

BHARATHIAR UNIVERSITY COIMBATORE – 641 046
M.Sc. TEXTILES AND APPAREL DESIGN
UNIVERSITY DEPARTMENT
With effect from 2014-2015 onwards
Scheme of Examination – CBCS Pattern

| Subject Code | Study Components | Ins. hrs / week | Exam | | | | Credit |
|---------------------|---|-----------------|----------|-----|-----------|-------|--------|
| | | | Dur Hrs. | CIA | Uni. Exam | Total | |
| Semester I | | | | | | | |
| 13A | PAPER –I Research Methodology & Statistics | 5 | 3 | 25 | 75 | 100 | 4 |
| 13 B | PAPER- II Technical Textiles-I | 5 | 3 | 25 | 75 | 100 | 4 |
| 13 C | PAPER - III Apparel Production Technology | 5 | 3 | 25 | 75 | 100 | 4 |
| 13 P | PRACTICAL -I Sketching and Illustration | 4 | 4 | 40 | 60 | 100 | 4 |
| 13Q | PRACTICAL -II Draping | 4 | 4 | 40 | 60 | 100 | 4 |
| 1EA | ELECTIVE –I Entrepreneurship Development | 5 | 3 | 25 | 75 | 100 | 4 |
| | Supportive I Offered by other Departments | 2 | 3 | 12 | 38 | 50 | 2 |
| Semester II | | | | | | | |
| 23 A | PAPER-V Medical Textiles | 5 | 3 | 25 | 75 | 100 | 4 |
| 23 B | PAPER-VI Apparel Merchandising | 5 | 3 | 25 | 75 | 100 | 4 |
| 23 C | PAPER-VII Technical Textiles-II | 5 | 3 | 25 | 75 | 100 | 4 |
| 23 D | PAPER-VIII Textile Testing | 5 | 3 | 25 | 75 | 100 | 4 |
| 23 P | PRACTICAL -III Textile Testing- Practical | 4 | 4 | 40 | 60 | 100 | 4 |
| 2 EP | ELECTIVE –II CAD in Fashion Designing - Practical | 4 | 4 | 40 | 60 | 100 | 4 |
| | Supportive II Offered by other Departments | 2 | 3 | 12 | 38 | 50 | 2 |
| Semester III | | | | | | | |
| 33 A | PAPER- IX Visual Merchandising | 5 | 3 | 25 | 75 | 100 | 4 |
| 33 B | PAPER-X Advanced Wet processing | 5 | 3 | 25 | 75 | 100 | 4 |
| 33 C | PAPER-XI Apparel Quality Standards and Implementation | 5 | 3 | 25 | 75 | 100 | 4 |
| 33 P | PRACTICAL -IV Advanced Garment Construction | 5 | 4 | 40 | 60 | 100 | 4 |
| 33 Q | PRACTICAL -V Portfolio Presentation | 4 | 4 | 40 | 60 | 100 | 4 |
| 3 EC | ELECTIVE -III Retailing | 4 | 3 | 25 | 75 | 100 | 4 |
| | Supportive III Offered by other Departments | 2 | 3 | 12 | 38 | 50 | 2 |
| Semester IV | | | | | | | |
| 43 A | ELECTIVE -IV CAD in Textile Designing - Practical | 5 | 4 | 40 | 60 | 100 | 4 |
| 47 V | Project work & Viva voce (160 +40) | | | | | 200 | 8 |
| | | | | | | 2250 | 90 |

PAPER -I
RESEARCH METHODOLOGY AND STATISTICS

UNIT -I

Meaning of Research - Types of Research - Significance of Research - Research Process. Defining the Research Problem - Sources, Identification, Selection and Statement, Review of related literature.

UNIT-II

Research Design - Meaning, Types of research designs, Basic Principles of experimental designs. Developing a Research Plan.

Sampling: Census and sample survey, Steps in sampling design, criteria for selecting a sampling procedure, Characteristics of a good sample design, different types of sample designs.

UNIT - III

Methods of Data collection - Observation, Questionnaire, Interview.

Data Processing- Collection, Classification, Tabulation, Graphical Representation and Data Analysis.

UNIT-IV

Research Report – Format of research report, Main body of the report, References and appendices, Style of writing, Typing the Report, Pagination, Tables and Figures, Evaluating the report.

UNIT- V

Meaning and scope of statistics, Role of Statistics in research, measures of central tendency and dispersion,

Correlation- Co-efficient of Correlation and its Interpretation, Rank Correlation, Regression equation, Application of Chi-Square test, ANOVA test.

TEXT BOOKS:

1. Introduction to Research in Education, Donald Ary, Lucy Cheser Jacobs , Wadsworth Pub Co, 8th edition (2009)
2. Research in Education, Best J N, Prentice Hall, Delhi (1979)
3. Research Methodology, C R Kothari, K K Gupta, Published by for New Age International (P)Ltd, New Delhi, (2004)
4. An Introduction to Statistical Methods, S P Gupta, Vikas Publishing House, New Delhi, (2009)
5. Statistical method- An introductory text, J.Medho, New age International publishers, New Delhi (2005)

PAPER -II
TECHNICAL TEXTILES-I

UNIT I

Introduction, Definition and scope of Technical Textiles,
Classification of Technical Textiles- development in fibres-natural fibres, polyamide, polyester, polyolefins, high performance fibres, glass and ceramics, Application of technical textiles

UNIT II

Finishing of Technical Textiles - Introduction, Finishing process,
Mechanical Processes -Calendering, Types of calendar, Types of Finish - Raising, Shearing, Compressive shrinkage, Heat setting,
Chemical processes- durable flame-retardant, water repellent, antistatic, antimicrobial and antifungal finishes,
Coatings- Introduction, Materials used for Coatings, Coating techniques.

UNIT III

Heat and flame protection – thermal behavior of fibers, selection of fibers suitable for thermal and flame protection, Fire Retardant Finishes, Flame Retardant Finishes.

UNIT IV

Water proof fabrics - Introduction, Types of Water Proof Breathable Fabric- densely woven fabrics, membranes- types of Membranes, Methods of Incorporation, Coatings – Microporous coatings, Hydrophilic Coatings. Biomimetics – uses and its application,

UNIT V

Ecotextiles Introduction, fibers used, Types of functions and properties. Characteristics of Ecotech, Application of Ecotextiles.
Sports textiles- Introduction, fibers used, Types, functions and properties, Characteristics and Applications of Sports tech.

TEXT BOOKS:

A R Horrocks and S C Anand, Hand book of Technical textiles, Wood head publishing ltd, England (2000)

REFERENCES:

1. Agro Textiles - A Review, Fibre2Fashion, Ruma Chakrabarti, K Gowri and R.Senthil Kumar, January 17, 2011, URL: <http://www.fibre2fashion.com/industry-article/32/3158/agro-textiles-a-review>.
2. Agro-textiles: Production, Properties & Potential, V .Subramaniam, G R Poongodi and V Veena Sindhuja, The Indian Textile Journal, Vol. 119 Issue 7, pp 73-77 April, 2009.
3. A Hand book of Geotextiles Particularly natural geo textiles from jute and other vegetable fibers, Abdullah, A. B. M., FAO-2000.

PAPER-III

APPAREL PRODUCTION TECHNOLOGY

Unit –I

The nature and scope of apparel manufacturing - types of apparel manufacture problems fundamentals of apparel production. Basic types of apparel production process – major function of apparel manufacturing - engineering functions, management functions- apparel trade association.

Unit-II

Apparel production analysis- quality spreading: tools and equipment for spreading, cutting equipment and quality cutting. Computerized cutting. Marker quality and geometric principle for calculating optimum marking design, principles of stitch, seam and their analysis, seam quality, computerized sewing, pressing and moulding.

Unit-III

Packaging and ware housing: Type of packing and packing materials, quality specification, merchandise packing and shipping packing. Intra transport, ware housing, computerized storage systems

Unit –IV

Production control: Production analysis, distribution of documents and records, types of control forms. Production control charts, reports, production grid principle for assigning partial production, line operators. Organization and personnel - Type of organization, functions, personel classification, personnel orientation, job evaluation, wages incentives, nature of incentives.

Unit –V

Apparel productivity- Apparel productivity in India and Western world, global comparison of apparel productivity. Manufactures and characteristics of low, medium and high productivity manufactures and factors associated with productivity- actions towards higher productivity.

TEXT BOOKS:

1. Apparel manufacturing Hand book, Jacob-Solinger,j Bobbin Blonnelm, Media Corporation – Columbia, (1988)
2. Managing productivity in the apparel industry,Rajesh Bheda, CBP Publisher and distributors, (2003)
3. Carr and Latham's Technology of Clothing Manufacture, by David J. Tyler, fourth edition (2008)
4. The management systems, Pranak. K. R, Guest publications (2002)

PRACTICAL –I SKETCHING AND ILLUSTRATION

Prepare the following Illustrations

1. Different Types of Lines in a Garment: Illustrate the line effects in the same silhouette - any 5 types
2. Creating Checked effects in a garment - one colour and more than one colour
3. Creating Printed effects in a garment - one colour and more than one colour
4. Drawing from Photographs - any 2 garment designs
5. Sketching Designs for the following with any 3 Mediums
 - Fashion Show - with a theme - 2 garments
 - Winter collection - 2 garments
 - Summer Collection -2 garments
 - Traditional / Party Wear -2 garments

PRACTICAL - II DRAPING

UNIT I

Basics of Draping
Basic Bodice – Front
Basic Bodice – Back
Basic Skirt
Dart Variations
Pleats, Dart Tucks and Gathers
Neckline variations
Armhole Variations
Waistline Variations

UNIT II

Skirt-any two
Flared skirt
Gore skirt
Pleated skirt
Hip yoke skirt
The princess waist

UNIT III

Collars - any two
Mandarin Collar
Band Collar
Convertible collar
Peter pan collar
Yokes – any two
Hip yoke, Shirt Yoke, Midriff Yoke

UNIT IV

Create anyone of the following garment for a girl child
Yoke frock
Baba suit - with bib
Middi and middi top
Create anyone of the following garment for a boy child
T-shirt and shorts
Kurta and Pyjama
 $\frac{3}{4}$ pants and Tops

UNIT V

Create anyone of the following for teenagers
Full Gown
Salwar Kameez
Lachaas - Flowing skirt and short tops
Middi and Tops

ELECTIVE-I ENTREPRENEURSHIP DEVELOPMENT

UNIT-I

Definition of Entrepreneur – Functions of entrepreneurship-Types and problems. Recent trends and development in entrepreneurship. Characteristics of an entrepreneur, Entrepreneurship development, Process of Entrepreneurship development.

UNIT-II

Project identification-Classification. Project formulation- Feasibility analysis and report. Selection. Project appraisal – Concepts and Methods - cash flows, Payback period, ROI Methods of minimizing risk.

UNIT-III

Steps for starting a small scale enterprise. Preparation of Project report and Business plan. Procedure and formalities for registration, Types of organization – Sole proprietorship. Partnership. Joint stock company, Selection of types of Organization, Factors influencing the choice of organization.

UNIT-IV

Factors influencing entrepreneurship, Institutional finance to entrepreneurs - Commercial Banks. Other financial Institutions - IDBI, IFCI, ICICI, IRBI, LIC, UTI, SIDC, SIDBI, EXIM Bank, Role of Government in entrepreneurship development.

UNIT-V

Institutional support to entrepreneurs - Need for support - NSIC, SIDO, SSIDC, SISI, SFC, DIC, TCO, TIIC, Kadi and Village Industries Commission, Industrial Estates. Issues of prospects of entrepreneurship in India, Global entrepreneurship, Trends in entrepreneurial enterprises-TQM, WTO, Green products, Research and Innovating etc., Entrepreneurship in Textile Industry, Textile and MSME.

TEXT BOOKS:

1. Entrepreneurship development, C.B. Gupta & N.P. Srinivasan, Sultan Chand & Sons (1992)
2. Entrepreneurship development, S. Khanka, S.Chand limited (2006)

REFERENCES:

Projects -Planning, Analysis, Selection, Implementation & Review – Prasanna Chandra
Published by Tata McGraw-Hill education private limited, 7th edition (2009)

PAPER– V **MEDICAL TEXTILES**

UNIT- 1

Medical textiles- fibres used-commodity and specialty fibres, Classification of Medical Textiles Non implantable Materials-Woundcare. Bandages, Extracorporeal devices, Implantable materials-Sutures, Soft tissue implants, Orthopedic implants, Cardiovascular implants, Healthcare and hygiene products.

UNIT-II

The role of textile structures and biomaterials in health care, types of textiles and biomaterials for medical applications. Trends and challenges for new products and application in medical textiles. Concepts for tissue engineering, scientific strategies in biomaterials and textiles for Nanosystems and smart products.

UNIT –III

Wound-classification, management, wound dressings- various types of wound dressing and their application, ideal wound dressing, wound dressing concept, hi-tech wound dressing, non adherent dressing, odour adsorption dressing , antimicrobial wound dressing. Venous leg ulcers-causes, diagnosis. Compression therapy-classification of compression bandages.

UNIT-IV

The role of reusable medical textiles, advantages of reusable textiles-environmental of the health, physical properties and performance, type of reusable textiles used for medical applications-surgical packs, professional attire, patient apparel, sheet and pillow cases, surgical toweling, under pads.

UNIT-V

Textiles with cosmetic effects-application and release technologies-entrapment, microencapsulation.

Drug Releasing Textiles-Classification, Application

Bio-functional textiles-Types, Application

TEXT BOOKS:

1. A R Morrocks and S C Anand, Hand book of Technical textiles, Wood head publishing ltd England (2000)
2. V.T Bartels, Handbook of Medical Textiles, Wood head Publishing ltd, England(2011)

Paper -VI
APPAREL MERCHANDISING

UNIT I

Merchandising: Introduction, Meaning- Apparel Merchandising – Concepts of Six Rights – Organisation structure of an apparel industry – Classification of Exporters - Rating or Grading of export houses – Classification of buyers – Export merchandising and retail merchandising – Company profile and its contents.

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 – Order sheet and its contents – Packing list and its contents – Document formats: order sheet, packing list, invoice, inspection and testing reports - Assortment and its types

UNIT IV

Types of merchandiser - Functions of a merchandiser – Essential requisites of a good merchandiser – Vendor sourcing, evaluation and development – Global sourcing – Vendor nomination by buyers – Reasons for vendor nomination – Documents recording and maintenance – Claims and reasons for claims - Factory audits – Buyer’s code of conduct.

UNIT V

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.

TEXT BOOKS:

1. Building Buyer Relationships, Daragho' Reilly, Julian Gibas, (1995)
2. Inside the Fashion Business, Macmillan Publishing Company, New York, (1971)
3. Fashion Merchandising, Strong Elian.
4. Apparel merchandising, Jeremy A. Rosenau, David L. Wilson, Atlantic Publishers & Distributors (2010)

REFERENCES:

“Apparel Merchandising – The concept of six rights”, Apparel Views Jan 2009

PAPER– VII **TECHNICAL TEXTILES II**

UNIT – I

Geotextiles- Types, functions and properties, Important characteristics of Geotextiles, Selection of fiber for Geotextiles, Types of Geotextiles, Functions of Geotextiles, Applications of Geotextiles, Future of Geotextiles

UNIT –II

Agro textiles – Need for Agro Textiles, Properties Required, Types of Agrotech products and their application, Fibres used, types, properties and functions

UNIT –III

Textiles for Survival-Short term survival and Long term survival, Fiber Suitable for Protective Clothing protection against chemical, microbiological and radiation hazards.

UNIT IV

Textiles in Transportation - Fibre requirements, Automobile textiles –Fiber, Yarn, fabric structure, composition of Car Seat Covers, Manufacturing Processes, Textiles in Rail, Textiles in Aircraft, Marine Applications. Future prospects for transportation Textiles.

UNIT – V

Smart Textiles- components, classification-active smart, passive smart and very smart textiles.
Intelligent textiles-phase change materials, shape memory polymers, chromic and conductive Materials and its applications in various fields.

TEXT BOOKS:

A R Horrocks and S C Anand, Hand book of Technical textiles, Wood head publishing ltd, England (2000)

REFERENCES:

1. Agro Textiles - A Review, Fibre2Fashion, Ruma Chakrabarti, K Gowri and R.Senthil Kumar, January 17, 2011, URL: <http://www.fibre2fashion.com/industry-article/32/3158/agro-textiles-a-review>.
2. Agro-textiles: Production, Properties & Potential, V .Subramaniam, G R Poongodi and V Veena Sindhuja, The Indian Textile Journal, Vol. 119 Issue 7, pp 73-77 April, 2009.
3. A Hand book of Geotextiles Particularly natural geo textiles from jute and other vegetable fibers, Abdullah, A. B. M., FAO-2000.
4. Hand book of Technical textiles, A R Horrocks and S C Anand, Wood head publishing ltd, England (2000)

PAPER VIII TEXTILE TESTING

UNIT I

Introduction to testing - Terminology of testing - Selection of samples for testing- Standard RH and temperature for testing - Measurement of Moisture regain - Conditioning oven & Shirley Moisture meter

UNIT II

Fiber testing

1. Cotton fiber length - Baer Sorter
2. Fineness - Air flow principle instruments, Sheffield micronaire
3. Maturity - Caustic Soda swelling
4. Strength - Pressley bundle strength tester, Stelometer
5. Determination of trash and lint in cotton - Shirley trash analyzer

Unit III

Yarn Testing

1. Yarn numbering system - Conversion of count from one system to another
2. Instruments for count determination - quadrant balance, Beesley balance
3. Yarn strength testing - Principles of CRT, CRL, CRE – Single yarn strength tester, Lea strength tester
4. Yarn twist - Direction of twist, twist multipliers, Twist testers - tension type
5. Yarn Evenness - Classification of variation, methods of measuring evenness – black board appearance, ASTM Standards, Uster evenness tester, Yarn faults classification, Uster Classimat
6. Yarn hairiness and crimp testing

UNIT IV

Fabric testing

1. Fabric Particulars –length, width, crimp, weight, cover factor
2. Fabric Strength - fabric tensile strength tester, tearing strength tester, hydraulic bursting strength tester
3. Fabric Abrasion - Martindale abrasion tester
4. Fabric Pilling - I C I Pill box tester
5. Fabric drape –Measurement by Drape meter
6. Fabric Stiffness - Shirley stiffness tester
7. Fabric crease resistance and crease recovery- measurement of crease recovery
8. Fabric permeability - Shirley air permeability tester, fabric permeability to water, Bundersmann tester

UNIT V

Colour Fastness in Textiles - Crocking test, perspiration test, sunlight, laundering

Colour Matching - Colour Matching cabinets, Computer Colour Matching

Colour Measurement- Whiteness index, Spectrophotometer.

TEXT BOOKS:

1. Principles of Textile Testing, Booth J E, Hoybooks, London (1970)
2. Technology of textile properties, Marjorie A Taylor, Forbes publications Ltd, London (1972)
3. Textile Testing, Angappan P and Gopalakrishnan R, SSM Institute of textile technology, Komara Palayam
4. Fiber Science, Mishra S P and Kesavan B K, SSM Institute of textile technology, Komara Palayam
5. Objective evaluation of fabrics, Stylos G, John, Wiley & Sons USA

**PRACTICALS III
TEXTILE TESTING**

1. Determination of Fiber length using Baer Sorter Method
2. Determination of Yarn Count and CSP
3. Determination of Single Yarn Strength
4. Determination of Twist of the given yarn
5. Determination of Stiffness of the given Fabric
6. Determination of Abrasion Resistance of the given Fabric
7. Determination of Crease Recovery of the given Fabric
8. Determination of Drape of the given Fabric
9. Determination of Pilling of the given Fabric
10. Determination of Tensile Strength of the given Fabric
11. Determination of Bursting Strength of the given Fabric
12. Determination of Color Fastness of the given Fabric by Crock meter and Laundrometer
13. Determination of Color Fastness of the given Fabric by Perspirometer
14. Determination of Shrinkage of the given Fabric
15. Determination of Tear Strength of the given Fabric

ELECTIVE -II **CAD in Fashion Designing - Practical**

Portfolio Preparation

Prepare 5 portfolios with the following details

1. Name board
2. Client board
3. Mind map
4. Mood board
5. Flat sketches-5 sketches (Front & Back)
6. Color and fabric swatches
7. Accessory
8. Story board

PAPER-IX **VISUAL MERCHANDISING**

UNIT I

INTRODUCTION: Objectives, Visual merchandising and display, purpose of visual merchandising, store image, target customers, seasonal visual merchandise and windows.

ELEMENTS AND PRINCIPLES OF DESIGN IN VISUAL MERCHANDISE: Introduction, objective, design elements- color, texture, line; Principles - balance, emphasis, proportion, rhythm, repetition

UNIT II

Strategic Planning-Analysis of target audience. Segmentation of market, Analysis of buying motives & brand preferences. Understanding Marketing & sales Management.

Basic Principles-Windows designs, showroom, boutique display. colour theory and harmony & application. Music and its powers. Uses & application of mannequins.

UNIT – III

DISPLAY AND DISPLAY SETTINGS: Types of display, one – item, line of goods, related merchandise, assortment, promotional vs institutional; Type of display settings - realistic, environmental, semi-realistic, fantasy, abstract.

STORE AND WINDOW SETTINGS: Exterior of the store, signs, marquees, outdoor lightning, banners, planters, awning; Window in store front - the angled front, the arcade front, the corner, display, closed back, open-back, island, shadow boxes, elevated, deep, tail.

Music & Lighting- Selection of music. Advantages & disadvantages of using music, understanding lighting patterns. Role of lighting in visual merchandising, Colours and types of lightings.

UNIT IV

MANNEQUIN: Types of mannequins - realistic, semi realistic, abstract, semi abstract, headless; dressing up of mannequin.

ATTENTION DRAWING DEVICES: attention drawing devices, color, lighting, line and composition. Scale, contrast, repetition, humor, mirrors, nostalgia, motion, surprise and shock, props.

MERCHANDISE DISPLAY: Introduction, objectives, planning a display, visual merchandiser in store promotion, scheduling the promotion.

UNIT V

Visual Merchandising- Approaching clients. Developing according to client requirements. Handling client objections. Developing them and idea for client presentation. Finalization of Display- Motive & Marketing consideration for every merchandise display. Estimation & finalizations of the contract. Assignments& Evaluation. Planning & inventory control system.

TEXT BOOKS:

1. Gini Stephen Frings, “Fashion Concept to Consumer” – Prentice Hall, New Jersey, 2004.
2. Diamond,J, “Contemporary visual merchandising and environmental design”, fourth edition, Prentice Hall, 2006.

REFERENCES

1. Martin M.Pegler,”Visual Merchandising and Display”, fifth edition, Berg Publishers, UK, 2006.
2. Laine stone, Jean Samples, “Fashion Merchandising – An Introduction”, Mc Graw Hill Book Co, 2001.
3. Diamond,J, “Fashion Retailing - A Multi – Channel Approach”, Second Edition, Prentice Hall, New Jersey, 2000.
4. Fashion Merchandising & Information,Johnwiley & Sons, PRISCO, Auctralia.Ltd (1986)
5. Fashion Merchandising, Mery.D. Troxell , Elaini StoreGregg division, Mc Grow-Hill (1981)
6. Fashion Merchandising Introduction Evelyn Grace,—Prentice-Hall (1978)
7. Visual Merchandising, Hearst books, ST publications incorporated (1997)
8. The business of fashion inside outside Kitty Dickerson

PAPER- X
ADVANCED WET PROCESSING

UNIT-I

The Principle and methods of dyeing, various classes of dyes: Direct, Acid, Basic, Vat Sulphur, Reactive, Azoic, Aniline black. Dyeing machines: Jigger, Winch, Soft flow machines, padding mangles.

UNIT-II

Bio-Processing in Textiles: Use of enzymes for various textiles processing like desizing, scouring, bleaching, softening, washing.

UNIT-III

Synthetic dyes versus Natural dyes, Advantages of natural dyes, Health and safety aspects of natural dyes, and methods of extraction of natural dyes: Soxhlet, supercritical fluid, Subcritical water extraction and Sonicator methods, testing for eco friendliness in dyed textiles.

UNIT-IV

Finishing-Objective of finishing, classification-Finishing equipments-finishing processes-Mechanical-Calendering, Compacting, Embossing, Sueding, Raising or Napping, Wool Glazing, Shearing, Stabilization, Decating, Steaming and Heat setting, Sanforizing or Pre-Shrinking, Fulling. Chemical-Softening, Elastomeric Finishes, Crease Resistant or Crease Proofing, Soil Release Finishes, Flame Retardant Treatment, Peach finish, Anti Pilling, Stain and Soil Resistant Finishes, oil and Water Proofing, Water-Repellent Finishes, Anti-Static Finish, Anti Mildew, Mothproofing Finishes, Antibacterial Finish, Plasma finish-Enzyme Finishing-Bio polishing.

UNIT-V

Textile effluents and its management, Textile effluent problem; Techniques for effluent treatment-Physical chemical and biological methods; micro, ultra & nano filtration enzymatic decolourization, colour removal technologies-Continuous ozonation process, UV Light and hydrogen peroxide treatment, anaerobic-aerobic treatment processes.

TEXT BOOKS:

1. Trotman E.R., “Dyeing and Chemical Technology of Textile Fibres”, Charles Griffin and Co Ltd., London , 1990.
2. Madaras G.W, Parish G.J and Shore J., “Batchwise Dyeing of Woven Cellulosic Fabrics – A Practical Guide”, Society of Dyers and Colourists, Bradford, 1993. ISBN : 0901956554.
3. Perkins.W.S, “Textile Colouration and Finishing”, Carolina Academic Press, U.K, 1996, ISBN:089089855.

REFERENCES

1. Shenai.V.A, “Technology of Dyeing”, Sevak publications, Mumbai, 1995.
2. Miles.L.W.C, “Textile Printing”, SDC, England, 1994, ISBN: 0901956570.
3. Manivasakam, N., “ Treatment of Textile Processing Effluents”, Sakthi Publication, Coimbatore, 1995.

4. Chakraborty.M, Amit Dayal and Gulrajani, M.L., “Processing of Cotton Knitted fabrics”, Northern India Textile Research Association, Ghaziabad, 1998
5. Kanwar Varinder Pal Singh, “Introduction to Textiles”, Kalyani Publishing, Ludhiana, 2004, ISBN: 8127217662.
6. Parmar M.S., Satsangi S.S and Jai Prakash, “Denim – A Fabric for All”, Northern India Textile Research Association, Ghaziabad, 1996.

PAPER- XI

APPAREL QUALITY STANDARDS AND IMPLEMENTATION

UNIT I

Introduction to quality standards, importance, benefits, levels and sources of quality, standards, British standards & ISO Standards for the Apparel Industry, ISO 9000 & 14000 standards, Total quality Management systems, Co Labeling &OKO Tex 100 standards.

UNIT II

Sensitizing dye stuffs, allergic dyes, carcinogenic amines, red-listed as per Eco specifications, Eco management of textile and apparel industry, Global Scenario, Eco mark &Environment friendly textiles.

Garment defects.- cutting defects, sewing def ects, assembly defects, pressing, finishing and packaging defects .

UNIT III

Eco specification restrictions in apparels and textiles - dry cleaning using ozone. Depleting chemicals, PH values, formaldehyde contents, heavy metal contents, Pesticides and herbicides, azo dye stuffs, Nickel,. Pentachlorol phenols, color fastness, brighteners, softening agents etc.,

UNIT IV

Starting a quality control program, implementation of quality systems in production line, product specifications and analysis using analytical tools. Quality management through Inspection, testing and sewing quality tools

UNIT V

Quality costs and customer returns; inspection procedures, AQL-Raw materials, in process, and quality control in final Inspection

REFERENCES

1. Managing quality in apparel industry, Pradeep V Mehta, NIFT Publications(1985)
2. An Introduction to quality control for the apparel industry, Mehta P V, Marcel Dekker(1982)
3. Physical testing and quality control, Vo123, No. 1/2/3 textile Institute (1993)
4. Textile Testing, John Skinkle, Brooklyn Publication, New York(1947)
5. Textile Testing, P. Angappan & Gopala Krishnan, JK. Publications

PRACTICAL IV ADVANCED GARMENT CONSTRUCTION

1. Design and construct Children's garment of recent fashion
 2. Design and construct Women's garment of recent fashion
 3. Design and construct Men's garment of recent fashion
 4. Design and construct garment for a Party wear
 5. Design and construct garment for a Fashion Show based on a theme
- Method of Pattern Making* - Draping or Drafting method

PRACTICAL V PORTFOLIO PRESENTATION

Portfolio Presentation - With theme Board, Mood Board, Flat Sketches, Colour Board, Story Board, Customer Profile, Accessory Board for men's and women's Garment - 5 different Themes.

ELECTIVE –III RETAILING

Unit –I

Retail Merchandising- The Marketing Channel, Retail organization structures, retail merchandising , Retailing Formats- Department stores specialty stores ,har d – to – classify stores, Depth and breadth, discounting , Other Retailing Formats – non store retailers.

Unit –II

Retail Locations – Unplanned shopping districts, planned shopping centers, the mix of stores in a shopping center. Retail growth and expansion – Retail ownership. International Retailing, Retailing Advertising.

Unit –III

Brands and private labels- branded Merchandising ,Licensing, Private Labels, Private Labels as Brands. Merchandise Resources – Manufacturers , Merchant Wholesale – Distributors. Trade Shows.

Unit –IV

The financial aspects of Merchandising – Measures of Productivity – productivity , turnover, Stock- to – sales Ratio , sales per Square foot, Space Management. Retail pricing- Markup. Markdowns , Residue merchandise, maintain Markup. Tactical price changes, Managing Markdowns , Promotional Pricing , Deceptive pricing, Resale price Maintenance.

Unit –V

Store Layout and Merchandise Presentation – Store Planning and Design, Visual Merchandising, Store Layout, Fixtures, merchandise Presentation , signs

REFERENCES

Merchandise Buying and Management , John DonnellanFairchild Publications , New York 1996
Fashion Retailing: A Multi-Channel Approach ,Ellen Diamond, Prentice Hall
2nd Edition ,2005

Elective –IV

CAD IN TEXTILE DESIGNING – Practical

1. Create textile designs using
 - a) Dobby,
 - b) Jacquard – Jac draw
 - c) Jacquard –Jac Weave
 - d) Prints
 - e) 3-D Studio-Texture mapping