## Scheme of Examination – CBCS Pattern

<table>
<thead>
<tr>
<th>Part</th>
<th>Study Components</th>
<th>Course Title</th>
<th>Hours per week</th>
<th>Examination</th>
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<td>III</td>
<td>Core Paper II - Fashion Studies</td>
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<td>Core Paper III - Practical I - Fashion &amp; Art Design</td>
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<td>III</td>
<td>Allied Paper I - Practical II - Computer Application</td>
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<td>Core Paper IV – Woven Fabric &amp; Designs</td>
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<td>Core Paper VII - Knit Fabric Studies</td>
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<td>Core Paper VIII - Textile Coloration Technology</td>
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<td>III</td>
<td>Allied Paper III - Practical VII - Pattern Making and Garment Production for kids wear</td>
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<td>Skill based Subject I – Textile &amp; Garment Finishing Technology</td>
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<td>Core Paper XI - Apparel Production Management</td>
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<td>Core Paper XII – Apparel Quality Assurance</td>
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@ No University Examinations. Only Continuous Internal Assessment (CIA)
# No Continuous Internal Assessment (CIA). Only University Examinations.
*For Project Work 80% Marks and Viva Voce 20% Mark

| List of Elective papers (Colleges can choose any one of the paper as electives) |
|-----------------|-----------------|
| Elective – I | A | Fashion Accessories & Trims |
| B | Technical Textiles |
| C | Surface Ornamentation |
| Elective – II | A | Fashion Communication & Retailing |
| B | Non Wovens & Specialty Textiles |
| C | Visual Merchandising |
| Elective - III | A | Clothing Science |
| B | Clothing Care |
| C | Home Textiles |
Semester – I  Core Paper I - Basic Textile Studies

Unit 1 : Natural Fiber

Unit 2: Regenerated fiber

Unit 3: Synthetic Fiber

Unit 4 : Yarn Formation

Unit 5 : Latest trends in textile fibers and yarns
Introduction to organic cotton & specialty natural fibers such as, banana, pineapple, spider Silk – Brief study about OE & Airjet Spinning. Study about Fancy yarns and sewing threads , properties and end uses – Introduction to fibers and yarns used in technical textiles.

Reference Books:
3. Hand book of textile fibres by J.Gordon Cook
4. Manufactured fibre technology by V.B. Gupta & V.K. Kothari
5. Essential fibre chemistry by M.E. Cartor
7. Fibre chemistry by M. Lewin, E.M. Pearce, Marcel & Dekkan Inc.
8. Regenerated Cellulosic fibres by C. Wooding, Woodhead publishing Ltd.
9. The technology of short-shape staple spinning – W. Klein
10. Cotton spinning – Taggart
11. Spun yarn technology – Oxtoby
12. New Spinning Technology Vol. 4 & 5 –W.Klien
Core Paper II – Fashion Studies

Unit I - Introduction to fashion

Unit II - Elements of design
Introduction to design – Types of design – Elements and their importance in a design – Line – Types – Application of line in a garment – Influence of line in various illusion - Shape – Types – Importance of shape in garment design – Texture – Determinants of texture – Effect of texture on color & physical proportion

Unit III - Color & Color theory
Introduction to color theories – Dimensions of color – Color systems – Warm and cool colors – color schemes – Application of color in fashion design – Visual impact of color in a garment – Importance of color psychology

Unit IV - Principles of design
Importance of principles of design in fashion – Balance and its types – Proportion and its application in garment design – Emphasis – Creating emphasis in a garment using various techniques – Harmony and its impact in garment design – Rhythm – Application of rhythm in garment design

Unit V - Introduction to fashion style details and various garments
Importance of details in apparel design – Various types of neck, collar & sleeve – Different types of waist & hem lines – Types of plackets, Pockets- Garments for men, women and kids – Unisex garments – Intimate , active and functional garments

References
Core Paper III - Practical I- Fashion & Art design – P

A. Fabric drapes and Rendering Practice :
1. Rendering different fabrics to study their fall, fold & drape
2. Rendering different fabrics to study their texture such as Woven, Knits & Non Wovens
3. Rendering different fabrics to study their color such as plain, Prints, Checks, embroidery

B. Practice on Line drawing of design details and garments
1. Various commercial necklines & Collars
2. Various commercial Sleeves & Cuffs
3. Skirts
4. Pants
5. Dresses
6. Blouses
7. Jackets
8. Shirts
9. Sports wear

C. Drawing practices on accessories for men & Women
1. Bags,
2. Belts,
3. Footwear,
4. Hats,
5. Gloves
6. Jewelries

Allied Paper I – Practical II -Computer Application

MS Office
1. Prepare an interview call letter and send using mail merge in MS Word.
2. Design the given advertisement using in MS word. Apply various fonts and pictures.
3. Create line, bar and pie charts for the given data using MS Excel.
4. Prepare students mark statement with the following fields Roll No, Name, Sub1, Sub2, Sub3, Sub4, Sub5. Calculate Total, Average, Result and Grade. Apply Conditional formatting.
5. Prepare employee salary list with fields Employee No, Employee Name, Experience, Basic Pay, HRA, DA, LIC, PF. Calculate Gross Salary & Net Salary based on the following conditions

<table>
<thead>
<tr>
<th>Experience</th>
<th>HRA</th>
<th>DA</th>
<th>LIC</th>
<th>PF</th>
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<tr>
<td>5 Years &amp; Above</td>
<td>30%</td>
<td>15%</td>
<td>3%</td>
<td>700</td>
</tr>
<tr>
<td>Less than 5 Years</td>
<td>15%</td>
<td>5%</td>
<td>3%</td>
<td>700</td>
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</tbody>
</table>

6. Prepare a power point presentation about a product. Apply animation and slide timing.
7. Create an EMail ID and use various mail features.

HTML
8. Design five web pages with hyperlinks linking all pages
Semester II - Core Paper IV – Woven Fabrics & 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
Shuttle less looms: Introduction - Advantages - Types of shuttle less looms. Introduction to non wovens – Production methods - Applications.

References:
Core Paper V - Garment Machines & Clothing Construction

Unit I

Unit II
Introduction to sewing Needles: Types, size, selection and their application - Sewing Machine-parts, functions. Classification of sewing machine and its functions – SNLS, DNLS, overlock, flatlock - button fixing and button hole, Button sew – Bar tack machine. Sewing machine shapes - Sewing machine bed types-Description and application of each bed – Flat bed - Cylinder bed - Post bed – Applications.

Unit III

Unit IV
STITCHES – definition, classification of stitch classes. SEAMS – definition, types of seams and seam finishes. FULLNESS - Definition; Methods of introducing fullness in garments – darts, pleats, tucks, gathers, flares, flounces and smocking – its construction principle and application on various parts of a garment.

UNIT V

REFERENCES:
Core Paper VI - Woven Fabric Analysis and Textile CAD - Practical

**Part A**
- Warp particulars: Material of warp - ends per length - count, direction of twist, Crimp percentage, cover factor, warp pattern.
- Weft particulars: Material of weft - picks per unit length - count, direction of twist, twist per length, Crimp percentage, cover factor and warp pattern.
- Fabric particulars: Total Cover factor, Weight of fabric and thickness.
- Loom requirements: Shedding mechanism, heald count, and count.

**Part B**
1. Basics of Raster and vector images, types, image formats and colour concepts.
2. Development of dobby designs (part – I) based on interactiveness of weave.
3. Development of dobby designs (part – II) based on interactiveness of weave and colour order.
10. Multi layer design- extra warp/ weft design concepts.
11. Double cloth and stitching concepts.

**Semester II – Allied Paper I – Practical IV - Basic Apparel Production**

I. Draft the paper pattern for the following:
1. Bodice
2. Collars – flat, roll, standing and shirt
3. Pockets- patch, bound and side seam
4. Yokes – simple, with fullness, releasing fullness, partial and midriff
5. Cuffs – basic, two piece, and contoured
6. Sleeves – set in, with bodice and sleeveless

II. Construct the following:
1. Seams – super imposed, lapped, bound and flat.
2. Fullness - darts, pleats, gathers and godets.
3. Collars – flat, roll, standing and shirt.
4. Pockets- patch, bound and side seam.
5. Yokes – simple, with fullness, releasing fullness, partial and midriff.
6. Plackets – one piece, two piece, and tailors.
7. Sleeves and Cuffs – set in, with bodice and sleeveless; cuffs: basic, two piece, and contoured
Semester III - Core Paper VII – Knit Fabric Studies

Unit – I

Unit-II
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 - Needle gating - Description of circular Rib & Interlock knitting machine – Characteristics of basic weft knit structures – Circular knitting GSM and production calculations.

Unit-III
Jacquard knitting - Needle selection techniques – Pattern jack, Pattern wheel, Pattern drum and Computerized jacquard knitting machines – Brief study on specialty weft knit structures – Auto stripe yarn programming – Elastomeric yarn insertion and effects – Knitted fabric faults – Causes and Remedies

Unit-IV
Flat Knitting – Yarn passage diagram of a flat knitting machine – Mechanical type Flat knitting machine - Needle bed assembly – Racking, Carriage and Cam box arrangement - Transfer Stitch and Drop Stitch – Thread diagram, effects and applications – Introduction to computer controlled Flat knitting machine. Concept of fully-fashioned machines and seamless knitwears.

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
Core Paper VIII - Textile Coloration Technology

Unit – I – Singeing, Desizing & Scouring

Unit – II - Bleaching & Mercerization

Unit – III. Dyeing

Unit – IV - Printing

Unit V –Machines & Effluent Treatment

References:
1. Technology of textile processing (vol 1-2), Sevak Publications – V.A.Shenai
2. Dyeing and chemical technology of textile fibres, Charles Griffin & Co – E.R.Trotman
4. The Bleaching and Dyeing of Cotton Material 1983, Weaver’s Service Cent Prayag R.S.,
6. Processing of Mammade Fibres 1975, MIR Publishers, Moscow.- Usenko V,
Core Paper IX - Practical V - Textile Coloration

1. Estimation of water hardness by EDTA method.
2. Combined Scouring & Bleaching of grey cotton knitted fabrics and estimation of loss percentage.
3. Dye the given cotton sample with natural dyes.
4. Dye the given cotton sample with hot brand reactive dyes & H-E dyes.
5. Dye the given Silk material with acid / basic dyes.
6. Dye the given Acrylic material with basic dyes.
7. Dye the given polyester sample using carriers.
9. Develop a batik motif and print on the given sample.
10. Prepare the print paste with pigment colour and print on the given fabric.
11. Print the given fabric with reactive dyes by Resist Style.
12. Prepare the print paste with reactive dyes and print on the given fabric by discharge style

Core Paper X- Practical VI - Knit Fabric Analysis

1. Draft the different cam diagrams used in conventional knitting machine
2. Draw the various cams in advanced knitting machine along with different type of stitches.
3. Determine the knitted fabric GSM using various methods
4. Development of the following samples:
   1. Plain
   2. Pique
   3. Pearl
   4. Lacoste
   5. Twill
   6. Cross miss
   7. Two thread fleece
   8. Mini jacquard design
   9. Auto striper
   10. Rib waffle
   11. Flat back rib
   12. Interlock
   13. Ottoman rib
   14. Electronic Jacquard motif

5. Analyze the given knitted fabric sample for the following particulars:
   A) Course and Wale Density
   B) Loop length
   C) Areal Density (GSM)
   D) Tightness Factor
   E) Technical graph
   F) Cam order
   G) Needle order
Allied Paper III - Practical VII – Pattern Making and Garment Production for Kids wear

I. Draft the pattern, grade and construct the following garments for boys
   1. Bib
   2. Jabla
   3. Knicker
   4. Romper
   5. Sun suit
   6. Night wear

II. Draft the pattern, grade and construct the following garments for girls
   1. A-Line frock
   2. Yoke frock
   3. Pinafore
   4. Skirt and Tops
   5. Night Wear

Skill Based Subject I - Textile & Garment Finishing Technology

Unit – I – Mechanical Finishing

Unit II - Chemical Finishing

Unit III - 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 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 developoment on pigments and dyes .a brief study on nano based products in chemical finishing..

References
   1. NIIR Board of Consultants and Engineers – Natural Dyes and Pigments – Asia Pacific Business Press Delhi.
   3. Prof. K.B.Krishna Kumar – Pollution in Textile Industry – SSm I.TT. Komarapalayam
Semester – IV  Core Paper XI – Apparel Production Management

Unit – 1

Unit – 2

Unit – 3

Unit – 4

Unit – 5
Function, Qualitative And Quantitative Analysis Of Production - Coordinating Departmental Activities - Flow Process And Charts For Garment - Scheduling Calculations - Assigning Operators Optimally - Setting Up Complete Balanced Production Lines To Produce Given Amount Of Garments

References:

1. Technology Of Clothing Manufacture – Carr & Latham
2. Apparel Manufacturers Handbook – Jacob Solinger
3. Introduction To Clothing Manufacture – Gerry Cooklin
4. Introduction To Production Management – A. J. Chuter
5. Personal Management And Industrial Relations – Tripathi
6. Industrial Engineering And Management – OP. Khanna
Core XII – Apparel Quality Assurance

Unit I

Unit II

Unit III

Unit IV

Unit V

References
1. J.E. Booth, Principles of Textile Testing
3. B.P.Saville Physical testing of Textiles
4. P. Angappan & R. Gopalakrishnan, Textile testing
2. Pradeep V Metha & Satish k. Bhardwaj, Managing Quality in Apparel Industries
Core XIII – Apparel Merchandising

Unit I

Unit II
Process flow in apparel industry – Buyer sourcing & communication – Enquiry – Order confirmation – order review and its importance – Planning & programming: Master planning, Scheduling or route card – Factors for route card - programming for yarn, knitting, dyeing, stitching, sampling, accessories – Samples: Meaning & importance – Types of samples – expedition of samples

Unit III
Inspection and its types – Testing – Check points before cutting - Pilot run or trial run and its importance – Approvals - Types of approvals – Shipping marks – Final inspection procedures – Self, Second and Third party inspection - Effective expedition procedures.

Unit IV

Unit V
Advertising- scope, importance, types, merits & demerits; sales promotion, personal selling. Retail management. Export associations – Apparel Export Promotion Council – Journals and magazines related to apparel and textiles –Trade shows and Fairs – Participation in trade shows – Advantages of trade shows and fairs - Apparel & Textile Trade shows and fairs in India.

References
1. Building Buyer Relationships, Daragho' Reilly, Jullian J. Gibbs
2. Inside the Fashion Business, Mc Millan Publishing Co.,
3. Fashion Merchandising, Elian Stone,
5. Apparel Merchandising, Robin Mathew, Book Enclave Publishers, Jaipur
Core-XIV – Practical VIII – Apparel Testing & Quality Assurance

1. Determination of count of yarn using wrap reel & weighing scale.
2. Determination of lea strength & CSP using lea strength tester.
5. Fabric Analysis for determining Weight, CPI, WPI, SL, CL & Yarn Count.
7. Analysis of Blend composition of given fabrics.
10. Determination of Fabric Pilling Using ICI Pill Box
11. Determination of Fabric Bursting Strength.
12. Determination of color fastness of given sample to washing by using launderometer.
13. Determination of color fastness of given sample to rubbing by using crockmeter
14. Determination of color fastness of given sample to perspiration by using perspirometer
15. Determination of dimensional stability % of a given fabric / garment to washing.

Allied Paper IV – Practical IX– Pattern Making & Garment Production for Women’s Wear

I. Draft the pattern, grade and construct the following garments

1. Sari blouse,
2. Choli blouse,
3. Katori blouse
4. Various back neck treatment
5. Salwar and kameez – basic
6. Umbrella tops & churidhars
7. Night wear
8. Ladies suit
9. Skirt blouse – various neck and placket details
10. Skirts – Straight, circular, tired etc.
11. Trousers & Pants

Skill based Subject II – Practical X- Computer Aided Designing

1. Introduction to softwares of Fashion CAD Laboratory.
2. Computer aided embroidery designs.
3. Logo designing.
4. Digital designing of different styles of necklines, sleeves, skirts and collars.
5. Designing different styles of apparel for men.
6. Designing different styles of apparel for women.
7. Designing different styles of apparel for children.
8. Designing different types of accessories.
9. Develop a Tech Pack design for basic garment styles.
Semester V Core XV – Apparel Costing

Unit – I
Principles of costing - requirements of good costing system - cost unit - types of costs - Elements of cost - direct material cost - direct expenses - direct wages - indirect materials - indirect expenses - indirect labour - overheads - prime cost - work cost - cost of production - total cost. INCO terms & its relationship with costing

Unit – II
Budgeting: The budgeting process: Budgeting principles for the apparel industry- Fixed vs.variable budget - Master budget-laminations of budgets- any justification effort - Planned Vs Actual Cost.

Unit III

Unit – IV
Estimation of factory cost for Woven & Knitted - vest, briefs , shorts, t-shirts, pajamas, children’s wear, ladies wear, Woven Shirt, Woven Tops & Bottom. Various factors to be considered in costing for domestic products & international products

Unit – V
Determining Pricing of apparel products: Price elasticity of demand and supply, sample costing-marginal revenue and marginal cost, cost plus pricing methods;, Full cost pricing, conversion cost pricing, differential cost pricing ,variable cost pricing, direct cost pricing derivation of cost of apparel products- woven/knits.

References

Core XVI – Apparel Industrial Engineering

Unit I
Introduction: Definition, purpose, available techniques, Aspects, physical facilities & operating facilities, scientific management, resources productivity. Work Study: Definition, objectives, Techniques, method study, work measurement, Purpose of work study, steps, different phases.

Unit II
Method Study: Definition, Steps, Selection of problems, Collection of facts and consideration about objectives, Recording techniques, Elements of a process analysis, Operation process chart. Different process charts, Critical examination.

Unit III
Work Measurement: Definition, Uses, Techniques, Time Study, Measuring Instruments, Elements in time study, factors, alignment chart, Performance rating methods, observed time & normal time, allowances, Standard time, Work sampling Predetermined Motion Time study, Motion time data for assembly operations, Work factor system, method time measurement.

Unit IV

Unit V

References
1. Industrial Engineering and Management by O. P. Khanna,
2. Textile Mill Management by Ormerod,
3. Engineering Economics by Kleinfeld,
4. Managerial Economics by M.V.Palyee, K.C. Sankaranarayan & J.T. Payyappilly,
5. Essentials of Engineering Economics by Kasner,
6. Management in a Global Perspective by K’oonze & Weihrich.,
7. Quantitative Approach to Management by Levin, Rubin, et. al.,

Core XVII – Practical XI - Pattern Making & Garment Production for Men’s Wear
I. Draft the pattern, grade and construct the following garments
   1. Half sleeve Shirt
   2. Full sleeve shirt
   3. Pleated pant
   4. Zippers pant
   5. Bell bottom
   6. Kalidhar Kurtha
   7. Nehru kurtha
   8. SB coats
   9. Cargos
   10. Sherwani
   11. Hooded Jackets
Core Paper XVIII – 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

References
1. Dr. S.P.Gupta, “Statistical Methods”
Skill Based Subject –III - Practical XII– Textile & Garment Surface Embellishment

1. Development of samples with various printing techniques
   - Block
   - Stencil
   - Screen
   - Tie and Dye
   - Batik
   - Fabric painting

2. Developing fabric texture using various craft techniques
   - Drawn thread
   - Counted thread
   - Crochet

3. Garment Embellishments
   - Smocking
   - Applique
   - Patchwork
   - Quilting
   - Pleats and tucks

4. Embroidery
   - Basic stitches - Includes hand & machine to form different natural & geometric forms such as, border stitches, outline stitches, filling stitches etc
Semester VI - Core Paper XIX International Trade & Documentation

Unit – I

Unit – II

Unit – III

Unit – IV

Unit – V

References:
3. How To Start Export.
4. CBI Booklets – Netherland
5. ECG C Services And Guidelines
6. AEPC Booklets
Core Paper XX Entrepreneurship and Small Business Development

Unit I
Entrepreneurship: Concept and Definitions; Entrepreneurship and Economic Development; Classification and Types of Entrepreneurs; Entrepreneurial Competencies; Factor Affecting Entrepreneurial Growth – Economic, Non-Economic Factors; EDP Programmes; Entrepreneurial Training; Traits/Qualities of an Entrepreneurs; Entrepreneur; Manager Vs. Entrepreneur.

Unit II
Opportunity / Identification and Product Selection: Entrepreneurial Opportunity Search and Identification; Criteria to Select a Product; Conducting Feasibility Studies; Project Finalization; Sources of Information.

Unit III
Small Enterprises and Enterprise Launching Formalities : Definition of Small Scale; Rationale; Objective; Scope; Role of SSI in Economic Development of India; SSI; Registration; NOC from Pollution Board; Machinery and Equipment Selection; Project Report Preparation; Specimen of Project Report; Project Planning and Scheduling using Networking Techniques of PERT / CPM; Methods of Project Appraisal.

Unit IV
Role of Support Institutions and Management of Small Business : Director of Industries; DIC; SIDO; SIDBI; Small Industries Development Corporation (SIDC); SISI; NSIC; NISBUD; State Financial Corporation SIC; Marketing Management; Production Management; Finance Management; Human Resource Management; Export Marketing; Case Studies.

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

References
Core Paper XXI  ERP in Apparel Industry

Unit 1

Unit II
Implementation of ERP: ERP implementation lifecycle, implementation methodology, hidden costs, organizing the implementation, vendors, consultants and users, contracts with vendors, consultants and employees, project management and monitoring

Unit III
The Business Modules: Business modules in an ERP package - finance, manufacturing, human resources, plant maintenance, materials management, quality management, sales and distribution. Significance and advantages of each of the modules

Unit IV
ERP in apparel industry: Production resource planning – principles and management of and demand chain analysis – quick response strategy - material management for „Quick Response“ – „Just in Time (JIT) Technology“; Production planning, costing and merchandising software

Unit V
Computer Applications: Management Information System in garment industry – EDI in garment technology; Use of Computers in Designing, Pattern making, computerized production systems, communicating with vendors and buyers; Telephone, fax, video conferencing, intranet, internet, etc; Export documentation, retailing; Methods of communicating with consumers

References
5. Enterprise Resource Planning, Theory & Practice – Rahul Altekar, V., Printice Hall of India, New Delhi, 2005
Skill Based Subject IV – Project Work & Viva Voce

Students have to undertake project in the areas of Knitting / Weaving/ Processing /Garment Manufacturing industry. A Team consisting of Internal & External Experts will evaluate the Project Report. The Viva-Voce will be conducted.

Elective I – A - Fashion Accessories & Trims

Unit I
Accessory and its importance – the concept – the difference between accessories and trims – specifications – standards pertaining to accessory – types of accessories and trims. sourcing of accessory – single sourcing – multiple sourcing – advantages and disadvantages of sourcing – vendor evaluation – rating – vendor based rationalization

Unit II
Sewing threads and its applications – quality control in sewing thread – types of thread packages – embroidery threads – quality requirements – appliqué works – sequence works, beads, crystals & stones

Unit III

Unit IV

Unit V

References:
1. Technology of clothing manufacture – Carr & Latham
2. Apparel manufacturers handbook – Jacob Solinger
3. Introduction to clothing manufacture – Gerry Cooklin
5. Singer creating Fashion Accessories – Cy. De Cosse Incorporated, IAFL Publications
Elective I – B - Technical Textiles

Unit I Fibres, Yarns and Fabrics

Unit II Medical Textiles

Unit III Defence Textiles

Unit IV Textiles in Construction, Filtration and Sports

Unit V Textiles in Transportation and Composites

Textbooks:

References:
Elective I – C – Surface Ornamentation

Unit I - Introduction to Surface Ornamentation
Importance of surface ornamentation, various methods of surface ornamentation – embroidery and surface ornamentation, general rules for hand and machine embroidery, attachments of sewing machines for embroidery – selection of needle, threads and fabrics for embroidery.

Unit II - Hand Embroidery

Unit III - Machine Embroidery
Eyelet work, Cutwork, Richelieu work, Lace work, drawn thread and fabric work, patch work, Mirror work, Appliqué, Shadowed embroidery, Shade work, Badla work, Bead and Sequins work, Couched thread embroidery, Satin stitch, Vermicelli, Zigzag, Wavy stitch, Granite stitch, Bobbin thread embroidery, Types of presser foot, types of frames, purpose of backing materials.

Unit IV - Computerised Embroidery Machines
Concept of design and development, software used in embroidery machines, process of designing, method and types of stitch application, punching and digitizing. Types of embroidery machines and their working – multi-head computer controlled embroidery machines – special attachments in embroidery machines.

Unit V - Care of Embroidered Apparel
Care and maintenance of embroidered articles – care and maintenance methods for embroidered apparel, pressing embroidery articles, cost estimation, marketing of finished embroidered goods.

Textbooks

References
Elective II – A – Fashion Communication & Retailing

Unit – I
Retailing - Fashion Retailing - Scope of Retailing – Classifications - Retail Store Functions
- Retail Marketing Channels - Retail Strategy Development - Retail Adaptation

Unit - II
Retail Environment - Retailing and Economy - Political and Social Influences - Retailing
Structures - Department Stores, Specialty stores and Discount Retailers - General
Merchandise Chains - Classic Shopping Malls

Unit - III
Design – Store Image - Global Retailing – Retail Competition – E – Retailing – Criteria for
Global Success in Global Retailing – Factors.

Unit - IV
Online Marketing Communication – Strategies of Fashion Communication – Individual and
Group Influences on Consumer Behaviors – Impact of Technology on Fashion Communication

Unit - V
Objectives of Fashion Retail Promotion - Promotion – Mix – Retail Sales Promotion – Publicity
– Public Relation – Personal Selling – Advertising – Advertising Agencies – Fashion Shows
and its types.

References:
Elective II – B – NonWovens & Specialty Textiles

Unit I - Introduction

Unit II - Bonding

Unit III - Finishing

Unit IV - Applications
Nonwovens for hygiene, medicine – safety, cleaning, household products, home textiles - apparels and technical applications. Re-utilization of nonwovens Product Development Concepts and definitions - Product development for garments, decorative fabrics, home textiles and technical textiles. Costing of nonwoven products. Techno economics

Unit V - Narrow Fabrics

Textbooks:
Elective II – C – Visual Merchandising

Unit I
Introduction: Visual merchandising-introduction, concepts and role, importance in store planning and utilizing basic visual merchandising techniques; Role of atmosphere in garment retailing – immediate effects and simulation types, visual merchandisers in garment retailing

Unit II
Store Exterior And Interior: Store exterior – marquee, facade, exterior display, surrounding stores and displays; Store interior – store atmospheric, aesthetic, execution of store layout - selection of display locations, lifts, staircase, elevators, utilization of store space; Display composition: Elements and principles of design, tools and materials

Unit III
Store layout: Factors considered in organizing effective display – balance, rhythm, proportion, texture, harmony and emphasis. Store layout planning- grid, race track, freeform – direction of flow and planogram; Design elements to create mood and impression – colour, angle, motion, simplicity, and repetition

Unit IV
Display: Seasonal and trend decision for point of emphasis – creativity in display; Planning of assortment, theme, ensemble, racks, shelves, bins, etc. and balance of display in a show room. Wall as retail selling tool – types of materials used merchandise display and effective wall planning. Application of colour schemes, colour psychology, creating mood by colour

Unit V

References
5. Berman Barry and Evans Joel R. “Retail Management: A Strategic Approach”
6. Prentice-Hill of India, 2002
7. Uma Sekaran, “Organisational Behaviour
8. Industrial Psychology
Elective III – A – Clothing Science

Unit I - Transmission Characteristics
Air permeability - Heat transmission - Thermal resistance - Light permeability - Moisture transmission-Water permeability, wicking. Radio activity transmission

Unit II - Transformation Characteristics

Unit III - Fabric Handle and Comfort

Unit IV - Design Logic of Apparel Product
Classification of textile products – Components – Material – Specification – Properties - Technology of constituent fibres, yarns, fabrics and apparels

Unit V - Development of Apparels for Specific End Use.
Sports - Casual - Swim - Winter - Summer wear and inner wear. Protective wear - Bullet proof, - UV production - Functional and quality requirements.

References:
Elective III – B – Clothing Care

Unit I

Unit II
Laundry equipment and reagents: Study of laundry equipment and laundry reagents - soaps - detergents - cleaning action of soaps, indigenous cleaning agents - rita nut - shikakai - green gram - bran solution – study of modern and industrial cleaning agents

Unit III

Unit IV
Stain Removal: Principles of laundering - stain removal - various solvents for stain removing blood, tea, rust; oil/grease etc. – different methods of washing - application of friction by hand rubbing - scribing - tumble wash

Unit V
Washing Machine And Care Labels: Study of different types of house hold/industrial washing machines-rotary -swirling - pressure - tumble wash etc; the various systems of care labelling-washing instruction. bleaching instruction-drying instruction-ironing instruction-dry cleaning instruction. placement of labels on garments.

References
2. Denlkar, “Household Textiles and Laundry Work”, Atma Ram and Sons, Delhi, 1993
5. Mary Schenck Woolman, “Clothing: Choice, Care, Cost” Kessinger Publishing,
Elective III – C – Home Textiles

Unit I
Introduction To Textile Furnishings; Definition - Different types of furnishings materials Woven and nonwoven - factors affecting selection of home furnishings.

Unit II
Floor Coverings: Hard floor coverings, resilient floor coverings, soft floor coverings, rugs, cushion and pads - Use and care. Wall Coverings: Types - Use and care.

Unit III
Home Decoration: Draperies - Choice of fabrics - Calculating the amount of material needed - Different types of doors and windows - Their applications - Curtains - Types of curtains. Method of finishing draperies Tucks or pleats. Uses of drapery rods, hooks, tape rings and pins.

Unit IV

Unit V
Kitchen Linens: Definitions - Types of kitchen linens - Dish cloth - Hand towels - Fridge cover - Fridge handle cover - Mixie cover - Grinder cover - Their use and care. Table Linen: Definitions, types - Table linens - Table mats - Table cloth - Hand towels - Selection – Use and care. Recent Trends In Home Furnishings.

Reference