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Sector: Apparel Sector

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VOCATIONAL EDUCATIONAL QUALIFICATION FRAMEWORK
(Sector: Apparel & Textiles Specialization – Fashion Design)
NVEQF/A&T/FD

S.No.	Certificate Level	Vocational Hours
1.	Level-I	200-300
2.	Level-II	200-300
3.	Level-III	300-400
4.	Level-IV	300-400
5.	Level-V	400-500
6.	Level-VI	500-600
7.	Level-VII	600-700

Certificate Level- I

1. Introduction to Textiles

- Indian Textile Industry
- Major Production Segments of the Textile supply Chain
- Textile Pipeline: Fiber to Consumer

2. Basic Design & Drawing

- Elements of Design
- Principles of Design
- Textile Design Terminology
- Introduction to Pencil Shading
- Nature Drawing- Understanding Forms & Arrangements
- Perspective Drawing
- Concept of 2D & 3D Forms
- Design repeat
- Working with grids

3. Profile of Fashion Industry

- Introduction to International Fashion Industry
- Profile of Indian Fashion Industry
- Prominent Fashion Designers
- Fashion Terminology
- Role of Fashion designer, Co-coordinator, merchandiser, stylist etc.

4. Textures on Fabric

- Types of Textures & Illustration techniques for textiles
- Textural effects, use of textures in textile designing
- Collection of different types of fabric textures

5. Project Based on Visit to Textile Museum

- Detailed study on the given topic, data collection, evaluation & conclusion.
- The student will be required to complete their study and submit a comprehensive report.

Certificate Level- II

1. Introduction to Textile Fibres

- Fibre definition & classification
- Fibre properties & End Use- Natural & Man-made
- Different methods of fiber identification- physical examination, burning test & chemical test
- Common Natural and Manufactured Fibers

2. Elements of Fashion Design

- Dimensions of colour- hue, intensity and value
- Colour wheel and its various Color Schemes- primary, secondary, tertiary, quaternary, warm and cool colours, analogous colours, complimentary and split complimentary, tints, tones and shades, achromatic and monochromatic colours, pastels and dusty pastels - effect of these colour schemes
- Effects of Colors- red, blue, green, yellow, orange, pink, purple, grey, black, white, neutrals Colour and combination in clothes
- Types of textures- thread pulling, thread crumple, thread rolling, paper dabbing, wax rubbing, wax drop, smoke, blade, leaf, flower, butterfly, lace, jute, thumb, matchstick, sponge, cabbage, potato, onion, chilly, lady finger, ink drop, ink blow, drop ink, batik, leather, dry brush, mesh, comb, cloth dabbing etc.,
- Depicting textures (e.g., silk, satin, chiffon, denim, corduroy, velvet, knit etc.) and patterns on paper
- Repetition, gradation, radiation, dominance, unity, harmony, contrast
- Proportion, balance & rhythm- its importance in designing
- Lines, Dots, Prints, Checks, silhouettes, colour, texture, etc

3. Surface Ornamentation

- Basic embroidery stitches and variation- Back ,Chain , Cross , Blanket , Stem, Couching, Lazy daisy, Running, Rumanian, French Knot, Star filling, Trellis, Fish bone, Satin, Herringbone, Bundle, etc.

- Techniques of surface ornamentation- embroidery, Tie & Dye, Block printing, screen printing, spray painting, Fabric Painting, sequins
- Development of samples using various techniques of surface ornamentation

4. Basics of Computer-I

- Fundamentals of Computer- Introduction, Input/ Output & processing, Memory Device
- Types of computers
- Characteristics & Applications of Computers
- Hardware & Software
- Windows XP Overview
- Basic Terminology
- Desktop Settings & control panel
- MS Paint
- Word Pad
- Accessories & Multimedia
- Documentation using MS Word
- Creating, Editing & formatting document
- Introduction to MS Excel
- Creating, Editing & formatting Worksheets
- Formulas & Functions
- Introduction to MS Power point
- Creating, Editing & formatting slides & Slide show
- Presentation of the slides

5. Project Based on Visit to Spinning Unit

- Detailed study on the given topic, data collection, evaluation & conclusion.
- The student will be required to complete their study and submit a comprehensive report.

Certificate Level –III

1. Introduction to Textile Yarns

- Yarn Classification and Related Taxonomy
- Yarn Spinning
- Yarn Twist: Direction & Amount of Twist
- Different types of yarns
- Special Types of Yarns- Texturized & Novelty yarns
- Yarn Numbering System- Direct & Indirect System
- Sewing Threads- Properties & Uses
- Thread Packages

2. Fashion Illustration & Appreciation

- Block figures-normal and fashion.
- Basic croqui drawing- all sizes, and all poses (front, back, side, ¾)
- Face analysis, Hands and feet, Features- eyes, nose, lips, ear, Hairstyles.
- Fleshing of block figures.
- Figures in Motion-X,S,T
- Draping of different Garments
- Visual Studies and rendering effects
- Designing Clothes line: Kids wear and Women wear.
- Different Presentation Techniques- collage work, swatch board, front and back, stylization, textural effects, etc.
- colours, poster colours, inks, crayons, dry pastels, etc.
- Designing of theme based garments - Culture, Environment, Historical Monuments, Seasons, signs and symbols, flora and fauna, colour schemes, fusion, traditional embroideries, traditional fabrics, festivals, college wear, office wear, bridal wear, etc

3. Sewing Techniques

- Introduction to Sewing Machines – classification and identification
- Needles & Threading mechanism
- Common Machine Problem
- Operating Industrial Sewing Machine
- Practice – Paper Worksheets on different shapes
- Hand Stitches
- Practice – Seams, Plackets & Pockets

4. Pattern Making Techniques

- Introduction to Pattern Making
- How to take Measurement
- Pattern Making Tools
- Garment Fitting

- Basic Bodies
- Basic Sleeves
- Basic Skirt

5. Basics of Computer-II

- Introduction to Internet
- Using Email accounts & its functions
- Surfing web pages
- Search Engines
- Basics of social networking site
- Introduction to networks
- Computer security concerns – Virus & Antivirus

6. Project Based on Visit to Composite Mill

- Detailed study on the given topic, data collection, evaluation & conclusion
- The student will be required to complete their study and submit a comprehensive report

Certificate Level –IV

1. Introduction to Fabrics

- Fabric and Related Taxonomy
- Classification of fabrics
- Overview of different fabrics and their manufacturing- Woven, Knitted & Non-Woven
- Introduction to woven fabrics
- Weaves: Basic & Novelty weaves
- Introduction to knitted fabrics
- Classification of knits: Warp Knits & Weft knits
- Non woven: Classification, Properties, Manufacture & End uses

2. Garment Construction

- Basic Bodice
- Types of necklines
- Types of collars
- Types of sleeves
- Basic skirt & skirt variation

3. Pattern Construction & Development

- Dart manipulation
- Collar variation
- Sleeve variation
- Skirt variation

4. Fundamentals of Apparel Production

- Sequence of Apparel production
- Types of Apparel Producers
- Different departments & personnel
- Introduction to Basic Garment: Components & Parts
- Seams & Stitches
- Raw Material in use in RMG industry: Closures, Labels, Interlining, Threads, Packing Material, Laces & Braids etc.
- Garment Analysis (using a tech pack) of different garments
- Machines used in manufacturing
- Operation Breakdown
- Pre-production Planning
- Types of samples & sample approval
- Types of Patterns & pattern checking

- Fabric & Accessory procurement

5. Communication & Soft Skills

- Developing Vocabulary, Thinking Ability & Logical Reasoning
- Developing Communication Skills- Written & Oral
- Interview skills
- Job interviews Do's & Don'ts
- Group Discussions
- Conducting Mock Interviews & Group Discussions

6. Project Based on Visit to Apparel Park/ Textile Park/Power loom Mills/Composite Mill

- Detailed study on the given topic, data collection, evaluation & conclusion.
- The student will be required to complete their study and submit a comprehensive report.

Certificate Level –V

1. Advance Pattern Making

- Draping
- Shirt
- Trouser
- Dress
- Kid's wear
- T-shirt
- Women's blouse
- Grading
- Marker making

2. Traditional Indian Textiles

- Indian Traditional Textiles-History, Techniques, commonly used Motifs, Colours and Fabrics
- Indian traditional Woven textiles- Kota, Baluchari, Brocade, Kanjeevaram, Chanderi, Tangail, Jamdani, Ikats, Patolas
- Indian Traditional Embroideries- Patchwork (Pipli), Zardozi, Kashidakari, Kantha, Chikankari, Phulkari, Mirror Work, Chamba Rumal, Kasuti
- Painted/Printed Textiles: Kalamkari, Block Printing, Batik, Bandhej
- Carpets/Rugs

3. Fashion Merchandising

- Introduction to Merchandising
- Place of Marketing & Merchandising in Fashion Industry
- Role & Responsibilities of a Merchandiser

- Merchandising Terminology
- Fashion cycle & Fashion Adoption Theories
- Sample approvals
- Merchandising Planning Tools & Techniques
- Merchandising Calendar
- Fashion Forecasting
- Planning the line
- Time & Action Plan
- Fashion Retail Business:
 - Concept of Retailing
 - Structure of Indian Retail Industry
 - Drivers of Growth
 - Types of Retail Operations
- Garment Costing
- International Marketing:
 - Importance
 - Marketing mix
 - Market Identification , Segmentation, Targeting & Positioning
 - Marketing environment
 - Marketing Channels and Communication- Sales Promotion and Channels of Distribution
 - Consumer Buying Behaviour
- Export Documentation
 - Importance
 - Classification
 - Uses
 - Inco Terms
 - Payment Terms

4. History of Fashion

- Development of Costume with reference to historical background, social organization, influence of culture, art, costume components for men and women
- Costumes in ancient civilization- Egyptain, Greek, Roman & Byzantine
- Indian Costume –Indus Valley Period, Mauryan Period, Sunga period, Kusan Period, Gupta period, Mughal period
- Traditional Indian costumes of - Jammu & Kashmir, Punjab, Himachal Pradesh, Rajasthan, Gujarat, Madhya Pradesh, Uttar Pradesh & Maharashtra
- European costumes- 12th to 21st century

5. Design Ideas

- Market research

- Design essentials
- Design conceptualization
- Design presentation techniques
- Appreciation of fashion designer –Indian & International
- Major fashion centers of the world
- Major Fashion shows, Exhibitions and Fabric & colour forecast

6. Computer Graphics

- Basic Computer Graphics Skills using CorelDraw & Photoshop
- Setting up a graphics page in terms of width, height, resolution and color.
- Creating Basic Shapes like Lines, Rectangles, Squares, Circles, Ellipses, Polygons, Free Form Shapes
- Modifying basic shapes, selecting the above created shapes, changing lines, fills, colors, textures of the selection.
- Using Text Tool, Creating Text Objects, Changing Font, Font Size and Color of the Text, Objects.

7. Project on based on Survey

- Detailed study on the given topic, data collection, evaluation & conclusion.
- The student will be required to complete their study and submit a comprehensive report.

Certificate Level –VI

1. Textile Finishing Processes

- Basic techniques, treatments and processes of textile finishing
- Finishing Terminology & Classification
- Mechanical and Chemical finishes
- Permanent and Temporary finishes
- Preparatory Finishes
- Stabilizing Finishes
- Textural Finishes
- Functional Finishes

2. Art Appreciation

- Ancient Indian historic period's influences -architecture, culture, religion, tradition, people, incidents
- Medieval Indian historic period's influences- architecture, culture, religion, tradition, people, incidents
- Modern Indian historic period- architecture, culture, religion, tradition, people,
- Western art influences - Application of these influences in designing garments.
- Greek Historic Period- Application of these influences in designing garments.
- Roman renaissance- Application of these influences in designing garments.
- Modern Period World Art like, Modern Buildings, Paintings, Architecture, Sculptures and Films etc- Application of these influences in designing garments.

3. Quality Control & Assurance

- Introduction to Quality Control: Definition & Importance
- Inspection: Definition & Inspection Loop
- Raw Material Inspection
- Fabric Inspection: Woven, Knitted, Fabric Defects & Fabric Grading System
- Accessories: Interlining, Sewing Thread, Zipper, Buttons etc.
- In process Inspection
- Defects: Pattern & Marker, Spreading, Cutting, Sewing, Pressing & Finishing etc.
- Final Inspection
- Statistical Sampling & Sampling Plans
- Quality Control Tools: AQL, AOQL
- Quality Management Systems: ISO, TQM, 6 Sigma, Kaizen, Lean Manufacturing
- Measurement checking of different garments
- Introduction to Textile Testing
- Significance & Elements of Testing
- Principles of textile testing instruments

- Quality evaluation of fiber, yarn & fabric
- Physical Testing-linear density, twist, tensile strength, dimensional stability, colour fastness
- Chemical Testing-blend composition, wrinkle recovery, water resistance, colour fastness
- Reading & Understanding Test Reports

4. Computer Aided Design

- Introduction to CAD software
- Pattern making tools
- Development of pattern – Women blouse, Skirt, Dress, Shirt, Trouser, T-shirt
- Grading & Marker making
- Digitizer
- Plotter
- Merchandising – Enquiry, Costing, Sampling, Order processing, Production, Shipment, Customer, MIT (Master Input Table) , Supplier, Time & Action Plain, Administration

5. Presentation & Portfolio

- Creating Mood boards, Theme boards, Client boards , Swatch boards,
- Creating lines, Collage work
- Theme based illustrations
- Fashion accessories designing
- Illustrating different Hairstyles
- Design Studio- designing dresses based on different themes for a fashion show
- Study of the basic aspects of a fashion show
- Designing and illustrating lines for a fashion

6. Advance Garment Construction

- Introduction to Specialized sewing machines- Threading & operating DNLS, Over-lock, Flat- lock, Button & Button hole, Feed of the arm , Bar-tack, Blind stitch machines and Folders & attachments
- Garment making- shirt, Trouser, Women Blouse, Dress, Kid's wear & T- shirt as per Spec-sheet
- Fit checking & alteration
- Finishing & packing as per spec sheet
- Handling of special fabrics- Georgette, Satin, Lace, Lycra Blended, Denim, Coated/Laminated, Surface ornamented fabrics

7. Project Based on Internship in Fashion House

- Detailed study on the given topic, data collection, evaluation & conclusion
- The student will be required to complete their study and submit a comprehensive report

Certificate Level –VII

1. Sourcing Management

- Introduction to Sourcing
- Definition & Need for Sourcing
- Sourcing strategies
- Procurement & Outsourcing
- Benefits & Risks of Outsourcing
- Make or Buy Decisions
- Single sourcing v/s Multiple Sourcing
- Domestic v/s Global sourcing
- Markets- Domestic or International
- Manufacturing Resource Planning
- Supply Chain Management
- Demand Chain Analysis
- Just in Time Technology
- Vendor Management
- Inventory Management
- Inspection
- Ethical sourcing

2. Fashion Costing

- Elements of Costing
- Difference between costing & pricing
- Fixed costs v/s Variable Cost
- Direct Cost v/s Indirect Costs
- Overheads
- Cost Volume Profit Analysis
- Calculation of margins, freight elements
- Currency Conversions
- Guidelines for costing of different textile materials

3. Advances in Fashion Technology

- Students are required to present a comprehensive report based on the recent research and development in the field of textiles. The report should emphasize the innovations, technological advances, applications, opportunities and challenges of the research.

4. Computer Aided Designing

- Introduction about Reach Fashion Studio
- Menu command
- Working area
- Style studio
- Photo studio
- Material studio
- Using these tools and effects make the folder of - Western casual, Western party wear, Executive wear, Sports wear, Indian casual wear, Indian formal wear

5. Entrepreneurship

- Introduction to Entrepreneurship
- Concept of Enterprise & Entrepreneur
- Entrepreneurship v/s Management
- Role & Function of Entrepreneur w.r.t. the enterprise and economy
- Opportunity scouting & Idea generation
- Role of creativity & innovation and business research
- Source of business idea
- The process of setting up a business: Preliminary screening & aspects
- Preparation of a project report
- Business processes, location, operation planning & control
- Financing agencies
- Policies/ Programmes, Schemes & procedures
- Principles of Double Entry Book Keeping: Journal entries, Cash book, Pass book & bank
- Issues of small scale marketing
- Concept & application of PLC, advertising & publicity
- Sales & distribution management

6. Project Based on Internship in Export House

- Detailed study on the given topic, data collection, evaluation & conclusion
- The student will be required to complete their study and submit a comprehensive report

VOCATIONAL EDUCATIONAL QUALIFICATION FRAMEWORK
(Sector: Apparel & Textiles Specialization – Textile Design)
NVEQF/A&T/TD

S.No.	Certificate Level	Vocational Hours
1.	Level-I	200-300
2.	Level-II	200-300
3.	Level-III	300-400
4.	Level-IV	300-400
5.	Level-V	400-500
6.	Level-VI	500-600
7.	Level-VII	600-700

Certificate Level - I

1. Introduction to Textiles

- Indian Textile Industry
- Major Production Segments of the Textile supply Chain
- Textile Pipeline: Fiber to Consumer

2. Basic Design & Drawing

- Elements of Design
- Principles of Design
- Textile Design Terminology
- Introduction to Pencil Shading
- Nature Drawing- Understanding Forms & Arrangements
- Perspective Drawing
- Concept of 2D & 3D Forms
- Design repeat
- Working with grids

3. Profile of Textile Industry

- Profile of Indian Textile Industry
- Strength & Weakness
- Organization structure
- Basic Industrial Terminology
- Role of Textile designer, Co-coordinator, merchandiser, quality control inspector etc.

4. Textures on Fabric

- Types of Textures & Illustration techniques for textiles
- Textural effects, use of textures in textile designing
- Collection of different types of fabric textures

5. Project Based on Visit to Textile Museum

- Detailed study on the given topic, data collection, evaluation & conclusion
- The student will be required to complete their study and submit a comprehensive report

Certificate Level - II

1. Introduction to Textile Fibres

- Fibre definition & classification
- Fibre properties & End Use- Natural & Man-made
- Different methods of fiber identification- physical examination, burning test & chemical test
- Common Natural and Manufactured Fibers

2. Elements of Textile Design

- Dimensions of colour- hue, intensity and value
- Colour wheel and its various Color Schemes- primary, secondary, tertiary, quaternary, warm and cool colours, analogous colours, complimentary and split complimentary, tints, tones and shades, achromatic and monochromatic colours, pastels and dusty pastels - effect of these colour schemes
- Effects of Colors- red, blue, green, yellow, orange, pink, purple, grey, black, white, neutrals Colour and combination in textiles
- Types of textures- thread pulling, thread crumple, thread rolling, paper dabbing, wax rubbing, wax drop, smoke, blade, leaf, flower, butterfly, lace, jute, thumb, matchstick, sponge, cabbage, potato, onion, chilly, lady finger, ink drop, ink blow, drop ink, batik, leather, dry brush, mesh, comb, cloth dabbing etc.
- Depicting textures (e.g., silk, satin, chiffon, denim, corduroy, velvet, knit etc.) and patterns on paper
- Repetition, gradation, radiation, dominance, unity, harmony, contrast, proportion, balance & rhythm- its importance in designing
- Lines, Dots, Prints, Checks, silhouettes, colour, texture, etc

3. Surface Ornamentation

- Basic embroidery stitches and variation- Back ,Chain , Cross , Blanket , Stem, Couching, Lazy daisy, Running, Rumanian, French Knot, Star filling, Trellis, Fish bone, Satin, Herringbone, Bundle, etc.
- Techniques of surface ornamentation- embroidery, Tie & Dye, Block printing, screen printing, spray painting, Fabric Painting, sequins
- Development of samples using various techniques of surface ornamentation

4. Basics of Computer-I

- Fundamentals of Computer- Introduction, Input/ Output & processing, Memory Device
- Types of computers
- Characteristics & Applications of Computers
- Hardware & Software
- Windows XP Overview
- Basic Terminology
- Desktop Settings & control panel
- MS Paint
- Word Pad
- Accessories & Multimedia
- Documentation using MS Word
- Creating, Editing & formatting document
- Introduction to MS Excel
- Creating, Editing & formatting Worksheets
- Formulas & Functions
- Introduction to MS Power point
- Creating, Editing & formatting slides & Slide show
- Presentation of the slides

5. Project Based on Visit to Spinning Unit

- Detailed study on the given topic, data collection, evaluation & conclusion
- The student will be required to complete their study and submit a comprehensive report

Certificate Level - III

1. Introduction to Textile Yarns

- Yarn Classification and Related Taxonomy
- Yarn Spinning
- Yarn Twist: Direction & Amount of Twist
- Different types of yarns
- Special Types of Yarns- Texturized & Novelty yarns
- Yarn Numbering System- Direct & Indirect System
- Sewing Threads- Properties & Uses
- Thread Packages

2. Textile Illustration & Appreciation

- Block figures-normal and fashion
- Basic croqui drawing- all sizes, and all poses (front, back, side, ¾)
- Face analysis, Hands and feet, Features- eyes, nose, lips, ear, hairstyles
- Fleshing of block figures
- Figures in Motion-X,S,T
- Draping of different garments
- Visual Studies and rendering effects
- Designing Clothes line: Kids wear and Women wear
- Different Presentation Techniques- collage work, swatch board, front and back, stylization, textural effects, etc.
- Colours, poster colours, inks, crayons, dry pastels, etc.
- Designing of theme based garments - Culture, Environment, Historical Monuments, Seasons, signs and symbols, flora and fauna, colour schemes, fusion, traditional embroideries, traditional fabrics, festivals, college wear, office wear, bridal wear etc.

3. Sewing Techniques

- Introduction to Sewing Machines – classification and identification
- Needles & Threading mechanism
- Common Machine Problem
- Operating Industrial Sewing Machine
- Practice – Paper Worksheets on different shapes
- Hand Stitches
- Practice – Seams, Plackets & Pockets

4. Pattern Making Techniques

- Introduction to Pattern Making
- How to take Measurement
- Pattern Making Tools
- Garment Fitting
- Basic Bodies
- Basic Sleeves
- Basic Skirt

5. Basics of Computer-II

- Introduction to Internet
- Using Email accounts & its functions
- Surfing web pages
- Search Engines
- Basics of social networking site
- Introduction to networks
- Computer security concerns – Virus & Antivirus

6. Project Based on Visit to Composite Mill

- Detailed study on the given topic, data collection, evaluation & conclusion
- The student will be required to complete their study and submit a comprehensive report

Certificate Level - IV

1. Introduction to Fabrics

- Fabric and Related Taxonomy
- Classification of fabrics
- Overview of different fabrics and their manufacturing- Woven, Knitted & Non-Woven
- Introduction to woven fabrics
- Weaves: Basic & Novelty weaves
- Introduction to knitted fabrics
- Classification of knits: Warp Knits & Weft knits
- Non woven: Classification, Properties, Manufacture & End uses

2. Basic Fabric Structure

- Fabric structure analysis
- Loom: Basics & other types
- Concept of repeat in weaving
- Weave representation on graph paper
- Working on a table loom
- Weaving of samples of simple weaves- plain, basket, rib, twill, satin, pile etc.
- Concept of knitting loop formation
- Sample preparation of basic knits- plain, purl, rib, interlock, double knit, drop needle etc.

3. Dyeing & Printing

- Definition of Dyes & Pigments
- Classification of dyes & their application
- Dyeing Methods & Machinery
- Dyeing defects
- Dyeing of various fabric samples using different dyes
- Tie and dye
- Batik
- Styles of Printing: Direct, Resist, Discharge
- Methods of Printing: Block, Screen, Roller, Transfer
- Printing of various fabric samples using different styles and methods
- Printing Defects

4. Fundamentals of Apparel Production

- Sequence of Apparel production
- Types of Apparel Producers
- Different departments & personnel
- Introduction to Basic Garment: Components & Parts
- Seams & Stitches

- Raw Material in use in RMG industry: Closures, Labels, Interlining, Threads, Packing Material, Laces & Braids etc.
- Garment Analysis (using a tech pack) of different garments
- Machines used in manufacturing
- Operation Breakdown
- Pre-production Planning
- Types of samples & sample approval
- Types of Patterns & pattern checking
- Fabric & Accessory procurement

5. Communication & Soft Skills

- Developing Vocabulary, Thinking Ability & Logical Reasoning
- Developing Communication Skills- Written & Oral
- Interview skills
- Job interviews Do's & Don'ts
- Group Discussions
- Conducting Mock Interviews & Group Discussions

6. Project Based on Visit to Apparel Park/ Textile Park/Power loom Mills/Composite Mill

- Detailed study on the given topic, data collection, evaluation & conclusion
- The student will be required to complete their study and submit a comprehensive report

Certificate Level - V

1. Fundamentals of Textile Manufacturing

- Sequence of Textile Manufacture
- Major Production Segments of Textile Supply Chain
- Classification of Fabric Manufacture Techniques
- Spinning: Objectives & processes
- Blow room Operations & Machinery: Carding, Combing, Drawing & Spinning
- Weaving Process
- Looms: Principle, Characteristics, Uses, Limitations & Working Mechanism of
 - Basic Loom
 - Jacquard Loom
 - Special Looms: Projectile, Rapier, Jet (Water & Air)
- Knitting: Principle, Process, Characteristics & Uses
- Concept of Knitting loop formation
- Knitting Machines: Flat Bed & Circular Bed
- Other Fabrics: Characteristics, Uses, Limitations & Manufacturing of:
 - Non Woven
 - Bonded
 - Laminated
 - Laces
 - Felt
 - Tufted
 - Embroidered
- Textile Processing: Techniques, Machinery, Uses & Limitations of
 - Dyeing
 - Printing
 - Finishing

2. Traditional Indian Textiles

- Indian Traditional Textiles
- History, Techniques, Commonly used Motifs, Colours and Fabrics used for each of the Traditional Textile
- Indian traditional Woven textiles- Kota, Baluchari, Brocade, Kanjeevaram, Chanderi, Tangail, Jamdani, Ikats, Patolas
- Indian Traditional Embroideries- Patchwork (Pipli), Zardozi, Kashidakari, Kantha, Chikankari, Phulkari, Mirror Work, Chamba Rumal, Kasuti
- Painted/Printed Textiles: Kalamkari, Block Printing, Batik, Bandhej
- Carpets/Rugs
- Shawls

3. Textile Merchandising

- Introduction to Merchandising
- Place of Marketing & Merchandising in Textile Industry
- Role & Responsibilities of a Merchandiser
- Merchandising Terminology, Fashion cycle, sample approvals
- Merchandising Planning Tools & Techniques
- Merchandising Calendar
- Forecasting
- Planning the line
- Time & Action Plan
- Garment Costing
- International Marketing-
 - Importance
 - Marketing mix
 - Market Identification , Segmentation, Targeting & Positioning
 - Marketing environment
 - Marketing Channels and Communication- Sales Promotion and Channels of Distribution
 - Consumer Buying Behaviour
- Introduction to Retail Business:
 - Concept of Retailing
 - Structure of Indian Retail Industry
 - Drivers of Growth
 - Types of Retail Operations
- Export Documentation
- Inco Terms & Payment Terms- Importance, Classification & Uses

4. History of Textiles

- Importance of Textiles in historical perspectives
- Sources of information- Archaeological discoveries, Ancient Literature, archival records, museums, art galleries etc.
- Prehistoric materials & techniques- Skin/hide, metal fibres, beads, mirrors, shells etc.
- Textile fibres-origin, processing & spread
- Fibres of Antiquity- Cotton, Linen & other bast fibres, Wool, Hair fibres and Silk
- Dyes & Colourants
- Development of tools & techniques of production
 - Felt & bark cloth
 - Plaiting & Basketry
 - Spinning & Weaving
 - Tapestry & Rug weaving

- Knitting
- Netting, knotting & Crochet
- Embroidery
- Dyeing & printing
- Study of Masterpieces of World Textiles - history, construction techniques, colours, motifs and centres of production
 - Brocades (India, China, Persia, Byzantium, Spain, Italy & France)
 - Tapestries (Greece, Coptic, Europe & Peru)
 - Carpets & Floor Coverings (Middle & Far East)
 - Shawls (India, England, France)
 - Laces (Europe)
 - Linen Damasks (Ireland & Belgium)
 - Resist Dyed Fabrics (India, Indonesia & Japan)
 - Printed textiles (India, France & England)
 - Embroideries (China, Persia & England)

5. Advance & Innovative Textiles

- Advance Fabric Structures-
 - Extra Warp & Weft Structures
 - Double Cloth Structures
 - Compound Structures
 - Pile Structures
 - Tapestry Structures
- Basic Concept, Classification, Properties, Manufacturing Techniques, Applications & Limitations -
 - Industrial Textiles
 - Geo Textiles
 - Medical Textiles
 - Automotive Textiles
 - Sports wear
 - Protective wear
 - Fabric Composites
 - Smart/ Intelligent Textiles- Phase Change Materials, Thermochromic/ Photochromic textiles
 - Electronic Textiles
 - Home Textiles

6. Computer Graphics

- Basic Computer Graphics Skills using CorelDraw & Photoshop
- Setting up a graphics page in terms of width, height, resolution and color

- Creating Basic Shapes like Lines, Rectangles, Squares, Circles, Ellipses, Polygons, Free Form Shapes
- Modifying basic shapes, selecting the above created shapes, changing lines, fills, colors, textures of the selection.
- Using Text Tool, Creating Text Objects, Changing Font, Font Size and Color of the Text Objects

7. Project Based on Survey

- Detailed study on the given topic, data collection, evaluation & conclusion
- The student will be required to complete their study and submit a comprehensive report

Certificate Level - VI

1. Textile Finishing Process

- Basic techniques, treatments and processes of textile finishing
- Finishing Terminology & Classification
- Mechanical and Chemical finishes
- Permanent and Temporary finishes
- Preparatory Finishes
- Stabilizing Finishes
- Textural Finishes
- Functional Finishes

2. Art Appreciation

- Ancient Indian historic period's influences -architecture, culture, religion, tradition, people, incidents
- Medieval Indian historic period's influences- architecture, culture, religion, tradition, people, incidents
- Modern Indian historic period- architecture, culture, religion, tradition, people,
- Western art influences - Application of these influences in designing textiles
- Greek Historic Period- Application of these influences in designing textiles
- Roman renaissance- Application of these influences in designing textiles
- Modern Period World Art like, Modern Buildings, Paintings, Architecture, Sculptures and Films etc.
- Application of these influences in designing textiles

3. Quality Control & Assurance

- Introduction to Quality Control: Definition & Importance
- Inspection: Definition & Inspection Loop
- Raw Material Inspection
- Fabric Inspection: Woven, Knitted, Fabric Defects & Fabric Grading System
- Accessories: Interlining, Sewing Thread, Zipper, Buttons etc.
- In process Inspection
- Defects: Pattern & Marker, Spreading, Cutting, Sewing, Pressing & Finishing etc.
- Final Inspection
- Statistical Sampling & Sampling Plans
- Quality Control Tools: AQL, AOQL
- Quality Management Systems: ISO, TQM, 6 Sigma, Kaizen, Lean Manufacturing
- Measurement checking of different garments
- Introduction to Textile Testing
- Significance & Elements of Testing
- Principles of textile testing instruments
- Quality evaluation of fiber, yarn & fabric

- Physical Testing-linear density, twist, tensile strength, dimensional stability, colour fastness
- Chemical Testing-blend composition, wrinkle recovery, water resistance, colour fastness
- Reading & Understanding Test Reports

4. Computer Aided Design-I

- Introduction to CAD software - Textiles
- Development of checks, stripes and doobby
- Scanning, editing and Repeat setting
- Development of Jacquard weaving patterns
- Draping designs-garments, home textiles & made-ups
- Merchandising – Enquiry, Costing, Sampling, Order processing, Production, Shipment, Customer, MIT (Master Input Table) , Supplier, Time & Action Plain, Administration

5. Presentation & Portfolio

- Creating Mood boards, Theme boards, Client boards , Swatch boards,
- Creating lines, Collage work
- Theme based illustrations
- Fashion accessories designing & illustration
- Illustrating different Hairstyles
- Design Studio- designing dresses based on different themes for a fashion show
- Study of the basic aspects of a fashion show
- Designing and illustrating lines for a fashion

6. Knitting Technology

- Basic concept of a Knitted fabric : Warp and Weft
- Difference between woven and knitted textiles
- Principles of knitting
- Loop formation & Knitting needles
- Characteristics & uses of a Warp & Weft Knitted Fabric
- Weft Knitting: Production process, Terminology, Fabrics
- Warp Knitting: Production process, Terminology, Fabrics
- Common Knitting Machines- Flat bed, two-bar warp knitting machine, circular jacquard knitting machine, circular pile knitting machine
- Knitting Machines Working Mechanisms
- Quality control
- Defects in knitted fabrics

7. Project Based on Internship in Knitwear Manufacturing Unit

- Detailed study on the given topic, data collection, evaluation & conclusion
- The student will be required to complete their study and submit a comprehensive

Certificate Level - VII

1. Sourcing Management

- Introduction to Sourcing
- Definition & Need for Sourcing
- Sourcing strategies
- Procurement & Outsourcing
- Benefits & Risks of Outsourcing
- Make or Buy Decisions
- Single sourcing v/s Multiple Sourcing
- Domestic v/s Global sourcing
- Markets- Domestic or International
- Manufacturing Resource Planning
- Supply Chain Management
- Demand Chain Analysis
- Just in Time Technology
- Vendor Management
- Inventory Management
- Inspection
- Ethical sourcing

2. Textile Costing

- Elements of Costing
- Difference between costing & pricing
- Fixed costs v/s Variable Cost
- Direct Cost v/s Indirect Costs
- Overheads
- Cost Volume Profit Analysis
- Calculation of margins, freight elements
- Currency Conversions
- Guidelines for costing of different textile materials

3. Advances in Textile Technology

- Students are required to present a comprehensive report based on the recent research and development in the field of textiles. The report should emphasize the innovations, technological advances, applications, opportunities and challenges of the research.

4. Computer Aided Design-II

- Introduction to Software – Printing & Embroidery
- Scanning, editing & repeat setting of motifs
- Development of screen print designs
- Colour separation for screen printing

- Development of computerized embroidery patterns
- Using these tools and effects, make the folder of - Western casual, Western party wear, Executive wear, Sportswear, Indian casual wear, Indian formal wear

5. Entrepreneurship

- Introduction to Entrepreneurship
- Concept of Enterprise & Entrepreneur
- Entrepreneurship v/s Management
- Role & Function of Entrepreneur w.r.t. the enterprise and economy
- Opportunity scouting & Idea generation
- Role of creativity & innovation and business research
- Source of business idea
- The process of setting up a business: Preliminary screening & aspects
- Preparation of a project report
- Business processes, location, operation planning & control
- Financing agencies
- Policies/ Programmes, Schemes & procedures
- Principles of Double Entry Book Keeping: Journal entries, Cash book, Pass book & bank
- Issues of small scale marketing
- Concept & application of PLC, advertising & publicity
- Sales & distribution management

6. Project Based on Internship in Export House

- Detailed study on the given topic, data collection, evaluation & conclusion
- The student will be required to complete their study and submit a comprehensive report

**VOCATIONAL EDUCATIONAL QUALIFICATION FRAMEWORK
(Sector: Apparel & Textiles Specialization – Apparel Manufacturing)
NVEQF/A&T/FD**

S.No.	Certificate Level	Vocational Hours
1.	Level-I	200-300
2.	Level-II	200-300
3.	Level-III	300-400
4.	Level-IV	300-400
5.	Level-V	400-500
6.	Level-VI	500-600
7.	Level-VII	600-700

Certificate Level –I

1. Introduction to Textiles

- Profile of the Indian Textile Industry
- Major Production Segments of the Textile supply Chain
- Textile Pipeline: Fiber to Consumer

2. Basic Design & Drawing

- Elements of Design
- Principles of Design
- Textile Design Terminology
- Introduction to Pencil Shading
- Nature Drawing- Understanding Forms & Arrangements
- Perspective Drawing
- Concept of 2D & 3D Forms
- Design repeat
- Working with grids

3. Profile of Apparel Industry

- Profile of Indian Apparel Industry
- Strength & Weakness
- Organization structure
- Basic Industrial Terminology

- Role of designer, Co-coordinator, merchandiser, quality control inspector, production supervisor etc.

4. Textures on Fabric

- Types of Textures & Illustration techniques for textiles
- Textural effects, use of textures in textile designing
- Collection of different types of fabric textures

5. Project Based on Visit to Textile Museum

- Detailed study on the given topic, data collection, evaluation & conclusion.
- The student will be required to complete their study and submit a comprehensive report

Certificate Level –II

1. Introduction to Textile Fibers

- Fibre definition & classification
- Fibre properties & End Use- Natural & Man-made
- Different methods of fiber identification- physical examination, burning test & chemical test
- Common Natural and Manufactured Fibers

2. Elements of Apparel Design

- Dimensions of colour- hue, intensity and value
- Colour wheel and its various Color Schemes- primary, secondary, tertiary, quaternary, warm and cool colours, analogous colours, complimentary and split complimentary, tints, tones and shades, achromatic and monochromatic colours, pastels and dusty pastels - effect of these colour schemes
- Effects of Colors- red, blue, green, yellow, orange, pink, purple, grey, black, white, neutrals
- Colour and combination in clothes
- Types of textures- thread pulling, thread crumple, thread rolling, paper dabbing, wax rubbing, wax drop, smoke, blade, leaf, flower, butterfly, lace, jute, thumb, matchstick, sponge, cabbage, potato, onion, chilly, lady finger, ink drop, ink blow, drop ink, batik, leather, dry brush, mesh, comb, cloth dabbing etc.,
- Depicting textures (e.g., silk, satin, chiffon, denim, corduroy, velvet, knit etc.) and patterns on paper
- Repetition, gradation, radiation, dominance, unity, harmony, contrast, proportion, balance & rhythm- its importance in designing
- Lines, Dots, Prints, Checks, silhouettes, colour, texture, etc.

3. Surface Ornamentation

- Basic embroidery stitches and variation- Back ,Chain , Cross , Blanket , Stem, Couching, Lazy daisy, Running, Rumanian, French Knot, Star filling, Trellis, Fish bone, Satin, Herringbone, Bundle, etc.
- Techniques of surface ornamentation- embroidery, Tie & Dye, Block printing, screen printing, spray painting, Fabric Painting, sequins
- Development of samples using various techniques of surface ornamentation

4. Basics of Computer-I

- Fundamentals of Computer- Introduction, Input/ Output & processing, Memory Device
- Types of computers
- Characteristics & Applications of Computers
- Hardware & Software
- Windows XP Overview
- Basic Terminology
- Desktop Settings & control panel
- MS Paint
- Word Pad
- Accessories & Multimedia
- Documentation using MS Word
- Creating, Editing & formatting document
- Introduction to MS Excel
- Creating, Editing & formatting Worksheets
- Formulas & Functions
- Introduction to MS Power point
- Creating, Editing & formatting slides & Slide show
- Presentation of the slides

5. Project Based on Visit to Spinning Unit

- Detailed study on the given topic, data collection, evaluation & conclusion
- The student will be required to complete their study and submit a comprehensive report

Certificate Level –III

1. Introduction to Textile Yarns

- Yarn Classification and Related Taxonomy
- Yarn Spinning
- Yarn Twist: Direction & Amount of Twist
- Different types of yarns
- Special Types of Yarns- Texturized & Novelty yarns
- Yarn Numbering System- Direct & Indirect System
- Sewing Threads- Properties & Uses
- Thread Packages

2. Apparel Illustration & Appreciation

- Block figures-normal and fashion
- Basic croqui drawing- all sizes, and all poses (front, back, side, $\frac{3}{4}$)
- Face analysis, Hands and feet, Features- eyes, nose, lips, ear, Hairstyles
- Fleshing of block figures
- Figures in Motion-X,S,T
- Draping of different Garments
- Visual Studies and rendering effects
- Designing Clothes line: Kids wear and Women wear
- Different Presentation Techniques- collage work, swatch board, front and back, stylization, textural effects, etc.
- Colours, poster colours, inks, crayons, dry pastels, etc.
- Designing of theme based garments - Culture, Environment, Historical Monuments, Seasons, signs and symbols, flora and fauna, colour schemes, fusion, traditional embroideries, traditional fabrics, festivals, college wear, office wear, bridal wear etc.

3. Sewing Techniques

- Introduction to Sewing Machines – classification and identification
- Needles & Threading mechanism
- Common Machine Problem
- Operating Industrial Sewing Machine
- Practice – Paper Worksheets on different shapes
- Hand Stitches
- Practice – Seams, Plackets & Pockets

4. Pattern Making Techniques

- Introduction to Pattern Making

- How to take Measurement
- Pattern Making Tools
- Garment Fitting
- Basic Bodies
- Basic Sleeves
- Basic Skirt

5. Basics of Computer –II

- Introduction to Internet
- Using Email accounts & its functions
- Surfing web pages
- Search Engines
- Basics of social networking site
- Introduction to networks
- Computer security concerns – Virus & Antivirus

6. Project Based on Visit to a Composite Mill

- Detailed study on the given topic, data collection, evaluation & conclusion
- The student will be required to complete their study and submit a comprehensive report

Certificate Level –IV

1. Introduction to Fabrics

- Fabric and Related Taxonomy
- Classification of fabrics
- Overview of different fabrics and their manufacturing- Woven, Knitted & Non-Woven
- Introduction to woven fabrics
- Weaves: Basic & Novelty weaves
- Introduction to knitted fabrics
- Classification of knits: Warp Knits & Weft knits
- Non woven: Classification, Properties, Manufacture & End uses

2. Garment Construction

- Basic Bodice
- Types of necklines
- Types of collars
- Types of sleeves & cuffs
- Basic skirt & skirt variation

3. Pattern Construction & Development

- Dart manipulation
- Collar variation
- Sleeve variation
- Skirt variation

4. Fundamentals of Apparel Production

- Sequence of Apparel production
- Types of Apparel Producers
- Different departments & personnel
- Introduction to Basic Garment: Components & Parts
- Seams & Stitches
- Raw Material in use in RMG industry: Closures, Labels, Interlining, Threads, Packing Material, Laces & Braids etc.
- Garment Analysis (using a tech pack) of different garments
- Machines used in manufacturing
- Operation Breakdown
- Pre-production Planning
- Types of samples & sample approval
- Types of Patterns & pattern checking
- Fabric & Accessory procurement

5. Communication & Soft Skills

- Developing Vocabulary, Thinking Ability & Logical Reasoning
- Developing Communication Skills- Written & Oral
- Interview skills
- Job interviews Do's & Don'ts
- Group Discussions
- Conducting Mock Interviews & Group Discussions

6. Project Based on Visit to a Composite Mill

- Detailed study on the given topic, data collection, evaluation & conclusion
- The student will be required to complete their study and submit a comprehensive report

Certificate Level –V

1. Advance Pattern Making

- Draping
- Shirt
- Trouser
- Dress
- Kid's wear
- T-shirt
- Women's blouse
- Grading
- Marker making

2. Apparel Production Technology

- Cutting Room: Terminology, Techniques & Equipments
- Cut Order planning
- Marker Making & Fabric Consumption
- Marker Modes & Marker Efficiency
- Spreading & Layout
- Spreading Methods & Machines
- Different types of Lay
- Report Making & Record keeping in cutting room
- Sewing Room planning
- Production systems
- Report Making & Record keeping in sewing room
- Finishing Room: Importance, functions & Equipment

- Types of folding & pressing
- Stain removal, Washing & Dry Cleaning
- Folding Equipment
- Finishing room layout
- Packing Department
- Types of packing
- Packing Material
- Packing list & Record keeping
- Production Planning
- Production flow chart
- Machine Planning & Layout
- Work Study: Method Study & Time Study
- Line Balancing
- Standard Time Calculations
- Incentive systems

3. Apparel Merchandising

- Introduction to Merchandising
- Place of Marketing & Merchandising in Textile Industry
- Role & Responsibilities of a Merchandiser
- Merchandising Terminology, Fashion cycle, sample approvals
- Merchandising Planning Tools & Techniques
- Merchandising Calendar
- Forecasting
- Planning the line
- Time & Action Plan
- Garment Costing
- International Marketing:
 - Importance
 - Marketing mix
 - Market Identification , Segmentation, Targeting & Positioning
 - Marketing environment
 - Marketing Channels and Communication- Sales Promotion and Channels of Distribution
 - Consumer Buying Behaviour
- Export Documentation
- Inco Terms & Payment Terms- Importance, Classification & Uses

4. Compliance & Work Ethics

- The Code Of Conduct
- Major Organized Initiatives in World
 - Fair Labor Association (FLA)
 - Worldwide Responsible Apparel Production (Wrap)
 - Social Accountability International (SA 8000)
 - Clean Clothing Campaign (CCC)
 - Ethical Trading Initiative (ETI)
 - Rug Mark Foundation (RM)
 - FIFA Code Of Conduct
- Global Supply Chain:
 - Complex Environment
 - Development Of Codes
 - Companies Going For Best Practices
 - Code Of Conduct As A Business Tool
 - How To Develop And Implement A Code Of Conduct
 - Formulate Code Of Conduct Policy
 - Create A Code Of Conduct
 - Communicate The Code Of Conduct
 - Determine Processes And Procedures
 - Build An Effective Team
 - Training Of Staff
 - Audits And Monitoring
 - Compliance Decisions
- Factory Audits And Monitoring Process
 - Administrative Procedure
 - Scheduling & Payment of Audit
 - Auditor Ethics
 - Audit Process & Audit Report
 - Letter of Approval & Ongoing Monitoring
- Code Of Conduct Standards Implementation :
 - Most Commonly Found Violations
 - Best Practices
 - Forced Labor Code Requirements
 - Non-Discrimination
 - Child Labor
 - Wages & Benefits
 - Working Hours And Overtime
 - Structural Safety
 - Machine Safety Requirement
 - Workers Training In Safe Work Practices
 - Boiler Safety Compliance
 - Generator Room Compliance

- Fire Safety Compliance
- Personal Protective Equipment (PPE)
- First Aid And Emergency Medical Care
- Compliant Toilets
- Drinking Water Compliance
- Laundry Compliance
- Safe Handling Of Chemicals
- Material Safety Data Sheet (MSDS)
- Freedom Of Association
- Effective Documentation
- Compliance For Home Based Production
- Environmental Compliance
- Ergonomics ‘for Apparel Industry
 - Ergonomic Hazards In Apparel Industry
 - Ergonomic Solutions For Apparel Industry
- Factory Signs & Symbols

5. Apparel Production Practical

- Garment Making (using Spl. Machines)- Women’s Dress, T-shirt, Blazer
- Garment Engineering of above mentioned garments
- Operation Breakdown & Time Study of above Garments
- Line Balancing

6. Computer Graphics

- Basic Computer Graphics Skills using CorelDraw & Photoshop
- Setting up a graphics page in terms of width, height, resolution and color
- Creating Basic Shapes like Lines, Rectangles, Squares, Circles, Ellipses, Polygons, Free Form Shapes
- Modifying basic shapes, Selecting the above created shapes, changing lines, fills, colors, textures of the selection
- Using Text Tool, Creating Text Objects, Changing Font, Font Size and Color of the Text Objects

7. Project Based on Survey

- Detailed study on the given topic, data collection, evaluation & conclusion
- The student will be required to complete their study and submit a comprehensive report

Certificate Level –VI

1. Textile Finishing Processes

- Basic techniques, treatments and processes of textile finishing
- Finishing Terminology & Classification
- Mechanical and Chemical finishes
- Permanent and Temporary finishes
- Preparatory Finishes
- Stabilizing Finishes
- Textural Finishes
- Functional Finishes

2. Productivity & work study

- Productivity Concept & Definitions
- Benefits of Higher Productivity
- Factors contributing to production improvement
- Method Study- Definition, Steps & Tools
- Related Exercises & Assignments
- Work Place Layouts
- Factory/Department Layout
- Machine Layout
- Layout Effectiveness
- Related Exercises & Assignments
- Work Measurement
- Steps of Work Measurement
- Work Measurement Techniques -
 - Activity Sampling
 - Cycle Checks
 - Time Study
- Rating & Allowances
- Production Study
- Efficiency
- Lost Time
- Related Exercises & Assignments
- Principles of Motion Economy
- PMTS
- MTM
- PRO SMV
- Line Balancing
- Methods of Line Balancing
- Setting up & Running a line

- Related Exercises & Assignments
- Incentive Systems
- Garment Engineering

3. Quality Control & Assurance

- Introduction to Quality Control: Definition & Importance
- Inspection: Definition & Inspection Loop
- Raw Material Inspection
- Fabric Inspection: Woven, Knitted, Fabric Defects & Fabric Grading System
- Accessories: Interlining, Sewing Thread, Zipper, Buttons etc.
- In process Inspection
- Defects: Pattern & Marker, Spreading, Cutting, Sewing, Pressing & Finishing etc.
- Final Inspection
- Statistical Sampling & Sampling Plans
- Quality Control Tools: AQL, AOQL
- Quality Management Systems: ISO, TQM, 6 Sigma, Kaizen, Lean Manufacturing
- Measurement checking of different garments
- Introduction to Textile Testing
- Significance & Elements of Testing
- Principles of textile testing instruments
- Quality evaluation of fiber, yarn & fabric
- Physical Testing-linear density, twist, tensile strength, dimensional stability, colour fastness
- Chemical Testing-blend composition, wrinkle recovery, water resistance, colour fastness
- Reading & Understanding Test Reports

4. Computer Aided Design

- Introduction to CAD software
- Pattern making tools
- Development of pattern – Women blouse, Skirt, Dress, Shirt, Trouser, T-shirt
- Grading & Marker making
- Digitizer
- Plotter
- Reach Fashion Studio

5. Presentation & Portfolio

- Creating Mood boards, Theme boards, Client boards , Swatch boards,
- Creating lines, Collage work

- Theme based illustrations
- Fashion accessories designing
- Illustrating different Hairstyles
- Design Studio- designing dresses based on different themes for a fashion show
- Study of the basic aspects of a fashion show
- Designing and illustrating lines for a fashion

6. Advance Garment Construction

- Introduction to Specialized sewing machines- Threading & operating DNLS, Over-lock, Flat- lock, Button & Button hole, Feed of the arm , Bar-tack, Blind stitch machines and Folders & attachments
- Garment making- shirt, Trouser, Women Blouse, Dress, Kid's wear & T- shirt as per Spec-sheet
- Fit checking & alteration
- Finishing & packing as per spec sheet
- Handling of special fabrics- Georgette, Satin, Lace, Lycra Blended, Denim, Coated/Laminated, Surface ornamented fabrics

7. Project Based on Internship in Knitwear Manufacturing Unit

- Detailed study on the given topic, data collection, evaluation & conclusion
- The student will be required to complete their study and submit a comprehensive report

Certificate Level –VII

1. Sourcing Management

- Introduction to Sourcing
- Definition & Need for Sourcing
- Sourcing strategies
- Procurement & Outsourcing
- Benefits & Risks of Outsourcing
- Make or Buy Decisions
- Single sourcing v/s Multiple Sourcing
- Domestic v/s Global sourcing
- Markets- Domestic or International
- Manufacturing Resource Planning
- Supply Chain Management
- Demand Chain Analysis
- Just in Time Technology
- Vendor Management
- Inventory Management
- Inspection

- Ethical sourcing

2. Apparel Costing

- Elements of Costing
- Difference between costing & pricing
- Fixed costs v/s Variable Cost
- Direct Cost v/s Indirect Costs
- Overheads
- Cost Volume Profit Analysis
- Calculation of margins, freight elements
- Currency Conversions
- Guidelines for costing of different garments

3. Advances in Apparel Technology

- Students are required to present a comprehensive report based on the recent research and development in the field of apparel. The report should emphasize the innovations, technological advances, applications, opportunities and challenges of the research.

4. Computer aided Design

- Introduction about Reach Merchandising Manager
- Enquiry – Balance Enquiry, Vender Enquiry
- Costing – Internal costing, External costing, Customer price & quotation
- Sampling – sample & inspection report
- Order processing
- Production
- Shipment
- Customer
- MIT (Master Input Table)
- Supplier
- Time & Action Plain
- Administration

5. Entrepreneurship

- Introduction to Entrepreneurship
- Concept of Enterprise & Entrepreneur
- Entrepreneurship v/s Management
- Role & Function of Entrepreneur w.r.t. the enterprise and economy
- Opportunity scouting & Idea generation
- Role of creativity & innovation and business research
- Source of business idea
- The process of setting up a business: Preliminary screening & aspects
- Preparation of a project report
- Business processes, location, operation planning & control
- Financing agencies
- Policies/ Programmes, Schemes & procedures
- Principles of Double Entry Book Keeping: Journal entries, Cash book, Pass book & bank
- Issues of small scale marketing
- Concept & application of PLC, advertising & publicity
- Sales & distribution management

6. Project Based on Internship in Export House

- Detailed study on the given topic, data collection, evaluation & conclusion
- The student will be required to complete their study and submit a comprehensive report

VOCATIONAL EDUCATIONAL QUALIFICATION FRAMEWORK
(Sector: Apparel & Textiles Specialization – Fashion Management)
NVEQF/A&T/FD

S.No.	Certificate Level	Vocational Hours
1.	Level-I	200-300
2.	Level-II	200-300
3.	Level-III	300-400
4.	Level-IV	300-400
5.	Level-V	400-500
6.	Level-VI	500-600
7.	Level-VII	600-700

Certificate Level –I

1. Introduction to Textiles

- Indian Textile Industry
- Major Production Segments of the Textile supply Chain
- Textile Pipeline: Fiber to Consumer

2. Basic Design & Drawing

- Elements of Design
- Principles of Design
- Textile Design Terminology
- Introduction to Pencil Shading
- Nature Drawing- Understanding Forms & Arrangements
- Perspective Drawing
- Concept of 2D & 3D Forms
- Design repeat
- Working with grids

3. Profile of Fashion Industry

- Introduction to International Fashion Industry
- Profile of Indian Fashion Industry
- Prominent Fashion Designers
- Fashion Terminology
- Role of Fashion designer, Co-coordinator, merchandiser, stylist etc.

4. Textures on Fabric

- Types of Textures & Illustration techniques for textiles
- Textural effects, use of textures in textile designing
- Collection of different types of fabric textures

5. Project Based on Visit to Textile Museum

- Detailed study on the given topic, data collection, evaluation & conclusion.
- The student will be required to complete their study and submit a comprehensive report.

Certificate Level –II

5. Introduction to Textile Fibres

- Fibre definition & classification
- Fibre properties & End Use- Natural & Man-made
- Different methods of fiber identification- physical examination, burning test & chemical test
- Common Natural and Manufactured Fibers

6. Elements of Fashion Design

- Dimensions of colour- hue, intensity and value
- Colour wheel and its various Color Schemes- primary, secondary, tertiary, quaternary, warm and cool colours, analogous colours, complimentary and split complimentary, tints, tones and shades, achromatic and monochromatic colours, pastels and dusty pastels - effect of these colour schemes
- Effects of Colors- red, blue, green, yellow, orange, pink, purple, grey, black, white, neutrals Colour and combination in clothes
- Types of textures- thread pulling, thread crumple, thread rolling, paper dabbing, wax rubbing, wax drop, smoke, blade, leaf, flower, butterfly, lace, jute, thumb, matchstick, sponge, cabbage, potato, onion, chilly, lady finger, ink drop, ink blow, drop ink, batik, leather, dry brush, mesh, comb, cloth dabbing etc.,
- Depicting textures (e.g., silk, satin, chiffon, denim, corduroy, velvet, knit etc.) and patterns on paper
- Repetition, gradation, radiation, dominance, unity, harmony, contrast
- Proportion, balance & rhythm- its importance in designing
- Lines, Dots, Prints, Checks, silhouettes, colour, texture, etc

7. Surface Ornamentation

- Basic embroidery stitches and variation- Back ,Chain , Cross , Blanket , Stem, Couching, Lazy daisy, Running, Rumanian, French Knot, Star filling, Trellis, Fish bone, Satin, Herringbone, Bundle, etc.
- Techniques of surface ornamentation- embroidery, Tie & Dye, Block printing, screen printing, spray painting, Fabric Painting, sequins
- Development of samples using various techniques of surface ornamentation

8. Basics of Computer-I

- Fundamentals of Computer- Introduction, Input/ Output & processing, Memory Device
- Types of computers
- Characteristics & Applications of Computers
- Hardware & Software
- Windows XP Overview
- Basic Terminology

- Desktop Settings & control panel
- MS Paint
- Word Pad
- Accessories & Multimedia
- Documentation using MS Word
- Creating, Editing & formatting document
- Introduction to MS Excel
- Creating, Editing & formatting Worksheets
- Formulas & Functions
- Introduction to MS Power point
- Creating, Editing & formatting slides & Slide show
- Presentation of the slides

5. Project Based on Visit to Spinning Unit

- Detailed study on the given topic, data collection, evaluation & conclusion.
- The student will be required to complete their study and submit a comprehensive report.

Certificate Level –III

6. Introduction to Textile Yarns

- Yarn Classification and Related Taxonomy
- Yarn Spinning
- Yarn Twist: Direction & Amount of Twist
- Different types of yarns
- Special Types of Yarns- Texturized & Novelty yarns
- Yarn Numbering System- Direct & Indirect System
- Sewing Threads- Properties & Uses
- Thread Packages

7. Fashion Illustration & Appreciation

- Block figures-normal and fashion.
- Basic croqui drawing- all sizes, and all poses (front, back, side, ¾)
- Face analysis, Hands and feet, Features- eyes, nose, lips, ear, Hairstyles.
- Fleshing of block figures.
- Figures in Motion-X,S,T
- Draping of different Garments
- Visual Studies and rendering effects
- Designing Clothes line: Kids wear and Women wear.
- Different Presentation Techniques- collage work, swatch board, front and back, stylization, textural effects, etc.
- colours, poster colours, inks, crayons, dry pastels, etc.
- Designing of theme based garments - Culture, Environment, Historical Monuments, Seasons, signs and symbols, flora and fauna, colour schemes, fusion, traditional

embroideries, traditional fabrics, festivals, college wear, office wear, bridal wear etc.

8. Sewing Techniques

- Introduction to Sewing Machines – classification and identification
- Needles & Threading mechanism
- Common Machine Problem
- Operating Industrial Sewing Machine
- Practice – Paper Worksheets on different shapes
- Hand Stitches
- Practice – Seams, Plackets & Pockets

9. Pattern Making Techniques

- Introduction to Pattern Making
- How to take Measurement
- Pattern Making Tools
- Garment Fitting
- Basic Bodies
- Basic Sleeves
- Basic Skirt

10. Basics of Computer-II

- Introduction to Internet
- Using Email accounts & its functions
- Surfing web pages
- Search Engines
- Basics of social networking site
- Introduction to networks
- Computer security concerns – Virus & Antivirus

6. Project Based on Visit to Composite Mill

- Detailed study on the given topic, data collection, evaluation & conclusion
- The student will be required to complete their study and submit a comprehensive report

Certificate Level –IV

7. Introduction to Fabrics

- Fabric and Related Taxonomy
- Classification of fabrics
- Overview of different fabrics and their manufacturing- Woven, Knitted & Non-Woven
- Introduction to woven fabrics
- Weaves: Basic & Novelty weaves
- Introduction to knitted fabrics
- Classification of knits: Warp Knits & Weft knits
- Non woven: Classification, Properties, Manufacture & End uses

8. Garment Construction

- Basic Bodice
- Types of necklines
- Types of collars
- Types of sleeves
- Basic skirt & skirt variation

9. Pattern Construction & Development

- Dart manipulation
- Collar variation
- Sleeve variation
- Skirt variation

10. Fundamentals of Apparel Production

- Sequence of Apparel production
- Types of Apparel Producers
- Different departments & personnel
- Introduction to Basic Garment: Components & Parts
- Seams & Stitches
- Raw Material in use in RMG industry: Closures, Labels, Interlining, Threads, Packing Material, Laces & Braids etc.
- Garment Analysis (using a tech pack) of different garments
- Machines used in manufacturing
- Operation Breakdown
- Pre-production Planning
- Types of samples & sample approval
- Types of Patterns & pattern checking
- Fabric & Accessory procurement

11. Communication & Soft Skills

- Developing Vocabulary, Thinking Ability & Logical Reasoning
- Developing Communication Skills- Written & Oral
- Interview skills
- Job interviews Do's & Don'ts
- Group Discussions
- Conducting Mock Interviews & Group Discussions

12. Project Based on Visit to Apparel Park/Textile Park/Power loom/Composite Mill

- Detailed study on the given topic, data collection, evaluation & conclusion.
- The student will be required to complete their study and submit a comprehensive report.

Certificate Level –V

7. Advance Pattern Making

- Draping
- Shirt
- Trouser
- Dress
- Kid's wear
- T-shirt
- Women's blouse
- Grading
- Marker making

2. Market Research

- Introduction to basic statistics
- Basic research concepts
- Techniques of research
- Research data collection; and analysis
- Research strategies and measurement
- Scaling and sampling designs
- Report formats
- Data sources, preparation and analysis

3. Fashion Merchandising

- Introduction to Merchandising
- Place of Marketing & Merchandising in Fashion Industry
- Role & Responsibilities of a Merchandiser
- Merchandising Terminology
- Fashion cycle & Fashion Adoption Theories
- Sample approvals
- Merchandising Planning Tools & Techniques
- Merchandising Calendar
- Fashion Forecasting
- Planning the line
- Time & Action Plan
- Fashion Retail Business:
 - Concept of Retailing
 - Structure of Indian Retail Industry
 - Drivers of Growth
 - Types of Retail Operations
- Garment Costing
- International Marketing:
 - Importance

- Marketing mix
- Market Identification , Segmentation, Targeting & Positioning
- Marketing environment
- Marketing Channels and Communication- Sales Promotion and Channels of Distribution
- Consumer Buying Behaviour
- Export Documentation
 - Importance
 - Classification
 - Uses
 - Inco Terms
 - Payment Terms

4. Business of Fashion

- Fashion; origin and importance
- Principles of fashion
- History of fashion-16th century, 17th century, 18th century, 19th century
- Present day designers
- Fashion cycles & environmental factors affecting fashion cycles
- Components of fashion (silhouette, detail, color & textures)
- Classification of clothing; menswear, women's wear, children's wear
- Classification of basic garment and styles; fastening, cuffs, collars, necklines, sleeves, lengths
- Basic color theory
- Clothing product and human body shape

5. Business Communication

- Importance of effective communication
- Barriers to communication
- Factors affecting communication
- Communication principles
- The process of preparing effective written communication
- Effective oral communication
- Basic presentation skills for effective business communication
- Steps to effective communication

6. Computer Graphics

- Basic Computer Graphics Skills using CorelDraw & Photoshop
- Setting up a graphics page in terms of width, height, resolution and color.
- Creating Basic Shapes like Lines, Rectangles, Squares, Circles, Ellipses, Polygons, Free Form Shapes

- Modifying basic shapes, selecting the above created shapes, changing lines, fills, colors, textures of the selection.
- Using Text Tool, Creating Text Objects, Changing Font, Font Size and Color of the Text, Objects.

7. Project on based on Survey

- Detailed study on the given topic, data collection, evaluation & conclusion.
- The student will be required to complete their study and submit a comprehensive report.

Certificate Level –VI

8. Research methodology

- Introduction to research methodology
- Methods of sampling and data collection
- Data analysis
- Testing of Hypothesis
- Interpretation and report writing

9. Fashion Marketing

- Introduction to fashion marketing
- Fashion cycle and adoption of fashion
- Evolution of marketing
- Uniqueness of fashion marketing
- Environment of fashion marketing
- Segmentation, targeting, positioning
- The marketing mix
- The fashion product classification, PLC, New product development
- Branding
- Pricing
- Promotion
- Distribution
- Understanding the consumer decision making process

10. Apparel Quality Management

- Introduction to Quality Control: Definition & Importance
- Inspection: Definition & Inspection Loop
- Raw Material Inspection
- Fabric Inspection: Woven, Knitted, Fabric Defects & Fabric Grading System
- Accessories: Interlining, Sewing Thread, Zipper, Buttons etc.
- In process Inspection
- Defects: Pattern & Marker, Spreading, Cutting, Sewing, Pressing & Finishing etc.
- Final Inspection
- Statistical Sampling & Sampling Plans
- Quality Control Tools: AQL, AOQL
- Quality Management Systems: ISO, TQM, 6 Sigma, Kaizen, Lean Manufacturing
- Measurement checking of different garments
- Introduction to Textile Testing
- Significance & Elements of Testing
- Principles of textile testing instruments

- Quality evaluation of fiber, yarn & fabric
- Physical Testing-linear density, twist, tensile strength, dimensional stability, colour fastness
- Chemical Testing-blend composition, wrinkle recovery, water resistance, colour fastness
- Reading & Understanding Test Reports

11. Computer Aided Design

- Introduction to CAD software
- Pattern making tools
- Development of pattern – Women blouse, Skirt, Dress, Shirt, Trouser, T-shirt
- Grading & Marker making
- Digitizer
- Plotter
- Merchandising – Enquiry, Costing, Sampling, Order processing, Production, Shipment, Customer, MIT (Master Input Table) , Supplier, Time & Action Plain, Administration

12. Presentation & Portfolio

- Creating Mood boards, Theme boards, Client boards , Swatch boards,
- Creating lines, Collage work
- Theme based illustrations
- Fashion accessories designing
- Illustrating different Hairstyles
- Design Studio- designing dresses based on different themes for a fashion show
- Study of the basic aspects of a fashion show
- Designing and illustrating lines for a fashion

13. Advance Garment Construction

- Introduction to Specialized sewing machines- Threading & operating DNLS, Over-lock, Flat- lock, Button & Button hole, Feed of the arm , Bar-tack, Blind stitch machines and Folders & attachments
- Garment making- shirt, Trouser, Women Blouse, Dress, Kid's wear & T- shirt as per Spec-sheet
- Fit checking & alteration
- Finishing & packing as per spec sheet
- Handling of special fabrics- Georgette, Satin, Lace, Lycra Blended, Denim, Coated/Laminated, Surface ornamented fabrics

14. Project Based on Internship in Industry

- This 8 weeks Industry internship must be closely monitored by course team. The aim of internship is to:
- Expose the students to prevalent commercial and industrial practice, organization structure , flow process of the work, standards, and commitment

- Industrial internship will help gain firsthand experience of industry working
- Deepen knowledge and skills in practical, hands on situation
- Understand pressure of fast moving industry and sharpen on job problem solving area

Learning outcomes

- The student will be required to complete their study and submit a comprehensive report
- Faculty members must monitor the students progress ad performance during the internship

Certificate Level –VII

1. Sourcing Management

- Introduction to Sourcing
- Definition & Need for Sourcing
- Sourcing strategies
- Procurement & Outsourcing
- Benefits & Risks of Outsourcing
- Make or Buy Decisions
- Single sourcing v/s Multiple Sourcing
- Domestic v/s Global sourcing
- Markets- Domestic or International
- Manufacturing Resource Planning
- Supply Chain Management
- Demand Chain Analysis
- Just in Time Technology
- Vendor Management
- Inventory Management
- Inspection
- Ethical sourcing

2. Fashion Costing

- Elements of Costing
- Difference between costing & pricing
- Fixed costs v/s Variable Cost
- Direct Cost v/s Indirect Costs
- Overheads
- Cost Volume Profit Analysis
- Calculation of margins, freight elements
- Currency Conversions
- Guidelines for costing of different textile materials

3. International Trade & Marketing

- International marketing-scope and objectives
- International marketing concepts
- Marketing opportunities--identifications, advantages, competition
- Marketing strategy and entry methods

- Product life cycle-conception to delivery
- Logistics-through the product life cycle
- Export finance
- Trade Blocs

4. Principles of Management

- Management & organization
- Evolution of management theory
- The organizational & global environment
- Management principles & functions
- Managerial values & ethics
- Manager as decision maker, planner & strategist
- Organizational structure, control & culture
- Human resource management

5. Entrepreneurship

- Introduction to Entrepreneurship
- Concept of Enterprise & Entrepreneur
- Entrepreneurship v/s Management
- Role & Function of Entrepreneur w.r.t. the enterprise and economy
- Opportunity scouting & Idea generation
- Role of creativity & innovation and business research
- Source of business idea
- The process of setting up a business: Preliminary screening & aspects
- Preparation of a project report
- Business processes, location, operation planning & control
- Financing agencies
- Policies/ Programmes, Schemes & procedures
- Principles of Double Entry Book Keeping: Journal entries, Cash book, Pass book & bank
- Issues of small scale marketing
- Concept & application of PLC, advertising & publicity
- Sales & distribution management

6. Project Based on Internship in Export House

- Detailed study on the given topic, data collection, evaluation & conclusion

Level seven culminates 12 weeks final project, which involves extensive research on a defined problem/gap linked his/her internship and applicable to an industry situation in the area of Marketing, Merchandising or Management. The student is expected to present and defend his/her findings in front of selected jury comprising internal/external faculty and industry experts.

All final projects must be sponsored/supported by the industry. Mentors drawn from the faculty or industry, as may be the case, guide the student during the project and evaluate the research process, documentation and journal. The report process documentation is required to be presented to the jury members in the end.