

**BHARATHIAR UNIVERSITY – COIMBATORE – 641046.**  
**B.Sc APPAREL FASHION DESIGN DEGREE COURSE**  
(For the students admitted during the academic year 2014-2015 Batch onwards)  
**Scheme of Examination**

Part	Study Components	Course Title	Hours per week	Dur. Hrs	Examination			Credit
					CIA	Marks	Total Marks	
<b>Semester – I</b>								
I	Language I		6	3	25	75	100	4
II	English I		6	3	25	75	100	4
III	Core I Design Concepts and methodology		4	3	25	75	100	3
	Core II Fundamentals of Apparel Designing		4	3	25	75	100	3
	Core III Practical I Fashion Sketching		4	3	20	30	50	3
	Allied Paper I Textile Fibers and Yarns		4	3	25	75	100	4
IV	Environmental Studies #		2	3	-	50	50	2
<b>Semester – II</b>								
I	Language II		6	3	25	75	100	4
II	English II		6	3	25	75	100	4
III	Core IV History of Costumes		4	3	25	75	100	3
	Core V Practical II Pattern Making & Grading - I		4	3	20	55	75	3
	Core VI Practical III Fashion Illustration		4	3	20	30	50	3
	Allied II Computer Applications Practical		4	3	25	75	100	4
IV	Value Education – Human Rights #		2	3	-	50	50	2

<b>Semester III</b>								
III	Core VII Garment Manufacturing Techniques		4	3	25	75	100	3
	Core VIII Practical IV Pattern Making & Grading - II		6	3	20	55	75	3
	Core IX Practical V Sewing Techniques		6	3	20	30	50	3
	Core X Practical VI Computer Application in Fashion I		6	3	20	30	50	3
	Allied : III Fabric coloring and finishing techniques		3	3	25	75	100	4
IV	Skill based Subject 1 – Fabric Manufacturing Technology		3	3	20	55	75	3
	Tamil @ / Advanced Tamil# (OR) Non-major elective - I (Yoga for Human Excellence)# / Women's Rights#		2	3	50		50	2

	<b>Semester IV</b>						
III	Core XI Fashion Business	4	3	25	75	100	3
	Core XII Fashion Accessories & Trims	4	3	25	75	100	3
	Core XIII Printing Techniques	4	3	25	75	100	3
	Core XIV Practical VII Computer Application In Fashion –II	4	3	20	30	50	3
	Core XV Practical VIII Garment Construction – Knits	5	4	20	55	75	3
	Allied : IV Textile Testing & Quality Management	4	3	25	75	100	4
IV	Skill based Subject 2 - Fabric Analysis & Designing Practical	3	4	20	55	75	3
	Tamil @ /Advanced Tamil # (OR) Non-major elective -II (General Awareness #)	2	3	50		50	2
	<b>Semester V</b>						
III	Core XVI Functional Apparels	5	3	25	75	100	3
	Core XVII Practical IX Garment Construction – Woven	6	4	20	55	75	3
	Core XVIII Practical X Surface Ornamentation	4	3	20	30	50	3
	Core XIX Practical XI Draping Techniques	4	3	20	30	50	3
	Core XX Practical XII Coloring Techniques	4	3	20	30	50	3
	Elective –I	4	3	25	75	100	4
IV	Skill based Subject 3 – Textile Testing Practical	3	3	20	55	75	3
	<b>Semester VI</b>						
III	Core XXI Garment Pricing and Trade documentation	4	3	25	75	100	4
	Core XXII Apparel Production management	4	3	25	75	100	4
	Core XXIII Practical XIII Art Portfolio	4	3	20	30	50	3
	Core XXIV Practical XIV Design Collection Project & Viva voce	5	3	25	75	100	3
	Elective –II	4	3	25	75	100	4
	Elective –III	4	3	25	75	100	4
IV	Skill based Subject 4 - Computer Aided Pattern Designing Practical	5	3	20	55	75	3
V	Extension Activities @	-	-	50	-	50	2
	Total					3500	140

<b>List of Elective papers (Colleges can choose any one of the paper as electives)</b>		
Elective – I	<b>A</b>	Craft documentation (P)
	<b>B</b>	Advanced Illustration (P)
	<b>C</b>	Care and Maintenance of Textiles
Elective – II	<b>A</b>	Fashion Ethnography (P)
	<b>B</b>	Human Values and Professional Ethics
	<b>C</b>	Entrepreneurial Development
Elective - III	<b>A</b>	Fashion Photography (P)
	<b>B</b>	Fashion Presentation and Choreography
	<b>C</b>	Computer Aided Textile Designing (P)

## **SEMESTER I CORE PAPER I - DESIGN CONCEPTS AND METHODOLOGY**

### **UNIT I**

#### **INTRODUCTION**

Introduction to fashion - Fashion terminologies. Types of Design- basic, structural and decorative. Elements of design - form, shape, space, line, color and texture. Principles of design-balance-formal, informal and radial, proportion, emphasis, rhythm and harmony

### **UNIT II**

#### **LINES & SILHOUETTES**

Various types of lines, its functions and its characteristics. Silhouettes in clothing, optical illusion created by various combinations of lines

### **UNIT III**

#### **COLOR THEORY**

Color wheel - primary, secondary and tertiary colors. Color scheme - Hue, Value and chroma, tint, tone, shade. Color harmony, Seasonal colors, Color psychology

### **UNIT IV**

#### **COLORING MEDIUM**

Introduction to different coloring medium and its applications. Design any art work using pencils, ink, charcoal, crayons, water color & poster color - Render textile surface using any color medium

### **UNIT V**

#### **FASHION DETAILS**

Different types of Neck line, Collar, Sleeve, Cuff, Waistline, Bow, Tie, Placket, Pocket, Skirt, Trouser, Ruffle, cowl, shirring, smoking, quilting, yoke, draping, gather, pleat, appliqué, frill and flounce.

### **REFERENCES**

1. Bride M. Whelan, Colour Harmony – A Guide To Creative Colour Combinations, Rockport Publishers, USA (1997).
2. Sumathi.G.J, Elements of Fashion and Apparel Design, New Age International (P) Ltd, New Delhi (2002).
3. Jenny Davis, A Complete Guide to Fashion Designing, Bharat Bhushan Abhishek Publication (2006).
4. Kathryn Mckelvey & Janine Munslow, Fashion Design, Blackwell Publication (2003).
5. Patric John Ireland, Encyclopedia of Fashion Details, Prentice Hall, NJ (1987).

## **SEMESTER I CORE PAPER II - FUNDAMENTALS OF APPAREL DESIGNING**

### **UNIT I**

#### **ANATOMY OF HUMAN FIGURES**

Proportion and disproportion in human figures - Normal figures measurements and its importance - Sequence of taking body measurements for various age group and gender-recording of measurements - standardization of body measurements - Standard body measurements for children, ladies and gents-measurement and size specification for various genders and age groups for European countries: America, Canada, Japan, Australia, eastern countries.

### **UNIT II**

#### **PATTERN MAKING**

Concept of pattern making - Different types of pattern making - Principles for pattern drafting – Reduced scale pattern making - Draft 1/4<sup>th</sup> pattern for basic bodice, sleeve, collar, cuff and skirt – Concept of pattern grading – Types of grading

### **UNIT III**

#### **PATTERN VARIATION I – KNITS & WOVEN**

Draft 1/4<sup>th</sup> pattern for sleeve variations – half sleeve, puff sleeve, cap sleeve, petal sleeve, leg-o-mutton sleeve, and bishop sleeve. Draft 1/4<sup>th</sup> pattern for collar variations – Shirt collar, convertible collar, stand collar, peter-pan collar, shawl collar, tie collar and roll collar

### **UNIT IV**

#### **PATTERN VARIATION II – KNITS & WOVEN**

Draft 1/4<sup>th</sup> pattern for cuff variations – Basic cuff, French cuff and continuous cuff. Draft 1/4<sup>th</sup> pattern for neck variations – round, V neck, jewel, square, scallop, key hole, sweat heart, scoop and asymmetrical neck line. Draft 1/4<sup>th</sup> pattern for skirt variations – A line, Flared, Gored, pegged, yoke, umbrella and wrap around skirt

### **UNIT V**

#### **PATTERN MANIPULATION**

Introduction to fitting – principles of a good fit – fitting techniques. Introduction to fullness – method of introducing fullness in garments - gathers, pleats, flares, flounces, smocking tucks & darts, methods of controlling fullness. Dart manipulation and its different types – manipulation of darts into classic and princess style line.

### **REFERENCE**

1. Mary Mathews 'Practical clothing construction' Thomson & Co. Madras,1974 Cock V.
2. 'Dress making simplified' Blackwell science,1987

## SEMESTER I CORE PAPER III PRACTICAL I – FASHION SKETCHING

### **LIST OF EXPERIMENTS**

1. Object drawing and perspective drawing
2. Various shading methods
3. Techniques of Enlarging & Reducing the motifs
4. Art of creating textures.
5. Drawing heads, hands, arms, legs, and feet in different angles.
6. Proportion study – 7½ head & 8½ head theory – stick, block, & flesh figures for men & women.
7. Various types of hair styling and application of cosmetics.
8. Practice to draw the accessories.

Note: The above practice will be carried out using different drawing and sketching medium such as pencils, ink, charcoal, brushes, crayons, water color & poster color.

### **REFERENCES:**

1. Patric John Ireland, Fashion Design Illustration – Women, B.T.Batsfort Ltd, London (1993).
2. Patric John Ireland, Fashion Design Illustration – Children, B.T.Batsfort Ltd, London (1995).
3. Patric John Ireland, Fashion Design Drawing and Presentation, B.T.Batsfort Ltd, London (1982).
4. Patric John Ireland, Fashion Design Illustration – Men, B.T.Batsfort Ltd, London (1996).
5. Wolfgang.H.Hageney, Checks And Stripes – Classic Variations in Colour Vol.I, Belveden (1997).
6. Bina Abling, Fashion Sketch Book, Fair child Publication, New York (1987).
7. Geral Dine Christy, Step by Step Art School – Pastels, Hamlyn (1992).
8. Patricia Monahan, Step by Step Art School – Water Colour
9. Angela Gair, Step by Step Art School – Drawing, Letts of London (1994).
9. Patricia Seligman, Step by Step Art School – Oils, Hamlyn (1992).
10. Rita Gersten, Innovative Fashion Sketching, Rita Gersten Innovative Enterprises (1984).

## **SEMESTER I ALLIED PAPER I – TEXTILE FIBERS AND YARNS**

### **UNIT I**

#### **TEXTILE FIBERS I**

Classification – General properties – Identification of textile Fibers - Polymer – Terminologies – Polymerization types - Types of polymers – Methods of filament spinning - Drawing and effects.

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

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

### **UNIT II**

#### **TEXTILE FIBERS II**

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

Silk: Producing countries – Sericulture – Stiffling & Reeling – Throwing – Degumming – Weighting. Fiber morphology – Chemical structure & composition – Properties - End uses. Meaning of spun silk – Comparison of spun & filature silk. Brief study on wild silk varieties.

### **UNIT III**

#### **SEMI/SYNTHETIC FIBERS**

Rayon - Regenerated and modified cellulose -Viscose rayon process flow -

HWM Fibers - Comparison of properties between viscose and HWM rayons –End uses –Bamboo Fiber- Process flow - Properties - End uses.

Synthetic Fibers: 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 Fibers. Individual Fiber 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**

#### **YARN**

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**

### **BLENDED YARN**

Types of blending – Benefits of blending – Prominent blended yarns of fashion apparel market - Double yarn - Properties –Uses. Classification of Sewing threads & applications – Thread prerequisites – Essential properties - Production process of spun Polyester sewing thread & core spun sewing thread – Advantages. Yarn numbering systems.

### **REFERENCES:**

1. Shenai. V.A. Textile Fibers: Technology of Textile Processing, Vol.I, Sevak Publications, Mumbai (1996).
2. Wynne, A, The Motivate Series – Textiles, Macmillan Education Ltd., London (1997).
3. Mishra, S.P. A Text Book of Fiber Science and Technology, New Age International (P) Ltd Publishers, New Delhi (2000).
3. Gordon Cook, J, Hand Book of Textile Fibers – Vol. I & Vol. II. Wood Head Publishing Ltd., Cambridge, England (1984).
5. Carr, C.M, Chemistry of the Textile Industry.
6. Phyllis G.Torton, Understanding Textiles.
7. Marjory L.Joseph, Essentials of Textiles.
8. Joseph J.Pizzuto, Fabric Science.
9. Goswami.J.C., Martindale.J.G, Scardino.K.L., Textile Yarns, Technology, Structure & Applications, Mahajan Book Distributors, Ahmedabad (1995).
10. Moncrieff,W, Man-made Fibers, Butterworth Scientific (1975).
11. Identification of Textile Materials, The Textile Institute, Manchester.
12. Eric Oxtoby, Spun Yarn Technology
13. A.Venkatasubramaniam, Spun Yarn Technology Vol. I – III, Saravana Publications, Madurai (1993).
14. Sadov.F, Korchagin.M, Matesky.A, Chemical Technology of Fibrous Material.
15. K.P.Chellamani, Yarns and Technical Textiles.
16. Bernard P. Corbman, Textiles – Fiber to Fabric.
17. Debbie Ann Gioello, Understanding Fabrics: From Fiber to Finished Cloth, Fairchild Publications, New York (2002).

## **SEMESTER II CORE PAPER IV – HISTORY OF COSTUMES**

### **UNIT – I**

#### **INDIAN COSTUMES**

Pre Vedic Era, Vedic & Post Vedic Era: Mauryan, Satvahana, Kushan Dynasty, Gupta Dynasty - Mughal Period - Costumes of the British Raj. Traditional Costumes & Textiles of India

### **UNIT – II**

#### **WESTERN COSTUMES**

Origin Of Costume - Development Of Costume - Beginning Of Civilization – Ancient Greek Costumes - Ancient Roman Costumes - Ancient Egyptian Costumes

### **UNIT – III**

#### **EARLY CENTURY COSTUMES**

16<sup>th</sup> Century: Costumes for Men – Women - Kids – Accessories. 17<sup>th</sup> Century: Costumes for Men – Women - Kids – Accessories. 18<sup>th</sup> Century: Costumes for Men – Women - Kids - Accessories.

#### **UNIT – IV**

#### **COSTUMES FROM FRENCH REVOLUTION TO EARLY 20TH CENTURY**

Revolutionary Period (1789 –1815)- The Monarchy (1789 –1792) - The Republic (1792-1795) - The Directory Period (1795–1799) - Consulate And Empire (1799–1815) - Costumes during 19<sup>th</sup> century - early 20<sup>th</sup> century

#### **UNIT – V**

#### **CONTEMPORARY FASHION**

Costumes for Men - Women - Kids from early 20th Century to Contemporary Fashion

#### **REFERENCE:**

1. History of Costumes in the West - Francois Boucher
2. An Illustrated History of Fashion (500 Years of Fashion Illustration) – Alice Mackrell
3. History of 20th Century Fashion – Elizabeth Ewing [Revised By -Alice Macrell]
4. The Illustrated Encyclopedia of Costume and Fashion – Jack Cassin – Scott
5. Evolution of Fashion
6. Guide to Historic Costumes
7. History of Indian Costumes
8. Ancient Indian Costumes

### **SEMESTER II CORE PAPER V PRACTICAL II - PATTERN MAKING AND GRADING – I**

- I. Draft the pattern for given men's style/sample and also grade them according to the specification.
  1. Basic T shirt with front patch pocket
  2. Raglan T shirt with full sleeve
  3. Polo T shirt with short sleeve
  4. Bermuda with side pocket
  5. Hooded T shirt with front pocket
  6. Vest RN, RNS
  7. Briefs, Trunks
  8. Track pant
- II. Draft the pattern for given women's style/sample and also grade them according to the specification.
  1. High neck T shirt with full sleeve
  2. V neck T shirt with half sleeve
  3. Kimono sleeve T shirt
  4. Legging
  5. Skirt
  6. Night pajama set
- III. Draft the pattern for given kids style/sample and also grade them according to the specification.



1. Sleeveless jhabla
2. Overall with full sleeve
3. Bloomer

## SEMESTER II CORE PAPER VI PRACTICAL III – FASHION ILLUSTRATION

### LIST OF EXPERIMENTS

1. Draw stick, geometric, & flesh figures for men & women using 9 head theory.
2. Draw stick, geometric, & flesh figures for men & women using 10 head theory.
3. Practice children illustration for different age group.
4. Develop different poses of man, woman and children from the pictures in magazine.
5. Practice to draw landscape, architecture & interiors.
6. Sketch “Still Life”.
7. Design various garment styles for men, women and kids.
  - i) Formal wear
  - ii) Casual wear
  - iii) Party wear
  - iv) Seasonal wear
  - v) Sportswear
8. Temple/Monument/Archeological study.
9. Sketch a logo for your own boutique.

### REFERENCES:

1. Patric John Ireland, Fashion Design Illustration – Women, B.T. Batsfort Ltd, London (1996).
2. Patric John Ireland, Fashion Design Illustration – Children, B.T. Batsfort Ltd, London (1995).
3. Patric John Ireland, Fashion Design Drawing and Presentation, B.T Batsfort Ltd, London (1982).
4. Patric John Ireland, Fashion Design Illustration – Men, B.T. Batsfort Ltd, London (1996).
5. Kathryn Mckelvey & Janine Munslow, Illustrating Fashion, Blackwell Publication (2005).
6. Kathryn Mckelvey & Janine Munslow, Fashion Source Book, Blackwell Publication (2006).
7. Bina Abling, Fashion Sketch Book, Fair Child Publication, New York (1987).
8. Caroline Tatham and Julian Seaman, Fashion Design Drawing Course, James & Hudson Publication (2003).
9. Julian Seaman, Fashion Illustration Basic Techniques, B.T. Batsfort Ltd, London (1996).
10. Wolfgang Hageney, Tartans, Belvedere, Milan, Italy (1987).

## SEMESTER II ALLIED PAPER II – COMPUTER APPLICATIONS PRACTICAL

1. Prepare your class time table using table option in MS Word.
2. Prepare an interview call letter and send using mail merge in MS Word.
3. Design the given advertisement using in MS word. Apply various fonts and pictures.
4. Create line, bar and pie charts for the given data using MS Excel.
5. 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.
6. 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

Experience	HRA	DA	LIC	PF
5 Years & Above	30%	15%	3%	700
Less than 5 Years	15%	5%	3%	700

7. Prepare a power point presentation about a product. Apply animation and slide timing.
8. Prepare a power point presentation about an organization with organization chart. Apply different slide layouts.
9. Search the given topic using any search engine and prepare a report using MS word.
10. Create an EMail ID and use various mail features.

## **SEMESTER III CORE PAPER VII – GARMENT MANUFACTURING TECHNIQUES**

### **UNIT I**

#### **CUTTING ROOM PLANNING**

Introduction to garment industry - Process sequence involved in garment manufacturing – Spec reading – Bifurcating garment components for various styles – Concept of marker planning – Types of marker plan – Marker efficiency - Concept of fabric spreading – Types of spreading. Lay planning – types of lay – forms of lay – deriving cut order plan

### **UNIT II**

#### **CUTTING AND SEWING MACHINERIES**

Concept of cutting – types of cutting machines – its applications - advantage and disadvantage. Introduction to sewing machines – Classification of sewing machine and its applications – parts of sewing machine - machine bed and its types – feed mechanism and its types. Sewing needle – different types of needle – needle size

### **UNIT III**

#### **STITCHES AND SEAMS**

Basic principles of stitch formation – classification of stitches based on federal standards – detailed study on application of all stitches - comparison of stitches - Thread calculation for different stitches. Detailed study on seam classification as per federal standards –seam finishes - sewing thread - its types and ticket numbering

### **UNIT IV**

#### **SEWING GUIDES AND GARMENT FINISHING MACHINERIES**

Study on different sewing guides – Study on finishing machines - Fusing machine – Sucking machine – Pressing machine – Braiding machine – Collar turning machine - packing machine – packing methods – packing material

### **UNIT V**

#### **SEWING ACCESSORIES AND ASSEMBLY DEFECTS**

Brief study on lining – interlining – buttons – zippers – labels – Lace – Elastic – Braid - quality parameters in sewing accessories - detailed study on sewing and assembly defects.

### **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
5. Sultan Chand& sons”Management Accounting”New Delhi,2nd edition 1998
6. A.J. Chuter., " Introduction to Clothing Production Management ", Blackwell Scientific Publications
7. David J. Tyler., " Materials Management in Clothing Production ", Blackwell Scientific Publications

8. Professional Books.
9. Jacob Solinger., " Apparel Manufacturing Handbook ", VanNostrand Reinhold Company (1980).
10. Bethel , Tann , Atwater and Rung., " Production Control ", McGraw Hill Book Co., New York, (1948).
11. Biegel , John. E., " Production Control ", A Quantitative Approach " Prentice Hall Inc., ( 1971) 2nd edition.
12. Apple. J. M., " Plant Layout and Materials Handling ", The Ronald Press Co., New York (1950).
13. Immer , John. R., " Layout Planning Techniques ", McGraw Hill, New York, (1950).
14. Barnes, Ralph M., " Motion and Time Study ", John Wiley and Sons., New York., (1958) 4 th edition

### **SEMESTER III CORE PAPER VIII PRACTICAL IV PATTERN MAKING AND GRADING – II**

- I. Draft and construct the pattern for given men's style/sample and also grade them according to the specification.
  1. Formal shirt full sleeve
  2. Formal trouser with side and welt pocket
  3. Boxer short side and patch pocket
  4. Men's kurta with stand collar & side kurta pocket
  5. Night robe with patch pocket
  6. Baggy pant with pouch pocket
  
- II. Draft and construct the pattern for given women's style/sample and also grade them according to the specification.
  1. Simple salwar
  2. Patiala salwar
  3. Simple kameez with side slit
  4. 8 part umbrella kameez with puff sleeve
  5. Sari blouse
  6. Petticoat
  7. Nighty with yoke & butterfly sleeve
  8. Apron
  
- III. Draft and construct the pattern for given kids style/sample and also grade them according to the specification.
  1. Bib
  2. Chemise
  3. Gathered frock with cap sleeve
  4. Pedal pusher
  5. Umbrella frock

### **SEMESTER III CORE PAPER IX PRACTICAL V – SEWING TECHNIQUES**

- I. Safety practices while working on sewing machine. Care and maintenance on sewing machine.
  
- II. Industrial sewing machine practices
  1. Threading practice - SNLS

2. Pedal control exercise - SNLS
3. Straight line exercise - SNLS
4. Broken line exercise - SNLS
5. Parallel line exercise - SNLS
6. Corner handling exercise - SNLS
7. Wave pattern exercise – SNLS
8. SPI adjustment and thread calculation - SNLS
9. Threading practice – Over edge machine
10. Straight serging practice – over edge machine
11. Wavy serging practice - over edge machine
12. SPI adjustment and thread calculation – Over edge m/c
13. Threading practice – Flatlock machine
14. Fold practice – Flatlock machine
15. Top stitch practice – Flatlock machine
16. SPI adjustment and thread calculation – Flatlock m/c
17. Button holing practice – Button holing m/c
18. Button sewing practice – Button sewing m/c
19. Picotting practice – Picotting m/c

III. Constructing various types of seam finishes as per federal standards

### **SEMESTER III CORE PAPER X PRACTICAL VI – COMPUTER APPLICATION IN FASHION – I**

Recent designing software can be used to practice the below,

1. Create repeat & pattern designs for textile material – any five each.
2. Create embroidery designs – any five.
3. Create print designs & work on color separation – any five.
4. Draw the accessories design:
  - i. Bag
  - ii. Foot Wear
  - iii. Hat
  - iv. Glow
  - v. Ornaments
5. Create Tech pack for the following
  - i. Men's wear.
  - ii. Woman's wear.
  - iii. Kids wear.
6. Fashion illustration with apt back ground
  - i. Men
  - ii. Women

## **SEMESTER III ALLIED PAPER III – FABRIC COLORING AND FINISHING TECHNIQUES**

### **UNIT I**

#### **INTRODUCTION & PREPARATORY PROCESS**

Water: water hardness – types - softening process: ion exchange - sequestering agent methods. Preparatory process sequence for woven & Knitted fabrics. Preparatory process: singeing – objectives – types of singeing – advantages. Desizing – objectives –methods. Scouring – objectives –methods. bleaching –objectives - types of bleaching agents – advantages of peroxide bleaching – optical whiteners.

### **UNIT – II**

#### **FABRIC DYEING**

Mercerizing –objectives – types. Dyeing: Concept of colour. Concept and utility. classification of dyes – direct, reactive, vat, & disperse dyes – principles of dyeing of cotton , synthetics & blended textile materials - After treatments – types.. Principles of different dyeing machines: winch – soft flow – cabinet - cheese and HTHP machines – merits & demerits. Fabric drying.

### **UNIT – III**

#### **GARMENT DYEING**

Principles – Machines used – factors to be considered in garment dyeing – advantages. Computer colour matching. Colour fastness. Metamerism.

### **UNIT – IV**

#### **CHEMICAL FINISHING**

Objectives of finishing – temporary and permanent finishes. Chemical finish: wrinkle free – softeners – anti microbial – fire retardant.

### **UNIT –V**

#### **MECHANICAL FINISHING**

calendaring – raising – shearing. Heat setting. Bio polishing. Stone washing. Application of enzymes in textile processing. Pollution - Brief study about ETP

### **REFERENCES**

1. Technology of textile processing (vol 1 to 10) – V.A. Shenai.
2. Textile finishing – J.T. Marsh.
3. Industrial effluents – M. Manivasakam.
4. Prayag,R.S. Tech.of tex.printing,1986 Mrs.prayag, Dharwad.
5. Kale.d.g., principles of cotton printing edition - 2, 1976, Mahajan book depot,ahmedabad
6. Mills.lwc, Tex.printing 1981, SDC perkin house, 82, Grattom rd, yorkshire, england.
7. Datype.K.V.& Vaidya, chemical processing of synthetic Fibers and blends 1984,Johnwiley & sons publications, new york.

## **SEMESTER III SKILL BASED SUBJECT 1 –FABRIC MANUFACTURING TECHNOLOGY**

### **UNIT I**

#### **BASIC KNITTING TECHNOLOGY**

Different fabric forming methods – comparison of weaving and knitting – comparison of woven and knitted fabric. Knitting machine elements- needles types - Knitting Cycle of Latch Needle with Sinkers – Terms in Weft Knitting –Comparison of Weft and Warp Knitting – Comparison of warp and weft knitted fabric

## **UNIT II**

### **SINGLE KNIT STRUCTURES**

Principal Weft Knit Stitches - Knit, Tuck, Miss Stitch Formation And Properties - Representation Of Weft Knit Stitches - Basic Weft Knit Structures - Characteristics Of Single Jersey Fabrics.

## **UNIT III**

### **DOUBLE KNIT AND SPECIALITY STRUCTURES**

Introduction to Double Knit - Needle Gating – Rib, Interlock & Purl Fabric Characteristics. Concept of Multi Cam Track. Brief study on Jacquard- Auto Stripes, Fleece, Terry – Rib & Interlock Structures.

## **UNIT IV**

### **WEAVING**

Sequence of Preparatory Processes for Weaving & It's Objectives - Passage of Material through Weaving Machine (Loom) - Important Motions of Weaving - Important Parts of Loom.

## **UNIT V**

### **WOVEN FABRICS & DESIGNS**

Introduction To Fabric Designing - Plain weave & its derivatives –Twill weave – Pointed twill – Herring bone twill - Satin and Sateen Weaves - Crepe Weaves –Honeycomb and Huck a back weaves. Jacquard designs

## **REFERENCES**

1. Knitting Technology – David J Spencer
2. Knitting Technology – Prof..D.B.Ajgoankar
3. Weaving Mechanisms. Vol. I/II – N.N.Banerjee
4. Yarn Preparations Vol I & II B. Senguptha
5. Mechanism Of Weaving Machines - .J.Chakrovarthy.
6. Principles Of Weaving – Marks And Robinson
7. Weaving Mechanism - T. Ashwani
8. Fabric Forming – B. Hasmukhrai..

## **SEMESTER IV CORE PAPER XI – FASHION BUSINESS**

### **UNIT I**

#### **FASHION ENVIRONMENT**

Introduction to fashion industry - Fashion environment - Demographic & Psychographic, Economic, Sociological and psychological factors – Fashion cycle. Fashion business- Designer's role, manufacturer's role and retailer's role. Leaders of fashion - Theories of fashion adoption.

### **UNIT II**

#### **FASHION BUSINESS**

Scope of fashion business - Primary level, secondary level and retail level – Type of fashion designers - Role of fashion designers – Indian fashion designers - Principles of merchandising – Types of merchandising – Role of merchandiser - Effect of Consumer – Types of buyers – communication with buyers and consumers.

### **UNIT III**

#### **FASHION FORECASTING**

Fashion forecasting – Need for forecasting - Forecasting agencies – Role of forecasting agencies - Fashion direction and recent trends – Product development – product mix, factors affecting product mix.

### **UNIT IV**

#### **FASHION MARKET**

Market research: Types of market – Retail & wholesale market – Domestic & international market – Designers labels – Chain stores – Brand market. Sourcing: method of sourcing – Raw material sourcing – Accessory sourcing . Resource planning – Supply and demand chain analysis – Just in time technology.

### **UNIT V**

#### **ADVERTISEMENT AND PROMOTIONS**

Advertising: purpose – methods - types of advertising media - Sales promotion methods - Trade fairs and fashion shows as sales promotion techniques - Feedback to production and marketing departments - Use of computers as a tool for effective merchandising - 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 IV CORE XII – FASHION ACCESSORIES AND TRIMS**

### **UNIT I**

Introduction to accessory design - Concepts of patternmaking - Basic machinery and equipment used for constructing these accessories - Various types of shoes, handbags, hats and gloves. Three dimensional sketching: design detail - sketch the basic shapes of footwear, handbags, hats, gloves, personal leather goods, etc.

### **UNIT - II**

Selection of Materials, Design, functional and aesthetic performance and advantages of different fasteners - Ribbons, Braids, Laces, Buttons, Zippers, Snap fasteners, Hooks and Eyes, Hook and Loop tape (Vell-crow), Eyelets.

### **UNIT - III**

Selection of Materials, Design, functional and aesthetic performance and advantages of different fashion accessories – footwear, belts, gloves, hand bags, hats, Tie, Scarves, Stoles, Umbrella, Socks, Veils, and wallets.

### **UNIT - IV**

Selection of Materials, Design, functional and aesthetic performance and advantages of different fashion accessories – Pendants, Waist Bands, Wrist Bands, Necklaces, Head Bands, Neck Ties and Bows.

#### **UNIT – V**

Selection of Materials, Design, functional and aesthetic performance and advantages of different fashion accessories – Key Chain, Sunglass, Wrist watches, Rings, Ear rings, Bangles, Bracelets, anklets, Pony Tail Holder and Pen. A study on computer aided embroidery machineries

#### **REFERENCE**

1. Fashion Sketch Book – Bina Abling, Fair Child Publications, New York Wardrobe
2. Inside the Fashion Business- Heannette A Jarnow et-al, macimilan Publishing Company, New York.
3. Art and Fashion in Clothing Selection – Mc Jimsey and Harriet, Iowa State University Press, Jowa.

### **SEMESTER IV CORE PAPER XIII PRINTING TECHNIQUES**

#### **UNIT I**

Styles of printing - Direct style - Discharge style - Resist style

#### **UNIT II**

Thickeners or Thickening agents: Temporary thickening agent - Permanent thickening agent - Preparation of thickening agents.

#### **UNIT III**

Direct style of printing - Block printing: Introduction and preparation of block equipment for block printing - preparation dye paste application of color on fabric. Kalamkari: Introduction -brief study of Kalamkari printing. Stencil work: Brief study of stencil work. Screen printing: Historical background, preparation of screens-preparation of color and application. Spray printing: Brief study of spray printing.

#### **UNIT IV**

Discharge style of printing - Brief history of discharge style of printing - use of oxidizing and reducing agents - Discharge by mordant, recipes of oxidizing and reducing agents.

#### **UNIT V**

Rolling printing machine - Single color roller printing machine - Multi-color roller printing machine - Difference between single and multi color roller printing - Merits and demerits of cylinder roller printing machine (f) Merits and demerits of cylinder.

#### **REFERENCES**

1. Textile Chemistry Vol. III by R.H. Peters,
- 2 The Dyeing Of Textile Materials by J. Cegarra, P. Puente, J. Valldeperas,
3. Technology of textile processing, Vol. IV, Technology of Printing by V.A. Shenai
4. Engineering in Textile Colouration by C. Duckworth,
5. Textile Printing by L.W.C. Miles,
6. The Dyeing of Cellulosic Fibres by C. Preston,
7. Chemical Technology of Fibrous materials by F. Sadov, M. Korchagin and A. Matetsky,
8. Dyeing and Chemical Technology of Textile Fibres by E.R. Trotman,
9. Chemical Processing of Synthetic Fibres and Blends by K.V. Datye and A. A. Vaidya.



## **SEMESTER IV CORE PAPER XIV PRACTICAL VII – COMPUTER APPLICATION IN FASHION – II**

Using design software create the following visual communication design,

1. Create brand name & design logo for it.
2. Design Visiting card, Letter pad & Envelop design
3. Design Seasonal greetings
4. Design a Calendar
5. Design Label for your brand
6. Design Tag for your brand
7. Design packing material for your brand
8. Practice in Lay-Out Design
9. Practice in Poster Design
10. Practice in Dangler Design
11. Practice in Hand bag Design
12. Practice in Hoarding Design

## **SEMESTER IV CORE PAPER XV PRACTICAL VIII – GARMENT CONSTRUCTION – KNITS**

Using different kind of knitwear manufacturing machineries construct the following style with details mentioned with it,

### **I. Men's style**

1. Basic T shirt with front patch pocket
2. Raglan T shirt with full sleeve
3. Polo T shirt with short sleeve
4. Bermuda with side pocket
5. Hooded T shirt with front pocket
6. Vest RN, RNS
7. Briefs, Trunks
8. Track pant with side piping

### **II. Women's style.**

1. High neck T shirt with full sleeve
2. V neck T shirt with half sleeve
3. Kimono sleeve T shirt

4. Legging
5. Gathered skirt
6. Night pajama set with neck binding

III. Kid's style.

1. Sleeveless jhabla with neck and armhole binding
2. Overall with full sleeve
3. Bloomer with elastic hem

**SEMESTER IV ALLIED PAPER IV – TEXTILE TESTING AND QUALITY MANAGEMENT**

**UNIT I**

**INTRODUCTION**

Quality and its importance – Approaches to quality – Quality costs - Objectives of Testing - Standardization of testing - Conditions and requirement for testing lab.

**YARN TESTING:**

Identification and types of yarn - Determination of yarn quality parameters: CSP, Twist and Evenness – defects in yarn and package. A case study on yarn selection for knitting.

**UNIT II**

**TESTING - FABRIC**

Classification of different properties of Woven & Knitted fabrics and specifications - fabric strength testing –fabric resistance to snagging, abrasion & pilling - fabric handle - drape and stiffness - Dimensional stability – spirality - color fastness to washing, rubbing, perspiration & light- Introduction to thermal comfort properties.

**UNIT III**

**FABRIC QUALITY AND APPAREL INDUSTRY**

Introduction – Fabric evaluation for total acceptable product – Fabric properties and making up process – Fabric properties and tailorability – sewability and its assessment parameters.

**UNIT IV**

**QUALITY CONTROL IN APPAREL PRODUCTION**

Fabric quality standards for various type of garments. Assessment of accessories and trims: Interlinings, elastic, waistband, zippers, sewing threads, buttons and laces. Basics of care instructions and eco labels

**UNIT V**

**INSPECTION**

Definition – Types and stages of inspection. In coming material inspection: Fabric inspection as per 4 point & 10 point system.

Process inspection: Assessment of spreading, cutting, sewing room – detailed study on sewing and seaming defects – control of fusing & embroidery operation.

**FINAL INSPECTION**

Final inspection and its specification as per AQL standards – Guideline for how much to inspect? - Risks involved.

Principles of Total Quality Management (TQM) –Basics of PDCA, Kaizan, and 5'S.

**REFERENCES**

1. Testing and Quality Management – V. K. Kothari

2. Hand book of textile Testing & Quality Control – Elliot b. Grover & D.S. Hamby
3. Physical testing of Textiles – B.P.Saville
4. Textile testing – P. Angappan & R. Gopalakrishnan
2. Managing Quality in Apparel Industries – Pradeep V Metha & Satish k. Bhardwaj
3. ISI standards [BIS] / AATCC / ASTM – Technical manuals

**SEMESTER IV SKILL BASED SUBJECT 2 – FABRIC ANALYSIS AND DESIGNING  
PRACTICAL**

1. Development of the following samples:

1. Pique
2. Pearl
3. Lacoste
4. Twill
5. Cross miss
6. Two thread fleece
7. Mini jacquard design
8. Auto striper
9. Rib waffle
10. Flat back rib
11. Interlock
12. Ottoman rib
13. Electronic Jacquard motif

2. 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

3. Analyze the given woven fabric sample (Plain , Twill , Satin and its derivatives) for the following particulars and draw the design, draft and peg plan

- A) EPI
- B) PPI
- C) Warp and Weft crimp & count
- D) Cover Factor

**SEMESTER V CORE PAPER XVI – FUNCTIONAL APPARELS**

**UNIT I**

**INTRODUCTION**

Functional design of textiles, Properties – structural, aesthetic, functional and their advantages, comfort and fit.

**UNIT II**

**MEDICAL WEAR**

Classification of Medical textiles and their functions – Textile materials used for implants and non-implants –Healthcare and Hygiene products.

### **UNIT III**

#### **ENVIRONMENTAL PROTECTIVE CLOTHING**

Protection against rain, heat, cold, snow, wind, and insect- material selection, finishing treatments.

### **UNIT IV**

#### **PROTECTIVE CLOTHING FOR SERVICE PERSONNEL**

Clothing for soldiers, fire service personnel. Protection against knives and other weapons, Clothing for ballistic protection. Gloves, masks, helmet, respiratory devices, eye glasses and shoes.

### **UNIT V**

#### **SPORTS WEAR**

Clothing requirements, functional Fibers, yarns and fabrics suitable for sportswear application and its properties. Footwear Clothing: Fabric requirements, finishing adaptability.

### **REFERENCES**

1. Horrocks A R and Anand S C, “Handbook of Technical Textiles”, The Textile Institute, Woodhead Publications, 2000.
2. Adanur S, “Wellington Sears Handbook of Industrial Textiles”, Technomic Publishing Co., Inc, 1995.
3. Sanjay Gupta, “Smart Textiles – Their Production and Marketing Strategies”, Bhumica Printers, New Delhi, 2000.
4. Tao X, “Smart Fibers, Fabric and Clothing”, Textile Institute, 2001.
5. Richard A Scott, “Textiles for protection”, The Textile Institute, Wood Head Publishing Limited, England , 2005.

### **SEMESTER V CORE XVII PRACTICAL IX – GARMENT CONSTRUCTION – WOVEN**

Using different kind of woven manufacturing machineries construct the following with details mentioned with it,

#### **I. Men’s style.**

1. Formal shirt full sleeve
2. Formal trouser with side and welt pocket
3. Boxer short side and patch pocket
4. Men’s kurta with stand collar & side kurta pocket
5. Night robe with patch pocket
6. Baggy pant with pouch pocket

#### **II. Women’s style.**

1. Simple salwar
2. Patiala salwar
3. Simple kameez with side slit

4. 8 part umbrella kameez with puff sleeve
5. Sari blouse
6. Petticoat
7. Nighty with yoke & butterfly sleeve
8. Apron

III. Kid's style.

1. Bib
2. Chemise
3. Gathered frock with cap sleeve
4. Pedal pusher
5. Umbrella frock

**SEMESTER V CORE PAPER XVIII PRACTICAL X – SURFACE ORNAMENTATION**

I. Basic Hand Embroidery practice with any two variations in the following stitches,

1. Running Stitch
2. Laced Running Stitch
3. Back stitch
4. Stem Stitch
5. Satin stitch
6. Bullion Knot
7. Pearl Knot
8. Cross Stitch
9. Blanket Stitch
10. Button Hole Stitch
11. Shaded Button Hole
12. Corel Stitch
13. Spider Web Stitch
14. Fly Stitch.
15. Chain Stitch
16. Daisy Chain Stitch
17. Roman Chain Stitch
18. Zig Zag Chain Stitch
19. Russian Chain Stitch
20. Zig Zag Cable Stitch
21. Chevron Stitch
22. Cretan Stitch
23. Faggoting Stitch
24. Feather Stitch
25. Fern Stitch
26. Fish Bone Stitch
27. Herringbone Stitch
28. Couching
29. Overcasting.
30. Counted Thread Work
31. Drawn Thread Work

32. Cut Work
33. Bead Work
34. Mirror Work
35. Sequins Work

II. Traditional surface ornamentation practices with two to four variations in the following,

1. Kantha
2. Chikan
3. Kasuti
4. Zardosi
5. Kutch work
6. Mirror work
7. Aari work
8. Phulkari work
9. Fabric painting
10. Crochet
11. Smocking
12. Applique
13. Quilting

**REFERENCES:**

1. Encyclopedia of Embroidery Stitches Including Crewel – Dover Publications – 1974
2. Computerized Encyclopedia of Needle Work – Therese De Dillmont – 3rd Edition.
3. Decorative Painting Techniques Book – Val Holmes – 2003
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 V CORE PAPER XIX PRACTICAL XI – DRAPING TECHNIQUES**

**UNIT-I**

Fabric terms- Draping – Tools-Measurements – Principles of draping – Draping techniques – Different types of dress forms –Draping terminologies

**UNIT-II**

Bodice front and back – Skirt front and back – Pant front and back – Basic sleeve.

**UNIT-III**

Bodice – Gathered – Pleated – Darts. Skirts - Dirndl – Peg – Circular – Pleated – Straight. Necklines – Sweet heart – Scooped –Scalloped –Boat –V and U neck – Round –Halter.

**UNIT-IV**

Yokes –Hip yoke –Midriff –Shirt yoke. Collars: Convertible – Mandarin - Peter pan – Turtle - Ruffled – Shawl. Cowls, Twists, Surplice, Frills, Flounce detailing at different levels of body line.

## **UNIT-V**

Design each one garment for men, women and kids wear and further develop pattern through draping techniques.

## **REFERENCES**

1. The Art of Fashion Draping, Connie Amadan Crawford, Fair Child Publications, New York, 2005.
2. Draping for Apparel Design, Hellen Joseph, Armstrong, 2008.

## **SEMESTER V CORE PAPER XX PRACTICAL XII COLORING TECHNIQUES**

### **Part A**

1. Determination of water hardness
2. Developing self shades using reactive and vat dyes
3. Developing self shades on protein fiber using acid and basic dyes
4. Developing self shades on polyester fiber using disperse dyes
5. Developing self shades on nylon fiber using acid dyes
6. Compound shade preparation using the given colors
7. Formulating recipe for the given shade
8. Evaluate the color difference using visual technique
9. Dye the given P/C blended fabric
10. Produce fancy dyeing effects on P/C blended fabric

### **Part B**

1. Flat screen preparation for printing single color
2. Flat Screen preparation for printing multi color
3. Print the given fabric using blocks with single and multi color
4. Print the given fabric using Flat screen with single and multi color pigments
5. Print the given fabric using Flat screen with dyes
6. Produce burnout effect on the given fabric
7. Produce the given effect on the garment using tie and dye techniques
8. Produce the given effect on the garment using Batik techniques
9. Finish the given fabric or garment using softener
10. Finish the given material using enzymes

## **SEMESTER V ELECTIVE PAPER I (A) – CRAFT DOCUMENTATION PRACTICAL**

- I. Introduction to the craft – History and origin of craft, communities involved – demographics of the place
- II. Understanding craft method and its process
- III. Different types of craft
  1. Mural painting
  2. Sand painting
  3. Terracotta
  4. Clay modeling
  5. Weaving
  6. Artificial flower making
  7. Embroideries of different states
- IV. Students should identify a craft on their preference and need to go internship for at least a week

- V. Students should submit their internship report along with the craft they learnt during their internship

#### **REFERENCE**

1. Laurie Schneider Adams, Art Across Time, Mc. Graw Hall
2. Shirley Glubok, The Art of Africa, Blackwell Science

#### **SEMESTER V ELECTIVE PAPER I(B) – ADVANCED ILLUSTRATION PRACTICALS**

Using art medium the following composition of illustration should be practiced,

- I. Composition – Men Illustration  
Men Illustration on Party and Office background.
- II. Composition – Women Illustration  
Women Illustration on Party and Office background.
- III. Composition – Men & Women Illustration  
Men & Women Illustration on Party and Shopping background.
- IV. Composition – Children Illustration  
Children Illustration on the background of Picnic.
- V. Composition  
Sketching the stylized Group illustration.
- VI. Outdoor Sketching.

#### **SEMESTER V ELECTIVE PAPER 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**

Principles of washing – suction washing, washing by kneading and squeezing , washing by machine - Process details and machine details. 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**

1. Textiles fabrics and their Selection – Wingate I B, Allied publishers Ltd, Chennai.
2. Fundamentals of Textiles and their Care- Susheela Dantyagi , Orient Longmann Ltd (1980).
3. Family Clothing – Tate of Glession , John Wiley & Sons I n c, Illinois.
4. Household Textiles and Laundry Work – Durga Duelkar , Amla Ram & Sons, Delhi

### **SEMESTER V SKILL BASED SUBJECT 3 – TEXTILE TESTING PRACTICAL**

The fiber, yarn and fabric are tested for its quality using respective testing equipments. The experiments are mentioned below,

1. Determination of yarn quality parameter (Count, Strength, CSP and Tensile strength)
2. Analysis of given knitted fabric sample for determining weight, CPI, WPI, SL, TF & yarn count.
3. Analysis of given woven fabric sample for determining weight, EPI, PPI, Crimp & Cover factor.
4. Determination of color fastness of given sample to washing and rubbing by using launder meter and crock meter.
5. Determination of color fastness of given sample to perspiration by using perspirometer
6. Determination of dimensional stability (shrinkage / growth) and spirality of a given fabric/garment to washing.
7. Determination of stiffness of the given fabric using Shirley stiffness tester
8. Determination of crease recovery of the given sample
9. Determination of drape of the given fabric using drape meter
10. Determination of bursting strength of the given fabric using bursting strength tester
11. Identification of formaldehyde content in the given sample using chromotropic acid

### **SEMESTER VI CORE PAPER XXI - GARMENT PRICING AND TRADE DOCUMENTATION**

#### **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 - Production Overhead - Administrative Overhead - Selling Overhead Distribution Overhead - Prime Cost - Work Cost - Cost Of Production - Total Cost.

#### **UNIT-II**

##### **COST ESTIMATION**

Cost estimation for Yarn, Knitted Fabric, woven fabric, Dyeing, Printing & Finishing. Cost Estimation For Cutting, Stitching, Checking, Packing, Forwarding, Shipping, Insurance Etc., - INCO Terms & Its Relationship With Costing.

Estimation of factory cost for different knitwear and woven products. Various Factors to Be Considered In Costing For Domestic Products & International Products.

### **UNIT-III**

#### **FIRM ESTABLISHMENT**

Introduction – Export Promotion Councils And Their Role – Registration Formalities - RCMC – IE Code – RBI Code. Foreign Trade Documents: Need, Rationale And Types Of Documents Relating To Goods – Invoice – Packing Note And List – Certificate Of Origin – Certificate Relating To Shipments – Mate Receipt – Shipping Bill – Caret Ticket – Certificate Of Measurement – Bill Of Lading – Air Way Bill – Documents Relating To Payment – Letter Of Credit – Bill Of Exchange – Letter Of Hypothecation – Bank Certificate For Payment – Document Relating To Inspection – Certificate Of Inspection – GSP And Other Forms.

### **UNIT-IV**

#### **IMPORT PROCEDURE**

Import License – Procedure For Import License – Import Trade Control Regulation Procedure – Special Schemes – Replenishment License – Advance License – Split Up License – Spares For After Sales Service License – Code Number – Bill Of Entry.

### **UNIT-V**

#### **SHIPMENT AND CUSTOMS**

Pre Shipment Inspection And Quality Control – Foreign Exchange Formalities – Pre Shipment Documents. Shipment Of Goods And Port Procedures – Customs Clearance Of Import Cargo Post Shipment: Post – Shipment Formalities And Procedures – Claiming Duty Drawback And Other Benefits.

### **REFERENCE**

1. S.P.Jain and KL. Narang, "Cost Accounting", Kalyani Publishers, New Delhi. Edn.2005
2. R.S.N. Pillai and V. Bagavathi, "Cost Accounting", S. Chand and Company Ltd., New Delhi. Edn.2004.
3. Hand Book Of Import And Export Procedures - Paras Ram

## **SEMESTER VI CORE PAPER XXII APPAREL PRODUCTION MANAGEMENT**

### **UNIT 1**

#### **INTRODUCTION**

Production - Definitions - Terminology - Organizing for Production -Function of Production Department - Duties and Responsibilities of Production manager / Supervisor - Effective Line Supervision - Factors of Production -Production Function - Basic Production Systems - Evaluating and Choosing the System - Process Flow and Charts for Garment - Scheduling Calculations -Assigning Operators Optimally - Setting Up Complete Balanced Production Lines to Produce Given Amount of Garments

### **UNIT II**

#### **PRODUCTION PLANNING AND CONTROL**

Capacity Requirement Planning[CRP] - Material Requirement Planning -Steps in Production Planning - Factors to be consider in Production Planning -Function, Qualitative and Quantitative Analysis of Production - Coordinating Departmental Activities - Practical Difficulties in implantation.

### **UNIT III PRODUCTION AND PRODUCTIVITY**

Methods of Production Systems - Job, Mass & Batch - Section Systems, Progressive Bundle System & 'Synchro' System - Conveyor Systems - Unit Production System - Advantages of UPS - Quick Response-Measurement of Productivity - "Men, Machine, Material" - Total Factor Productivity - Criteria for Increasing Productivity in Garment Industry -conducting productivity analysis survey in the garment industry.

### **UNIT IV PLANT ENGINEERING & LINE BALANCING**

Introduction to Garment Industry Plant Location - Location Economics -Plant Layout – Process Layout -- Product Layout - Combination Layout -Introduction to Balancing Theory – Balance Control - Balancing Exercises For Garment - Industry.

### **UNIT V WORK STUDY**

Concept And Need - Method Study and Work Measurement -Techniques - Process Chart Symbol - Process Flow Chart - Flow Diagrams - String Diagrams - Multiple Activity Chart - Principles of Motion Economy - Simo Chart - Time Study Methods - Standard Time Data - Ergonomics With Special Reference To Garment Industry.

### **REFERENCES:**

1. Carr & Latham, Technology of Clothing Manufacture
2. Jacob Solinger, Apparel Manufacturers Handbook
3. Gerry Cooklin, Introduction to Clothing Manufacture
4. A. J. Chuter, Introduction to Production Management
5. Tripathi, Personal Management and Industrial Relations
6. O.P. Khanna, Industrial Engineering and Management
7. Rama Moorthi, Production and Operations Management

## **SEMESTER VI CORE PAPER XXIII PRACTICAL XIII ART PORTFOLIO**

Create Art portfolio with below mentioned details using Computer Aided Design software,

1. Develop Forecast Board based on seasons for Fashion and Color.
2. Develop Trims and Accessory Board based on Season.
3. Develop Inspiration Boards.
4. Develop Story Boards.
5. Develop Mood Boards for different theme / inspirations.
6. Develop Color Palette based on the theme / inspiration.
7. Develop Customer Profile.
8. Develop Flat Sketches based on the theme / inspiration.
9. Create design board with 6 designs according to your theme and customer profile.

10. Develop Tech pack for your designs

#### **REFERENCES**

1. The style source book – Judith Miller, Stewart, Tabori and Chang, Newyork
2. Portfolio Presentation for fashion designers – Linda Tain – 2003, 2<sup>nd</sup> Edition
3. Creative Fashion Presentation – Polly Guerin-2005, 2<sup>nd</sup> Edition.

### **SEMESTER VI CORE PAPER XXIV PRACTICAL XIV DESIGN COLLECTION – PROJECT & VIVA VOCE**

#### **MARKET ANALYSIS & FORECASTING**

Each student should prepare their customer profile and conduct market analysis in a selected location on fashion trend and direction. On the data collected they should make forecast, develop forecast board for style and color, design their collection based on a theme and stitch garments accordingly. The collection should consist of 10 designs.

#### **PRESENTATION AND EVALUATION**

Each student should submit a complete project report in the prescribed format and need to produce presentation and attend viva voce thereafter.

#### **REFERENCES**

1. The style source book - Judith Miller, Stewart, Tabori and Chang, Newyork
2. The creative book of fashion - Vol 1 - Sebastian Zachariah
3. Naturally 70s fabric - Constance Korosec and Leslie Pina
4. Natural fabrics – Ian Mankin

### **SEMESTER VI ELECTIVE PAPER II(A) – FASHION ETHNOGRAPHY PRACTICALS**

The research is confined to cosmetics, apparels, and home furnishing.

- I. Select one famous shop/community/individual from the given sector
- II. Secondary research: Study the history of at least two good
- III. shop/community/individual from the given area. Make a research on how they started, where, when and why they started.
- IV. Understand the sector where they are doing their business. Understand the customers taste and preference from those coming to the shop/community (Record visually).
- V. Prepare questionnaire for customers and shop/community/individual

VI. Interview the customer, shop/community/individual (Record visually)

## **PRESENTATION AND EVALUATION**

Each student should make a complete report in power point presentation on their research along with their visuals.

## **SEMESTER VI ELECTIVE PAPER II(B) – HUMAN VALUES AND PROFESSIONAL ETHICS**

### **UNIT I**

**MANAGEMENT:** Meaning, Definition, Significance, Functions – Planning, Organizing, Staffing, Directing and Controlling, Principles of Management.

**SOCIAL RESPONSIBILITY AND ETHICS:** Concept of Social Responsibility, Views of Social Responsibility – Economic Objectives Vs Social Objectives – Business Ethics.

### **UNIT II**

**PROBLEM SOLVING METHODS:** SWOT Analysis of a Traditional Engineer – Kaizen Strategy and Values – Kaizen Approach for Problem Solving.– Process Oriented Management Vs Result Oriented Management.

**HUMAN VALUES:** Value Crisis in Contemporary Indian Society, Aesthetic Values, Moral and Ethical Values, Spiritual Values, Values in the Work Place.

### **UNIT III**

**INTERPERSONAL RELATIONSHIPS:** Managing Emotions, Emotional Intelligence, Building Better Interpersonal Relations, Managing the Boss, Dealing with Subordinates – Case Study.

**CREATIVITY:** Creativity and Problem Solving – Creativity Process – Creative Individuals and their Characteristics – Techniques for Creative Problem Solving.

### **UNIT IV**

**HUMAN RESOURCE MANAGEMENT:** Importance, Objectives, Functions, Job Analysis and Recruitment, Selection and Placement.

**HUMAN RESOURCE DEVELOPMENT:** Training and Learning, Determining Training Needs and Priorities, Formal Employee Training Methods, Management Development , Methods for Developing Managers, Evaluating Training Effectiveness – Case Study.

### **UNIT V**

**LEADERSHIP:** Definition, Characteristics of Leadership, Leadership styles, Theories of Leadership – Tannenbaum – Schmidt Leadership Continuum – Managerial Grid Theory.

**MOTIVATION:** Meaning and Definition – Mechanism of Motivation – Maslow’s Need Hierarchy Theory, Mc Gregor’s Theory X and Y- Herzberg’s Two Factor Theory.

### **REFERENCES:**

1. Jayshree Suresh and Raghavan B S, “Professional Ethics” S. Chand & Company Ltd., New Delhi, 2005.
2. Harold Koontz, Heinz Wehrich and Ramachandra Aryasri, “Principles of Management”, Tata McGraw Hill, New Delhi, 2004.
3. Bishop, Sue, “Assertiveness Skills Training – A Source Book of Activities” , Viva Books Pvt. Ltd., New Delhi, 2002.

## **SEMESTER VI ELECTIVE PAPER II(C) – ENTREPRENEURIAL DEVELOPMENT**

### **UNIT – I**

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

### **UNIT – II**

The start– up process, Project identification – selection of the product – project formulation evaluation – feasibility analysis, Project Report.

### **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.

### **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 VI ELECTIVE PAPER III(A) – FASHION PHOTOGRAPHY**

### **UNIT I**

#### **INTRODUCTION**

Photography – Basics – General principle- Rules – indoor Photography – Needs and methods lighting techniques for indoor photography – methods and equipment's – advantage and disadvantages – out door photography – methods – lighting techniques – methods and equipments – comparison of outdoor photography with indoor photography.

### **UNIT II**

#### **TYPES OF CAMERS**

Camera definition – parts of camera- classification and types of camera – Applications - Disadvantages.

### **UNIT III**

#### **PHOTOGRAPHY TECHNIQUES**

Photography techniques and equipment for different fields. Modeling, newspaper, magazines –occasions –Fashion shows.

### **UNIT IV**

#### **PHOTO DEVELOPING**

Developing – Definition – Different techniques in developing. Printing – definitions – Methods of printing for black & white color.

### **UNIT V**

#### **ADVANCED PHOTOGRAPHY**

Photography using digital cameras – Video photography – image mixing – application of computers in photography.

### **REFERENCE**

1. W.R. Miller, “Basic Industrial Arts, Plastics, Graphics Arts, Power Mechanics, Photography”, McKnight Publishing Company, Illionois, 1978.
2. John Hedge, “Photography Course”, John Hedge Co, 1992.

## **SEMESTER VI ELECTIVE PAPER II (B) - FASHION PRESENTATION AND CHOREOGRAPHY**

### **UNIT I**

#### **FASHION SHOW**

Fashion Show for selling merchandise - Additional reasons for producing Fashion Shows - Fashion Show’s finale - Fashion Show Categories. Specialized fashion presentations: Haute couture shows - Ready to wear shows - Trade shows - Trade association shows – Press shows

### **UNIT II**

#### **PLANNING FASHION SHOW**

Targeting the audience - Developing leadership - Creating Fashion Show themes - Finding venue - Timing the show - Protecting people and things - Estimating the budget.

### **UNIT III**

#### **FRAME WORK**

Frame work for a Fashion Show: Staging - Runway dimensions - Runway shapes - Dressing area – Backgrounds – Props - Seating patterns – Lighting.

### **UNIT IV**

#### **PROMOTION AND ADVERTISING**

Promotion - Publicity - Press release - Press photography - Media kit - Advertising - Magazines - Television and Radio - Direct marketing – Sponsorship.

### **UNIT V**

#### **CATWALK AND CHOREOGRAPHY**

Categories of models - Career opportunities for models-(Show room models, Runway models, Catalog models, Advertising models, Body part models) -Modeling agencies - Professional versus amateur models - Photographic versus runway models -Training amateur models - Model responsibilities. Choreography - Opening the show – Pace - Pivots and Pauses – Mapping – Dancing - Model groups – Finale - Importance of choreography.

## **REFERENCES**

1. Guide To Producing A Fashion Show, second edition, Judith C Everett, Kristen K Swanson, Fairchild Publications, Inc, New York
2. Silent Selling: Best Practices and Effective Strategies in Visual Merchandising, 4th Edition Judith Bell, Kate Ternus.

## **SEMESTER VI ELECTIVE PAPER III(C) – COMPUTER AIDED TEXTILE DESIGNING PRACTICAL**

The textile designing software is utilized for the following practice,

1. Motif design, color reduction and cleaning.
2. Manipulation of motifs to layouts and patterns.
3. Creating designs-traditional, floral, conversational and abstract.
4. Horizontal stripes, vertical stripes and plaids.
5. One-way, two-way, half-drop and tossed lay outs.
6. Dobby designing – Stripes, Checks, twills, sateen and diamond weaves.
7. Color combinations and color ways. Presentation of designs.
8. Development of jacquard designs using - colour and weave selection concepts – shade and thread balance.
9. Development of jacquard designs - Spot figuring – Drop.
10. Development of jacquard designs – Ogee base, Diamond base, Sateen base
11. Multi layer design- extra warp/ weft design concepts.

## **PRESENTATION**

Each student should submit a printed record carrying all the works done on the above area with necessary descriptions.

## **SEMESTER VI SKILL BASED SUBJECT 4 – COMPUTER AIDED PATTERN DESIGNING PRACTICAL**

CAD software is used to practice the following on the styles mentioned,

1. Creating Pattern on computer screen, adding details to patterns.
2. Digitizing, saving, extracting & editing patterns from stock library of Patterns.
3. Grading patterns on different size scale.
4. Making Marker plan for cutting fabrics.
5. Estimating lay length and calculating marker efficiency.
6. Fit analysis of the given pattern using 3D CAD software.

## **Garment styles**



1. T shirt - knits
2. Raglan T shirt with full sleeve - knits
3. Polo T shirt with short sleeve - knits
4. Bermuda - knits
5. Hooded T shirt - knits
6. Vest RN, RNS - knits
7. Briefs, Trunks - knits
8. Track pant - knits
9. High neck T shirt - knits
10. Legging - knits
11. Gathered skirt - knits
12. Night pajama set - knits
13. Sleeveless jhabla - knits
14. Overall - knits
15. Bloomer - knits
16. Formal shirt –woven
17. Formal trouser - woven