

SEMESTER I

B.Sc. (Fashion & Apparel Design)

SEMESTER I

TEXTILE SCIENCE - I

Sub Code: FAD 103A	IA Marks: 30
No of Lecture Hours. / Week: 03	Exam Marks: 70
Total no. of Lecture Hours:48	Duration for Exam: 3 Hrs

Objective: To equip the students with the skills to evaluate various types of fibres, yarns and fabrics that is available commercially, with their prime properties and latest trends in textile.

Unit 1 **4 Hrs**

The textile industry - Supply chain of textile and clothing industry. Objectives of each sector like, fibre, yarn, fabric, dyeing and finishing, apparel manufacturing and marketing.

Unit 2 **10 Hrs**

Classification of textile fibres. Commercial textile fibres used for apparels. Physical and chemical properties of cotton, silk, wool, viscose, tencel, modal, bamboo, polyester, nylon, acrylic and polypropylene. The relationship between fibre properties and the end product properties.

Unit 3 **10 Hrs**

Yarns for fabrics & sewing threads – Classification of yarns based on end use. Properties of yarn used for weaving & knitting. Flowchart and function of ring yarn manufacturing machineries, Properties of ring, open end yarn, compact yarn and air jet spinning double and cable yarn. Core and cover spun yarn. Monofilament, multi filament, micro denier, texturized yarn. Double yarns, fancy yarn properties and end uses. Yarn numbering system, different numbering systems, direct System - Tex & denier, indirect system - English cotton count, metric count, lea count, conversions from one system to another system. Different types of polyester yarns viz., cationic dye able and modified polyester yarns with moisture management property.

Unit 4 **3 Hrs**

Woven fabrics, classification of fabrics and their end uses and properties. Brief explanation of weaving process, Khadi, handlooms, power looms, and new generation shuttle less looms.

Unit 5 **12 Hrs**

Simple fabrics structure. Basic weave structure viz., Plain, twill and satin/sateen their characteristics. Modified plain and twill weave structure viz., warp and weft rib, hopsack, pointed and herringbone twill. Technical difference between long cloth, poplin and casement quality fabrics. Muslin fabric properties. Crepe fabrics viz., georgette, chiffon and voile/crepe fabrics, denims and their characteristics and properties. Fabric geometric parameters (Count, threads per inch, fabric weight) and their importance.

Unit 6 **9 Hrs**

Knitted fabrics – Classification of knitted fabric manufacturing. General knitting fabric terms, machine nomenclature, basic weft knitted structures and their properties with loop diagram. Geometrical and dimensional properties of weft knitted structure. Difference between woven, weft and warp knitted fabric properties and advantages and limitation.

References:

1. Booth J E, "Principles of Textile Testing", CBS Publishers & Distributors, 2018.

2. Gupta V B. and Kothari V K, "Manufactured Fibre Technology", Chapman & Hall, London, 1997.
3. Gohl, "Textile Science", CBS Publishers & Distributors, 2nd edition, 2005.
4. Gokarneshan, "Fabric Structure and Design", New Age International, 2004.
5. Grosicki Z J, "Watson's Textile Design & Colour", Wood Head Publication, 7th edition, 2004
6. Klein W G, "The Technology of Short Staple Spinning", Textile Institute, Manchester, 1998.
7. Lawrence C A, "Advances in Yarn Spinning Technology", Woodhead publishing, Cambridge, 2010.
8. Murphy W S, "Textile Weaving & Design" Abhishek Publication, 2003.
9. Mishra S P, "A Text book of Fibre Science and Technology", New Age International Publisher, 2000.
10. Morton W E and Hearle J. W. S., "Physical Properties of Textile Fibres", Textile Institute, Manchester, 1993.
11. Oxtoby E, "Spun Yarn Technology", Butterworth and Co., London, 1987.
12. Premamoy Ghosh, "Fibre Science and Technology", McGraw Hill, India, 2004.
13. Sara J Kadolph, "Textiles", Pearson New International Publications, 11th edition. 2014.
14. Sreenivasamurthy H V, "Introduction to Textile Fibres", The Textile Association India, Mumbai, 1998.

B.Sc. (Fashion & Apparel Design)

SEMESTER I

TEXTILE SCIENCE - I

Sub Code: FAD 103B	IA Marks: 15
Duration of Practical : 03hrs	Exam Marks: 35
Total no. of Practical Sessions :16	Duration for Exam: 3 Hrs

Requirements:

Equipments: Beesley Balance, GSM cutter, varieties of fabrics, scissors, counting glass, electronic weighing balance, single and double twist tester, compound microscope, spirit lamp.

List of Experiments:

1. Identification of cotton, silk, wool polyester and regenerated cellulosic fibers.
2. Finding of geometrical and design, denting and drafting of the following fabrics - shirting, suiting , dress materials made of plain, twill and satin fabrics made of cotton, polyester cotton and polyester yarns. Minimum of 16 samples to be analyzed.
3. Analysis of different weight denim fabrics.
4. Classification of the above fabrics analyzed on the basis of poplin, long cloth and casement quality
5. Folio development - Commercial fabric sample collection and characterization of the following - Georgette, chiffon, terry towel, extra thread, brocade, damask, velvet, corduroy, single jersey, rib and interlock knitted structure.

B.Sc. (Fashion & Apparel Design)
SEMESTER I
FASHION DESIGN FUNDAMENTALS – I

Sub Code: FAD 104A	IA Marks: 30
No of Lecture Hours. / Week: 03	Exam Marks: 70
Total no. of Lecture Hours:48	Duration for Exam: 3 Hrs

Objective: To understand the importance and use of various media for illustrating design and to gain an understanding of design history and design process.

Unit 1 **6 Hrs**
 Art media & application (both manual and digital), Pencil - various types, pastels, wet media, collage, frottage, clay or any 3D material. Photoshop, Corel Draw, Illustrator Basics. Drawing techniques, perspective and its uses.

Unit 2 **8 Hrs**
 Elements & principles of design - Introduction to design, elements and principles of design with reference to fashion, importance of elements and principles with reference to design.

Unit 3 **6 Hrs**
 Colour theory & psychology - Introduction to colour, hue, value and intensity. Colour wheel-primary, secondary, tertiary colours, warm colours, cool colours, earthy colours, neutral colours and colour Schemes, Colour psychology in different cultures.

Unit 4 **10 Hrs**
 Design history - Origins of design/art. Evolution of design as seen in art, pottery and architecture. Study of any one great Indian era (Gupta, Mughal). Brief overview of Egyptian, Greek, Roman, Byzantine, Gothic, Renaissance, Far Eastern, Baroque, Elizabethan, Rococo, Victorian art, Contemporary era art.

Unit 5 **4 Hrs**
 Fashion terms - Fashion, style, trend, season, mode, boutique, atelier, chic, couture, designer, mass produced, knock offs, classics, fads, prêt, silhouettes and garment names.

Unit 6 **8 Hrs**
 Fashion process - Fashion origin, evolution - Origins of clothing, clothing in industrial age, and era of fashion designers (brief overview).

Unit 7 **6 Hrs**
 Fashion Illustration - Female figure 8 head, 10 head, 12 head. Life sketching to stylization of croquis, figure foreshortening, techniques of illustration.

References:

1. Angel Fernandez and Gabriel Martin Roig, "Drawing for fashion designers", Anova books company Ltd., UK, 2007.
2. Caroline Tatham and Julian Seaman, "Fashion Designing and Drawing Course", Thames and Hudson Publishers, UK, 2003.
3. Harold Carr, "Fashion Design and Product Development", John Wiley and Sons Inc., NewYork, 1992.
4. Ireland, Patrick John, "Modern Fashion Design Drawing", Harper Collins, 1982.

5. Ireland, Patrick John, "New Encyclopedia of Fashion Details", Batsford Ltd, 2009.
6. Janson H W, "History of Art", Harry N. Abrams Inc., 5th edition, 1995.
7. Marian L Davis, "Visual Design and Dress", Prentice Hall, New Jersey, 1996.
8. Piper, David, "The Joy of Art", Mitchell Beazley Publishers, 1984.
9. Stanyer, Peter, "The Complete Book of Drawing Techniques", Arcturus Publishing Limited for Book Mart Limited 2003.
10. Suzanne G Marshall, Hazel O Jackson "Individuality in Clothing and Personal Appearance", Prentice Hall, New Jersey, 2000.

B.Sc. (Fashion & Apparel Design)
SEMESTER I
FASHION DESIGN FUNDAMENTALS - I

Sub Code: FAD 104B	IA Marks: 15
Duration of Practical : 03hrs	Exam Marks: 35
Total no. of Practical Sessions :16	Duration for Exam: 3 Hrs

Requirements:

Illustration Lab/classroom with sketching tables

List of Practicals:

1. Drawing techniques doodling with pencil, grey scale with pencil. Drawing man made object with pencil.
2. Perspective drawing of object using 1 point, 2 point and 3 point perspective.
3. Landscape drawing using perspective (1 point, 2 point and 3 point perspective).
4. Life sketching using pastels, markers, colours.
5. Landscape/composition using pastels/colour pencils/charcoal/collage.
6. Still life of objects and draped fabrics swatches using various media.
7. Elements of line using both manual and digital techniques (straight lines. Wavy lines, radiating lines (related to textile stripes, checks etc).
8. Colour wheel using poster colours, grey scale and colour value scale using water colours.
9. Using various shapes to create design using complementary, split complementary, achromatic, monochromatic, triadic, high key, low key, warm, cool, analogous colour schemes (at least 3 in digital format).
10. Fashion illustration – female and male figure stylization into various proportions*
11. Textile design for fashion and interiors (floral, geometric and others).

*Note - Weekly class on Life sketching female figure, details of face and stylization of limbs. 8 head, 10 head and 12 head to **NOT** be the norm, the students natural proclivity to dimensions to be retained. No stick or block figures for exams

B.Sc. (Fashion & Apparel Design)
SEMESTER I
FUNDAMENTALS OF GARMENT CONSTRUCTION

Sub Code: FAD 105 A	IA Marks: 30
No of Lecture Hours. / Week: 03	Exam Marks: 70
Total no. of Lecture Hours:48	Duration for Exam: 3 Hrs

Objectives: To impart basic knowledge and skills required for garment construction.

Unit 1 **8 Hrs**
 Introduction to sewing machines - Classification of sewing machine and its applications, Domestic sewing machine, industrial sewing machine, difference between domestic & industrial sewing machine, parts of a sewing machine, varieties of industrial sewing machines - single needle lock stitch machine, double needle machine-lock stitch & chain stitch machines, multi needle multi thread chain stitch machine, over-lock machine, sewing machine needles - types, parts & functions, care and maintenance of sewing machine, parts of sewing machine - machine bed and its types - feed mechanism and its types. Special attachments.

Unit 2 **6 Hrs**
 Introduction to tools for pattern making and garment construction - Measuring tools, marking tools, cutting tools, sewing tools, pressing tools, different GSM paper & its uses Pattern making terminologies & symbols (notches, punch/circles). Pattern information (grain, component details and symbols) seam allowance, fabric terms (grain, bowing).

Unit 3 **10 Hrs**
 Figure Analysis - Different types of figures, principles of pattern construction - Drafting, draping, and flat pattern - principles, advantages and disadvantages. Preparation of basic bodice block-front, back, sleeve, skirt front, back for women.

Unit 4 **4 Hrs**
 Sewing threads - function, varieties, performance, characteristics. Sewing needle - different types of needle for different fabrics - needle size.

Unit 5 **6 Hrs**
 Stitches and seams - Basic principles of stitch formation - classification of stitches based on federal standards - detailed study on application of all stitches. Detailed study on seam classification and seam finishes as per federal standards.

Unit 6 **8 Hrs**
 Fullness - Darts, pleats, tucks, gathers, godets, flounces, ruffles. Yokes -With and without fullness style lines. Neck line Finishes - piping, facing (bias facing, shaped facing). Plackets - Definition, types Self, front placket, continues bound placket, two-piece sleeve placket and shirt placket. Pockets - Definitions, purpose, patch pockets, patch pockets with flap, seam pockets, welt pockets & variations.

Unit 7 **6 Hrs**
 Flat pattern technique - Pivot, slash and spread method, single dart, double dart series, parallel darts, graduating darts. Dart Manipulation - Conversion of darts to tucks, pleats, gathers, seam lines etc.

References:

1. Chuter A.J., "Introduction to Clothing Production Management ", Blackwell Scientific Publications, 1988.
2. Conne Amaden-Crawford, "Fashion Sewing: Advanced Techniques", Bloomsbury Publishing Plc., UK, 2015.
3. David J. Tyler, "Materials Management in Clothing Production ", Blackwell Scientific Publications, 1st edition, 1992.
4. Helen Joseph and Armstrong, "Pattern Making for Fashion Designing", Prentice Hall, New York, 2004.
5. Harold Carr and Barbara Lathon, "The Technology of Clothing Manufacture", Blackwell Sciences, UK, 1996.
6. Joseph H Armstrong, Helen. "Draping for Fashion Design". Fairchild Publications, New York, 2000.
7. Laing R M and Webster J, "Stitches and Seams", Textile Progress, The Textile Institute, Manchester, 1998.
8. Sultan Chand & Sons, "Management Accounting", New Delhi, 2nd edition, 1998.
9. Ukponmwan J O, Chatterjee K N and Mukhopadhyay A, "Sewing Threads", Textile Progress Vol. 30, The Textile Institute, Manchester, 2001.
10. Winfred Aldrich, "Metric Pattern Cutting", Black Well Science, UK, 2015.

**B.Sc. (Fashion & Apparel Design)
SEMESTER I**

FUNDAMENTALS OF GARMENT CONSTRUCTION

Sub Code: FAD 105B	IA Marks: 15
Duration of Practical : 03hrs	Exam Marks: 35
Total no. of Practical Sessions :16	Duration for Exam: 3 Hrs

Requirements:

Industrial Sewing Machines: SNLS, DNLS, 2,3,4,5 thread overlock, button and button hole machines, pattern making tables and tools. Pressing equipment with vacuum table, canvas fusing machine etc.

List of Practicals:

1. Safety practices while working on industrial sewing machine. Care and maintenance on sewing machine.
2. Sewing machine practices.
3. Threading practice - SNLS - pedal control exercise, straight line exercise, broken line exercise, parallel line exercise, corner handling exercise, wave pattern exercise.
4. SPI adjustment and thread calculation - SNLS and overlock machine.
5. Threading practice - Over lock machine, Straight sewing practice – over lock machine, Wavy sewing practice - over lock machine
6. Button holing practice - Button holing m/c
7. Constructing various types of stitches and seam finishes as per federal standards.
8. Fullness - Darts, pleats, tucks, gathers, godets, ruffles, flounces.
9. Finishes - Neckline finishes - facing, shaped facing, piping and binding.
10. Yokes - With and without fullness style lines, plackets and pockets (all types)
11. Dart manipulation - Conversion of darts to tucks, pleats, gathers, seam lines etc.

SEMESTER II

B.Sc. (Fashion & Apparel Design)

SEMESTER II

TEXTILE SCIENCE-II

Sub Code: FAD 203A	IA Marks: 30
No of Lecture Hours. / Week: 03	Exam Marks: 70
Total no. of Lecture Hours: 48	Duration for Exam: 3 Hrs

Objective: To understand commercial dyeing, printing & finishes and utility along with quality of fabrics.

Unit 1 **4 Hrs**

Introduction to preparatory processes for making woven & knitted fabrics, dyeing sequence of cotton fabric, preparatory process and their objectives. Commercial recipe and technical parameters of gas singeing, rot and enzymatic desizing, caustic scouring and bleaching using hydrogen peroxide, degumming and bleaching of silk using hydrose and hydrogen peroxide. Objectives of mercerisation.

Unit 2 **8 Hrs**

Classification of dyes and their application. Chemical bonding with fibres. Dyeing of cotton fabric with direct, reactive HE, H and M class, vat dyeing silk dyeing with acid, metal complex and reactive dyes. Polyester dyeing with disperse dyes. Garment dyeing - Classification, principles of garment dyeing machines, factors influencing garment dyeing, selection of fabrics, sewing thread, accessories & dyes. Advantages and limitations. Garment printing machine. Brief introduction to natural dyes.

Unit 3 **4 Hrs**

Objectives of printing. Methods of printing viz., block, screen, transfer and digital printing. Direct resist and discharge styles of printing. After printing process for dyed materials.

Unit 4 **8 Hrs**

Finishes - Temporary and permanent finishes. Stiffening, softening, calendaring. Functional finishes viz., crease resistance, durable press, flame retardant, anti-microbial, stain guard and perfume finishes. Sustainable process to meet the international requirement. Impact of effluent in the environment.

Unit 5 **10 Hrs**

Fabric quality testing - Objective of fabric quality testing. Measurement of tensile strength, stiffness, drape, pilling, abrasion and air permeability. Importance of measuring the geometrical parameters of woven and knitted fabrics and the measurement of cover factor for woven and dimensional properties for knitted fabrics. Seam, button and zipper strength for the garments.

Unit 6 **6 Hrs**

Analysis of the properties measured from the above tests. Dimensional changes to washing, colourfastness to washing, light and perspiration.

Unit 7 **4 Hrs**

Environmental issues concerning textile and apparel finishing. Finishes which are hazardous for human health, International brands safety issues as far as the textile and apparel finishing are concerned.

References:

1. Bhagwat R S, "Handbook of Textile Processing Machinery", Colour Publications, Mumbai, 1999.

2. Billie J Collier and Helen H Epps, "Textile Testing and Analysis", Prentice Hall Publishers, India, 1998.
3. Booth J E, "Textile Testing", Butterworth Heinemann Ltd., U.K, 1996.
4. Clark M, "Handbook of Textile and Industrial Dyeing: Principles, Processes and Types of Dyes", Wood Head Publications, England, 2011.
5. Hall A J, "The standard Hand Book of Textiles", Woodhead Publication, 2004.
6. Janice Gunner, "Shibori for textile Artist", Batsford, London, 2010.
7. Miles L W C, "Textile Printing", SDC, England, 1994.
8. Murphy W.S, "Textile Finishing", Abhishek Publication, 2000.
9. Pradip V Mehta, "An Introduction to Quality Control for Apparel Industry", ASQC Quality Press, India, 1998.
10. Richard Aspland J, "Textile Dyeing and Coloration", AATCC, 1997.
11. Rosi Robinson, "Creative Batik", Search Press, 2004.
12. Saville B P, "Physical Testing of Textiles", Wood Head Publishing Ltd., England, 2004.
13. Shenai V A, "Technology of Dyeing", Sevak Publications, Mumbai, 1995.
14. Smith J E, "Textile Processing - Printing, Dyeing", Abhishek Publishing, 2003.
15. Subrata Das, "Quality Characterisation of Apparel", Woodhead Publishing Ltd., England, 2012.

B.Sc. (Fashion & Apparel Design)
SEMESTER II
TEXTILE SCIENCE II

Sub Code: FAD 203B	IA Marks: 15
Duration of Practical : 03hrs	Exam Marks: 35
Total no. of Practical Sessions :16	Duration for Exam: 3 Hrs

Requirements:

Water baths, electronic weighing machine, tensile strength tester, beesley balance, GSM cutter, single and double yarn twist tester, stiffness strength tester, drape meter, abrasion tester, pilling tester. Equipment to test wash, light and perspiration fastness. Shrinkage templates, grey scales, crease recovery and air permeability tester.

List of experiments:

1. Measurement of basic geometric properties - fabric drape, tensile strength, bursting strength, stiffness, crease recovery, abrasion, pilling, air permeability and shrinkage
2. Dyeing of cotton yarn with reactive H and HE dyes , Vat dyes and Direct dyes
3. Dyeing of silk with acid, Metal complex and Reactive dyes
4. Printing of fabric using block and screen. Tie and dye and batik style of printing.
5. Measurement of colour fastness to light, rubbing and perspiration
6. Students to design and construct a basic garment from the learnings of dyeing and Printing.

B.Sc. (Fashion & Apparel Design)
SEMESTER II
FASHION DESIGN FUNDAMENTALS – II

Sub Code: FAD 204B	IA Marks: 15
No of Lecture Hours. / Week: 03hrs	Exam Marks: 35
Total no. of Lecture Hours:48	Duration for Exam: 3 Hrs

Objective: To understand the fashion process and design for various figure types and categories.

Unit 1 **8 Hrs**
 Fashion theories - Fashion cycle, trickle up, trickle down, trickle across theories with relevant examples, fashion as communication, fashion as identity, and fashion as fetish.

Unit 2 **8 Hrs**
 Origin of fashion & clothing theories - Clothing for Protection, modesty, immodesty, attraction, cultural, regional. Religious symbolism and status symbol.

Unit 3 **6 Hrs**
 Fashion figure types & analysis - Apple, pear, banana/rectangular, hour glass, petite, large, designing for different figure types.

Unit 4 **6 Hrs**
 Elements & principles of fashion design - Applying elements and principles to designing clothes for various figures types.

Unit 5 **6 Hrs**
 Fashion psychology - Clothing choices and conformity, variety, creativity and attraction. Economic and sociological models of fashion and gender differentiation and defying stereotypes gender neutral fashion.

Unit 6 **8 Hrs**
 Male figure and children's figure.

Unit 7 **6 Hrs**
 Design development - Study of any one reputed International fashion designer and one National fashion designer - their design process (including research, mood boards).

References:

1. Angel Fernandez and Gabriel Martin Roig, "Drawing for fashion designers", Anova books company Ltd., UK, 2007.
2. Barnard, Malcolm, "Fashion Theory an Introduction", Routledge, 2014.
3. Caroline Tatham and Julian Seaman, "Fashion designing and drawing course", Thames and Hudson Publishers, UK, 2003.
4. Harold Carr, "Fashion Design and Product Development", John Wiley and Sons Inc., NewYork, 1992.
5. Marian L Davis, "Visual Design and Dress", Prentice Hall, New Jersey, 1996.
6. Mair Carolyn, "The Psychology of Fashion", Routledge, 2018.
7. Suzanne G Marshall, Hazel O Jackson, "Individuality in Clothing and Personal Appearance", Prentice Hall, New Jersey, 2000.

B.Sc. (Fashion & Apparel Design)
SEMESTER II
FASHION DESIGN FUNDAMENTALS II

Sub Code: FAD 204B	IA Marks: 15
Duration of Practical : 03hrs	Exam Marks: 35
Total no. of Practical Sessions :16	Duration for Exam: 3 Hrs

Requirements:

1. Illustration Lab/classroom with sketching tables.
2. CAD LAB with requisite software

List of practicals:

1. Fashion illustration - Female, standing, front facing, $\frac{3}{4}$ facing and back view flesh figure and clothed.
2. Fashion illustration - Female, sitting, foreshortening, moving.
3. Fashion illustration - Male, standing, front facing, $\frac{3}{4}$ facing and back view flesh figure and clothed.
4. Fashion illustration - Male, sitting, foreshortening, moving.
5. Fashion illustration - Kids.
6. Using collage to develop mood board.
7. Study of any one fashion illustrator's style - Antonio Lopez, David Downton, Rene Gruau, etc.
8. Exploring Styles - Developing personal style - 50 sketches (ongoing)
9. Figure types and styling - Styling for various figures using CAD
10. Study of two designers - Using single garment as inspiration and developing a collection of 5 garments each.

B.Sc. (Fashion & Apparel Design)
SEMESTER II
WOMEN'S WEAR DESIGNING

Sub Code: FAD205A	IA Marks: 30
No of Lecture Hours. / Week: 03	Exam Marks: 70
Total no. of Lecture Hours:48	Duration for Exam: 3 Hrs

Objective: To introduce the concept of garment making and draping and to impart knowledge of garment components.

- Unit 1** **8 Hrs**
 Draping - Definition, terminology, tools, principles of draping. Dress forms - definitions, purpose, types of dress - forms parts basic bodies, taking measurements.
- Unit 2** **10 Hrs**
 Basics of draping - Draping technique - Front bodice, back bodice, skirt-front and back. Procedure for draping dress - cowl, bias cut, princess line. Dress categories - with waistline without waist line, silhouettes.
- Unit 3** **8 Hrs**
 Fitting - Principles, standards of good fit, steps in fitting techniques-fitting, body scanner, 3D simulators. Pattern alteration - length, width, front, back sleeve, shirt, trouser
- Unit 4** **6 Hrs**
 Sleeves - Definition, terms, classification, types - basic sleeve, gathered, bell, kimono, raglan, leg of mutton & construction, types - sleeves along with bodice and set in sleeves.
- Unit 5** **6 Hrs**
 Collars and cuffs - Definition, terms, classification, and types - Peter pan, sailor, Turtle collar, shawl, formal shirt collar, Mandarin, collar with stand - variations & construction.
- Unit 6** **6 Hrs**
 Skirts - Basic - gored, flared, circular, gathered, pleated, basic waist band application.
- Unit 7** **4 Hrs**
 Fasteners - Types, materials used for press buttons, hook & eye, shirt button, button holes, concealed zippers.

REFERENCES

1. Connie Amaden Crawford, "A Guide to Fashion Sewing", Fairchild Publications, New York, 1999.
2. Fan J, Yu W and Hunter L, "Clothing Appearance and Fit", Textile Institute, Wood Head Publishing Limited, England, 2004.
3. Helen Joseph and Armstrong, "Pattern Making for Fashion Designing", Prentice Hall, New York, 2004.
4. Marie Clayton, "Ultimate Sewing Bible - A Complete Reference with Step-by-Step Techniques", Collins & Brown, London, 2008.
5. Sandra Betzina, "Fast fit - Easy pattern alterations for every figure" The Taunton Press, Newtown, USA, 2001.
6. Winfred Aldrich, "Metric Pattern Cutting", Black Well Science, UK, 2015.

B.Sc. (Fashion & Apparel Design)
SEMESTER II
WOMEN'S WEAR DESIGNING

Sub Code: FAD 205B	IA Marks: 15
Duration of Practical : 03hrs	Exam Marks: 35
Total no. of Practical Sessions :16	Duration for Exam: 3 Hrs

Requirements:

Standard dress forms – Women, pattern making lab - pattern making tools and equipment, SNLS, Overlock machine, pressing tools and equipment.

List of Practicals:

1. Basic draping method and construction - Bodice front & back, skirt front & back.
2. Construction of sleeve - Plain sleeve gathered, bell, kimono, raglan, sleeves along with bodice and set in sleeves.
3. Construction of Collars - Peter pan, Turtle collar, shawl, formal shirt collar, Mandarin, collar with stand & its variations.
4. Construction of cuffs – Standard cuff, French cuff & its variations.
5. Pattern making and construction for basic skirts - Flared, circular, basic waist band application.
6. Fasteners - Applications of zippers - lapped zip, centred zip, concealed zip, hook and eye, press buttons, velcro.
7. Designing and construction of women's dress.

SEMESTER III

B.Sc. (Fashion & Apparel Design)
SEMESTER III
DIGITAL FASHION STUDIO – I

Sub Code: FAD 303 A	IA Marks: 30
No of lecture Hours. / Week: 03	Exam Marks: 70
Total no. of Lecture Hours:48	Duration for Exam: 3 Hrs

Objective: To help students to understand the fundamentals, principles of CAD and to provide students with the knowledge of Digital fashion and their application.

Unit 1 **10 Hrs**

Introduction to computers - Peripheral devices, hardware, software - system software, application software. Memories - semiconducting, magnetic and optical memory devices. MS office-word, power point & excel. Internet & its scope, connecting to internet, opening an email account, sending & receiving emails, surfing. Basic maintenance of operations - preference, setting up a document, what is resolution, saving files, file formats, zooming in & out, view options, CAD approach to design, vector graphics object vs raster design.

Unit 2 **4 Hrs**

Digital definition, fundamentals of digital, design process, application of computers for design, benefits of computer aided design. Computers & the fashion industry, quick response technology, CAD in today's fashion industry.

Unit 3 **6 Hrs**

Fashion trend forecasting websites - Introduction, leading online trend-analysis and research service on creative and business intelligence for the apparel, style, design and retail industries, insight and creative inspiration, real-time retail coverage, seasonal trend analysis, consumer research and business information.

Unit 4 **4 Hrs**

Presentation & graphics - External & internal presentation of apparel industry, planning a presentation, computer generated presentation, computer generated catalogues, presentation boards (preparing portfolio presentation), multimedia and 3D presentation.

Unit 5 **8 Hrs**

E Commerce - Introduction, product attributes and web marketing implications, the augmented product concept (APC) and its application to the web, customising the product offering, brand dimensions, New product development online.

Unit 6 **8 Hrs**

Online communication - Introduction, the internet & communications process, the promotional communications mix, online advertising, email marketing, viral marketing, public comment sites, affiliate marketing, public relations, commercial newsletters, blogging, online sales promotions, automation for online sales, integrating multi channel strategies.

Unit 7 **8 Hrs**

Online marketing legal issues - Introduction, direct marketing & database management, e-mail marketing & spamming, electronic contract formation & validation, electronic information & confidentiality, electronic information security, data protection, e-payment system.

References:

1. Kathleen Colursy M, "Fashion Design on Computers By, Prentice Hall, 2004.
2. Mikell P Groover, Mory W Zimmers. Jr, "CAD/CAM Computer Aided Design & Manufacturing", Pearson Education Publications, 2000.
3. Radhakrishnan R, Subramanyan S, Raju V, "CAD/CAM/CIM", New Age International Publications, 2007.
4. Renee Weiss Chase, "CAD for Fashion Design", Prentice hall Pub., 1997.
5. Winfred Aldrich, "CAD in Clothing & Textiles", Blackwell Science, 1994.

B.Sc. (Fashion & Apparel Design)
SEMESTER III
DIGITAL FASHION STUDIO LAB – I

Sub Code: FAD 303B	IA Marks: 15
Duration of Practical : 03hrs	Exam Marks: 35
Total no. of Practical Sessions :16	Duration for Exam: 3 Hrs

Requirements:

CAD lab with softwares

List of Practicals:

1. Logo & brand labels development.
(Main label, size label, wash care label, content label)
2. Motifs & repeats development.
(Symmetrical/asymmetrical, balanced/unbalanced, repeat – ½ drop, ¼ drop, ¾ drop – h/v. drop reverse, design placements on boarders, pallu & all over)
3. Creating fashion accessories like necklace, bracelet, anklets, earring, and head gear using digital tools.
4. Advanced draping of garment through a variety of fabrications draping
Children – Girls (A-line & yoke frock), Boys (shirt & shorts)
Adults – Women's (Top, Skirt, gown), Men's (Shirt, Kurtha, Trouser).
5. Flat sketch (using standard measurements) utilizing digital tools. Children – Girls (A-line & yoke frock), Boys (shirt & shorts) Adults – Women's (Top, Skirt, gown), Men's (Shirt, Kurtha, Trouser). For the above create spec- sheets, cost sheets for each garment using Fashion Studio software /Photoshop/Corel Draw.
6. Designing of e-catalogues to actualize market appropriate original prototypes (for apparels & accessories products).

B.Sc. (Fashion & Apparel Design)
SEMESTER III
COSTUME & CLOTHING HISTORY

Sub Code: FAD 304 A	IA Marks: 30
No of Lecture Hours. / Week: 03	Exam Marks: 70
Total no. of Lecture Hours:48	Duration for Exam: 3 Hrs

Objective: To impart knowledge of textiles and costumes through the previous centuries to influence the sense of design.

Unit 1 **4 Hrs**

Introduction to world textiles and costumes - History, types, motifs & symbols.

Unit 2 **12 Hrs**

River valley textiles & costumes - Indus Valley, Egyptian, Mesopotamian, Cretan, Greek, Roman, Byzantine, Far Eastern clothing, Chinese, Japanese, Indonesian.

Unit 3 **6 Hrs**

Ancient Indian textiles & costumes - Vedic, Mauryan, Kushans, Satavahana, Gupta & Mughal

Unit 4 **6 Hrs**

Gothic costumes, Renaissance costumes, Baroque costumes, (Italian, English, Spanish) French (Rococo costumes, Neo-classical costumes).

Unit 5 **8 Hrs**

Textiles & costumes of Colonial, Victorian, Charles Frederick Worth, Edwardian Era, Raul Poiret WW I, WW II, Coco Chanel. Factors influencing costume change - style, religion, location, climatic condition and influence of world affairs.

Unit 6 **8 Hrs**

An overview of Indian textiles – Textile design, symbolic motifs of Indian culture from ancient to modern day - woven - Brocades of Banaras, Baluchuri, Chanderi, Tanchoi, Kanjivaram, Himru, Amru, Mashru & Dacca muslin. Dyed - tie & dye, ikat, double ikat, bandini. Printed - block, screen. Applied – dyed & painted textiles - Kalamkari.

Unit 7 **4 Hrs**

A study of regional textiles & costumes of India - North, south, east, west.

References:

1. Ashelford, Jane, "The Art of Dress: Clothes Through History 1500-1914", National Trust, 2011.
2. Jamila Brij Bhusan, "The Costumes and textiles of India", Taraporevala, Bombay, 1st edition, 1958.
3. Parul Bhatnagar, "Traditional Indian Costumes & Textiles", Abhishek Publication, 2009.
4. Phyllis Tortora, Keith Eubank, "Survey of Historical Costumes, A History of Western Dress", Fairchild Publication, 5th edition, 2009.

B.Sc. (Fashion & Apparel Design)
SEMESTER III
COSTUME & CLOTHING HISTORY

Sub Code: FAD 304 B	IA Marks: 15
Duration of Practical : 03hrs	Exam Marks: 35
Total no. of Practical Sessions :16	Duration for Exam: 3 Hrs

Requirements:

Illustration lab equipped with drawing desk, CAD lab with design software etc.

List of practicals:

1. Inspiration from 5 ancient cultures – aspects from architecture textile, art and craft, costume. Taking details and incorporating into apparel and accessory design. (Illustration only – on paper/CAD)
2. Preparation of motifs for embroidery and printed fabric.
3. Creation of 5 complete looks each (2 collections - manual, 3 collections - CAD)
4. Preparation of concept, research and mood board for contemporary design based on regional costume of India.
5. Creation of one garment with sourced materials.
6. Embellishment of above garment using any technique (painting, dyeing, embroidery).

B.Sc. (Fashion & Apparel Design)
SEMESTER III
MEN'S WEAR DESIGNING

Sub Code: FAD 305 A	IA Marks: 30
No of Lecture Hours. / Week: 03	Exam Marks: 70
Total no. of Lecture Hours:48	Duration for Exam: 3 Hrs

Objective: To familiarize students with clothing construction for different sizes & categories for men.

Unit 1 **6 Hrs**
 Definition layout, importance, principles, types of layout, importance of fabric estimation, advantages, methods of estimating material requirement for garment.

Unit 2 **4 Hrs**
 Interlining and interfacing - materials, types, properties, applications & machinery.

Unit 3 **8 Hrs**
 Grading - Definition, sizes, principles, types, grading points & importance of manual and computerized grading and software used for grading.

Unit 4 **8 Hrs**
 The pattern cutting process - The development of design, basic bodice block, basic sleeve block, developing master pattern, transferring pattern, principles of pattern cutting using technology.

Unit 5 **8 Hrs**
 The patterns - Jersey & shirts - long sleeved granddad vest, short sleeved polo shirt, hood sweatshirt, casual long sleeved shirt, lumberjack shirt, short sleeved safari shirt & bib shirt.

Unit 6 **8 Hrs**
 The patterns – Trousers - single pleat, double pleat, pencil cut, bell bottom, jodhpuris. Bifurcated garments - Introduction to culottes, trouser & its variations.

Unit 7 **6 Hrs**
 The patterns - Outerwear - Cagoule, fitted denim jacket, trench coat, single breasted jacket, double breasted jacket, waxed jacket, parka.

References:

1. Gareth Kershaw, "Pattern Cutting for Menswear", Laurence King, 2013.
2. Gerry Cooklin, "Pattern Grading for Men clothes - The technology of sizing", Blackwell Science, UK, 2004.
3. Helen J Armstrong, Pattern making for Fashion Design, Pearson publication, 5th edition, 2014.
4. Patric Taylor et.al., "Grading for the Fashion Industry", Stanley Thomas Ltd., 1990.
5. Winfred Aldrich, "Metric Pattern Cutting", Blackwell Science, UK, 2015.

B.Sc. (Fashion & Apparel Design)

SEMESTER III

MEN'S WEAR DESIGNING

Sub Code: FAD 305B	IA Marks: 15
Duration of Practical : 03hrs	Exam Marks: 35
Total no. of Practical Sessions :16	Duration for Exam: 3 Hrs

Requirements:

Standard dress forms – Men, pattern making lab - pattern making tools and equipment, SNLS, Overlock machine, pressing tools and equipment.

List of practicals:

1. Designing & construction of garments with style features using drafting, flat pattern technique - men's wear vest
2. Development of cuffs and pockets – Basic & French, Pockets – Patch pocket, pocket with flap, welt pocket, seam pocket, plackets – 2-piece placket, concealed placket, continuous bound placket.
3. Designing & construction of garments with style features - men's shirt.
4. Designing & construction of garments with style features - men's short sleeved safari or trench coat.
5. Designing & construction of garments with style features - men's hood sweatshirt.
6. Designing & construction of garments with style features - men's trouser.
7. Grading of all the above patterns and development of spec-sheet.

SEMESTER IV

B.Sc. (Fashion & Apparel Design)
SEMESTER IV
KNIT & INTIMATE WEAR DESIGNING

Sub Code: FAD 403 A	IA Marks: 30
No of lecture Hours. / Week: 03	Exam Marks: 70
Total no. of Lecture Hours:48	Duration for Exam: 3 Hrs

Objective: To familiarize students with knitwear clothing design and construction.

- Unit 1** **8 Hrs**
Introduction to knit wear fabric selection for different garments GSM, sportswear - current sportswear market, key trends in sportswear design, design considerations in sportswear and footwear, sportswear and comfort, protection from injury, performance requirements of fibres and fabrics for sportswear, sports footwear industry. List of sportswear manufacturer and brands, styles of sportswear.
- Unit 2** **8 Hrs**
Cutting and sewing machineries for knitted garment manufacturing, 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 3** **8 Hrs**
Stitches and seams for knitted fabrics, 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 4** **6 Hrs**
Handling special fabric - factors for consideration while making patterns & garment construction using special fabrics - stretch fabrics, knit & lace.
- Unit 5** **6 Hrs**
Intimate apparels – Definition, classification, materials - fiber, fabric and accessories, physical and physiological requirements of intimate apparels. Sewing of intimate apparels - seams, stitches, machines – lamination, moulding and welding technique.
- Unit 6** **6 Hrs**
Design analysis, measurements, pattern drafting of men’s intimate apparel - Long johns, tank top, tanga, boy shorts, knickers, bikini underwear, thong, boxer briefs, boxer shorts and jock strap.
- Unit 7** **6 Hrs**
Design analysis, measurements, pattern drafting of women’s intimate apparel - waist petticoats, panties, camisoles, tube top, shape wear, bikini and bra. Intimate apparel accessories - Bra wire, hook and eye tape, ring and slider, buckle, plastic bone, elastics and sewing threads.

References:

1. Ann Haggard, “Pattern Cutting for Lingerie, Beach Wear and Leisure Wear”, Black Well Science Limited, France, 2001.
2. Chuter A J, “Introduction to Clothing Production Management ”, Blackwell Scientific Publications, 1995.

3. David J Tyler, "Materials Management in Clothing Production ", Blackwell Scientific Publications, 1992.
4. Harlock C, S P Ng., "Innovation and Technology of Women's Intimate Apparel", Woodhead Publishing Limited, England, 2006.
5. Gerry Cooklin, "Pattern Cutting for Women's Outerwear", Blackwell Science Ltd., England, 1992.
6. Gerry Cooklin, "Pattern Grading for Women's Clothes", Blackwell Science Ltd., England, 1990.
7. Gerry Cooklin, "Pattern Grading for Men's Clothes", Blackwell Science Ltd., England, 1992.
8. Gerry Cooklin, "Master Patterns and Grading for Women's Outsizes", Blackwell Science Ltd, England, 1995.
9. Lynn Nottage, "Intimate Apparel / Fabulation", Theatre Communications Group, USA, 2006.
10. Singer, "Sewing Lingerie", Cy Decosse Incorporated, Mexico, 1991.
11. Stokes Terry, "Intimate Apparel", Brooklyn: Release Press, USA, 1980.
12. Winifred Aldrich, "Metric Pattern Cutting for Men's Wear", Blackwell Science Ltd, England, 1990.

B.Sc. (Fashion & Apparel Design)
SEMESTER IV
KNIT& INTIMATE WEAR DESIGNING

Sub Code: FAD 403 B	IA Marks: 15
Duration of Practical : 03hrs	Exam Marks: 35
Total no. of Practical Sessions :16	Duration for Exam: 3 Hrs

Requirements:

Pattern making and sewing labs - Pattern making table, tools and equipment, sewing tools and equipment, flatlock and overlock machine etc.

List of practicals:

1. Threading practice - Flatlock machine.
2. Fold practice - Flatlock machine.
3. Top stitch practice - Flatlock machine.
4. Basic bodice pattern development for knit wear - men and women
5. Pattern making and construction for track pant
6. Construction of men's style
 - Basic T-shirt with front patch pocket
 - Polo T-shirt with short sleeve
 - Track pant with side piping knit wear T- shirt with style features
7. Construction of women's Style
 - V neck T shirt with half sleeve
 - Legging
8. Designing & construction of intimate garments with style features - Long johns, tank top, tanga, boy shorts, knickers, bikini underwear, thong, boxer briefs, boxer shorts and jock strap.

B.Sc. (Fashion & Apparel Design)
SEMESTER IV
DIGITAL FASHION STUDIO – II

Sub Code: FAD 404A	IA Marks: 30
No of lecture Hours. / Week: 03	Exam Marks: 70
Total no. of Lecture Hours:48	Duration for Exam: 3 Hrs

Objective: To help students to understand the application of CAD, CAM, CAPP, CIM and CAQ in apparel industry.

Unit 1 **10 Hrs**

CAD – Introduction, types of CAD – Textile design systems (Knitted fabrics, printed fabrics, yarn-dyed fabric), Illustration/sketchpad systems (Texture mapping: 2 ½ and 3D draping software), Embroidery systems, specification and costing systems, digitizing systems, grading systems, marker making systems (plotting, cutting operations, PDS - Pattern, design software, body measurement software), commercial software systems.

Unit 2 **8 Hrs**

CAM - Introduction, categories - computer monitoring & control and manufacturing support, computer generated work standards - time standards & work measurements.

Unit 3 **8 Hrs**

Computer aided process planning (CAPP) - Retrieval type & generative type of CAPP systems and benefits of CAPP.

Unit 4 **8 Hrs**

CIM – Introduction, its types – traditional and computer integrated production management systems. Inventory management & production scheduling. Material requirement planning, capacity requirement planning, shop floor control. Material handling systems, human labour in the manufacturing systems and its benefits. Product data management system.

Unit 5 **4 Hrs**

CAQ – Introduction, terminologies, Inspection methods, contact and non-contact inspection methods with examples and its uses.

Unit 6 **10Hrs**

Applications – Fabric lay planning, computerized cutting, sorting and labelling, bundling, Fabric pattern designing, modification for size & fit, pattern making (PDS), grading and marker making, marker efficiency using pattern making software. Future of CAD/CAM.

References:

1. Annual World, “Computers in the world of textiles”, Textile Institute, UK, 1984.
2. Berkstresser, Buhanan & Graddy, “Automation in the Textile Industry: from Fibres to Apparels”, The Textile institute, UK.1995.
3. Taylor P, “Computers in Fashion Industry”, Heinemann Publications, 1990.
4. Veinsinet D O, “Computer Aided Drafting & Design-Concept & Application”, 1987.
5. Winfred Aldrich, “CAD in Clothing & Textiles”, Blackwell science, 1994.

B.Sc. (Fashion & Apparel Design)
SEMESTER IV
DIGITAL FASHION STUDIO - II

Sub Code: FAD 404 B	IA Marks: 15
Duration of Practical : 03hrs	Exam Marks: 35
Total no. of Practical Sessions :16	Duration for Exam: 3 Hrs

Requirements:

Pattern making software and digitizer.

List of Practicals

1. Digitizing - Basic set of patterns - Women's front & back bodies, sleeves and front & back skirt)
2. Prepare patterns for base size
Children – Girls (A-line & yoke frock), Boys (shirt & shorts)
Adults – Women's (Top, Skirt, gown), Men's (Shirt, Kurtha, Trouser)
3. Grading of pattern for children – Girls (A-line & yoke frock), Boys (shirt & shorts)
Adults – Women's (Top, Skirt, gown), Men's (Shirt, Kurtha, Trouser)
4. Marker making for children – Girls (A-line & yoke frock), Boys (shirt shorts)
Adults – Women's (Top, Skirt, gown), Men's (Shirt, Kurtha, Trouser).

B.Sc. (Fashion & Apparel Design)
SEMESTER IV
HAUTE COUTURE EMBELLISHMENT

Sub Code: FAD 405 A	IA Marks: 30
No of Lecture Hours / Week: 03	Exam Marks :70
Total no. of Lecture Hours: 48	Duration for Exam : 3 Hrs

Objective: To understand various types of value addition to the garment or accessory.

Unit 1	6 Hrs
Introduction to embroidery - Tools, materials, techniques, stitches and its types.	
Unit 2	12 Hrs
Traditional Western embroideries – Bargello, cutwork, drawn thread work, cross stitch, couching	
Unit 3	6 Hrs
Surface ornamentation through printing - Block, screen, tie & dye, batik, and hand painting techniques.	
Unit 4	6 Hrs
Value addition through Zardozi, Ari work, Mirrorwork.	
Unit 5	12 Hrs
Special techniques - Braiding, ribbon work, smocking, applique work, bead and sequins techniques to embellish the garments.	
Unit 6	6 Hrs
Machine embroidery - Features, advantages and techniques. Present trend in surface ornamentation for value addition.	

References:

1. Di Van Niekerk, “Ribbon Embroidery and Stump Work”, Search Press, 2016.
2. Jan Eaton, “200 crochet blocks”, Sewandso, UK, 2005.
3. Maggie Grey & Jane Wild “Paper, metal and stitch, Batsford, 2013.
4. Reader's digest crafts and hobbies, Reader's Digest Association, 1979
5. Sharon Chambers, “Learn to Quilt”, IMM Lifestyle, 2008.
6. Tracy A Franklin, “Contemporary White work”, Batsford Ltd., 1st edition, 2007.

B.Sc. (Fashion & Apparel Design)
SEMESTER IV
HAUTE COUTURE EMBELLISHMENT

Sub Code: FAD 405 B	IA Marks: 15
Duration of Practical : 03hrs	Exam Marks: 35
Total no. of Practical Sessions :16	Duration for Exam: 3 Hrs

Requirements:

Tables, tools and equipment – hand embroidery, block printing, hand painting etc.

List of Practicals:

1. Different types of flat stitches - Use needle & thread to carry out running stitch, back stitch, stem stitch & satin stitch on fabric.
2. Carry out different types of loop stitches - Use needle & thread to carry out chain stitch, button hole stitch, blanket stitch, fishbone stitch, feather stitch & fly stitch on fabric.
3. Types of knotted stitches - Use needle & thread to carry out different types of knotted stitches such as French knot, double knot and bullion knot stitch.
4. Use & combine different hand embroidery techniques to create decorative designs - Cross stitch, mirror work, English smocking, cut work, applique work & drawn thread work.
5. Block printing, hand painting techniques, fabric painting - Dry, wet, spray.
6. Develop a Tie & dye & batik samples.
7. Aari work and Zardozi work.
8. Preparing a portfolio & high fashion garment by implementing above embellishment techniques.

SEMESTER V

B.Sc. (Fashion & Apparel Design)
SEMESTER V
FASHION MARKETING & MERCHANDISING

Sub Code: FAD 501	IA Marks: 50
No of Lecture Hours / Week: 04	Exam Marks : 100
Total no. of Lecture Hours: 64	Duration for Exam : 3 Hrs

Objective: To introduce students to the concepts of planning, procuring and managing the merchandise at retail level.

Unit 1 **4 Hrs**

Introduction to Indian fashion apparel industry structure, apparel manufacturing exporters, buying houses, merchant exporters, retail domestic & international brands. Role of merchandiser at different levels.

Unit 2 **6 Hrs**

Merchandising theory – Merchandising function, factors affecting merchandise functions, the merchandiser’s role and responsibilities - planning, directing, coordinating, controlling of merchandise operations.

Unit 3 **4 Hrs**

Merchandise planning - Fundamentals of merchandise planning, merchandise perspective on pricing, planning and controlling merchandise budgets, planning and controlling merchandise assortments.

Unit 4 **6 Hrs**

Developing and presenting product lines - Developing product lines, presenting product lines, global sourcing, and vendor management.

Unit 5 **8 Hrs**

Retail pricing and evaluating merchandise performance, concept elements, retail pricing policies, adjustments, margin return as investment, evaluating merchandise performance.

Unit 6 **10 Hrs**

Planning merchandising budgets - Planning sales, planning stock, planning mark-ups and markdowns, planning purchases, planning open-to-buy and profit and loss statement.

Unit 7 **10 Hrs**

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 8 **8 Hrs**

Inspection and its types – Testing – Check points before cutting, pilot run or trial run and its importance. Approvals - types of approvals. Shipping marks, final inspection procedures – self, second and third party inspection - effective expedition procedures.

Unit 9**8 Hrs**

Order sheet and its contents – Packing list and its contents, document formats - order sheet, packing list, invoice, and inspection and testing reports etc. Assortment and its types. Documents recording and maintenance – Claims and reasons for claims, factory audits – buyer’s code of conducts. Compliance management.

References

1. John Donnellan, “Merchandising Buying & Management”, Fairchild Publications, 4th edition, 2013.
2. Ruth E Glock, “Apparel Manufacturing”, Dorling Kinderley (India) Pvt. Ltd.
3. Ruth E Glock & Grace I Kunz, “Apparel Manufacturing: Sewn product Analysis”, Dorling Kinderley (India) Pvt. Ltd., 4th edition, 2003.
4. Sandra J Keiser and Myra B Garn, “Beyond Design: The Synergy of Apparel Product Development”, Bloomsburg Publishing Inc., 3rd edition, 2012.

B.Sc. (Fashion & Apparel Design)
SEMESTER V
FASHION BUSINESS COMMUNICATION

Sub Code: FAD 502	IA Marks: 50
No of Lecture Hours / Week: 04	Exam Marks :100
Total no. of Lecture Hours: 64	Duration for Exam : 3 Hrs

Objective: To introduce students to communication skills in fashion business through social media, blog, web page, e-marketing, styling, consumer understanding etc.

Unit 1 **10 Hrs**
 Introduction to communication process, problems, networks. Understanding business communication, nature & scope of communications, non-verbal, cross cultural communication, technology enabled business communication, business writing, correspondence, business reports and proposals.

Unit 2 **8 Hrs**
 Interpersonal communication, intra personal communication, small group. Presentation skill essential for effective social business and professional interaction. Cultural and intercultural communication theory and behaviour, development of specific communication skills for effective intercultural communication.

Unit 3 **6 Hrs**
 Developing communication skills for business, effective listening, business presentation & public speaking, conversations, interviews, meeting & conferences, group discussions and team presentations, team briefing, communication across functional areas, corporate communication, persuasive strategies, ethics in business communication.

Unit 4 **8 Hrs**
 Writing in the for fashion environment, 5 W's and 1 H, writing process, planning, shaping, drafting, revising, editing, proof reading, fashion journalism, writing for newspapers, magazines, writing for broadcast media.

Unit 5 **8 Hrs**
 Fashion promotion & communication, writing for creative in advertisement and publicity, public relations and image building, news media and management.

Unit 6 **8 Hrs**
 Books writing, preparation for book writing, data, points collection, planning, shaping, drafting, final draft editing, proof reading, designing cover page, publishing.

Unit 7 **8 Hrs**
 Other forms of fashion writing, communication on social media, ethics of social media communications, effective usage of social media, web page writing, blog creation, maintenance, content writing, product display and writing, communications at trade shows, exhibitions, and fashion shows.

Unit 8

8 Hrs

Principals of methods in modern group discussion, press conference, interviews and seminars.
principles of effective public speaking on delivering ideas and concepts to different audience

References:

1. Kristen K Swanson, Judith C Everette, "Writing for the Fashion Business", Fairchild Books, 2008.
2. Julie Grad Ford, "Fashion Journalism", Routledge, 1st edition, 2014.
3. Malcolm Barnard, "Fashion as Communication", Routledge, 2nd edition, 2002.
4. Marian Frances Wolbers, "Uncovering Fashion, Fashion Communication across the Media", Fair Child Books, New York, 2016.
5. Meenakshi Raman, Prakash Singh, "Business Communication", Oxford University Press 2nd edition, 2012.

B.Sc. (Fashion and Apparel Design)
SEMESTER V
PORTFOLIO DEVELOPMENT

Sub Code: FAD 503 A	IA Marks: 30
No of Lecture Hours / Week: 03	Exam Marks :70
Total no. of Lecture Hours: 48	Duration for Exam : 3 Hrs

Objective: To understand the creative concept in process of design and generate ideas and strategizing budgets and client needs. Understanding of sourcing of fabrics and trims and develop personal portfolio.

- | | |
|---|--------------|
| Unit 1 | 6 Hrs |
| Portfolio - Importance of building a portfolio. Portfolio and design relationship. Types of portfolio & layouts. | |
| Unit 2 | 8 Hrs |
| Fashion categories – Clothing categories - styling, price ranges, size ranges for men’s, women’s and kids and ranges for women, men and kids. | |
| Unit 3 | 6 Hrs |
| Fashion forecasting - Its importance, brainstorming and idea generating. Selection of themes. | |
| Unit 4 | 8 Hrs |
| Importance of boards, research board, mood board, client board, illustration board, fabric swatch and trim board, style board, accessories board. | |
| Unit 5 | 8 Hrs |
| Fashion photography - Introduction, indoor, out door, location, lighting, makeup, and hairstyle. Use of photography and content writing. Study of 2 International and 2 National fashion photographers. | |
| Unit 6 | 6 Hrs |
| Styling and its use in print and other media. Fashion styling, event styling. | |
| Unit 7 | 6 Hrs |
| Designing for special needs - Introduction, types, materials, colours, care and maintenance of hospitality uniforms/nurses uniforms/bus drivers. | |

References:

1. Erin Cadigan, “Sourcing and Selecting Textiles for Fashion”, Fairchild books, 2013.
2. John Hopkins, “Fashion Design: The Complete Guide”, Fairchild Books, 2012.
3. Karl Aspelund, “The Design Process”, Fairchild Books, 3rd edition, 2015.
4. Linda Tain, “Portfolio Presentation for Fashion Designers”, Bloomsbury Academic USA, 4th revised edition, 2018.
5. Simon Seivewright, “Basics Fashion Design 01: Research and Design”, Fairchild Books, 2007.

B.Sc. (Fashion & Apparel Design)
SEMESTER V
PORTFOLIO DEVELOPMENT

Sub Code: FAD 503 B	IA Marks: 15
Duration of Practical : 03hrs	Exam Marks: 35
Total no. of Practical Sessions :16	Duration for Exam: 3 Hrs

Requirements:

Design lab equipped with drawing desk and other required tools and equipment.

List of Practicals:

1. Carry out research on fashion design trends, analysis and consolidation of trend and forecast, developing design brief and getting it approved.
 - a. Conduct market research for trends and forecast from various sources such as forecasting sites like WGSN, forecast catalogues, etc. for garment design and extract a theme/inspiration from them.
 - b. Develop theme, client, forecast and mood boards and extract the key elements from them which is intended to be put in the garment design as per the instructions given.
 - c. Identify, develop, collect and maintain the swatches of the fabrics, trims and accessories that are required for design development
 - d. Identify fabric (print, embroidery and dye) and garment manufacturing techniques and process steps in converting a design to a garment.
 - e. Get approval from the concerned heads in context of the design collection made, fabrics, trims and accessories intended to use and the manufacturing techniques to be used to develop a garment.
 - f. Preparation of 5 collections with all boards (10 illustrations each) Women's wear, Men's wear, Kid's wear, garments for people with special needs to be included.
 - g. Preparation of Tech pack for the final design collection.
 - h. Costing of the individual garment of the final design collection.

Note:

1. Collections to be aimed at a specific market (mass produced, Haute couture, special needs, etc) minimum of 50 sketches per collection to be made in notebook. Portfolio can be of A3 or A4 size depending on the type of client chosen.
2. Portfolio to be retained by the student for the submission during the design collections in 6th semester. Same portfolio along with updated information be part of the portfolio along with the design collections during 6th semester exam.

(Portfolio development is based on the design collection to be carried out by individual students during 6th semester. During internship/craft documentation, students to decide the fabrics to be used for the collections as per the theme, they should source the fabric and accessories required for portfolio development and design collection. Internal marks for portfolio to be considered through the presentation by individual student to 3 member internal Jury committee appointed by Principal with an external jury from industry. Examination is also through presentation using Power point. Students are required to take approval in each stage from the guides).

B.Sc. (Fashion & Apparel Design)
SEMESTER V
FASHION ACCESSORY DESIGNING

Sub Code: FAD 504 A	IA Marks: 30
No of lecture Hours. / Week: 03	Exam Marks: 70
Total no. of Lecture Hours:48	Duration for Exam: 3 Hrs

Objectives: To impart knowledge of fashion accessories and to provide opportunity and to design and to develop fashion accessories.

Unit 1 **4 Hrs**

Fashion accessories - Introduction, definition. History, Classification of accessories, Tools, materials used in making accessories.

Unit 2 **8 Hrs**

Accessory types- Head gear, Watches, umbrella, parasols, Foot wear, Bows, ties and belts, Hand bags, Gloves, Scarves, Stoles,

Unit 3 **8 Hrs**

Materials and processes-leather, straw, wood. Materials required, Material sourcing. Design development & production.

Unit 4 **8 Hrs**

Trends and Marketing- Fashion trends and marketing of accessories. Study of any 2 accessory designers (Indian and Western - Christian Louboutin, Jimmy Choo, Louis Vuitton, Jamini Ahluwalia, Roopa Vohra, Suhani Pitti).

Unit 5 **12 Hrs**

Design - definition, types and production of fine jewellery, bridge and contemporary Traditional Indian jewellery. (Kundan, Thewa, Polki, Temple)

Unit 6 **8 Hrs**

Gems- Introduction to gems, types, basic qualities and healing power of gems.

References:

1. Christine Kunzerlman, "Quick style", Villard, 1st edition, 1994.
2. Celia Stall-meadows, "Know your Fashion Accessories", Fair child publication, 2003.
3. Elaine Stone, "The Dynamics of Fashion", Fairchild Publications, New York, 2001.
4. Gini Stephen Frings, "Fashion Concept to Consumer", Prentice Hall, New Jersey, 2004.
5. Jamila BrijBhusan, "Master piece of Indian jewellery", Taraporevala, 1979.
6. Jay Diamond and Ellen Diamond, "Fashion Apparel, Accessories and Home Furnishings", Pearson Prentice Hall, New Jersey, 2007.
7. Jennette A Jarnow, "Inside the Fashion Business", Macmillan publishing, New York, 1999.

B.Sc. (Fashion & Apparel Design)
SEMESTER V
FASHION ACCESSORY DESIGNING

Sub Code: FAD 504 B	IA Marks: 15
Duration of Practical : 03hrs	Exam Marks: 35
Total no. of Practical Sessions :16	Duration for Exam: 3 Hrs

Requirements:

1. Illustration Lab
2. CAD Lab with software
3. Materials for constructing accessories

List of Practicals:

1. Handling of different Materials - Work with paper, fabrics, dried stuff, wood, glass, string, beads etc.
2. Market research of branded & luxury fashion accessories.
3. Sketching & developing of headgear, hand wear, foot wear and hand bags based on inspiration and research. Working drawing with specification sheet (6 sketch & 1 product of each).
4. Sketching and rendering of belts, gloves (6 each) and construction of any one based on inspiration and research. Working drawing with specification sheet.
5. Designing of Indian jewellery - Drawing, bending, cutting, spirals, forging, jump rings, chains, twisting, inspired from Mughal Jewellery, Thewa, Kundan Jewellery, Temple Jewellery.
6. Construction of accessory based on hand made technique (crochet, macramé, kumihimo, tatting, mirrorwork, clay)

B.Sc. (Fashion & Apparel Design)

SEMESTER V

VISUAL MERCHANDISING & STORE MANAGEMENT.

Sub Code: FAD 505 A	IA Marks: 30
No of Lecture Hours / Week: 03	Exam Marks :70
Total no. of Lecture Hours: 48	Duration for Exam : 3 Hrs

Objective: To introduce students to the concepts of window display and trends in visual merchandising.

Unit 1 **10 Hrs**

Introduction, concepts and role, importance in store planning and utilizing basic visual merchandising techniques. Role of atmosphere in garment retailing – immediate effects and simulation types, visual merchandisers in garment retailing.

Unit 2 **8 Hrs**

Store exterior and interior - Store exterior – marquee, facade, exterior display, surrounding stores and displays. Store interior – store atmospheric, aesthetic, execution of store lay out, selection of display locations, lifts, staircase, elevators, and utilization of store space. Display composition - Elements and principles of design, tools and materials.

Unit 3 **6 Hrs**

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

Unit 4 **8 Hrs**

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

Unit 5 **8 Hrs**

Lightings - lights types, selection, advantages and disadvantages, music, using effective graphics and signage for theme, campaign and promotional aspects - safety and security. Theme, interior and exterior displays used in garment retail outlet, boutique and haute couture, accessories show rooms, mannequins, fabric and paper displays.

Unit 6 **8 Hrs**

Objectives and importance of store management, responsibility of a store manager, major functions of a store, complete customer data management, understanding of customer, store operations monitoring, housekeeping of the store, merchandise understanding, analysis of sales, stocks, loss, merchandise handling & controlling, stock shrinkage safety in stores, customer loyalty development and customers ratings.

References:

1. Arif Sheikh, Kaneez Fathima, “Retail Management”, Himalaya publishing House, 2017.

2. Bajaj Chetan, Tuli Rajesh, and Srivastava Nidhi V., “Retailing Management”, Oxford University Press, New Delhi, 2007.
3. Berman Barry and Evans Joel R. “Retail Management: A Strategic Approach”, Prentice-Hill of India, 2002.
4. Claus Ebster, Marion Garaus, “Store Design and Visual Merchandising: Creating Store Space That Encourages Buying”, McGraw-Hill Education, 2011.
5. Lamba A J, “The Art of Retailing” Tata McGraw-Hill Companies Inc., 2003.
6. Sarah Bailey, Jonathan Baker, “Visual Merchandising for Fashion”, Bloomsbury Publishing India Private Limited, 2014
7. Swapna Pradhan, “Retailing Management”, Tata McGraw Hill Publishing Company Ltd., 2nd edition, 2007.
8. Tony Morgan, “Visual Merchandising”, Laurence King Publishing, 2nd revised edition, 2011.
9. Uma Sekaran , “ Organisational Behaviour”, Tata McGraw-Hill, 1989.

B.Sc. (Fashion & Apparel Design)

SEMESTER V

VISUAL MERCHANDISING & STORE MANAGEMENT

Sub Code: FAD 505 B	IA Marks: 15
Duration of Practical : 03hrs	Exam Marks: 35
Total no. of Practical Sessions :16	Duration for Exam: 3 Hrs

Requirements:

1. A full size VM Lab with 10 nos physical windows of 10’x8’x10 ft.
2. CAD systems with VM software/systems with corel draw, Photoshop/Adobe Illustrator.

List of Practicals

1. Theme based mood boards for retail, haute couture and accessory display using software (four themes).
2. Planograms for above windows.
3. Theme based design of window for all above themes using software (four themes).
4. Implementation of one theme on actual window.
5. Planograms for different spaces to be designed using software (retail spaces, office spaces).
6. Preparation of windows and props as per research carried out on the theme and first look

B.Sc. (Fashion & Apparel Design)
SEMESTER V
INTERNSHIP/ CRAFT DOCUMENTATION

Sub Code: FAD506	IA Marks: 50
	Exam Marks :100
	Duration for Exam : 3 Hrs

Objective: To impart practical knowledge on working of apparel/retail industry/textile craft cluster. The students are required to carry out the internship or craft documentation for a minimum period of 30 days in a reputed apparel export manufacturing unit/apparel retail industry or the hand loom textile cluster across the country. They should understand the layout, working, products, and clientele of the manufacturing units /retail/handloom cluster. Student should have high quality photographs of their internship/craft documentation and it should be part of their report.

Documentation should contain the following:

- Introduction
- Objectives
- Literature review
- Methodology
- Process
- Summary and Conclusion
- Bibliography

SEMESTER VI

B.Sc. (Fashion & Apparel Design)

SEMESTER VI

SUPPLY CHAIN MANAGEMENT IN APPAREL INDUSTRY

Sub Code: FAD 601	IA Marks: 50
No of Lecture Hours / Week: 04	Exam Marks :100
Total no. of Lecture Hours: 64	Duration for Exam : 3 Hrs

Objectives: To expose students to current domestic and international apparel industry - Sourcing, manufacturing, marketing and logistics.

Unit 1 **12 Hrs**

Supply chain - Introduction, definition, importance, types of supply chain flow, decision process in supply chain - a strategy design, chain planning and operation; organization of supply chain. Process view – push/pull and cycle view, achieving strategic fit.

Unit 2 **12 Hrs**

Designing and distribution - Roles, network, factors influencing and design options - its advantages and disadvantages; value of distributors - factors influencing design frame work and networks in practice.

Unit 3 **14 Hrs**

Demand and supply forecasting - Definition, role, importance, characteristics of forecasting, basic approaches in demand forecasting and forecasting methods; managing demand and managing supply in supply chain, roles of aggregate planning in supply chain. Quick response strategy in apparel industry.

Unit 4 **6 Hrs**

Inventory - Definition, types, roles, characteristics and inventory functionalities; determining optimum level of availability, order point, EOQ, role of safety inventory and accommodating uncertainties.

Unit 5 **6 Hrs**

Sourcing – Introduction, types, role, supplier assessment, selection criteria, design collaborations and plan analysis for sourcing, JIT Technology of inventory management in apparel industry.

Unit 6 **14 Hrs**

Transportation, pricing and technology - Transportation - modes, factors influencing the selection, routing and scheduling, transport network; Role of revenue management in supply chain – customer and seasonal demand, role of bulk and spot contract in revenues; the role of IT in supply chain – CRM, ISCM, SRM, TMF and E-Business. Effect of lack of coordination in supply chain and international issues in supply chain.

References:

1. Burt David N, Dobler Donald W and Starling Stephen L, “World Class Supply Management: A Key to Supply Chain Management”, Tata McGraw Hill, 2007.
2. Chopra Sunil and Meindl Peter, “Supply Chain Management: Strategy, Planning and Operation”, Pearson Education, 2002.
3. Francis Harrison, “Supply Chain Management”, Butterworth Publications, New Delhi, 2002.
4. Kulkarni Sarika and Sharma Ashok “Supply Chain Management”, Tata McGraw Hill, New Delhi, 2007.

5. Mohanty R P and Deshmukh S G, “Essentials of Supply Chain Management”, Jaico Publishing House, 2004.

B.Sc. (Fashion & Apparel Design)

SEMESTER VI

APPAREL PRODUCTION

Sub Code: FAD 602 A	IA Marks: 50
No of Lecture Hours / Week: 04	Exam Marks :100
Total no. of Lecture Hours: 64	Duration for Exam : 3 Hrs

Objectives: To introduce the students to the overall working apparel manufacturing industry.

Unit 1 **8 Hrs**

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 2 **10 Hrs**

Materials management - classification of materials, importance and objectives of materials management. Inventory - classification, inventory control models- factors influencing inventory control, ABC analysis - EOQ. MRP – introduction, concepts and advantages, factors influencing the requirements of inventory. CRP - types, measurement & determination of capacity, CRP inputs & outputs. Optimum level of production.

Unit 3 **10 Hrs**

Concept and need - Method study and work measurement, techniques – process chart symbol, process flow chart, flow diagrams, string diagrams, multiple activity chart, SIMO chart, principles of motion economy. Time study methods - Standard time data, ergonomics with special reference to garment industry.

Unit 4 **8 Hrs**

Methods of production systems - Job, mass & batch - Section systems, progressive bundle system, synchro system, conveyor systems, unit production system and quick response system. Productivity concepts - measurement of productivity, man machine material - criteria for increasing productivity.

Unit 5 **10 Hrs**

Qualitative and quantitative analysis of production - Coordinating departmental activities, flow process and charts for garment, scheduling calculations, assigning operators optimally, setting up complete balanced production lines to produce given amount of garments.

Unit 6 **10 Hrs**

Types of cutting machines and their application - Detailed study on band knife and straight knife machines, basic concept of fabric spreading machines. Classification of garment manufacturing machines - description and functioning of single needle lock stitch machine, double needle lock stitch machine, over lock machine, flat lock machine, possible modifications and its application. Attachments for various purpose - guides and folders, flat bed, cylinder bed, post bed – types and applications, parts of machine needles – needle Sizes.

Unit 7 **8 Hrs**

Button stitching – snap button fixing, bar tacking, feed off the arm, embroidery machines, placket making machines, heavy duty sewing machines. Introduction to various machines for garment

finishing – fusing, sucking, ironing, packing.

References:

1. Carr & Latham , “Technology of Clothing Manufacture”, Wiley Publication, 1994.
2. Gerry Cooklin, “Introduction to Clothing Manufacture”, John Wiley & Sons, 2nd edition, 2006.
3. Chuter A J, “Introduction to Production Management”, John Wiley & Sons, 2nd edition, 1995.
4. Grace Kunz, “Merchandising Theory, Principles and Practice”, Fair Child Books, New York, 2005.
5. Jacob Solinger, “Apparel Manufacturing – Hand Book”, Bobbin Blenheim Media Corp, 2nd edition, 1988.
6. Khanna O P, “Industrial Engineering and Management”, Dhanpat Rai Publications, 2018.
7. Maccam, Dinald H, “How to Make Sewing Pattern”, Blue Feather Products, revised edition 1977.
8. Rathinamoorthy R, Surjit R, “Apparel Merchandising”, Woodhead Publication India Pvt. Ltd., New Delhi, India, 2018.
9. Ruth E Glock, Grace I. Kunz, “Apparel Manufacturing: Sewn Product Analysis”, 4th Edition. Prentice Hall, 2004.

**B.Sc. (FASHION AND APPAREL DESIGN)
SEMESTER VI
ENTREPRENEURSHIP**

Sub Code: FAD 603	IA Marks: 50
No of Lecture Hours / Week: 04	Exam Marks :100
Total no. of Lecture Hours: 64	Duration for Exam : 3 Hrs

Objectives: To develop entrepreneurship skills among the students and to familiarize the students with the process and procedure of setting up new enterprises.

Unit 1 **10 Hrs**
Introduction to entrepreneurship, development of entrepreneurship, role of entrepreneurs in development of apparel and fashion industry, entrepreneurship with reference to fashion and apparel industry in India.

Unit 2 **10 Hrs**
Entrepreneurial support by state, central financial institutions, organizations. Government policies with reference to textile and apparel industry. Skill India schemes, benefits, how to avail, MUDRA Yojana, start-ups, incubation centres.

Unit 3 **10 Hrs**
Business planning - Starting a new venture related to apparel industry, essentials of a successful centre. Formalities of opening a firm, the status of firm, individual proprietor/partnership/ Pvt. limited company & public Ltd. company, bank formalities, term loan, working capital, project financing.

Unit 4 **14 Hrs**
Location & plant layout-factors influencing plant location, building, structure, lighting, ventilation, material handling, availability of labour, material management and transportation. Plant layout, ergonomics safety & security to be considered while planning the layout.

Unit 5 **14 Hrs**
Industrial sickness and remedies, tax planning, GST, patent rules, factory act, minimum wages, knowledge of exemptions & deductions.

Unit 6 **6 Hrs**
Environmental considerations and social responsibilities.

References:

1. Khanka S S, "Entrepreneurial development", Chand Publications, 2007.
2. Ormerod A, "Textile Project Management", The Textile Institute, 1992.
3. Sangram Keshari Mohanti, "Fundamentals & Entrepreneurship", PHI learning, 2009
4. Terry & Franklin, "Principles of Management", AITBS, 2002
5. Vasanth Desai, "The Dynamics of Entrepreneurial Development & Management", Himalaya publish house, 6th edition, 2015.

B.Sc. (Fashion & Apparel Design)
SEMESTER VI
GARMENT SURFACE ORNAMENTATION

Sub Code: FAD 604 A	IA Marks: 30
No of Lecture Hours / Week: 03	Exam Marks :70
Total no. of Lecture Hours: 48	Duration for Exam : 3 Hrs

Objective: To impart knowledge about value addition to apparels.

Unit 1 **6 Hrs**
Introduction to traditional embroideries.

Unit 2 **12 Hrs**
Traditional Indian embroidery - History, types, symbolism of embroidery of different states of India - Kutch and Kathiawar, Phulkari, Kantha, Kashida - Material, motifs, symbolism, colour, stitches, technique, relevance.

Unit 3 **12 Hrs**
Traditional Indian embroidery - History, types, Kasuthi, Chamba rumal, Zardozi, Chikankari, - Material, motifs, symbolism, colour, stitches, technique, relevance.

Unit 4 **12 Hrs**
Tribal embroidery - Introduction, types – Manipuri, Lambadi, Thoda with their traditional influence, symbolism, techniques, fabric, stitches & colour.

Unit 5 **6 Hrs**
Garment printing techniques - Chest printing, finishing of denim fabrics by mechanical, laser, biofinishes.

References:

1. Savithri Pandit, "Indian Embroidery", Pandit, 1st edition, 1976.
2. Shailaja D Naik, "Traditional Embroideries of India", APH Corp, New Delhi, 1996.
3. Satheesan, "Innova - Indian Ethnic Designs", Honesty Publishers and Distributors, 2009.
4. Sheila Paine, "Embroidered Textile", Thames & Hudson Ltd., 1990.
5. Usha Srikant, "Ethnic Embroideries of India", B.N.Sales Co., 2015.
6. Usha Shrikant, "Designs for a lifetime", Honesty publishers.

B.Sc. (Fashion & Apparel Design)
SEMESTER VI
GARMENT SURFACE ORNAMENTATION

Sub Code:FAD 604 B	IA Marks: 15
Duration of Practical : 03hrs	Exam Marks :35
Total no. of Practical Sessions :16	Duration for Exam : 3 Hrs

Requirements:

Embroidery tools and equipment.

List of Practicals:

1. Introduction to traditional Indian embroideries.
2. Traditional Indian embroidery - Kutch and Kathiawar, Phulkari, Kantha, Kashida
3. Indian embroidery - Kasuthi, Chamba rumal, Zardozi, Chikankari
4. Tribal Embroidery- Introduction, Types – Manipuri, Lambadi, Thoda.
5. Using the above learning, prepare detailed portfolio of a product designing using combination of at least 3-4 techniques to be made by individual student.

B.Sc. (Fashion & Apparel Design)

SEMESTER VI

APPAREL QUALITY MANAGEMENT AND ANALYSIS

Sub Code: FAD 605 A	IA Marks: 30
No of Lecture Hours / Week: 03	Exam Marks :70
Total no. of Lecture Hours: 48	Duration for Exam : 3 Hrs

Objectives: To introduce students to apparel quality management aspects.

Unit 1 **2 Hrs**

Importance of quality in apparel and RMG industry, product positioning in the market, intrinsic and extrinsic quality parameter, branding and customer loyalty in brand image building.

Unit 2 **6 Hrs**

Apparel quality - Apparel dimensional stability (shrinkage) testing, spirality. Print and sequins durability evaluation. Colour fastness to washing, light, sublimation. Seam strength and seam slippage. Analysis of sewability. Care Labelling - Standards for care label instructions, verification of care label, interpretation of care label, fibre composition analysis. Interpretation of test reports.

Unit 3 **8 Hrs**

Garment safety - Consumer product safety regulatory. Torque test, tension test, impact test, sharp point, sharp edge, small parts testing and draw string regulation. Accessory testing - Zipper endurance, button impact testing, snap pull strength testing. Comfort and handle evaluation - Air permeability, moisture management tester, water vapour permeability, Kawabata Evaluation System, drapability, stiffness, crease recovery testing method

Unit 4 **9 Hrs**

Fabric and in-process inspection - Inspection and its significance. Fabric inspection – 4 point and 10 point system. Different types of defects in fabrics. Quality parameters and their control in pattern making, cutting and sewing. Root cause analysis for defects. Quality control of trims and accessories, instrumental shade sorting.

Unit 5 **9 Hrs**

Apparel quality inspection - Acceptable quality level (AQL) – sampling plan, level of inspection, acceptance criteria. Arbitrary sampling. Selection of samples, categorization of critical, major and minor defects, measurement tolerances and standard for finished garment. Seven tools of quality control – pareto analysis.

Unit 6 **6 Hrs**

Interlining - peel bond strength. Style features - trims specification, stitch specification, size scale, garment dimensions and tolerances. Quality of trims and accessories. Defects in garments and their remedies - A, B and C zones in a garment with respect to defects. Size and fit - variation to measurements, allowances, shrinkage, appearance, presentation, packing/packing material, care label.

Unit 7 **8 Hrs**

Quality management concepts - quality control and inspections – SQC, TQM. ISO. Laboratory testing for quality and performance.

References:

1. Angappan P & Gopalakrishnan R, "Textile testing", SSMITT Students Co Operative Stores, Komarapalayam, 4th revised edition, 1997.
2. Billie J Collier and Helen H Epps, "Textile Testing and Analysis", Prentice Hall Publishers, India, 1998.
3. Booth J E, "Principles of Textile Testing", CBS Publishers and Distributors Pvt. Ltd., 2018.
4. Elliot B Grover & Hamby D S, "Hand book of Textile Testing & Quality Control", Wiley India Pvt. Ltd., 2011.
5. ISO standards / AATCC / ASTM – Technical manuals
6. Pradip V Mehta, "An Introduction to Quality Control for Apparel Industry" – ASQC Quality Press, India, 1998.
7. Pradeep V Metha & Satish k. Bhardwaj, "Managing Quality in Apparel Industries", New Age International Private Limited, 1998.
8. Saville B P, "Physical Testing of Textiles", Woodhead Publishing Ltd., England, 2004.
9. Subrata Das, "Quality Characterisation of Apparel" Woodhead Publishing Ltd., England, 2012.

B.Sc. (Fashion & Apparel Design)
SEMESTER VI
APPAREL QUALITY MANAGEMENT AND ANALYSIS

Sub Code: FAD 605 B	IA Marks: 15
Duration of Practical : 03hrs	Exam Marks :35
Total no. of Practical Sessions :16	Duration for Exam : 3 Hrs

Requirements:

Textile and apparel testing tools and equipment and fabric inspection table.

List of Practicals:

1. Determination of apparel seam strength and seam slippage.
2. Determination of stretch and recovery of knits and stretch denim.
3. Determination of apparel dimensional stability.
4. Determination of button impact, button and snap pull strength.
5. Determination of zipper endurance & zipper puller, crosswise strength.
6. Determination of colour fastness properties – perspiration & rubbing fastness
7. Identification of fabric defects, inspection of fabric defects on 4 point and 10 point systems basis.
8. Identification and preparation of different types of care labels on paper.
9. Identification of defects in garment preparation, shape, size & fit, final inspection of the garment.
10. Complete analysis of at least two branded garment for construction and prepare a detailed spec sheet. Construction of garments using the same spec-sheet details to replicate the sample analysed.

B.Sc. (Fashion & Apparel Design)
SEMESTER VI
DESIGN COLLECTION

Sub Code: FAD 606 B	IA Marks: 50
Duration of Practical : 03hrs	Exam Marks :100
Total no. of Practical Sessions :16	Duration for Exam : 3 Hrs

Design collection will be based on the portfolio developed and also fabric & supporting material identified during the 5th semester.

One collection of 5 wearable garments to be produced.

To prepare the toiles as per the illustration.

Preparation of paper patterns.

Construction & finishing of the garments as per the tech pack.

Presentation of the design collection to internal committee.

Photo shoot of design collection – Indoor & outdoor (photograph to be part of portfolio).

Presentation of the design collection in the fashion show (photograph to be part of portfolio).

(Design collection is the continuation of portfolio development. 5 ensembles to be constructed as approved in the portfolio. The design collection is to be presented compulsorily by the students in fashion show. All the ensembles are to be developed by the student inside the lab only. During internal and external evaluation, photographs to be presented to the valuator as proof of independent working to design garments. Internal assessment marks to be given through the continuous evaluation of the student and also the presentation given to the internal committee with an external jury member from Industry. University exam is based on design collection and Portfolio. Student is required to present the design collections to the examiners and substantiate their design concept and process).

**B.Sc. (FAD) Examination Question paper pattern:
(2019-20 onwards)**

Theory papers

Time : 3 Hours

Max Marks 70

Instructions to Candidates

1. Answer all sections compulsorily.
2. Illustrate Where ever necessary.
3. Write the Question Number Legibly.

Section A : 10 x 2 = 20 Marks.

Answer any Ten out of twelve Questions.

Section B ; 5 x 4= 20 Marks

Answer any Five out of Seven Questions

Section C : 5 x 6 =30 Marks

Answer any Five out of Seven Questions.

Theory Examination Question paper Pattern

Time: 3 Hours

Max Marks 100

Instructions to Candidates

1. Answer all sections compulsorily.
2. Illustrate Where ever necessary.
3. Write the Question Number Legibly.

Section A : 10 x 2 = 20 Marks.

Answer any Ten out of Twelve Questions.

Section B : 5 x 6 = 30 Marks

Answer any Five out of Seven Questions

Section C : 5 x 10 = 50 Marks

Answer any Five out of Eight Questions.

Practical examination question paper pattern

Time: 3 Hours

Max Marks 35

All Four sections are compulsory for all examinations.

Section 1 : Attempt one experiment out of Four 10 marks

Section 2 ; Attempt one experiment out of Four 10 marks

Section 3 : Viva-Voce 10 marks

Section 4 : Record works 05 marks.