing by A.J. Hall
- 4 Handbook of textile processing machineries by R.S. Bhagwat


REFERENCE BOOK

- 1 Textile – Reference – Book – For – Finishing By Pietro Bellini, Ferruccio Bonetti, Easter-Franzetti.
- 2 The Finishing Textile Fabric (Woolen, Worsted & Others Cloth) By Roberts Beasumont.
- 3 Textile Fibers, Dyes, Finishes and Processes by Howard L. Needles.
- 4 Chemistry & Technology of Fabric Preparation & Finishing By Dr. Charles Tomasino.
- 5 Chemistry Technology of Fibrous Materials by F. Sadov.

PDTP303 : CHEMISTRY OF INTERMEDIATES & DYES

COURSE OBJECTIVES	L	T	P	C
	3	0	0	3

To make the students understand about the Historical importance of natural dyes,




Chemistry of dyes and intermediates and process of synthetic dyes.

Unit 1	INTRODUCTION OF DYES	9
	1. A brief introduction of natural and synthetic dyes.	
	2. Raw materials and coaltar distillation.	
	3. Unit process in organic synthesis such as Halogenation, Nitration, Sulphonation, Esterification, Hydrogenation and Diazotisation with suitable examples.	
Unit 2	INTRODUCTION TO CLASSIFICATION OF SYNTHETIC DYES.	9
	1. Classification of dyes on the basis of their chemical structure such as azines, oxazines, xanthenes, acridines, thiozols, quinolines, cyanines, diphenyl and triphenyl methane dyes, azo dyes, nitro and nitroso dyes.	
	2. Relationship between dye structure, application and dye fibre interaction.	
Unit 3	INTRODUCTION TO CHEMISTRY OF DYES	9
	1. Chemistry of anthraquinone vat dyes, indigoid and thioindigoid dyes, solubilised vat dyes, sulphurcolours, reactive dyes, disperse dyes and Fluorescent Brightening agents.	
Unit 4	INTRODUCTION TO CHEMISTRY OF DYES INTERMEDIATES	9
	1. Study of important intermediates from Benzene, Indanthrene, Chlorobenzene, nitro benzene, aniline, phenol and salicylic acid, Naphthalene and anthracene.	
	2. Chemical structure of H-Acid and BON Acid.	
Unit 5	SYNTHESIS OF DIFFERENT DYES	9
	1. Preparation of each dye :Naphthol AS, Indigotin, Fast Red TR base, Rhodamine B, Auromine, Methylene Blue, Alizarine, Caledon Jade Green, Indanthrene Blue.	

Total: 45 Hour

COURSE OUTCOMES

At the end of the study of this course, the students will be able to learn

- CO1 Natural & synthetic dyes, raw materials and various unit processes in synthesis of dyes
- CO2 Classification of dyes based on chemical structure and dye fibre interaction
- CO3 Chemistry of dyes
- CO4 Chemistry of dye intermediates
- CO5 Preparation of dyes

TEXT BOOK

- 1 Synthetic Dyes by Gurdeep R. Chatwal
- 2 Chemistry of Synthetic Dyes Vol. I-VIII by Venkatraman
- 3 Chemistry of dyes and principle of dyeing by V.A. Shenai
- 4 Handbook of Synthetic Dyes & Pigments by K.M. Shah

REFERENCE BOOK

- 1 Colorant and Auxiliaries Volume _ 1 Colorants by John Shore
- 2 Colorant and Auxiliaries Volume _ 2 Colorants by John Shore
- 3 Textile Dyes by Mansoor Iqbal
- 4 Industrial Dyes Chemistry, Properties, Application by K. Humnger
- 5 Text Book of Dyes by M.G. Arora

PDTP304 : ECOLOGY& POLLUTION CONTROL IN TEXTILE INDUSTRY

	L	T	P	C
COURSE OBJECTIVES	3	0	0	3

To make the students understand about the importance of ecological system and different types of pollution in textile industry.

- | | | |
|--------|---|---|
| Unit 1 | INTRODUCTION OF ENVIRONMENT AND POLLUTION | 9 |
| | <ol style="list-style-type: none">1. Environment, Types-Natural and manmade Environment, Components of Environment, Segments of Environment, Atmosphere.2. Pollution, Types of Pollution viz. Air, Water, Soil, Noise and Thermal pollution.3. Overview of environmental pollution in Textile Industries.4. Environmental pollution & its harmful effects on human beings, vegetation inert material and physical features of atmosphere.5. Pollutants, Types, Brief description on pollutants in Textiles. | |
| Unit 2 | TYPES OF POLLUTION | 9 |
| | <ol style="list-style-type: none">1. Air Pollution-Definition, causes of Air Pollution.2. Classification, Sources & Characteristics of important Air Pollutants.3. Sources of Air Pollution in a Textile mill.4. Air Quality Standards.5. Indoor and outdoor air pollution.6. Study of Harmful Chemicals used in Textile Industry. | |
| Unit 3 | INTRODUCTION OF WATER POLLUTION & PARAMETERS | 9 |
| | <ol style="list-style-type: none">1. Water Pollution-Definition and Classification.2. Various sources of waste water in wet processing.3. Characteristics of waste water –SS, TDS, DO, COD, BOD.4. Textile waste water problems, Chemical recovery and reuse.5. Water conservation in Textile Industry.6. Impact of water pollution on man, marine life & ecology of textiles. | |
| Unit 4 | INTRODUCTION OF WATER EFFLUENT TREATMENTS | 9 |
| | <ol style="list-style-type: none">1. Methods of wastewater/Effluent treatment i.e. physical, chemical and biological treatment.2. Brief description of design and working of effluent treatment plant.3. Methods of Textile dyes house waste water decolourization and removal of organic | |

- pollutants.
4. Tolerance level of effluents in wet processing of textiles.
 5. Solid wastes, its sources, various methods of waste reduction.
 6. Sludge treatment and solid waste disposal of textile Industry.

Unit 5 NOISE POLLUTION AND ECO-STANDARDS 9

1. Noise Pollution-Definition and harmful effects.
2. Preventive & control of noise pollution in Textile Industry.
3. Noise Pollution parameters.
4. New Challenges towards achievements of strict standards in Textile processing effluents.
5. Eco-standards and Eco-labels for textiles.
6. ISO 14000 & current environment policies related to Textiles Industry.

Total: 45 Hour

COURSE OUTCOMES

At the end of the study of this course, the students will be able to learn

- CO1 Environment, types of pollution and their harmful effects, types of pollutants
- CO2 Air pollution-classification, sources and AQS
- CO3 Water pollution-classification, sources and characteristics of waste water
- CO4 ETP, Tolerance level of effluents, solid waste reduction and disposal
- CO5 Noise pollution, its parameters, eco standards & eco labels, ISO 14000

TEXT BOOK

- 1 Text book of Environmental Chemistry & Pollution Control by SS Dara
- 2 Sewage Disposal & Air Pollution Engineering by S.K.Garg
- 3 Pollution Control in Textile Industry by S.C. Bhatia, Sarvesh Devraj
- 4 Environment Pollution and Environmental by Padmanabh Dwivedi

REFERENCE BOOK

- 1 Environment Chemistry by A.K.DE
- 2 Perspectives in Environmental Studies by AnubhaC.P.Kaushik-Kaushik
- 3 Waste water Treatment by M.N.Rao. A.K.Datta
- 4 Air Pollution M N Rao and H V N Rao
- 5 A text book of Environmental Studies byTangamani & Shymala Thangamni
- 6 Workshop on Environment Pollution & Control in Textile Industry by BTRA

PDTP305 : PROJECT WORK

COURSE OBJECTIVES

L	T	P	C
0	0	6	3

To make the students understand about the practical analysis of industrial and laboratory practices to develop their practical knowledge and skill.




LIST OF PRACTICALS /ACTIVITIES

- Each student is required to submit a project report on a given topic.
- The Project may be carried out in the laboratory of the institute or preferably in a process house under actual working condition.
- The principle object of the project work is to develop the analysis skills & facilitation solutions of the day to day issues at shop floor level.
- This will also test the ability of the student to co-ordinate knowledge with the actual production activities.

Total: 60 Hour

COURSE OUTCOMES

At the end of the study of this course, the students will be able to learn

- CO1 Understand the practical activities in textile industry and develop innovation attitude in further application of study/practices.

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PDTP306 : TEXTILE FINISHING PRACTICE

COURSE OBJECTIVES

L	T	P	C
0	0	6	3

To make the students understand about the practices on following practical on different finishes on textile material.

LIST OF PRACTICALS /ACTIVITIES

1. Stiff finishing of given fabric using Starch/PVA
2. Soft finishing of given fabric using softener (Anionic/Cationic/Non-ionic/Reactive)
3. Buckram/back filling finish for the given fabric sample using a suitable recipe.
4. Producing of water repellent finish to the given fabric sample.
5. Application of Crease recovery finishing in given Cotton/Polyester-Cotton fabric.
6. Applications of Weight reduction finish on given polyester material.
7. Carbonisation of given P/C blends.
8. Producing of Scroopy finishing effect on silk fabric.
9. Application of Flame retardant finish to the given sample.
10. Application of Anti-microbial finish to the given sample.
11. Applications of stain release finish on the given sample.

Total: 60 Hour

COURSE OUTCOMES

At the end of the study of this course, the students will be able to learn

- CO1 Soft and stiff finishing of cotton
CO2 Water repellent, crease recovery and weight reduction finish
CO3 Carbonisation and scroop finish
CO4 Application of functional finishes

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PDTP307– TEXTILE PRINTING PRACTICE

	L	T	P	C
COURSE OBJECTIVES	0	0	6	3

To make the students understand about the practices on textile printing practical by using different dyes and styles on textile materials.

LIST OF PRACTICALS /ACTIVITIES

1. Printing of cotton cloth in direct style with direct colours.
2. Printing of cotton cloth in direct style with reactive colours.
3. Printing of cotton cloth in direct style with pigments colours.
4. Printing in batik style in cotton fabric.
5. Printing in bandhage/Tie & dye style on cotton fabric.
6. Printing of silk with Acid dyes in direct style.
7. Printing of silk with Metal complex dyes in direct style.
8. Printing of polyester with Disperse dyes in direct style.
9. Printing of polyester with pigments in direct style.
10. Printing of polyester/cotton blend with pigments in direct style.
11. Discharge printing of cotton fabric with vat colours on direct dyed ground.
12. Discharge printing of cotton fabric with vat colours on reactive dyed ground.
13. Discharge printing of polyester.

Total: 60 Hour

COURSE OUTCOMES

At the end of the study of this course, the students will be able to learn

- CO1 Cotton printing with direct, reactive and pigment
- CO2 Traditional styles of printing cotton
- CO3 Silk printing with acid/ metal complex dyes
- CO4 Polyester printing with disperse dyes and pigments
- CO5 Discharge printing of cotton and polyester

