

14CDP01**ADVANCED TEXTILE SCIENCE****SEMESTER-I****OBJECTIVES**

1. To familiarize more about the latest fibres.
2. To impart in depth knowledge about the process and manufacture of fiber to yarn.

UNIT – I FIBER INTRODUCTION**(10)**

Fibers introduction, classification, properties, merits and demerits of natural fibres and man made fibers. **Natural fibers-Vegetable fibres-morphological structure**, physical & chemical properties. Protein fibers: Silk-production, types of silk, morphological structure, physical & chemical properties. Wool-production, types of wool, morphological structure, physical & chemical properties. Specialty wool (Self Study)

UNIT II REGENERATED CELLULOSE FIBERS**(9)**

Regenerated cellulose fibres, Rayon, Modal, Polynosic, Super Yarn, Cellulose Acetate, Triacetate, production and properties, Regenerated protein fibres, manufacture of Casein fibres, Vicara fibres, Aridil fibres, general properties and uses.

UNIT III SYNTHETIC FIBERS**(9)**

Synthetic fibers-high tenacity Nylon, high tenacity polyester, poly-acrylo nitril fiber, physical structure- physical & chemical properties and applications. Tow into spun yarns. **High bulk yarns. Texturising. Specialty fibres- Spantex-fibre, properties and uses.**

UNIT IV YARN MANUFACTURING**(8)**

Automatic spinning process, open end spun & TFO, merits, and demerits of yarn, comparison between ring spun and open end spun yarns, industrial yarn, Sewing yarn.

UNIT V OTHER SPINNING TECHNIQUES**(9)**

Twist spinning, (Self twist spinning) False twist spinning (**Air jet and friction spinning**) **Compact Spinning. Adhesive process:** Bobtex and twist less spinning.

Text Books:

1. Bernard P. Corbman, Textiles Fiber to Fabric, 6th edition, Mc. Graw Hill International Editions, New York, 1983, 1996
2. W.G. Klein, the Technology of Short Staple Spinning, Textile Institute, Manchester, 1988

REFERENCE BOOKS:

1. S.Jayaprakasam, R. Gopalakrishan, V. Kasinathan, Fiber Science and Technology, S.S.M.I.I.T staff and students Co-operative stores Ltd, Komarapalayam, and June 1997
2. Susheela Dantyagi, Fundamentals of Textiles and their Care, Orient Longman Ltd, New Delhi, 5th edition, 1998
3. A.V. Mani, Spun Yarn Technology, Vol.I,II,III, Saravana Publications Co. Ltd, 1985
4. William Scott Taggart, Cotton Spinning, Universal Book Corporation, 1996
5. Miles Collins, Woolen and Worsted Spinning, Abhishek Publication, Chandigarh-17, 2002
6. Parul Bhatnagar, Elementary Textile, Abhishek Publication, Chandigarh, 2002

7.S.P.Mishra, A Text Book of Fiber Science and Technology, New Age International (P) Ltd, New Delhi, 2005

14CDP02 FABRIC MANUFACTURING TECHNOLOGY SEMESTER-I

OBJECTIVE:

1. To impart more knowledge on textiles structures and manufacturing process.
2. To impart knitting knowledge regarding various types of knitting machines, their fabrics and production calculation.

UNIT I FABRIC MANUFACTURING (9)

Weaving, Automatic winding machine, modern warping and sizing machine, auto looming, Dobby shedding, E- doobby, jacquard shedding, e-jacquard, card punching machine, E-Punching Machine.

UNIT II SHUTTLELESS WEAVING (9)

Shuttle less weaving, Airjet, waterjet, Rapier & Sulzer ,multiphase weaving

UNIT III ADVANCED FABRIC STRUCTURE (10)

Symbolic representation of a weave, drawing in design, draft, peg plan and its types. Plain, Twill & its derivative. Crepe weaves, Mock, Gauze & Leno, bed ford cords, Pile fabrics, welts, piques, Corduroy, double cloth, triple cloth.

UNIT-IV WEFT KNITTING (9)

Knitting, classification of knitting, Indian knitting Industry, weft Knitting, Weft Knitting structure and its types, Flat knitting machine, Simple knitting calculation – Advanced weft knitting -E Jacquard design

UNIT-V WARP KNITTING & SEAMLESS GARMENTS (8)

Warp Knitting Structures and its types, Tricot & Raschel machine, Jacquard Knitting Structure, Knitted Fabric Defects, Causes and Remedies, Seamless knitting and Seamless garment, (Self Study), Warp knitting: industrial application

Text Books:

1. N.N. Banerjee , Weaving Mechanism, Banarjee Publisher, West Bengal, 1980
2. D.B.Ajgaonkar, Knitting Technology, Universal Publishing Corp, Bombay, 1998
3. DR N. Anbumani Knitting Manufacturing Technology, New Age International Limited Publication New Delhi (2006)

REFERENCE BOOKS:

1. W.S. Murphy, Textile Weaving and Design, Abishek Publication, Chandigarh, 2003
2. Debby Robinson, The Knitting Encyclopedia of Knitting Technology, The editing Publication, 1989
3. DR N. Anbumani Knitting Fundamental Structures and Developments, New Age International Limited Publication New Delhi (2007)

4. D.J.Spencer , Knitting Technology, Pergamon Press, Leicestershire , fourth Edition, 1982.
5. S. Raz, Warp Knitting Technology, Verlag Melland Textilberchte GMBH, Heidelberg, Germany, 1987
6. Iyer C, Mallel B and Schach W, Circular knitting Technology, process, Structures, Yarns, Quality, Meinsenback II Ed, 1995.
7. J.T.Tayler, Cotton Weaving and Designing, Abishek Publication, Chandigarh, 2002
8. R. Sen Gupta, Weaving Calculations, D.B.Taraporevala Sons & Co.Pvt.Ltd, 1996
9. R. Samuel, Flat Knitting, Meisenbach Bamberg, Germany, 1991
10. A. Reisfeld, C. Rotenstein, D.F.Paling, Fundamentals of Raschel Knitting, NKOA,1958
11. J.B. Aitken, Automatic Weaving, Columbia Press, Manchester, London, 1964.

14CDP03 APPAREL MANUFACTURING TECHNOLOGY SEMESTER-I**OBJECTIVES:**

To impart knowledge regarding the latest apparel manufacturing machineries, equipment and maintain quality standards during producing and to move them aware of the current practice in the clothing industry.

UNIT-I CONCEPTS OF PRODUCTION AND PRODUCTIVITY (9)

Production – Definition –terminology – Organizing for production –Function of production department- Duties & responsibilities of production manager-Factors of Production- Production Function- Basic production systems-Productivity-Standard of living-Factors affecting productivity-Productivity measures

UNIT-II PRODUCTION PLANNING & CONTROL (9)

Capacity requirement planning (CRP)- Material Requirement Planning(MRP)- Steps in production planning-Qualitative & quantitative analysis of production-capacity study, Operator performance, follow-ups, work in process (WIP), Operation bulletin.

UNIT-III APPAREL PRODUCTION SYSTEMS (9)

Methods of production systems, job, mass & batch- Progressive bundle Syncrome straight line system, -Unit production system, Quick response sewing system, garment production system, group system, syncrome system.

UNIT-IV PLANT LAYOUT & LINE BALANCING (9)

Defining plant layout-Types of production layout-Types of production layout problems-The need for a mathematical approach-Criteria for evaluating a plant layout-Planning a production layout- Balancing –Steps to balance the line- Initial balance-Balance control-Efficiency-Cycle checks-Balancing tools.

UNIT-V WORK STUDY (9)

Concept & need – Methods study & work management-Definitions- Techniques of work measurement-Process chart -Process flow chart-Flow diagrams-String diagrams-Travel chart-Multiple activity chart – Motion economy -Time study methods-Standard allowed minute (SAM)-Other methods to set time standard .

TEXT BOOKS:

1. V.Ramesh Babu “industrial engineering in apparel production, wood head publishing India in textiles (2012)
2. Salinger Jacob “Apparel manufacturing” Hand book analysis, principles and practice, Columbia Boblin media Corp-Publishing. (1988)

REFERENCE:

1. David J. Tyler “Materials management in clothing production”.-Black well science Publishing. (1991)
2. Gerry cooklin Revised by steven hayes and John mc loghlin“Introduction to clothing Manufacture” Black well science publishing.(2007)

3. Harold carr and Barbara Latham, "The Technology of clothing manufacture", Second edition, Black Well Publishing.(1999)
4. GerryCooklin, "Garment Technology for fashion designers", Black well Publishing.(1997)
5. Gerry Cooklin "Introduction to Clothing Manufacture" Black well Publishing.(1998)
6. Hermeling.et.all. "Clothing Technology from fiber to fashion". Published by Beuth-Verlag GMBH.(1995)
7. O.P.Kanna Industrial engineering & management.

**14CDP04 APPAREL, LEATHER, JEWELLERY SEMESTER-I
& ACCESSORY DESIGNING PRACTICAL**

I-PG SEM –I

Time:3 Hrs

Max Marks:60

Design and making of the following items:

1. Designing and making of Head ornaments
2. Designing and making of Ear ornaments
3. Designing and making of Neck ornaments
4. Designing and making of Hand ornaments
5. Designing and making of Leg ornaments
6. Designing and making of Waist ornaments
7. Designing and making of Headgears
8. Designing and making of Bags.
9. Designing and making of Hair ornaments.
10. Designing and making of other ornaments.

From Glass, Metal, Paper, Fabrics, Beads, Leather, threads, Zippers, Buttons, Buckles,
Zipper rings

14CDP05**FASHION DRAPING PRACTICALS****SEMESTER-I****OBJECTIVE:**

This paper is designed to develop the draping skill of the Students.

1. Draping of Basic Foundation Patterns**- Blocks and Slopers****- Basic Bodice****- Basic Skirt****- Basic Shift (Torso) and Empire Designs****- Basic Sleeve****2. Design Variations****- Bodice Variations****- Dartless Shapers: Shirt and Kimono Designs****- Princess Shapers****- Skirts****- Pants****- Raglan Sleeve****- Collars****3. Advanced Design Variations****- Dresses****- Knits****- Cowls****- Flounces, Ruffles, and Peplums****4. Stylized draping****- Saree****- Dhotis****- Turbans****- Classical costumes**

14CDP06 FREELANCE PORTRAYAL PRACTICALS-I SEMESTER-I**OBJECTIVE:**

This paper is designed to develop the illustration skills of the Students.

1. Sketch the different types of color theory, color harmony.
2. To draw the Creative design and its application on garment using various painting
3. Sketching of different action croqui with garments.
4. Sketching the rendering techniques.
5. Psychology of clothing.
6. To collect the Wardrobe collection for girl & boy/different season.
7. Sketching from magazine & developing new design.
8. Illustrate prehistoric costumes of Vedic age Indus valley civilization &Mayan period

14 CDP07**CASE STUDY PRACTICAL****SEMESTER- I**

OBJECTIVES: The student have to select a topic either a woven or knitted garment industry to solve the industrial problems or topic relevant to innovative area / field.

@ Sampling Department

@ Knitting Department

@ Weaving Department

@ Textile Wet Processing (Dyeing & Printing)

@ GMT Department

@ Quality Control Department

@ Finishing Department

@ Packing Department

2. Water analyst - Principal Public Health Laboratory – Publishers - Sakthi Publications.(1995)
3. Industrialeffluents-Origin,CharacteristicsEffectsAnalysis&Treatment, N.Manivasakam, Publishers-Sakthi Publications(1987)
4. Elementary Idea of Textile Dyeing,Printing and Finishing,Kanwar Varinder Pal Singh-Department of Textile Technology,Kalyani Publishers,Ludhiana - new delhi-noida(2004)
5. Natural dyes & their application to textiles, M.L. Gulrajini & Deepti gupta, Department of textile technology, New delhi Publications.(1990)
6. Dyeing and Chemical Technology, ER Trotman, Chambers Griffin and co Ltd, 1975.
7. Principles and practice of dyeing, Shenai V A, Sevak Publication.1993.
8. An introduction to Textile finishing, JT Marsh,, B I Publisher, 1979.

14CDP10

VISUAL MERCHANDISING

SEMESTER-III

OBJECTIVE: -

To study the concept of store image and its relationship merchandising and visual merchandising.

UNIT – I DISPLAY BASICS**(10)**

Purpose of display, Color and texture, line and composition, light and lighting, Types of Display and Display settings, The exterior of the store, Window Display, Store interiors.

UNIT–II USE OF SUCCESSFUL DISPLAYS**(10)**

Mannequins, Alternatives to the mannequins, Dressing the Three-Dimensional form, Fixtures, Visual Merchandising dressing fixtures, Modular fixtures and systems in store planning.

UNIT–III VISUAL MERCHANDISING AND ITS TECHNIQUES**(10)**

Attention getting Devices, Color devices, Color plates, Familiar symbols, Sale Ideas, Fashion accessories, Graphics and Signage.

UNIT–IV VISUAL MERCHANDISE PLANNING

Visual Merchandise planning, Setting up a Display store, Store planning and Design, Visual Merchandising and the changing face of retail.

UNIT–V AREAS OF VISUAL MERCHANDISING**(7)**

Point-of-Purchase display, Exhibit and Trade show design (Self study) – Industrial Display, Fashion shows, Trade Organizations and sources, Career opportunities in Visual Merchandising.

TEXT BOOK:

1. Visual Merchandising and Display – Martin M Peglar S. V. M, Fairchild Publication, Inc, New York – 2002.
2. Fashion Retailing Helen Diamond

REFERENCE:

1. Merchandising: Theory, Principles and Practices – Grace I kunz, IOWA state University, Fairchild Publication, Inc, New york - 2005
2. Merchandising buying and management –John Donnellan, University of Massachusetts-Amherst, FairChild Publications, New York-1999

14 CDP11 FREELANCE PORTRAYAL PRACTICAL-II SEMESTER-II**OBJECTIVE:**

This paper is designed to develop the illustration skill of the Students.

1. To draw the costumes for different states of India(Tamil Nadu, Kerala, Assam, Rajasthan, Uttra Pradesh)
2. To draw the costumes for different Countries (Asia/America/Australia/Africa/Europe)
3. To draw the garment for different seasons(Summer/ Winter/Autum/Spring)
4. To draw the garment for Beach wear(Men's, Women's & Children's)
5. To draw the garment for Casual wear(Men's, Women's & Children's)
6. To draw the garment for Night wear (Men's, Women's & Children's)
7. To draw the garment for Cocktail wear(Men's, Women's & Children's)
8. To draw the garment for Executive wear(Men's, Women's & Children's)
9. To draw the garment for Traditional wear(Men's, Women's & Children's)
10. To draw the garment for Party wear(Men's, Women's & Children's)
11. To draw the garment for Sports wear(Men's, Women's & Children's)
12. To draw the garment for Maternity wear / Special childrens

14 CDP12 APPAREL PROCESSING AND FINISHING SEMESTER-II
PRACTICAL

1. Desizing of a) Cotton b) Jute fabrics
2. Scouring of a) Cotton b) Jute fabrics
3. Bleaching of a) cotton b) Jute fabrics with Hydrogen Peroxide Bleaching.
4. Dyeing of given cotton fabrics using Reactive dyes – a) Hot b) Cold.
5. Dyeing of cotton fabric using direct dyeing.
6. Dyeing of a) silk b) wool fabrics using Acid dyes.
7. Dyeing of a) polyester b) nylon using disperse dyes.
8. Dyeing of Cotton with a) catechu b) pomegranate.
9. Dyeing of silk using a) onion b) turmeric dyes.
10. Developing of a) screens b) printing on material for screen printing
11. Develop a sample for Resist style printing on cotton-Tie&Dye, Dip&Dye, Batik and stencil.
12. Develop a sample for specially finishes-Bio polishing, Bio washing & Denim washes.
13. Removal of different stains

**14CDP13
PRACTICAL****APPAREL CONSTRUCTION****SEMESTER-II****OBJECTIVES:**

To be more creative in designing, patterning and constructing Industrial base garments.

1. Designing, patterning and constructing Industrial base garments for Leather Jacket
2. Designing, patterning and constructing Industrial base garments for Breaches
3. Designing, patterning and constructing Industrial base garments for Safari
4. Draping & constructing Industrial base garments for Lehenga
5. Draping and constructing Industrial base garments for Leheria
6. Draping constructing Industrial base garments for Lab Coat
7. Draping and constructing Industrial base garments for Jeans pant
8. Machine embroidery
9. Computerized Machine embroidery – Demonstration
10. Aari work

14 CDP14**CASE STUDY 2 -PRACTICAL****SEMESTER- II****OBJECTIVES:**

Student has to choose a topic and do detail projects work.

@ Sampling Department

@ Knitting Department

@ Woven Department

@ Textile Wet Processing (Dyeing & Printing)

@ GMT Department

@ Quality Control Department

@ Finishing Department

14CDP15 TEXTILE QUALITY ASSURANCE SEMESTER-III**OBJECTIVES:**

1. To study the textile testing methods involved in Textile & Apparel industry.
2. To study the quality system used in apparel industry.

UNIT-I INTRODUCTION TO TEXTILE TESTING- FIBER (9)

General aspects in textile testing. Routine tests performed in the textile industries. Textile testing equipments used in spinning, weaving, Knitting and garment units. Fiber testing: fiber length, Strength fineness, maturity and trash analysis testing of cotton manmade fiber & blends.

UNIT-II YARN (9)

Yarn testing; yarn numbering, single yarn strength, twist, Uster class mat evenness, crimp, yarn appearance for FIB. Standards and specifications used in textile industries.

UNIT-III FABRIC (9)

Fabric testing; length, GSM, Seam strength- tensile, tearing and elemendorf and bursting. Abrasion resistance- yarn and fabric, pilling resistance, crease recovery, Bending Length, Drape Co-efficient, air permeability, water permeability

UNIT -IV FABRIC QUALITY (10)

Moisture and thermal relationship to the fabric properties. Colour fastness tests - Shrinkage and dimensional stability. KES & FAST.

UNIT-V GARMENT (8)

Garment quality tests; cutting, sewing, pressing, finishing and packaging defects. Spec sheet analysis- pattern making and marking. Customer returns and inspection procedures. Care labeling system. (Self Study)

TEXT BOOK:

6. Textile Testing by P.Angappan and V.Gopalakrishnan, SSM Institute of Textiles, (2000).
2. Introduction to Quality Control by Pradeep Mehta, ASQC Quality Press, Marcel Dekker Inc., New York (1992).

REFERENCE:

1. Physical Testing & Quality Control by Slater. K. Vol .23, No1/2/3, Textile Institute, (1993).
2. Apparel Manufacture – Sewn Product Analysis by Ruth Clock & Grace Kunz, Upper Sadale River Publications, New York, (2000).
7. Principle of Textile Testing by JE Booth, CBS publication New,delhi,(1996).
8. Hand Book of textile testing by E.B.Grorver Wiley Easters University, Delhi, (1980).

14CDP16

TECHNICAL TEXTILES

SEMESTER-III

OBJECTIVE:

To impart knowledge about latest development in textiles and apparels

UNIT-I HIGH PERFORMANCE FIBER**(10)**

High performance fiber- scope of technical textiles- Carbon fibres, Aramid fibres, Glass fibres, Nylon and polyester - process and Application of fibres.

UNIT-II MEDICAL TEXTILES**(9)**

Medical textiles- Classification of medical textiles, surgical textiles-Dialysis textiles-- Applications, Materials used in Biotextiles, Textiles for Implantation, Non –Implantable Textiles, Healthcare & Hygiene Products.

UNIT-III GEO TEXTILES AND AGRICULTURAL TEXTILES,**(9)**

Function of Geo textiles- Raw material, Application of geo textile- soil resistance and filtration, corrosion control. Geotextiles Manufacturing process and properties, and Testing, Examples of Geotextiles.

Agricultural textiles – Applications of agricultural textiles.

UNIT-IV PROTECTIVE TEXTILES**(9)**

Protective clothing's- **Applications, High Temperature Textiles,** Flame Resistance protective Clothing, Chemical Protective Clothing, Electrical Protective Clothing.

UNIT-V SMART & SPORTS TEXTILES**(8)**

Introduction Sports Uniforms, Camping & Hiking, Marine Products, Textiles in Sports & Fabrics, -**Smart textiles- Applications.**

(Self Study)

TEXT BOOK:

1. Sabit Adanur B.S. ,M.S.,Ph.D.Wellington Sears Handbook of Industrial Textiles, Technologic Publishing co.inc,
2. JWS Hearle High Performance Fibers Wood Head Publishing limited, Cambridge England
3. V.K.Kothari Recent advances in technical textiles-Indian journal of fiber and textile research

REFERENCE:

1. P. W. Harrison The design of Textiles for Industrial application, The Textile Institute, Manchester, 1978.
2. John WMS Geo textiles
3. Bajaj P and sengupta A. K., Protective clothing –The textile Institute, 1992.
4. Johnson J. S., and Mansdorf S. Z., Performance of Protective clothing, (Eds), ASTM 1996.

14CDP18

APPAREL TESTING & QUALITY

SEMESTER-III

STANDARDS PRACTICAL

OBJECTIVES:

To analyses the special woven& knitted fabrics.

1. Draw design, draft, and peg plan and analyzing for the following fabrics.

a) Matt

b) Regular Twill

c) Brighten Honey comb

d) Extra warp

e) Figured terry / Satin

f) Single jersey

g) Rib

h) Inter lock

i) Jacquard

2. Fiber, yarn and fabric and garment testing.

(a) To calculate the count strength using Wrapreel &Lea tester.

(b) To calculate TPI using electronic twist tester (single/Double)

(c) To calculate the Seam strength using Tensile Strength tester

(d) To calculate the Tearing strength using Elmendorf Tearing strength tester

(e) To test the Bursting strength of Knitted fabric using Bursting tester

(f) To find out the Drape co-efficient using Drape meter

(g) To find the fabric crease recovery using crease recovery tester

(h) To find out the Abrasion resistance using Abrasion tester

(i) To find out the loop length using coarse length tester.

(j) To find Fastness (light, rubbing, washing, shrinkage) using crock meter and

Laundrometer

(k) To find out the air permeability using the air permeability tester.

14CDP19

HOME TEXTILES PRACTICAL

SEMESTER-III

OBJECTIVES:

To prepare the home textile products.

1. Prepare samples for Pinch pleat Curtain
2. Prepare samples for Sofa covers
3. Prepare samples for Cushion
4. Prepare samples for Smocked Cushion covers
5. Prepare samples for Bolster cover
6. Prepare samples for Pillow & Patch worked Pillow cover
7. Prepare samples for Wall hangers
8. Prepare samples for Bed sheets
9. Prepare samples for Bed spreads
10. Prepare samples for Kitchen linen
11. Prepare samples for Hand towel
12. Prepare samples for Machine Embroidered Table cloth

14CDP20 SAMPLING AND DOCUMENTATION SEMESTER-III
PRACTICAL

OBJECTIVES:

The student has to choose a topic in the following areas either a woven or a knitted garment industry and do a sampling and documentation.

@ Knitting & Woven Departments

@ Textile Wet Processing (Dyeing & Printing)

@ GMT Department

@ Quality Control

@ CAD

@ Merchandising

@ Export Documentations.

14CDP21 INDUSTRIAL TRAINING REPORT SEMESTER- III**OBJECTIVES:**

The student have to select a topic either a woven or knitted garment industry to solve the industrial problems or topic relevant to innovative area / field.

@ Sampling department

@ Knitting & Woven department

@ Textile wet processing (dyeing & printing)

@ GMT department

@ Quality Control department

@ Finishing department

@ Packing department:

**14CDP22 FASHION DESIGN AND VISUAL MERCHANDISING
SEMESTER-III
(IDC)**

UNIT-I INTRODUCTION TO FASHION (10)

Fashion -Components of Fashion – Silhouette – Texture – Color – Acceptance – Change – Principles of Fashion. Fashion Psychology.

UNIT-II FASHION SKETCHING AND FIGURE IRREGULARITIES (10)

Fashion Design development, design process, different between normal and fashion figure, types of figure irregularities, unusual figures

UNIT -III DESIGN (10)

Define design, types of design, elements of design, and principles of design .

UNIT-IV VISUAL MERCHANDISING AND ITS TECHNIQUES (8)

Attention getting Devices, Color devices, Color plates, Familiar symbols, Sale Ideas, Fashion accessories, Graphics and Signage, Visual Merchandise planning, Setting up a Display store, Store planning and Design, Visual Merchandising and the changing face of retail.

UNIT-V AREAS OF VISUAL MERCHANDISING (7)

Point-of-Purchase display, Exhibit and Trade show design (Self study) - Industrial Display, Fashion shows, Trade Organizations and sources, Career opportunities in Visual Merchandising.

TEXT BOOK:

1. Fashion Marketing by Easey M(ed), Blackwell Science 1994

REFERENCE:

1. Visual Merchandising and Display – Martin M Peglar S. V. M, Fairchild Publication, Inc, New York – 2002.

14CDP23 TOTAL QUALITY MANAGEMENT SEMESTER-IV
IN APPAREL INDUSTRY

OBJECTIVE:

1. To develop, personal and professional performance and confidence.
2. To develop awareness and improvement in administrative and managerial skill.

UNIT-I TOTAL QUALITY MANAGEMENT (9)

Introduction to TQM: TQM. Basic Concepts of TQM, Historical review, Principles of TQM, Barriers of TQM, Four C's of TQM. Quality and TQM – TQM and corporate strategy – four pillars of TQM – concepts and need of TQM – the four C's of TQM - TQM Gurus ideas. TQMEX Model: Need for a model in TQM – need of TQMEX – implementation of TQMEX .

UNIT-II TQM PRINCIPLES (8)

5-S-Practice and BRP: KAIZEN strategy and practice – FMEA – Stages of FMEA, **Concept of Six Sigma**, New Seven Management Tools

UNIT-III QUALITY (8)

Definition, Dimensions, **Quality Planning**, Quality Costs, Analysis Techniques for Quality Costs. Quality Council and Statements

UNIT-IV QUALITY TOOLS (9)

Bench marking – Reason, Process, **Quality Function Deployment** (QFD), QFD Process, Benefits – Total quality circle – seven quality control tool.

UNIT-V QUALITY STANDARDS (11)

Introduction to **ISO 9000: Need of ISO 9000 series** – ISO 9000:2000 quality system – Elements – Implementation of quality system, Documentation, Quality Auditing, QS 9000, ISO 14000 – Concept, Requirement and benefit. SA8000 (Social Accountability), Quality Assurance.

TEXT BOOK:

1. “Encyclopedia of management - TQM – Vol.3”, Samuel. K.Ho, Crest Publishing House,1999.
2. Jayakumar.V and Raju.R (2009), Total Quality Management, Lakshmi Publications, Chennai

REFERENCES:

- 1 Krishnaswamy.K, Karmegam.G, Somasundaram.R (2006), Total Quality Management, R.K.Publishers, Coimbatore
- 2 Dale H. Besterfield, Carol Besterfield, Glen Besterfield, Mary Besterfield, (2008), Total Quality Management, Pearson Education, New York
3. Sreenivasan .V (2004), Total Quality Management, Pratheeba Publishers, Coimbatore
4. Subburaj Ramasamy (2005), Total Quality Management, Tata Mc. Graw Hill Publishing Company Limited, New Delhi

14CDP24 NON-WOVENS AND NANOTECHNOLOGY SEMESTER-IV**OBJECTIVE:**

1. To develop knowledge about Nonwoven techniques.
2. To develop awareness about nanotechnology.

UNIT- I NON WOVEDS (10)

Non wovens- Introduction-Types-Non Woven Techniques- Production
Non Woven- Spun bonding- Melt blow process.

UNIT- II NON WOVEN APPLICATION (9)

Introduction, Application in various fields.

UNIT- III SCOPE OF NANO TECHNOLOGY (8)

Definition, Basic concepts and scope of nanotechnology,
Top down and Bottom up Approaches, Novel properties of
Materials at nanoscale.

UNIT-IV NANOTECHNOLOGY IN TEXTILES (9)

Areas of nanotechnology in textiles-nanofibers, nanocomposites,
Smart and multifunctional textiles, Nanoparticles
Characterization techniques – SEM, TEM, XRD, AFM, UV-
Visible and Electrospinning;.

UNIT- V NANO PARTICLES (9)

Types of nanoparticles used in textiles. UV protection, antimicrobial,
Water and oil repellency, Flame- retardancy and electrical conductivity.

TEXT BOOK:

1. Essentials of nanotechnology, Jermy Ramsden Isbn 978-87-7681-418-2 Jermy Ramsden & ventus publishings Aps.
2. Fabric forming by K Sagadevan ,KLN College nEW AGE International (2008)

REFERENCE:

1. Introduction to Nanotechnology, Charles P.PooleJr. & FraNK j.Owens published By Jhon Wiley & Sons , Inc , Hoboken, NewJersey
2. Nanofibers & nanotechnologyin textiles by Woodhead Publishing Limited & CRC Press LLC ISBN 978-1-84569-105-9(book)
3. ark Geoghegan , The University of Sheffield, UK John Wiley & Sons ltd, The atrium , Southern Gate,Chichester, West Sussex PO198SQ, England

14CDP25 FASHION PORTFOLIO PRESENTATION**SEMESTER-IV****OBJECTIVES:**

To prepare the theme based designer garments.

15. Trend Forecasts

16. Theme Write Up.

17. Inspiration Board

18. Mood Board – With Research Work.

19. Colour Palette

20. Customer Profile.

21. Fabric Sourcing – Presentation.

22. Design Development

23. Illustration with Back Drops.

24. Flat Sketches.

25. Specification Sheet.

26. Pattern making and garment construction for children, men and women – three woven and three knitted garments.

27. Final presentation

28. Designer Show.(1)

29. Exhibition.(5)

14CDP26**PROJECT WORK-II****SEMESTER-VI****OBJECTIVES:**

Student has to choose a topic and do detail projects work.

@ Sampling Department

@ Knitting & Weaving Department

@ Textile Wet Processing (Dyeing & Printing)

@ GMT Department

@ Sewing Department

@ Finishing Department

@ Packing Department

@ Merchandising

@ Export Documentations.

Course Code & Title	18CDP01 ADVANCED TEXTILE SCIENCE		
Class	I M.Sc	Semester	I
Course Objectives	<p>The Course aims</p> <ul style="list-style-type: none"> • To enable students to study the essential and desirable properties of textile fibre • To familiarize more about the latest fibres. • To impart in depth knowledge about the process and manufacture of fiber to yarn 		

SYLLABUS

UNIT	Content	No. of Hours
I	<p>FIBER INTRODUCTION Fibers introduction, classification, properties, merits and demerits of natural fibres and man made fibers. Natural fibers-Vegetable fibres-Molecular structure of vegetable fibers - Morphology of fibers, crystalline and amorphous regions. Protein fibers: production, types of protein fibres, Molecular structure of protein fibers - Morphology of fibers, crystalline and amorphous regions. Animal fibres-production, types of wool Molecular structure of wool fibers - Morphology of fibers, crystalline and amorphous regions. Specialty wool.</p>	10
II	<p>REGENERATED CELLULOSE FIBERS Regenerated cellulose fibres, bamboo, Modal, Tencel, Polynosic, Super Yarn, Triacetate, production and properties, Regenerated protein fibres, manufacture of soy fibres, spider silk fibres, sugarcane fibres, general properties and uses.</p>	10
III	<p>SYNTHETIC FIBERS Synthetic fibers-high tenacity Nylon, high tenacity polyester, poly-acrylo nitril fiber, physical structure- physical & chemical properties and applications. Tow into spun yarns. High bulk yarns. Texturising. Specialty fibres- Spantex-fibre, properties and uses.</p>	10
IV	<p>YARN MANUFACTURING Automatic spinning process, open end spun & TFO, merits, and demerits of yarn, comparison between ring spun and open end spun yarns, industrial yarn, Sewing yarn.</p>	9
V	<p>OTHER SPINNING TECHNIQUES Twist spinning, (Self twist spinning) False twist spinning (Air jet and friction spinning) Compact Spinning. Adhesive process: Bobtex and twist less spinning Industrial Visit – Modern Spinning</p>	9
	Total Hours	48

References	Text Books: 1. S.Jayaprakasam, R. Gopalakrishan, V. Kasinathan, Fiber Science and Technology, S.S.M.I.I.T staff and students Co-operative stores Ltd, Komarapalayam, and June 1997 2. Susheela Dantyagi, Fundamentals of Textiles and their Care, Orient Longman Ltd, New Delhi, 5 th edition, 1998 Reference Books: 1. A.V. Mani, Spun Yarn Technology, Vol.I,II,III, Saravana Publications Co. Ltd,1985 2. 4 William Scott Taggart, Cotton Spinning, Universal Book Corporation, 1996 3. 5. Miles Collins, Woolen and Worsted Spinning, Abhishek Publication, Chandigarh-17, 2002 4. 6 Parul Bhatnagar, Elementary Textile, Abhishek Publication, Chandigarh, 2002 5. 7.S.P.Mishra, A Text Book of Fiber Science and Technology, New Age International (P) Ltd, New Delhi, 2005	
Course Outcomes	On completion of the course, students should be able to CO1: identify the recent textile fibres and their process. CO2: know about the advanced & recent fibres. CO3: gain the knowledge on manufacturing process of yarns.	

Course Code & Title	18CDP02 FABRIC MANUFACTURING AND TECHNOLOGY		
Class	I M.Sc	Semester	I
Course Objectives	<p>The Course aims</p> <ul style="list-style-type: none"> • To learn about the structure of fabric and design for different applications. • To impart more knowledge on manufacturing process of weaving. • To impart knitting knowledge regarding various types of knitting machines, their fabrics and production calculation. 		

SYLLABUS

UNIT	Content	No. of Hours
I	<p>PREPARATORY PROCESS FOR FABRIC MANUFACTURING</p> <p>Winding- Objectives, Automatic winding machine, Types and working principles of pirn winding machines. Modern warping-Types of creels, working principles of beam and sectional wrappers. Modern sizing- objectives, working principles of multi cylinder and single end sizing machines. Size ingredients, Size preparation, and stretch control.</p>	10
II	<p>WEAVING</p> <p>Auto looming, Dobby shedding- positive and negative, E-dobby, Jacquard shedding and its categories, E-jacquard, card punching machine, E-Punching Machine. Shuttle less weaving, Airjet, waterjet, Rapier & Sulzer, multiphase weaving</p>	10
III	<p>ADVANCED FABRIC STRUCTURE</p> <p>Symbolic representation of a weave, drawing in design, draft, peg plan and its types. Elementary weaves – plain, twill, satin, sateen and their derivatives, Ordinary and Brighten Honey Comb; Huck-a-Back and its modifications; Mock Leno; crepe weaves; Bedford cords - plain and twill faced, Pile fabrics, welts, piques, Corduroy, Double cloth, types of stitches; Gauze and Leno principles.</p>	10
IV	<p>WEFT KNITTING</p> <p>Knitting, classification of knitting, Indian knitting Industry, weft Knitting, Weft Knitting structure and its types, Flat knitting machine, Advanced weft knitting, E-Jacquard design</p>	9
V	<p>WARP KNITTING & SEAMLESS GARMENTS</p> <p>Warp Knitting Structures and its types, Tricot & Raschel machine, Jacquard Knitting Structure, Knitted Fabric Defects, Causes and Remedies. Seamless knitting and Seamless garment, Industrial application. (Self Study) Industrial Visit – Advanced Weaving & Knitting</p>	9

	Total Hours	48
References	<p>Text Books:</p> <ol style="list-style-type: none"> 1. N.N. Banerjee , Weaving Mechanism, Banarjee Publisher, West Bengal, 1980 2. D.B.Ajgaonkar, Knitting Technology, Universal Publishing Corp, Bombay,1998 3. DR N. Anbumani Knitting Manufacturing Technology, New Age International Limited Publication New Delhi (2006) <p>Reference Books:</p> <ol style="list-style-type: none"> 1. W.S. Murphy, Textile Weaving and Design, Abishek Publication, Chandigarh, 2003 2. Debby Robinson, The Knitting Encyclopedia of Knitting Technology, The editing Publication,1989 3. DR N. Anbumani Knitting Fundamental Structures and Developments, New Age International Limited Publication New Delhi (2007) 4. D.J.Spencer , Knitting Technology, Pergamon Press, Leicestershire , fourth Edition, 1982. 5. S. Raz, Warp Knitting Technology, Verlag Melland Textilberchte GMBH, Heidelberg, Germany, 1987 6. Iyer C, Mallel B and Schach W, Circular knitting Technology, process, Structures, Yarns, Quality, Meinsenback II Ed, 1995. 7. J.T.Tayler, Cotton Weaving and Designing, Abishek Publication, Chandigarh, 2002 8. R. Sen Gupta, Weaving Calculations, D.B.Taraporevala Sons & Co.Pvt.Ltd, 1996 9. R. Samuel, Flat Knitting, Meisenbach Bamberg, Germany, 1991 10. A. Reisfeld, C. Rotenstein, D.F.Paling, Fundamentals of Raschel Knitting, NKOA,1958 11. J.B. Aitken, Automatic Weaving, Columbia Press, Manchester, London, 1964. 12. Wilson J., “Handbook of Textile Design”, Textile Institute, Manchester, 2001. 	
Course Outcomes	<p>On completion of the course, students should be able to</p> <p>CO1: outline the process flow for woven & knitted fabric manufacturing</p> <p>CO2: Explain the various mechanisms involved in the fabric manufacturing</p> <p>CO3: Create the new designs in the fabric formation</p> <p>CO4: List out the Application of weft and warp knit fabric in Technical Textiles</p> <p>CO5: Calculate the Production of knitting machines and its cycle process & Analysis the Seamless knitting</p>	

Course Code & Title	18CDP03 APPAREL MANUFACTURING TECHNOLOGY		
Class	I M.Sc	Semester	I
Course Objectives	<p>The Course aims</p> <ul style="list-style-type: none"> • To impart knowledge about production and its importance • To gain knowledge on pre-planning and control of production • To disseminate information on the latest technological developments in the manufacture, marketing and export of apparels • To impart the awareness of the current management practice in the clothing industry 		

SYLLABUS

UNIT	Content	No. of Hours
I	CONCEPTS OF PRODUCTION AND PRODUCTIVITY Production – Definition –terminology – Organizing for production –Function of production department- Duties & responsibilities of production manager-Factors of Production- Production Function- Basic production systems-Productivity-Standard of living-Factors affecting productivity-Productivity measures	10
II	PRODUCTION PLANNING & CONTROL Capacity requirement planning (CRP)- Material Requirement Planning(MRP)- Steps in production planning-Qualitative & quantitative analysis of production-capacity study, Operator performance, follow-ups, work in process (WIP), Operation bulletin.	10
III	APPAREL PRODUCTION SYSTEMS Methods of production systems, job, mass & batch- Progressive bundle Syncrome straight line system, -Unit production system, Quick response sewing system, garment production system, group system, syncrome system.	10
IV	LINE BALANCING & REQUIREMENTS Defining plant layout-Types of Production layout- Factors for selecting machinery & space requirements, man power planning, Building space requirements- Balancing –Steps to balance the line- Initial balance-Balance control-Efficiency-Cycle checks-Balancing tools.	9
V	WORK STUDY Concept & need of method study & work management- Techniques of work measurement- Process chart - Travel chart- Multiple activity chart– Motion economy- Time study methods- Documentation records- lot status reports, quality inspection formats. (Self Study) Industrial Visit – Garment Manufacture	9
	Total Hours	48
References	Text Books: 1. V.Ramesh Babu “Industrial Engineering in Apparel Production, Wood head publishing India in textiles (2012)	

	<p>2. Salinger Jacob “Apparel Manufacturing” Hand book analysis, Principles and practice, Columbia Boblin media Corp-Publishing. (1988)</p> <p>3. Rajesh Bheda “Managing Productivity of Apparel Industry” CBS Publishers & Distributors (2008)</p> <p>Reference Books:</p> <p>1. David J. Tyler “Materials management in clothing production”. Black well science Publishing. (1991)</p> <p>2. Gerry cooklin Revised by steven hayes and John mc loghlin “Introduction to clothing Manufacture” Black well science publishing. (2007)</p> <p>3. Harold carr and Barbara Latham, “The Technology of clothing manufacture”, Second edition, Black Well Publishing. (1999)</p> <p>4. Gerry Cooklin, “Garment Technology for fashion designers”, Black well Publishing.(1997)</p> <p>5. Gerry Cooklin “Introduction to Clothing Manufacture” Black well Publishing.(1998)</p> <p>6. Hermeling.et.all. “Clothing Technology from fiber to fashion”. Published by Beuth-Verlag GMBH.(1995)</p> <p>7. O.P.Kanna, Industrial engineering & management.Dhanpat Rai Publications Pvt. Ltd, 1999</p>	
<p>Course Outcomes</p>	<p>On completion of the course, students should be able to</p> <p>CO1: develop Managerial skill to maintain the apparel industry</p> <p>CO2: improve management skill to increase production & Standard of living</p> <p>CO3: become a Category Manager in Apparel industry</p> <p>CO4: identify the production preplanning to succeed in productivity</p>	

Course Code & Title	18CDP04 JEWELLERY & ACCESSORIES DESIGNING PRACTICAL		
Class	I M.Sc	Semester	I
Course Objectives	The Course aims <ul style="list-style-type: none"> • To gain knowledge in the field of designing accessory • To know about the creating methods of design • To know the usage of waste products. 		

SYLLABUS

UNIT	Content	No. of Hours
	<ol style="list-style-type: none"> 1. Designing and making of Head gears ornaments 2. Designing and making of Hair ornaments 3. Designing and making of Ear ornaments 4. Designing and making of Neck ornaments 5. Designing and making of Hand ornaments 6. Designing and making of Hand Bags & belts. 7. Designing and making of Waist ornaments 8. Designing and making of Leg ornaments 9. Designing and making of Foot wear. 10. Designing and making of Hats 11. Designing and making of Other ornaments using waste products <p style="text-align: center;">From Glass, Metal, Paper, Fabrics, Beads, Leather, threads, Zippers, Buttons, Buckles, Zipper rings, Terracotta, Silk thread, seed, waste material usage.</p>	48
Course Outcomes	On completion of the course, students should be able to CO1: become an entrepreneur in the field of jewellery making CO2: become an designer in the field of accessory design CO3: enhance the style of their own creativity	

Course Code & Title	18CDP05 FASHION DRAPING & CONSTRUCTION PRACTICAL		
Class	I M.Sc	Semester	I
Course Objectives	<p>The Course aims</p> <ul style="list-style-type: none"> • To familiarize with basic draping principles • To enable draping of designer garments • This paper is designed to develop the draping and construction skill of the Students. • To develop the advanced draping techniques and their construction 		

SYLLABUS

UNIT	Content	No. of Hours
	<p>1. Draping and construction of Foundation Patterns</p> <ul style="list-style-type: none"> - Basic Bodice – Front, back with sleeve - Basic Shift (Torso) <p>2. Design Variation and construction (Children, men and women)</p> <ul style="list-style-type: none"> - Bodice Variations (include yoke & neckline variation) - Dartless Shapers - Skirts - Pants - Shirt - Sleeves <p>3. Advanced Design Variations</p> <ul style="list-style-type: none"> - Dresses - Knits - Cowls <p>4. Stylized draping</p> <ul style="list-style-type: none"> - Saree, Blouse - Dhotis - Turbans - Classical costumes - Knit (Swim suit/Knit pant) 	72
Course Outcomes	<p>On completion of the course, students should be able to</p> <p>CO1: improved manual skills of draping</p> <p>CO2: work with professionals</p> <p>CO3: International boutique ambient</p> <p>CO4: improve their (draping) portfolio</p>	

Course Code & Title	18CDP06 FREELANCE PORTRAYAL PRACTICALS-I		
Class	I M.Sc	Semester	I
Course Objectives	<p>The Course aims</p> <ul style="list-style-type: none"> • This paper is designed to develop the illustration skills of the Students. • To gain advanced knowledge in sketching. • To learn technique and principles of designs. • To focus on skill building and portfolio paramount 		

SYLLABUS

UNIT	Content	No. of Hours
	<ol style="list-style-type: none"> 1. Designing garments for maternity wear, disability using colour theory. 2. To forecast colours, trends & develop garments 3. Sketching of different action croqui with garments using current fabric trend. 4. Sketching the rendering techniques. 5. Psychology of clothing. 6. To collect the Wardrobe collection for girl & boy/different season. 7. Sketching from magazine & developing new design. 8. Illustrate prehistoric costumes of Vedic age Indus valley civilization & Mayan period 9. 8 head theory, 10 head theory and 12 head theory on action croqui garment. 	48
Course Outcomes	<p>On completion of the course, students should be able to do</p> <p>CO1: designing for boutiques & manufacturing units</p> <p>CO2: their creativity on costume designing</p> <p>CO3: freelance designs</p>	

Course Code & Title	18CDP07 CASE STUDY PRACTICAL- I		
Class	I M.Sc	Semester	I
Course Objectives	The Course aims <ul style="list-style-type: none"> • To gain knowledge in the area of selected topic. • To identify & Analyse the problem. • Find the solution to solve the industrial problems. • Preparing the SWOT analysis. 		

SYLLABUS

UNIT	Content	No. of Hours
	1. Sampling Department 2. Fashion Department 3. Knitting Department 4. Weaving Department 5. Textile Wet Processing (Pre treatments, Dyeing & Printing) 6. GMT Department 7. Quality Control Department 8. Finishing Department 9. Packing Department	48
Course Outcomes	On completion of the course, students should be able to CO1: gain vast knowledge in the selected area and understand the industrial needs CO2: identify industrial problem and solutions for it CO3: learn SWOT analysis	

Course Code & Title	18CDP08 ADVANCED PROCESSING AND FINISHING		
Class	I M.Sc	Semester	II
Course Objectives	The Course aims <ul style="list-style-type: none"> • To gain knowledge in the advance processing methods. • To know about advancements in fabric finishing. • To familiarize with effluent treatment methods 		

SYLLABUS

UNIT	Content	No. of Hours
I	INTRODUCTION TO WET PROCESSING Introduction to wet processing, water – Types, Softening of water , sequence adopted for cotton, wool, silk, polyester -singeing, desizing, scouring, bleaching, mercerization, Application of enzyme in various preparatory process.	10
II	ADVANCE DYEING AND PRINTING Dyeing: methods of dyeing and stages of dyeing – machines used and process involved. New technique in tie & dye, batik . Printing: methods of printing – direct style-discharge and resist methods of printing, new technique-digital printing, 3D digital printing, advance screen printing & transfer printing.	10
III	NATURAL DYES Introduction of natural dyes – Classification, Methods of extraction, application on cotton, silk & wool. Dyeing properties - Process of dyeing-shade %, development of shade fixation and after treatment.	9
IV	FINISHING& WASHING TECHNIQUES Finishing- classification of finishing -mechanical and chemical finishing - objects and types of finishing-Functional finish- water repellent, water proof, flame retardant finishes, , mildew proofing, wrinkle free, soil release finishes. Specialty finishes - resin finishing, bio polishing, stone wash, acid wash, Enzymes wash, Antimicrobial finish- Recent developments in finishing.	10
V	TREATMENTS OF EFFLUENT Effluent treatment plant (ETP) - Effluents from bio degradability-Causes of pollution, Methods followed in ETP to avoid pollution –Definition for TDS, BOD, COD values. Rules and regulation, current approach to the discharged effluents. RO Process (Self Study) . Field work to the industry. Industrial Visit – Modern Dyeing Unit	9
	Total Hours	48
References	Text Books: <ol style="list-style-type: none"> 1. Textile finishing Dr Nalankalli G.S.Jeyapragasham - Textile Finishing - SSM Institute of Textile Technology – First Edition – 1997. 2. Fundamentals of Textiles and their care – susheela dantiyagi, orient long man ltd, 	

	<p>New Delhi, (1996.)</p> <p>3. Dyeing and Chemical Technology, ER Trotman, Chambers Griffin and co Ltd, 1975</p> <p>Reference Books:</p> <ol style="list-style-type: none"> 1. Treatment of textile processing effluents (including analysis) N. Manivasakam, 2. Water analyst - Principal Public Health Laboratory – Publishers - Sakthi Publications.(1995) 3. Industrial effluents-Origin, Characteristics Effects Analysis & Treatment, N.Manivasakam, Publishers-Sakthi Publications(1987) 4. Elementary Idea of Textile Dyeing, Printing and Finishing, Kanwar Varinder Pal Singh-Department of Textile Technology, Kalyani Publishers, Ludhiana - New Delhi- Noida(2004) 5. Natural dyes & their application to textiles, M.L. Gulrajini & Deepti gupta, Department of textile technology, New delhi Publications.(1990) 6. Dyeing and Chemical Technology, ER Trotman, Chambers Griffin and co Ltd, 1975. 7. Principles and practice of dyeing, Shenai V A, Sevak Publication.1993. 8. An introduction to Textile finishing, JT Marsh, B I Publisher, 1979. 9. Batik and Tie Dye Techniques, Nancy Belfer, Dover publication, 1992 	
<p>Course Outcomes</p>	<p>On completion of the course, students should be able to do</p> <p>CO1: Ability to work with the dyeing industry</p> <p>CO2: To get skills in the dye fixation, shade % methods</p> <p>CO3: Ability to solve problems in the effluent treatment industry</p> <p>CO4: Application in the various research fields.</p>	

Course Code & Title	18CDP10 TECHNICAL TEXTILES		
Class	I M.Sc	Semester	II
Course Objectives	<p>The Course aims</p> <ul style="list-style-type: none"> • To impart knowledge about latest development in textiles and apparels • To gain knowledge regarding automotive, medical, geotextile, agro textiles and protective textiles applications. • To enlighten their knowledge in filter clothing, furniture, hygiene and construction materials. 		

SYLLABUS

UNIT	Content	No. of Hours
I	HIGH PERFORMANCE FIBER High performance fibers- High strength and high modulus organic fibres, High performance inorganic fibres- scope of technical textiles- Aramid fibres, Carbon fibres, Glass fibres, Nylon and polyester -Application of fibres.	10
II	MEDICAL TEXTILES Medical textiles- Classification of medical textiles, surgical textiles-Dialysis textiles Applications, Materials used in Biotextiles, Textiles for Implantation, Non – Implantable Textiles, Healthcare, Hygiene Products.	10
III	GEO TEXTILES & AGRICULTURAL TEXTILES Function of Geo textiles- Geotextiles Raw material Manufacturing process and properties, soil resistance and filtration, corrosion control. Application of geo textile and Testing- Examples of Geotextiles. Agricultural textiles – Applications of agricultural textiles.	10
IV	PROTECTIVE TEXTILES Protective clothing's- Applications, High Temperature Textiles, Water proof breathable fabrics , Flame Resistance protective Clothing, Chemical Protective Clothing, Electrical Protective Clothing, Filtration textile, Civil, Defense and Transportation, Industrial textile, composites	10
V	SMART & SPORTS TEXTILES Introduction Sports Uniforms, Smart textiles- Applications, Marine Products, Textiles in Sports & Fabrics, Camping & Hiking.(Self Study) Industrial Visit – SITRA & Indo tech	8
	Total Hours	48
References	<p>Text Books:</p> <ol style="list-style-type: none"> 1. Textile for Industrial Application by R.Senthil Kumar. 2. Sabit Adanur B.S. ,M.S.,Ph.D.Wellington Sears Handbook of Industrial Textiles, Technologic Publishing co.inc, 	

	<p>Reference Books:</p> <ol style="list-style-type: none"> 1. P. W. Harrison The design of Textiles for Industrial application, The Textile Institute, Manchester, 1978. 2. John WMS Geo textiles 3. Bajaj P and sengupta A. K., Protective clothing –The textile Institute, 1992. 4. Johnson J. S., and Mansdorf S. Z., Performance of Protective clothing, (Eds), ASTM 1996. 5. JWS Hearle High Performance Fibers Wood Head Publishing limited, Cambridge England 6. V.K.Kothari Recent advances in technical textiles- Indian journal of fiber and textile research 	
<p>Course Outcomes</p>	<p>On completion of the course, students should be able to</p> <p>CO1: design about wearable computers by interactive electronic textiles.</p> <p>CO2: design new dress with the acquired knowledge in the fire fighting clothing,</p> <p>CO3: develop stab protecting and bullet proof vests.</p>	

Course Code & Title	18CDP11 FREELANCE PORTRAYAL PRACTICAL- II		
Class	I M.Sc	Semester	II
Course Objectives	<p>The Course aims</p> <ul style="list-style-type: none"> • To develop the illustration skill of the Students. • To know about the pantone color & present trend of the year • To get knowledge in the various states and countries costumes • To get knowledge in the field of backdrop planning. • To extract major garment features with a novel modeling method • To create realistic looking garments that provides a believable. 		

SYLLABUS

UNIT	Content	No. of Hours
	<ol style="list-style-type: none"> 1. To draw the costumes for different states of India (Tamil Nadu, Kerala, Assam, Jammu and Kashmir, Uttar Pradesh) 2. To draw the costumes for different Countries (Asia/America/Australia/Africa/Europe) 3. To draw the garment for different seasons(Summer/Winter/Autumn/Spring) 4. To draw the garment for Beach wear(Men's, Women's & Children's) 5. To draw the garment for Casual wear(Men's, Women's & Children's) 6. To draw the garment for Night wear (Men's, Women's & Children's) 7. To draw the garment for Cocktail wear(Men's, Women's & Children's) 8. To draw the garment for Executive wear(Men's, Women's & Children's) 9. To draw the garment for Party wear(Men's, Women's & Children's) 10. To draw the garment for Sportswear(Men's, Women's & Children's) 11. To draw the garment for current trend of the year with pantone & back drop 12. To draw the garment with the rendering technique of collected swatches. 	48
Course Outcomes	<p>On completion of the course, students should be able to</p> <p>CO1: do freelance designing</p> <p>CO2: enhance the style of their own creativity</p> <p>CO3: approach for modeling of garments from <i>fashion drawings</i>.</p> <p>CO4: communicate fashion ideas in a visual form with illustration origin</p>	

Course Code & Title	18CDP12 APPAREL PROCESSING AND FINISHING PRACTICAL		
Class	II M.Sc	Semester	II
Course Objectives	<p>The Course aims</p> <ol style="list-style-type: none"> 1. To impart knowledge about production and its importance 2. To gain knowledge on pre-planning and control of production 3. To disseminate information on the latest technological developments in the manufacture, marketing and export of apparels 4. To impart the awareness of the current management practice in the clothing industry 		

SYLLABUS

UNIT	Content	No. of Hours
	<ol style="list-style-type: none"> 1. Desizing 2. Scouring 3. Bleaching 4. Dyeing of given cotton fabrics using Reactive dyes – a) Hot b) Cold in various shades 5. Dyeing of cotton fabric using direct dyeing in various shades. 6. Dyeing of a) silk b) wool fabrics using Acid dyes in various shades. 7. Dyeing of polyester and nylon using disperse dyes. 8. Dyeing of Cotton with natural dyes and mordants. 9. Dyeing of silk using natural dyes and mordants. 10. Developing of a) screens b) printing on material for screen printing 11. Prepare a sample for Resist style printing on cotton using Tie & Dye, Dip & Dye, Batik and Stencil techniques and develop a garment using it. 12. Develop a sample for speciality finishes- Bio polishing, Bio washing & Denim washes. 13. Removal of different stains (Any 10) 	48
Course Outcomes	<p>On completion of the course, students should be able to do</p> <p>CO1: Textile dyeing and printing CO2: Print designing CO3: Textile pre treatment such as bleaching, sizing, scouring etc.</p>	

Course Code & Title	18CDP13 ADVANCED APPAREL DESIGNING & CONSTRUCTION PRACTICAL		
Class	I M.Sc	Semester	II
Course Objectives	The Course aims <ul style="list-style-type: none"> • To be more creative in designing, patterning and constructing advanced garments. • To gain experience in handling different types of fabrics in construction 		

SYLLABUS

UNIT	Content	No. of Hours
	1. Designing, patterning and constructing Industrial base garments for Leather Jacket 2. Designing, patterning and constructing Industrial base garments for Breaches 3. Designing, patterning and constructing Industrial base garments for Safari 4. Designing & constructing Industrial base garments for Lehenga & Leheria 5. Construct Industrial base garment for Jeans pant 6. Bridal Blouse designing and construction 7. Construction of double sided Jacket	48
Course Outcomes	On completion of the course, students should be able to CO1: become an industrial garment designer CO2: handle various fabrics for garments of different needs CO3: become a bridal designers	

Course Code & Title	18CDP14 Case Study II- Practical		
Class	I M.Sc	Semester	II
Course Objectives	<p>The Course aims</p> <ul style="list-style-type: none"> • To choose the topic in a given area. • To undergo the clear research study in the selected topic • To gain knowledge in the recent developments of the selected topic. • To find the best solutions to solve the industrial needs. 		

SYLLABUS

Unit	Content	No. of Hours
	<ol style="list-style-type: none"> 1. Sampling Department 2. Knitting Department 3. Woven Department 4. Textile Wet Processing (Pre treatment, Dyeing & Printing) 5. GMT Department 6. Quality Control Department 7. Finishing Department 	48
Course Outcomes	<p>On completion of the course, students should be able to</p> <p>CO1: know about R&D in textiles industry</p> <p>CO2: get an idea about how to choose their research project.</p> <p>CO3: learn SWOT analysis on the topic/ department choosed</p>	