### Scheme of Examination

<table>
<thead>
<tr>
<th>Part</th>
<th>Study Components</th>
<th>Course Title</th>
<th>Hours per week</th>
<th>Examination</th>
</tr>
</thead>
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<tr>
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<td>Dur.Hrs.</td>
<td>CIA</td>
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<tr>
<td>Semester – I</td>
<td>Language I</td>
<td>6 3</td>
<td>25 75</td>
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<tr>
<td>I</td>
<td>English I</td>
<td>6 3</td>
<td>25 75</td>
<td>100 3</td>
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<tr>
<td>II</td>
<td>Core I Preparation for Textile Colouration</td>
<td>4 3</td>
<td>20 55</td>
<td>75 4</td>
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<tr>
<td>III</td>
<td>Core II Principles of Management</td>
<td>4 3</td>
<td>20 55</td>
<td>75 4</td>
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<tr>
<td></td>
<td>Practical I Preparation for Textile Colouration Practical</td>
<td>4 4</td>
<td>40 60</td>
<td>100 2</td>
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<td></td>
<td>Allied I Textile Science</td>
<td>4 3</td>
<td>25 75</td>
<td>100 5</td>
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<tr>
<td>IV</td>
<td>Environmental Studies</td>
<td>2 3</td>
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<td>50 50</td>
</tr>
</tbody>
</table>

| Semester – II | Language II | 6 3 | 25 75 | 100 3 |
| I | English II | 6 3 | 25 75 | 100 3 |
| II | Core III Technology of Dyeing | 4 3 | 20 55 | 75 4 |
| III | Core IV Pattern Making and Grading | 4 3 | 20 55 | 75 4 |
|   | Practical II Dyeing Practical | 4 4 | 40 60 | 100 2 |
|   | Allied II Woven Fabrics and Designs | 4 3 | 25 75 | 100 5 |
| IV | Value Education – Human Rights | 2 3 | - | 50 50 | 2 |

| Semester III | Core VII Knitting Technology-I | 6 3 | 25 75 | 100 4 |
| III | Core VIII Pattern Making -Practical | 5 3 | 20 30 | 50 3 |
|   | Core IX Printing Technology | 5 3 | 25 75 | 100 3 |
|   | Core X Printing Technology– Practical | 4 4 | 40 60 | 100 4 |
|   | Allied : III Introduction to Computers | 5 3 | 20 55 | 75 5 |
|   | Skill based Subject 1 (Diploma) I – Accountancy For Garment Production | 3 3 | 25 75 | 100 3 |
|   | Tamil/Advanced Tamil (OR) | 2 3 | - | 75 75 | 2 |
|   | Non-major elective - I (Communicative English) |
| Semester IV |
|------------------|-----|-----|-----|-----|
| III Core XI Knitting Technology-II   | 4   | 3   | 25  | 75  | 100 | 3  |
| Core XII Apparel Manufacturing Technology | 5   | 3   | 20  | 55  | 75  | 3  |
| Core XIII Garment Construction       | 6   | 3   | 20  | 55  | 75  | 4  |
| Core XIV Computer Application-Practical | 6   | 3   | 40  | 60  | 100 | 4  |
| Allied :IV Process House Management And Entrepreneurship | 4   | 3   | 20  | 55  | 75  | 5  |
| Skill based Subject 2 (Diploma) Fashion Merchandising | 3   | 3   | 25  | 75  | 100 | 3  |
| Tamil/Advanced Tamil (OR) Non-major elective -II (General Awareness #) | 2   | 3   | -   | 75  | 75  | 2  |
| Semester V |
| III Core XV Technology of Finishing   | 5   | 3   | 25  | 75  | 100 | 3  |
| Core XVI Technology of Finishing-Practical | 5   | 3   | 40  | 60  | 100 | 3  |
| Core XVII Quality Assurance in Textiles | 5   | 3   | 25  | 75  | 100 | 3  |
| Core XVIII Quality Assurance -Practical | 6   | 3   | 40  | 60  | 100 | 3  |
| Elective –I)                          |     |     |     |     |     |    |
| IV Skill based Subject 3 (Diploma) Total Quality Management | 3   | 3   | 25  | 75  | 100 | 3  |
| Semester VI |
| III Core XIX Advances in Textiles & Apparel Processing | 5   | 3   | 25  | 75  | 100 | 4  |
| Core XX Garment Costing & Export Documentation | 6   | 3   | 25  | 75  | 100 | 4  |
| Core XXI Computer Aided Design- Practical | 6   | 3   | 20  | 30  | 50  | 4  |
| Elective –II                          |     |     |     |     |     |    |
| Elective –III                         |     |     |     |     |     |    |
| IV Skill based Subject 4 (Diploma) Export Sampling & Product Development- Practical | 3   | 4   | 40  | 60  | 100 | 3  |
| V Extension Activities                |     |     |     |     |     |    |
| Total                                 |     |     |     |     | 3600| 140 |

@ No University Examinations. Only Continuous Internal Assessment (CIA)
# No Continuous Internal Assessment (CIA). Only University Examinations.

List of Elective papers (Colleges can choose any one of the paper as electives)

<table>
<thead>
<tr>
<th>Elective – I</th>
<th>A</th>
<th>Garment Industrial Management</th>
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<tbody>
<tr>
<td></td>
<td>B</td>
<td>Entrepreneurship Development &amp; Management</td>
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<td>C</td>
<td>Care and Maintenance of Textiles</td>
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<tr>
<th>Elective – II</th>
<th>A</th>
<th>Surface Embellishment</th>
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<tr>
<td></td>
<td>B</td>
<td>Executive Business Communication</td>
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<tr>
<td></td>
<td>C</td>
<td>International Trade &amp; Documentation</td>
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<tr>
<th>Elective - III</th>
<th>A</th>
<th>Engineering Economics</th>
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<tbody>
<tr>
<td></td>
<td>B</td>
<td>Apparel Retailing</td>
</tr>
<tr>
<td></td>
<td>C</td>
<td>Industrial Psychology</td>
</tr>
</tbody>
</table>
SEMESTER – I  CORE PAPER I - PREPARATION FOR TEXTILE COLOURATION

UNIT I

UNIT II

UNIT III

UNIT IV

UNIT V

REFERENCES:

SEMESTER – I CORE PAPER II - PRINCIPLES OF MANAGEMENT

UNIT I

UNIT II
Planning - Meaning and purpose of planning – Steps in planning – Types of planning - Objectives and policies – Objectives, policies, procedures and methods, nature and types of policies - Decision making – Process of decision making – Types of decisions – Problems involved in decision making.

UNIT III

UNIT IV

UNIT V
Controlling – Need for co-ordinating – Meaning and importance of control - Control process – Types of control.

REFERENCES:
7. Dingar Pagore, Principles Of Management
8. L.M.Prasath, Principles Of Management
SEMESTER – I PRACTICAL I - PREPARATION FOR TEXTILE COLOURATION

LIST OF EXPERIMENTS

PART – I: CHEMICAL ANALYSIS

1. Estimation of water hardness by EDTA method.
2. Estimation of sodium chloride.
3. Estimation of sodium carbonate.
4. Estimation of sodium hydroxide.
5. Estimation of sodium hydro sulphite.
8. Estimation of Glauber’s salt.

PART – II: PREPARATORY PROCESS

5. Comparison of bleached, unbleached and optical brightener treated sample for whiteness and reflectance value.
6. Degumming of silk.
8. Scouring of 100% synthetic textiles (polyester / nylon).
10. Combined scouring and bleaching of cotton knit fabrics.
SEMESTER – I ALLIED PAPER I - TEXTILE SCIENCE

UNIT I

Cotton: Producing countries – Botanical and commercial classification - Brief study on Indian hybrid and imported commercial cotton varieties – Fibre morphology – Chemical structure & composition - Properties - End uses. Brief study about organic cotton and it’s cultivation.

Jute: Producing countries – Fibre morphology – Chemical composition - Properties - End uses.

Flax: Producing countries – Fibre morphology – Chemical composition - Properties - End uses.

UNIT II
Wool: Producing countries - Grading - Fibre morphology – Chemical structure & composition - Properties - End uses - Felting – Study of Woolen and Worsted Yarns - End uses - Brief study on specialty hair fibers and uses.


UNIT III

Synthetic fibres: Common steps for the production – Brief study about Polyamide, Polyester, Poly Acrylic, and Spandex – Process flow for the production of Nylon 6,6, Nylon 6, Polyester filaments and staple fibres. Individual fibre properties and trade names – End uses.

Texturisation and it’s effects, Types of textured yarns - Methods of texturisation – End uses of textured yarns.

UNIT IV
Classification of yarn types- Staple spinning system - Types – Cotton Yarn Production sequence and objectives – Principles of short staple spinning – Comparison of carded and combed yarn - Winding and it’s objects – Waxing and it’s significance – Properties required for export quality hosiery yarns. Study of yarn twist and it’s importance – Types of yarn twist – Various yarn & package defects.
UNIT V

REFERENCES:

12. Eric Oxtoby, Spun Yarn Technology
15. K.P. Chellamani, Yarns and Technical Textiles.
SEMESTER – II CORE PAPER III - TECHNOLOGY OF DYEING

UNIT I
Dyeing with Direct dyes and the after treatment.

UNIT II
Dyeing with Sulphur dyes and the after treatment – Brief study of solubilised Sulphur dyes.
Application of pigments in dyeing.

UNIT III
Acid dyes - Properties, classification of dyes. Dyes properties, classification of dyes, mechanism of dyeing. Application of acid dyes on wool and silk, stripping and limitation of dyes.

UNIT IV
Singeing, desizing, scouring, bleaching heat setting and mercerising of synthetic & blends.

Dyeing of Polyester with Disperse dyes: Levelling agents, antifoaming agents, redox buffer mechanism of dyeing.


UNIT V
Yarn dyeing in cabinet & cheese machine. Working principles of above machines & winch dyeing machine - Fully automatic jigger dyeing machine - soft flow dyeing machine - two bowl and three bowl padding mangle - continuous dyeing range - garment dyeing - beam & jet dyeing machine - yarn dryer, tumble dryer, relax dryer, radio frequency dryer and rope opener.
REFERENCES:


SEMESTER – II  CORE PAPER IV - PATTERN MAKING AND GRADING

UNIT I
Introduction – Concept of basic pattern and grading – Methods of pattern making with special reference to pattern drafting - Pattern making tools – Various pattern production terms–Standard body measurements for men’s wear, women’s wear and kids wear of different countries. Style wise component parts of a garment.

UNIT II
Pattern positioning and lay out – Concept of pattern layout - Rules and methods of pattern layout – Adjusting the patterns to fabric. Fitting: Definition – Principles for a good fit– Checking the fit of a garment – Solving fitting problems in various garments.

UNIT III
UNIT IV
Procedure to draft the ¼th patterns for men’s wear: Basic round neck T shirt, raglan sleeve T shirt with hood, full sleeve shirt, narrow bottom trouser.

Procedure to draft the ¼th patterns for kids wear: Jabla, knicker, pedal pusher, A-Line frock.

Procedure to draft the ¼th patterns for Ladies wear: Blouse, kameez, salwar, midi, midi top.

UNIT V


REFERENCES:
9. Gerry Cooklin, Master Patterns and Grading for Women’s Outsizes, Blackwell Science Ltd, England
SEMESTER – II  PRACTICAL II - DYEING

LIST OF EXPERIMENTS

NATURAL FIBRES :

1. Dyeing Of Cotton Materials With Vat Dyes.
2. Dyeing Of Cotton Materials With Sulphur Dyes.
6. Dyeing Of Wool With Acid & Metal Complex Dyes.
8. Dyeing Of Silk With Acid & Metal Complex Dyes.
9. Dyeing of silk with reactive Dyes.

MAN MADE FIBRES AND BLENDS:

10. Dyeing Of Nylon with Acid Dyes.

SEMESTER – II  ALLIED PAPER II - WOVEN FABRICS AND DESIGNS

UNIT – I

UNIT – II
UNIT – III
Passage of material through a plain power loom – Basic mechanisms of a loom – Primary, secondary & auxiliary motions – Tappet shedding – Cone over pick & under pick mechanisms – Beat up mechanism – Types of let off & take up mechanisms – Fabric defects, causes & remedies.

UNIT – IV

UNIT – V

REFERENCES:
SEMESTER III CORE-VII KNITTING TECHNOLOGY-I

UNIT – I
Introduction To Knitting: Different fabric forming methods-Comparison of weaving and knitting-Principles of weft and warp knitting – Comparison of weft and warp knitting – Classification of knitting machines – Structure of Knitting Industry in India.

UNIT-II

UNIT-III
Single Knit Structure: Knitting terms and definitions - Principal weft knit stitches - Knit, tuck and miss stitch formation and properties - Representation of weft knit stitches – Study of Basic weft knit structures – Characteristics of Single Jerky Fabrics.

UNIT-IV

UNIT-V

References:
1. D.B. Ajgaonkar – Knitting Technology
2. David. J.Spencer – Knitting Technology
3. Chandrasekara Iyer et al. – Circular knitting technology
4. Dr.Samuel Raz – Flat Knitting
5. Dr.S.Raz – Warp Knitting Technology
6. Peter Lord et al. – Fabric forming systems
SEMESTER III CORE-VIII PATTERN MAKING – PRACTICAL

Draft And Construct The Pattern Of Given Style / Sample As Per The Specification Given With And Also Grade The Same For Required Sizes

1. Men’s Basic T Shirt
2. Men’s Raglan With Pocket
3. Men’s Polo T Shirt
4. Men’s High Neck Shirt
5. Men’s Boxer Short
6. Men’s Bermudas Short
7. Men’s Trouser
8. Men’s Kimono Sleeve
10. Men’s Hood Shirt
11. Men’s Inner Garment – Vests RN / RNS
13. Ladies Skirt
14. Ladies Blouse
15. Ladies Basic Bodice
16. Women’s Nighties
17. Kid’s Wear Of Various Styles
18. Children’s Suits and Pyjama

SEMESTER III CORE-IX PRINTING TECHNOLOGY

Unit-1
INTRODUCTION TO PRINTING PROCESS & ITS MACHINES
Fabric Preparation For Printing - Preparation Of Printing Paste – Essential Component Of A Printing Paste – Selection Dye Stuffs As Per Print Style.

Unit-2

Unit-3
**STYLES OF PRINTING**

Unit-4
**PRINTING MACHINES**
Preparation Of Screens For Table And Rotary Screen Printing Machine, Different Methods, Principle And Working Of Flat Bed Printing Machine With Line Diagrams With Conveyor And

Unit-5
PRINTING ON KNIT FABRICS.
Preparation Of Knit Fabric For Printing. Printing In Tubular & Open Form, Garment Form – Limitation And Their Problem Associated In printing Tubular Fabrics – Khadi And Colour Khadi Printing. Plastic & Rubber Prints – Gold & Silver Prints On Knit Fabric By Direct Style Method.

References :

SEMESTER III CORE-X PRINTING TECHNOLOGY-PRACTICAL
LIST OF EXPERIMENTS:
8. Development of Batik Style Print With reactive Dyes.
10. Vat Colour Discharge on Ramazol Ground.
ALLIED: III INTRODUCTION TO COMPUTERS

UNIT I

UNIT II

UNIT III

UNIT IV

UNIT V
Virus, Types of viruses, How do virus spread, Symptoms of a virus attack, Prevention of virus attack, Detection of viruses, Removing viruses.

REFERENCES:
2. Greg Perry, Teach Yourself Microsoft Office 2000 in 24 Hours, Tech media Publications.
SEMESTER III DIPLOMA-I ACCOUNTANCY FOR GARMENT PRODUCTION

Unit-1

Unit-2

Unit-3

Unit-4

Unit-5

References:
1. N.Vinayagam, P.L. Mani, K.L. Nagarajan, Principles Of Accounting
2. Arulanandam & K.S. Raman, Advanced Accounting
3. Gupta & Radhasamy, Advanced Accounting
4. Shukla & T.S. Grewal, Advanced Accounting
5. Maheswari, Management Accounting & Financial Accounting
6. Manmohan & Goyal, Principles Of Management Accounting
7. Jain & Narang, Advanced Cost Accounting
SEMESTER IV CORE-XI Knitting Technology –II

UNIT-I

UNIT-II

UNIT-III

UNIT-IV

UNIT –V

References
1. Circular Knitting Technology: Meise Nbach Bamberg
2. Knitting Technology : D.B. Ajgoankar
3. Flat Knitting : Samuel Raz
4. Warp Knitting Technology : S. Raz
SEMESTER IV CORE-XII APPAREL MANUFACTURING TECHNOLOGY

UNIT I: Structure of Clothing Industry:
Introduction to textiles - Process sequence, sectors of apparel industry – Size & Manufacturing structure - various departments and their role - Apparel market Case studies.

Classification of Garments:

UNIT II: Pattern Making:
Concept of Basic Pattern and Grading - Developing Basic Patterns - Pattern Materials & Limitations - Pattern Making Tools - Introduction to Computer Aided Pattern Making and Grading - Case Study on Standard Body Measurements For Different Countries for Men, Women and Children's Clothing and Commercial Patterns - Pattern Defects Causes and Remedies.

UNIT III: Spreading & Cutting:
Process sequence - Marker Planning, drawing and reproduction - Marker efficiency - Lay - Spreading and Methods - Cutting and Cutting Machine Types - Bundling - Case Study on Spreading and Cutting Machines.

UNIT IV: Sewing:

UNIT V: Garment Accessories & Embellishments:
Role of Accessories - Buttons, Zipper, Labels, Lining. Interlining Labels Wadding, Lace, Braid & Elastic - Hook & Loop Fasteners -

REFERENCES:
1. H.Carr and B.Latham, Technology of Clothing Manufacture
2. Gerry Cooklin, Introduction to clothing Manufacture
3. Jacob Solinger, Apparel Manufactures Hand Book
4. T. Bracken Berry, Knitted clothing Technology.
SEMESTER IV CORE-XIII GARMENT CONSTRUCTION


2. ELEMENTS AND FUNCTIONS OF CLOTHING

3. STITCHES
Introduction –Definition -Basic Principles Of Stitch Formation – Classification Of Stitches Based On Federal Standards -- Formation Of Important Stitch Classes In 100,200,300,400,500 And 600 Series – Detailed Study Of Application Of All Stitches - Comparison Of Stitches .

4. DEFECTS & REMEDIES
Detailed Study On Various Stitching, Sewing And Assembly Defects - Causes & Remedies: Skip Stitch, Unbalanced, Puckering, Gathering, Needle Defects, Thread Problems – Quality Of Threads And Its Impact On Sewing Quality – Sewability And Its Influencing Factors – Needle Cutting Index.

5. ALTERNATIVE METHODS OF JOINING MATERIALS:
Introduction To Trims And Accessories Attachments -Label, Zips, Fasteners – Sewing Thread Types And Ticket Numbering. Thread Consumption For Various Types Of Stitches And Garments

References:

1. Apparel Manufacturing – Hand Book – Jacob Solinger
2. Technology Of Clothing Manufacture – Herold Carr & B.Latham
3. Knitted Clothing Technology – T.Bracken Berry
4. Technology Of Stitches & Seams – Coats Viyella Limited
SEMESTER IV CORE-XIV COMPUTER APPLICATION- PRACTICAL

1. Do The Following Exercise Using DOS:
   • Create A File And Display It
   • Delete And Rename A File
   • Display All Files With The Extension .Exe Or .Bat
2. Create A Batch File And Macro Using DOS Commands.
3. Using Windows
   • Create A Folder And Sub Folder
   • Edit And Delete A Folder
   • Rename The Folder
   • Copy A Folder In To Floppy Disc
4. Create A Text File Using Windows And Save It In A Folder That Is Created By You And Print The File Using Print Command. Also Create A Shortcut Of The File In The Desktop.
5. In Microsoft Word Use The Following Utilities In Your Document
   • Find, Replace, Go To, Header & Footer, Zoom
   • Insert A Hyperlink And Bookmark Into Your Document
6. Create A Document Using The Utilities Of MS Word
   • Font, Bullets And Numbering, Borders And Shading, Auto Format
   • Auto Correct, Spell Check
   • Create A Table In MS Word
7. Create A Letter And Send To All The Students Who Have Different Addresses Using Mail Merge Facility. Also Create A Macro Using Same Utility Of Ms-Word.
8. Create A Spread Sheet Which Contains Chart, Pivot Table,
9. Using MS Word, Produce The Given Report
10. Using MS Excel Produce The Given Balance Sheet
11. Using MS Excel Get The Output In The Various Graphs For The Given Data’s
12. Using MS Excel Do The Given Calculation And Get Required Statement
13. Using MS Power Point Prepare The Flow Chart And Presentation Slides For Given Topic
15. Create The Given Situation In Corel Draw.
16. Work On Adobe Photo Shop For Given Designed Card
17. Design A Web Page For The Given Details Using HTML / DHTML / Flash

Internet
18. Experiment on Searching Related Websites for a Particular Topic Using Search Engine.
19. Experiment on Creating an E-Mail Address & Sending and Receiving E-Mail.
SEMESTER IV ALLIED: IV PROCESS HOUSE MANAGEMENT AND ENTREPRENEURSHIP

1. ORGANISATION

2. PRODUCTION MANAGEMENT
Productivity And Work Study In Processing Industries - Time Study - Labour Productivity Index And Machine Productivity Index. Objectives Of Production Planning And Control (PPC) - Functions Preplanning, Routing, Scheduling, Despatching, Controlling, Research, Product Planning, Product Development And Standardisation - Concept Quality Circle And Its Usefulness. Inventory Control - Definition - Economic Order Quantity (E.O.Q), ABC Analysis.

3. FINANCIAL MANAGEMENT

4 ENTREPRENEURSHIP DEVELOPMENT - I

5. EXPORT MARKETING

Reference:
1. Personal Management And Industrial Relations – Tripathi
2. Industrial Engineering And Management – O.P. Khanna
SEMESTER IV DIPLOMA: II FASHION MERCHANDISING

UNIT I

UNIT II
Scope of fashion business: Primary level, secondary level and retail level – Type of fashion designers - Fashion focus on Children Apparel: History, organization & operation, merchandising & marketing activities – Fashion focus on Ladies Apparel: History, organization & operation, merchandising & marketing activities

UNIT III
Fashion Focus on Men’s apparel: History, organization & operation, merchandising & marketing activities – Fashion focus on Apparel accessories: History, organization & operation, merchandising & marketing activities – Fashion Forecasting – Forecasting techniques – Sources of forecasting

UNIT IV

UNIT V
Fashion Shows –Types of Fashion Shows – Organising fashion shows – Check points for fashion shows – Foreign Fashion Designers: American, French, Italian, German, UK – Indian Fashion Designers – Fashion Association in India – Fashion Auxiliary services

References:
1. Strong Elian, Fashion Merchandising
2. Inside the Fashion Business.. Mc Millan Publishing Co.,
3. Apparel Merchandising
4. Fashion : Concepts to Consumers
SEMESTER V CORE XV TECHNOLOGY OF FINISHING

UNIT-I
FINISHING AND FINISHING AGENTS
Object Of Finishing - Classification, Temporary / Permanent / Chemical / Mechanical-Stiff Finishing Using Starches, Pvac (Polyvinyl Acetate), CMC, Dextrin With Recipes - Back Filling And Backram Finishes Softeners Properties, Merits, Demerits Of Anionic, Cationic, Non Lonic And Reactive Softeners.

UNIT-II

UNIT-III
SPECIAL FINISHES
FINISHING OF KNITTED GOODS: Peach Finish, Biopolishing With Enzymes, Anti-Microbial Finish, UV Protection Finish, Sand Blasting, Stone Wash.

UNIT-IV

UNIT-V
FINISHING MACHINES

References:

3. Dr. G.Nalankilli And G.S.Jeyapragasham, Textile Finishing, SSMITT Students Cooperative Stores, Komarapalayam
SEMESTER V CORE XVI TECHNOLOGY OF FINISHING-PRACTICAL

FINISHING

1. Finish The Given Fabric Using 2% Starch.
3. Finishing the Given Fabric Using 2% Softener.
5. Finish The Sample Using The Given Resin.
7. Give Scroopy Finish For Silk.
8. Carbonise P/C Blend.

SEMESTER V CORE XVII QUALITY ASSURANCE IN TEXTILE PROCESSING AND APPAREL

UNIT-I
INTRODUCTION TO QUALITY ASSURANCE: Standards and Its Benefits Definition. Of Process Control And Quality Control - Need For Quality Control In Textile And Apparel Industries. Moisture Relations & Its Measurements Fibre Length, Fineness, Maturity Strength Cotton Trash Counter In Yarn Quality And Their Importance.

UNIT-II
TESTING OF YARNS

UNIT-III
TESTING OF FABRICS & APPAREL:
UNIT-IV
QUALITY CONTROL IN WET PROCESSING:
Need For Quality Control In Textile Wet Processing - Quality Control In Desizing, Scouring, Bleaching Mercerizing, Dyeing, Printing And Finishing. Absorbency Tests By Drop Test Method And Wicks Method.

UNIT-V
Determination Of Ash Content - Determination Of Whiteness - Determination Of Barium Activity Number – Shrinkage & Spirality - Dimension Stability Of Fabric - Determination Of Colour Fastness To Washing, Rubbing Perspiration, Hot Pressing, Dry Cleaning And Sublimation - Determination Of Light Fastness By Xenon Arc Lamp – Eco Labels- Eco Friendly Norms.

References :
2. B.K.Kothari, Testing And Quality Management.
5. Pradeep V Metha & Satis K.Bhardwaj, Managing Quality In Apparel Industries.

SEMESTER V Core XVIII Quality Assurance - Practical

List of Experiments

1. Determination Of Single And Double Yarn Twist, CV% Of Twist Using Electronic Twist Tester.
2. Determination Of Lea Strength Using Lea Tester And Calculation Of Lea CSP, CV% Of Count And Strength.
3. Determination Of Count Of Yarn And CV% Using Wrap Reel And Physical Balance.
4. Determination Of Count Of Yarn And CV% Using Wrap Reel And Electronic Yarn Count Balance.
5. Determination Of Fabric Bursting Strength.
7. Knitted Fabric Analysis (Courses Per Inch, Wales Per Inch, Stitch Density, Loop Length, Course Length, Tightness Factor, GSM).
8. Blend Composition – Chemical Test
9. Determination Of Color Fastness Of Given Sample To Washing By Using Launder Meter And Rating With Help Of Grey Scales
10. **Determination Of Color Fastness Of Given Sample To Rubbing By Using Crockmeter And Rating With Help Of Grey Scales** –

11. **Determination Of Color Fastness Of Given Sample To Perspiration By Using Perspirometer And Incubator & Rating With Help Of Grey Scales.**

12. **Determination Of Dimensional Stability (Shrinkage % / Growth %) of A Given Fabric/Garment To Washing By Using Mechanized Washing Machine As Per ISO Procedures.**

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**SEMESTER V DIPLOMA-III TOTAL QUALITY MANAGEMENT**

**UNIT I**

**UNIT II**

**UNIT III**
Control charts: concepts and uses – Control limits – Control charts for Variables and Attributes: X Charts – R chart – P chart – NP chart – C chart – Acceptance sampling – Types of sampling plans: Single, Double and Multiple Sampling plans – OC curves – AQL and LTPD – Sampling errors and sampling risks – Producer’s risk and Consumer’s risk

**UNIT IV**

**UNIT V**

**REFERENCE**
1. Dr. S.P.Gupta, “Statistical Methods”
SEMESTER VI CORE XIX ADVANCES IN TEXTILE AND APPAREL PROCESSING

UNIT-I
CHEMICAL PREPARATORY PROCESSES
Combined Stage Desizing And Scouring And Bleaching - continuous bleaching machine - bio scouring-enzyme based auxiliaries. Recent development in processing auxiliaries. Application of plasma in textile preparation

Garment Dyeing
Introduction to garment dyeing- factors to be consider for garment dyeing-selection of dyes for garments dyeing-garment dyeing machine-value added dyeing methods-limitation of garment dyeing-brief study on garment accessories dyeing.

UNIT-II
GARMENT FINISHING
INTRODUCTION TO GARMENT CHEMICAL FINISHING

UNIT-III
GARMENT PRINTING FINISHING MACHINES:

UNIT-IV
ECO STANDARDS
Need For Eco-Standards – Eco Labels & Norms – Need For Eco-Testing – Testing Of Formaldehyde, Tonicity Of Dyes And Chemicals. Discussion Of Azo Testing. organic cotton and certification process. chemical to be avoid for eco norms

UNIT-V
ENERGY CONSERVATION
Low Liquor Ratio Machines Recipe Monitoring, Low Temperature Dyeing Methods. Rapid Inverse Dyeing Of P/C Blends. Introduction to computer colour matching system and its application on textiles-dyes dispensing system.recent deelopment on pigments and dyes a brief study on nano based products in chemical finishing.

References:
2. NIIR Board of Consultants and Engineers – Natural Dyes and Pigments – Asia Pacific Business Press Delhi.
4. Prof. K.B.Krishna Kumar – Pollution in Textile Industry – SSm I.TT. Komarapalayam
SEMESTER VI CORE XX GARMENT COSTING AND EXPORT DOCUMENTATION

UNIT-I

UNIT-II
**ESTIMATION OF FACTORY COST** For Vest, Briefs, Shorts, T-Shirts, Pyjamas, Children’s Wear, Ladies Wear Etc., Various Factors To Be Considered In Costing For Domestic Products & International Products.

UNIT-III
**FIRM ESTABLISHMENT**

UNIT-IV
**IMPORT PROCEDURE:**

UNIT-V
**SHIPMENT AND CUSTOMS:**

Reference:
1. Hand Book Of Import And Export Procedures - Paras Ram
SEMESTER VI CORE XXI COMPUTER AIDED DESIGNING – PRACTICAL

PART – A
Develop The Patterns For The Following Styles Using Any Cad Software For The Given Measurements And Also Grade The Patterns To Various Sizes And Estimate The Lay Length And Marker Efficiency.

1. Men’s Basic T Shirt
2. Men’s Polo T Shirt
3. Men’s High Neck Shirt
4. Men’s Bermudas Short
5. Men’s V – Neck Shirt
6. Men’s Collar Neck Shirt
7. Men’s Inner Garment – Vests Rn / Rns
9. Ladies Skirt With Pleats
10. Ladies Blouse
11. Women’s Nighties
12. Kid’s Wear Of Various Styles
13. Children’s Suits And Pyjama

PART – B
1. Digitize The Given Patterns And Store Them As Style Files And Apply Grade Rules And Estimate The Lay Length And Marker Efficiency

SEMESTER VI DIPLOMA –IV EXPORT SAMPLING AND PRODUCT DEVELOPMENT-PRACTICAL
Students Will Be Given Export Order Or Export Enquiry And They Are Asked To Design The Samples As Per The Specification Given And Also Prepare A Report Containing The Following Details.

1. Yarn Details & Composition
2. Yarn Consumption Per Garment
4. Size Details
5. Factory Cost Of Garment
(Totally 6 Export Orders & 6 Export Enquiries Related To Following Styles Shall Be Given).
( Men’s Basic T Shirt / Men’s Crew Neck Shirt / Men’s Polo T Shirt / Men’s High Neck Shirt / Men’s Boxer Short / Men’s Bermuda Short / Men’s Trouser / Men’s Full Arm Shirt / Men’s V –
Neck Shirt / Men’s Collar Neck Shirt / Men’s Inner Garment – Vests Rn / Rns / Men’s Under Garment: Briefs With Inner Waist Band Or Outer Waist Band Of Various Models - Trunk Type. / Ladies Skirt With Pleats / Ladies Blouse / Ladies Basic Bodice / Women’s Nighties / Kid’s Wear Of Various Styles / Children’s Suits And Pyjama)

SEMESTER V ELECTIVE I –A
GARMENT INDUSTRIAL MANAGEMENT

Unit-I

Unit-II
Institutions supporting entrepreneurs- DIC, NSIC ,SISI,SIPCOT, TII,KVIC, CODISSIA, COMMERICAL BANKS –SBI. Organizational structure of a garment unit –Hierachical organization, production planning and control.

Unit-III
Different department in a garment unit – Design department ,Finance department, purchasing department , Production department, Organizing different sections – hierarchy Personnel involved in all the departments, nature of the job .

UNIT-IV
Factory Design and layout – importance of factory design , factors affecting factory design , Types of buildings, ( single and Multi –storey) –advantages and limitation . Factory layout – Process, Product and combined layout Design requirement – requirements relating to health, safety and welfare

UNIT-V
Performance of Indian Garment Export, SWOT Analysis Setting up of garment unit for export market ,Export Document ,Export finance- Payment method ,Export shipping Role of merchandiser in a garment unit

Reference;
1. Principles of management- Dinakar pagare, sultan chand and sons, delhi.
2. Entrepreneurship Development in India – Dr. C.B Gupta , Dr N.P . Srinivasan, sultan Chand and sons delhi 1997.
SEMESTER V ELECTIVE I – B
ENTREPRENEURSHIP DEVELOPMENT AND MANAGEMENT

Unit – I
Concept of entrepreneurship: Definition, Nature and characteristics of entrepreneurship – function and type of entrepreneurship, phases of EDP. Development of women entrepreneurs and rural entrepreneur – including self employment of women council scheme.

Unit – II

Unit – III
Institutional service to entrepreneur – DIC, SIDO, NSIC, SISI, SSIC, SIDCO – ITCOT, IIC, KUIC and commercial bank.

Unit – IV
Institutional finance to entrepreneurs: IFCI, SFC, IDBI, ICICI, TIIC, SIDCS, LIC and GIC, UTI, SIPCOT – SIDBI commercial bank venture capital.

Unit – V
Incentives and subsidies – Subsidized services – subsidy for market. Transport – seed capital assistance – Taxation benefit to SSI role of entrepreneur in export promotion and import substitution.

Books for Reference:
1. Entrepreneurial Development – C.B.Gupta and N.P.Srinivasan
2. Fundamentals of Entrepreneurship and Small Business – Renu Arora and S.KI.Sood
3. Entrepreneurial Development – S.S.Khanka
4. Entrepreneurial Development – P.Saravanavel
5. Entrepreneurial Development – S.G.Bhanushali
6. Entrepreneurial Development – Dr.N.Ramu

SEMESTER V ELECTIVE I – C
CARE AND MAINTENANCE OF TEXTILES

UNIT-I
Water- hard and soft water, methods of softening water.
Laundry soaps – Manufacture of soap (Hot process, cold process), composition of soap types of soap, soap less detergents, chemical action, detergent manufacture, advantages of detergents.
UNIT-II  
Finishes – Stiffening Agents – Starch (cold water and hot water) , Other stiffening agents, preparation of starch .  
Laundry blues , their application .

UNIT-III  
Laundry equipment – for storage, for steeping and Washing – Wash board, suction washer, wash boiler, washing machine.  
Drying equipments – out door and indoor types .  
Irons and ironing board – types of iron (box, flat , automatic, steam iron) . Ironing board – different types.

UNIT-IV  
Laundering of different fabrics – cotton and linen, woolens, coloured fabrics, silks, rayon and nylon.

UNIT-V  
Special types of Laundry – water proff coats, silk ties, leather goods, furs, plastics, lace.  
Dry cleaning – using absorbents , using grease solvents.  
Storing – points to be noted.  
Stain removal – food stains, lead pencil, lipstick, mildew, nose drops, paint ,perfume, perspiration / mildew, tar, turmeric and kum- kum.  
Care labels – washing, bleaching,Drying, ironing and different placements of label in garments.

References;  
3.Family Clothing – Tate of Glesion , John Wiley & Sons I n c, Illinois.  
4.Household Textiles and Laundry Work – Durga Duelkar , Amla Ram & Sons, Delhi

SEMESTER VI ELECTIVE II – A  
SURFACE EMBELISHMENT

Unit – I  
Unit – II

Unit – III

Unit – IV

Unit - V
A detailed study on Computerized Embroidery Machines – Concept of Designing – Special Attachments - Sequins – Cording – Boring – Chenille – Taping.

References:
4. Traditional Indian Motifs for Weaving and Printing
5. 5000 Designs and Motifs from India – Ajit Mookerjee – 1996
6. Barudan / Tazima / ZSK Embroidery Machines Catalogue

SEMESTER VI ELECTIVE II – B
EXECUTIVE BUSINESS COMMUNICATION

Unit – I

Unit – II

Unit – III
Banking Correspondence – Insurance Correspondence – Agency Correspondence.
Unit – IV
Company Secretarial Correspondence (Includes Agenda, Minutes and Report Writing)

Unit – V

Books for Reference:

SEMESTER VI ELECTIVE II – C
INTERNATIONAL TRADE AND DOCUMENTATION

UNIT I
Introduction to international trade, Global scene, Prospects for Indian Apparel in overseas market, Globalisation, GATT and WTO

UNIT II
Foreign trade document -need - types of documents related to goods, invoice to goods, invoice packing note and list - certificate relating to shipments - shipping bill- caret ticket - certificate of measurement - Bill of lading - airway bill - documents related to payment -letter of credit - bill of exchange - bank certificate for payment - document related to inspection

UNIT III
Import procedure and shipment - import license - procedure - special schemes replenishment license - advance license - split up license - spares for after sales service license - code number - bill entry, pre shipment inspection and quality control, post shipment formalities and procedures

UNIT IV
Export procedure and recent policies of the government

UNIT V
Customs - meaning, definition, types, exercise and customs, clearance of export cargo - shipment of goods and port procedures - claiming duty draw backs and other benefits

REFERENCE:
Govt. of India: Hand book of import and export procedures
Bose. A, Streamline your export paper work, International trade form Oct - Dec 1965
SEMESTER VI ELECTIVE III – A
ENGINEERING ECONOMICS

UNIT - I

UNIT – II

UNIT – III

UNIT – IV

UNIT – V

REFERENCES:
2. Contemporary Engineering Economics – Chan S. Park, Prentile Hall of India.
5. Macro Economics for Business and Management – H.L. Ahuja, S. Chand & Co. Ltd.
7. International Marketing - Francis Cherunilam, Himalaya Publishing House
SEMESTER VI ELECTIVE III –B
APPAREL RETAILING

UNIT I
Retail & Retailing – Meaning & definition – Scope of apparel retailing – Retailing terminologies – Types of retailers and retail formats – Global retailing scenario – Retailing scenario in India – Functions of retailers

UNIT II
Retail strategies : Operational excellence , Product differentiation, Customer intimacy – Growth strategies – Market expansion strategies – Store planning – Location planning – Store design – Store design & retailing image mix – Space mix – Effective retail space management – Store layout – Floor space management

UNIT III
Retail merchandising – Merchandise planning – Merchandise hierarchy – Buying function – Category management – Mark up & Mark down – Shrinkage in merchandising management – Cross margin return on inventory – Supply chain management in apparel retailing – ERP in apparel industry

UNIT IV

UNIT V

REFERENCES:
2. “Retail management “
3. Retail Merchandising – part I
SEMESTER VI ELECTIVE III – C
INDUSTRIAL PSYCHOLOGY

UNIT I
Organisational Behaviour: Definition & Meaning – Nature & Scope of OB – Understanding Human behaviour: Individual level, Interpersonal level, Group level, Inter-group level – Perception – Concept of perception – Perceptual process – Factors that influence perception

UNIT II
Personality – Contributing factors to personality – Attitude – Concept of attitude – Distinguish between Attitude, Opinion & Belief – Attitudinal influences on behaviour – Measurement of attitude: Bipolar scale, Thurstone’s scale, Likert’s scale – Motivation – Concept of motivation – Nature & Objective of motivation – Importance of motivation

UNIT III
Group – Concept & characteristics of group – Factors influencing group formation – Types of groups – Group dynamics – Concept & Importance of group dynamics – Advantages & disadvantages of group – Team building – Team building cycle – Leadership – Types of leadership – Traits of a good leader – Conflict: Definition & Meaning – Types of conflict – Managing conflicts

UNIT IV

UNIT V

REFERENCE
3. Luthans and Fred, “Organisational Behaviour”
5. Industrial Psychology