

# FASHION AND APPAREL TECHNOLOGY

First Year Syllabus as per NEP  
2020

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## PROGRAMME SPECIFIC OUTCOMES

### FIRST YEAR (LEVEL 4.5)

- PSO 1 Appreciate the basic concepts of clothing, design, pattern making and their applications in apparel industry.
- PSO 2 Demonstrate the elementary practical aspects of sewing, garment production and machinery.
- PSO 3 Familiarize with the various aspects of fibres, yarns and fabrics along with hands-on demonstration of fabric construction.
- PSO 4 Acquire the basic concepts of fashion industry and the materials used in fashion.
- PSO 5 Enhance proficiency over creative, language, verbal, nonverbal and written communication skills for self and professional advancement.
- PSO 6 Impart fundamental computer skills for professional progression.
- PSO7 Spread awareness about environmental concerns and sensitize with the methods of environmental protection.
- PSO 8 Prepare globally competitive industry ready graduates by imparting training and experiential learning through internships.

**Bloom's Taxonomy (BT) Levels:** 1. Remember 2. Understand 3. Application 4. Analysis 5. Evaluation 6. Creation



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Academic Year

2025-26

## COURSE CURRICULUM

Course Code	Course	Credits	Course Type
<b>YEAR I SEMESTER I</b>			
FAM2001C	Basics of Clothing & Design	4 (0+4)	Major
FAM2011C	Basic Pattern Making	4 (0+4)	Major
FAE2001C	Introduction to Fashion Industry	4 (4+0)	Minor
MDC2381C	Creative Thinking	4 (1+3)	MDC
AEC2201C	Fundamentals of Communication Skills in English	2 (2+0)	AEC
SEC2461C	Computer Literacy – I	2 (1+1)	SEC
IKS2291C	Indigenous Fibres, Yarns & Fabrics	2 (1+1)	IKS
	<b>Total</b>	<b>22</b>	
<b>YEAR I SEMESTER II</b>			
FAM2002C	Sewing Fundamentals	4 (0+4)	Major
FAM2012C	Structural Textile Design	4 (2+2)	Major
FAE2002C	New Materials for Fashion	4 (4+0)	Minor
MDC2382C	Garment Production & Machinery	4 (2+2)	MDC
AEC2262C	Developing Communication Skills in English	2 (2+0)	AEC
SEC2552C	Computer Literacy – II	2 (1+1)	SEC
VAC2322C	Environment Science	2 (2+0)	VAC
	<b>Total</b>	<b>22</b>	

# SEMESTER I

Course Code	Course Title	Credits	Course Type
FAM2001C	Basics of Clothing & Design	4 (0+4)	Major
FAM2011C	Basic Pattern Making	4 (0+4)	Major
FAE2001C	Introduction to Fashion Industry	4 (4+0)	Minor
MDC2381C	Creative Thinking	4 (1+3)	MDC
AEC2201C	Fundamentals of Communication Skills in English	2 (2+0)	AEC
SEC2461C	Computer Literacy – I	2 (1+1)	SEC
IKS2291C	Indigenous Fibres, Yarns & Fabrics	2 (1+1)	IKS
		<b>Total</b>	<b>22</b>



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**B. Sc. (F.T.) (Honors) Fashion and Apparel Technology First Year – Level 4.5**

<b>Year</b>	<b>I</b>	<b>FAM2001C BASICS OF CLOTHING &amp; DESIGN (Major 1)</b>	<b>Credits / Hours per semester</b>	<b>4 (0+4) Credits / 8 Hours per week (Practical: 120 hours) Total: 120 hours/semester</b>
<b>Semester</b>	<b>I</b>	Year of Introduction: 2023-24	<b>Maximum Marks / Grade</b>	<b>100 Marks / O Grade (10-point scale)</b>
<b>Mode of Transaction</b>		Practical	<b>Maximum Marks</b>	<b>36 Marks</b>

**Course Outcome (CO)**

- CO1 Introduce the basic concepts of clothing construction and design skills
- CO2 Understand individuality in clothing, grooming and self-care
- CO3 Know flat sketching through 8-head and 10-head theory
- CO4 Enable in making appropriate selection of clothing styles
- CO5 Demonstrate fabric preparation for sewing
- CO6 Give hands on training of basic hand and machine stitches

<b>Unit No.</b>	<b>Topic</b>	<b>Contact Hours</b>	<b>Weightage (%)</b>	<b>BT Level</b>	<b>CO</b>	<b>PSO</b>	<b>Elements of Employability (Emp) / Entrepreneurship (Ent) / Skill Development (SD)</b>	<b>Relevance to Local (L) / National (N) / Regional (R) / Global (G)</b>	<b>Relation to Gender (G), Environment Sustainability (ES), Human Values (EV), Professional Ethics (PE)</b>
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**PRACTICAL**

<b>I</b>	<b>Introduction to design concept</b> 1. Design: it's meaning, types and importance 2. Elements of design: colour, texture, line, shape, pattern, space, form, plane, volume and light 3. Basic principles of design and the concept of composition: balance, proportion, rhythm, emphasis and harmony	10	20	1, 2	CO1	PSO1	Skill Development	Global	Gender, Environment and Sustainability
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<b>II</b>	<b>Individuality in clothing and design</b> 1. Grooming and care of self 2. Good taste in design: its importance and expression	5	10	1, 2	CO2	PSO1	Skill Development	Global	Gender, Environment and Sustainability
<b>III</b>	<b>Flat sketching</b> 1. 8-head theory, 10-head theory 2. Sketching design details (basic necklines, sleeves, hemlines, collars, pockets) 3. Children clothing (basic frocks, shirts, shorts) 4. Women's clothing (basics tops, skirts, dresses, trousers, jackets) 5. Men's clothing (basic shirt, trousers, jackets)	26	20	2, 3	CO3	PSO1	Employability, Skill Development	Global	Gender, Environment and Sustainability
<b>IV</b>	<b>Basics of design and its application</b> 1. Identify, describe and experience the elements of design and discuss how these are a part of our daily lives 2. Review the elements and principles of design in two dimensional and three-dimensional design 3. Describe the similarities and differences in contemporary design / period design among cultures 4. Create a design composition emphasizing a design principle	19	15	2, 3	CO4	PSO1	Employability, Skill Development	Global	Gender, Environment and Sustainability



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<p><b>V</b></p>	<p><b>Introduction to sewing machine, preparation of fabric before cutting</b>            1. Parts of sewing machine and its operation            2. Common stitching problems and solution            3. Fabric grain            4. Method of cutting the fabric; Checking fabric design            5. Straightening of fabric            6. Shrinking of cottons            7. Types of needles            8. Planning lay out and calculation of fabric</p>	<p>19</p>	<p>15</p>	<p>2, 3</p>	<p>CO5</p>	<p>PSO1</p>	<p>Employability, Skill Development</p>	<p>Global</p>	<p>Gender, Environment and Sustainability</p>
<p><b>VI</b></p>	<p><b>Basic hand and machine stitches</b>            1. Hand stitches: running stitch/basting, bast stitch, whip stitch, blanket stitch, slip stitch, blind hemming, lock stitch, tailors stitch, blind catch stitch            2. Machine seams: plain seam, pinked seam, flat seam, lapped seam, top stitched plain seam, flat fell seam, French seam, bias bound seam, overcast seam, self-bound</p>	<p>26</p>	<p>20</p>	<p>2, 3</p>	<p>CO6</p>	<p>PSO1</p>	<p>Employability, Skill Development</p>	<p>Global</p>	<p>Gender, Environment and Sustainability</p>

**SUGGESTED EVALUATION**

**CCE (50% IA)**

**SEE (50% UA)**

Evaluation type	Marks	Mode	Nature	Objective	Evaluation type	Marks	Mode	Nature	Objective
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Class work	20	Submission	Continuous assessment	Fixed date forces Continuous and Comprehensive Evaluation (CCE)	Semester Exam	20	Practical examination	Attempt the questions practically in lab	Practical skill evaluation
Mid semester examination, Lab work	20	Practical examination	Component of working with one's hand	Keep the students on the task.	Class work	20	Submission	Continuous assessment	Continuous and Comprehensive Evaluation (CCE)
Viva/Oral examination	10	Viva	Individually or in small groups.	Practical experience towards job interview situation.	Viva/Oral examination	10	Viva	Individually or in small groups.	Practical experience towards job interview situation.
Total	50				Total	50			

**REFERENCES**

1.	Bennett, J. G. (2012). <i>Design Fundamentals for New Media - 2<sup>nd</sup> Edition</i> . New York: Cengage Learning.
2.	Bhatia, R., & Arora, C. (1999). <i>Introduction to Clothing and Textile</i> . Clothing and Textile Dept., Faculty of Home Science, The M.S. University of Baroda.
3.	Carson, B. (1969). <i>How You Look and Dress</i> . New Delhi: Tata McGraw-Hill Publishing Company Ltd.
4.	Corrigan, N. (2018). <i>Understanding and Using a Sewing Machine</i> . Wiltshire: The Crowood Press Ltd.
5.	Craig, H. T., & Rush, C. D. (1946). <i>Clothes with Character</i> . Boston: Health & Company.
6.	Goldstein, H. (2012). <i>Art in everyday life</i> . New Delhi: Tata McGraw-Hill Publishing Company Ltd.
7.	Kiper, A. (2011). <i>Fashion Illustration: Inspiration and Technique</i> . Devon: David & Charles Publishers Ltd.
8.	Lauer, D. A., & Pentak, S. (2007). <i>Design Basics - 7<sup>th</sup> Edition</i> . New York: Cengage Learning.
9.	Moulton, B. (1968). <i>Simplified Tailoring</i> . London: BT Batsford Ltd.
10.	Thomas, A. J. (1996). <i>Art of Sewing</i> . New Delhi: UBJ Publication Ltd.
11.	Pandit, S. & Tarplay, E. (1975). <i>Grooming Selection and Care of Clothes</i> . Clothing and Textile Dept., Faculty of Home Science, The M.S. University of Baroda.



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12.	Pentak, S., Roth, R., & Lauer D. A. (2012). <i>Design Basics: 2D and 3D - 8<sup>th</sup> Edition</i> . New York: Cengage Learning.
13.	Scott, R. G. (1980). <i>Design fundamentals</i> . Florida: R. E. Krieger Pub. Co.
14.	Skull, J. <i>Key terms in Art Craft and Design</i> . Australia: Elbrook Press.
15.	Smuthi, G. J. (2002). <i>Elements of Fashion and Apparel Design</i> . New Delhi: New Age International Pvt. Ltd.
16.	Strutt, L. (2022). <i>Simple Hand Sewing</i> . London: CICO Books.
17.	Termes, P. E. (2014). <i>Fashion Illustration: Step by Step</i> . Spain: Konemann Publications.

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**B. Sc. (F.T.) (Honors) Fashion and Apparel Technology First Year – Level 4.5**

<b>Year</b>	<b>I</b>	<b>FAM2011C BASIC PATTERN MAKING (Major 2)</b>	<b>Credits / Hours per semester</b>	<b>4 (0+4) Credits / 8 Hours per week (Practical: 120 hours) Total: 120 hours/semester</b>
<b>Semester</b>	<b>I</b>	Year of Introduction: 2023-24	<b>Maximum Marks / Grade</b>	<b>100 Marks / O Grade (10-point scale)</b>
<b>Mode of Transaction</b>		Practical	<b>Maximum Marks</b>	<b>36 Marks</b>

**Course Outcome (CO)**

- CO1 Introduce the basic concepts of anthropometry and its application
- CO2 Understand and draw the basic bodice and concepts of fit and darts
- CO3 Demonstrate dart manipulation through flat pattern method
- CO4 Understand the various parameters of fit and fall of basic skirt
- CO5 Stitch an upper garment and a skirt considering different constructional aspects

<b>Unit No.</b>	<b>Topic</b>	<b>Contact Hours</b>	<b>Weightage (%)</b>	<b>BT Level</b>	<b>CO</b>	<b>PSO</b>	<b>Elements of Employability (Emp) / Entrepreneurship (Ent) / Skill Development (SD)</b>	<b>Relevance to Local (L) / National (N) / Regional (R) / Global (G)</b>	<b>Relation to Gender (G), Environment Sustainability (ES), Human Values (EV), Professional Ethics (PE)</b>
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**PRACTICAL**

<b>I</b>	<b>Introduction to anthropometry</b> <ol style="list-style-type: none"> <li>1. Body shape analysis</li> <li>2. Landmarks on body and corresponding ones on dress forms</li> <li>3. Terminology</li> <li>4. Standard measurement techniques and its importance in fit: conventional and new</li> <li>5. New methods used in anthropometric studies: advantages and limitations</li> </ol>	18	15	2, 3, 4	CO 1	PSO1	Employability, Skill Development	Global	Gender, Environment and Sustainability
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	6. Importance of pattern making in quality of a garment 7. Body dimensions in Indian context 8. Application of anthropometric studies in apparel industries								
<b>II</b>	<b>Bodice block</b> 1. Concept of fit: darted/dart less block 2. Basic bodice block 3. Truing of darts / seams / curves / notches / slits and its significance 4. Concepts of seam allowance and production patterns	24	20	2, 3, 4	CO 2	PSO1	Employability, Skill Development	Global	Gender, Environment and Sustainability
<b>III</b>	<b>Dart manipulation - flat pattern method</b> 1. Dart manipulation techniques: pivot, slash and spread, darts in tucks/gathers 2. Darts into panels: princess lines/style lines not passing through apex point 3. Principle of fullness: importance of balancing of patterns and notches and its importance 4. Quality defect identification and remedies at pattern stage	24	20	2, 3, 4	CO 3	PSO1	Employability, Skill Development	Global	Gender, Environment and Sustainability
<b>IV</b>	<b>Skirt</b> 1. Basic skirt block	24	20	2, 3, 4	CO 4	PSO1	Employability, Skill Development	Global	Gender, Environment and Sustainability



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	2. Various silhouette of skirts and their differences 3. Concept of panels/pleats 4. Various parameters controlling fit and fall of skirts								
<b>V</b>	<b>Construction of garment</b> 1. Upper garment (any one) 2. Skirt (any one) 3. Different constructional aspects: garment finishing (neckline, armhole, waistbands, facings)	30	25	2, 3, 4, 6	CO 5	PSO1	Employability, Skill Development	Global	Gender, Environment and Sustainability

**SUGGESTED EVALUATION**

CCE (50% IA)					SEE (50% UA)				
Evaluation type	Marks	Mode	Nature	Objective	Evaluation type	Marks	Mode	Nature	Objective
Class work	20	Submission	Continuous assessment	Fixed date forces Continuous and Comprehensive Evaluation (CCE)	Semester Exam	20	Practical examination	Attempt the questions practically in lab	Practical skill evaluation
Mid semester examination, Lab work	20	Practical examination	Component of working with one's hand	Keep the students on the task.	Class work	20	Submission	Continuous assessment	Continuous and Comprehensive Evaluation (CCE)
Viva/Oral examination	10	Viva	Individually or in small groups.	Practical experience towards job interview situation.	Viva/Oral examination	10	Viva	Individually or in small groups.	Practical experience towards job interview situation.
Total	50				Total	50			

**REFERENCES**



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1.	Al-Haboui, M. H. (1992). <i>Anthropometry for a Mix of Different Populations</i> . Amsterdam: Applied Ergonomics, Elsevier.
2.	Aldrich, W. (2015). <i>Metric Pattern Cutting for Women's Wear - 6<sup>th</sup> Edition</i> . New York: Wiley-VCH GmbH & Co.
3.	Armstrong, H. J. (2009). <i>Pattern making for Fashion design – 5<sup>th</sup> Edition</i> . Noida: Harper Collins Publishers India.
4.	Basia, S. (2010). <i>Technical Drawing for Fashion</i> . London: Laurence King Publishing.
7.	Shoben, M. M., & Ward, J. P. (1990). <i>Pattern Cutting and Making Up – Revised Edition</i> . Oxford: Butterworth Heinmann.
8.	Suhner, I. A. (2012). <i>Technical Drawing for Fashion Design: Garment Source Book</i> . Netherlands: The Pepin Press.
9.	Tokomo, N. (2011). <i>Pattern Magic: Stretch Fabrics</i> . Tokyo: Nakamichi Laurence King Publications.
10.	Zakaria, N. & Gupta, D. (2020). <i>Anthropometry, Apparel Sizing and Design – Second Edition</i> . Singapore: Springer.
11.	Zarapkar, K. R. (2008). <i>Zarapkar System of Cutting</i> . Mumbai: Navneet Publication (India) Ltd.



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<b>Year</b>	<b>I</b>	<b>FAE2001C INTRODUCTION TO FASHION INDUSTRY (Minor 1)</b>	<b>Credits / Hours per semester</b>	<b>4 (4+0) Credits / 4 Hours per week (Theory: 60 hours) Total: 60 hours/semester</b>
<b>Semester</b>	<b>I</b>	Year of Introduction: 2023-24	<b>Maximum Marks / Grade</b>	<b>100 Marks / O Grade (10-point scale)</b>
<b>Mode of Transaction</b>		Lecture	<b>Maximum Marks</b>	<b>36 Marks</b>

**Course Outcome (CO)**

- CO1 Make students aware about the fundamentals of textiles processes
- CO2 Understand the basic sequence of apparel manufacturing process
- CO3 Study about the various concepts of fashion and its development
- CO4 Inculcate the knowledge of merchandising, retailing and branding

<b>Unit No.</b>	<b>Topic</b>	<b>Contact Hours</b>	<b>Weightage (%)</b>	<b>BT Level</b>	<b>CO</b>	<b>PSO</b>	<b>Elements of Employability (Emp) / Entrepreneurship (Ent) / Skill Development (SD)</b>	<b>Relevance to Local (L) / National (N) / Regional (R) / Global (G)</b>	<b>Relation to Gender (G), Environment Sustainability (ES), Human Values (EV), Professional Ethics (PE)</b>
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**THEORY**

<b>I</b>	<b>Fundamentals of textiles</b> 1. Textile terminologies 2. Classification of fibres 3. Yarn spinning process and its types 4. Different types of fabric and their end use 5. Fabric pre-treatment 6. Introduction to dyeing, printing and finishing	12	20	1, 2, 3	CO1	PSO2 PSO3	Skill Development	Global	Environment and Sustainability
<b>II</b>	<b>Apparel manufacturing</b> 1. Apparel terminologies	21	35	1, 2, 3	CO2	PSO2 PSO3	Skill Development	Global	Environment and Sustainability



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	<ol style="list-style-type: none"> <li>2. Process of apparel manufacturing</li> <li>3. Types of manufacturing methods. apparel supply chain</li> <li>4. Understanding of garment components (Kids-wear, Men's-wear and Women's wear)</li> </ol>								
<b>III</b>	<b>Fashion concepts</b> <ol style="list-style-type: none"> <li>1. Fashion – an overview and definitions</li> <li>2. Fashion cycle and categorization</li> <li>3. Fashion centres</li> <li>4. History of apparel manufacturing</li> <li>5. Categorization of apparels</li> </ol>	12	20	1, 2, 3	CO3	PSO2 PSO3	Skill Development	Global	Gender, Environment and Sustainability
<b>IV</b>	<b>Business of fashion</b> <ol style="list-style-type: none"> <li>1. Merchandising - Merchandising definitions, roles of merchandisers in buying offices and manufacturing / exporting units</li> <li>2. Retailing - Various types of retailers, franchise retailing, private labels and others, department stores, specialty stores, chain retailer, mail order houses</li> <li>3. Shopping malls</li> <li>4. Branding – Definition, types of brands, brand life cycle</li> </ol>	15	25	1, 2, 3	CO4	PSO2 PSO3	Skill Development	Global	Gender, Environment and Sustainability

**SUGGESTED EVALUATION**



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**CCE (50% IA)**

**SEE (50% UA)**

Evaluation type	Marks	Mode	Nature	Objective	Evaluation type	Marks	Mode	Nature	Objective
Mid semester examination	25	Written Mode	Traditionally essay type	For depth and planned preparation.	Semester Exam	50	Written Mode	Traditionally essay type	For depth and planned preparation
Class test	15	Written mode	Traditionally essay type	Fixed date forces students to learn.					
Quizzes/Objective test	10	Written mode	Short duration structured test	Excellent validity as greater syllabus coverage.					
Total	50				Total	50			

**REFERENCES**

1. Carr, H. & Latham, B. (2008). *Technology of Clothing Manufacture - 4<sup>th</sup> Edition*. Oxford: Blackwell Publishing.
2. Gohl, E., & Vilensky, L. (1993). *Textile Science: An Explanation to Fiber Properties*. Melbourne: Longman Cheshire.
3. Kendall, G. (2009). *Fashion Brand Merchandising*. New York: Fairchild Books.
4. Glock, R., & Kunz, G. (2005). *Apparel Manufacturing: Sewn Product Analysis – Fourth ed*. New Delhi: Pearson India Ltd.
5. Nayak, R., & Padhye, P. (2015). *Garment Manufacturing Technology*. London: Woodhead Publishing.
6. Dickerson, K. (2002). *Inside the Fashion Business – 7<sup>th</sup> ed*. New Jersey – Prentice Hall.



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<b>Year</b>	<b>I</b>	<b>MDC2381C CREATIVE THINKING (Multi-disciplinary Course 1)</b>	<b>Credits / Hours per semester</b>	<b>4 (1+3) Credits / 7 Hours per week (Theory: 15 hours Practical: 90 hours) Total: 105 hours/semester</b>
<b>Semester</b>	<b>I</b>	Year of Introduction: 2023-24	<b>Maximum Marks / Grade</b>	<b>100 Marks / O Grade (10-point scale)</b>
<b>Mode of Transaction</b>		Lecture and Practical	<b>Maximum Marks</b>	<b>36 Marks</b>

**Course Outcome (CO)**

- CO1 Introduce the basic concepts of thinking and creativity
- CO2 Impart basic understanding of the tools required for creative thinking
- CO3 Enhance problem solving ability through creative process
- CO4 Enable students to develop distinguished approach towards environment and hence helping derive inspirations through creative expressions
- CO5 Demonstrate product designing through creative expression

<b>Unit No.</b>	<b>Topic</b>	<b>Contact Hours</b>	<b>Weightage (%)</b>	<b>BT Level</b>	<b>CO</b>	<b>PSO</b>	<b>Elements of Employability (Emp) / Entrepreneurship (Ent) / Skill Development (SD)</b>	<b>Relevance to Local (L) / National (N) / Regional (R) / Global (G)</b>	<b>Relation to Gender (G), Environment Sustainability (ES), Human Values (EV), Professional Ethics (PE)</b>
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**THEORY**

<b>I</b>	<b>Introduction to thinking and creativity</b> 1. Defining thinking and creativity 2. Elements and principles of thinking and creativity 3. Forms of thinking and creativity 4. Roots of creativity: biological, mental, social, spiritual	5	10	1, 2	CO1	PSO5	Employability, Entrepreneurship, Skill Development	Global	Gender, Environment and Sustainability, Human Values
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<b>II</b>	<b>Creativity tool kit and process</b> 1. Tools and techniques of creativity: linear, intuitive and group 2. Blocks to creativity: perceptual, cultural and environmental, emotional, intellectual 3. Lateral thinking: principles, uses and training	10	20	1, 2	CO2	PSO5	Employability, Entrepreneurship, Skill Development	Global	Gender, Environment and Sustainability, Human Values
<b>PRACTICAL</b>									
<b>III</b>	<b>Creative process</b> 1. Steps to creative process: specific needs and demands of consumers 2. Study of different fabric textures in relation to end use 3. Creative solutions to address emergence of problems and issues arising in the garment unit 4. Designing for optimum utilization of damaged/seconds fabric after processes 5. Creative presentation of rejected products 6. Creative solutions to recycle/reduce/reuse waste from cutting and production departments of the garment unit 7. Innovative ideas to product designing: spools, bobbins, fasteners, trims, fabrics and like 8. Accessory design: coordinated accessories: neckties, bags, hats, jewellery	25	20	1, 2, 3	CO3	PSO5	Employability, Entrepreneurship, Skill Development	Global	Gender, Environment and Sustainability, Human Values



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<b>IV</b>	<b>Creative expression through illustrations</b> 1. Using different forms of perspective to show the illusion of depth on a two-dimensional surface 2. Illustrating folds of different types of fabric with pencil sketching with respect to light source	33	25	2, 3, 4	CO4	PSO5	Employability, Entrepreneurship, Skill Development	Global	Gender, Environment and Sustainability, Human Values
<b>V</b>	<b>Practical: Creative expression:</b> 1. Create a series of artworks that express a personal statement demonstrating skill in applying the elements of art and the principles of design 2. Accessory designing: coordinated accessories 3. Product designing: utilizing spools, bobbins, fasteners, trims, fabrics.	32	25	2, 3, 4	CO5	PSO5	Employability, Entrepreneurship, Skill Development	Global	Gender, Environment and Sustainability, Human Values

**SUGGESTED EVALUATION**

CCE (50% IA)					SEE (50% UA)				
Evaluation type	Marks	Mode	Nature	Objective	Evaluation type	Marks	Mode	Nature	Objective
Lab work	25	Practical	Component of working with one's hand	Keep the students on the task.	Lab work	15	Practical	Component of working with one's hand	Keep the students on the task.
Craft work	15	Practical	Component of working with one's hand	Encourage application of concepts learnt.	Craft work	10	Practical	Component of working with one's hand	Encourage application of concepts learnt.



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Quiz	10	Oral	Small group of 2-5 members work on a joint task	Assess memory power.	Viva/Oral examination	25	Viva	Individually or in small groups.	Practical experience towards job interview situation.
Total	50				Total	50			

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<b>Year</b>	<b>I</b>	<b>IKS2291C INDIGENOUS FIBRES, YARNS &amp; FABRICS (Indian Knowledge System Course 1)</b>	<b>Credits / Hours per semester</b>	<b>2 (1+1) Credits / 3 Hours per week (Theory: 15 hours Practical: 30 hours) Total: 45 hours/semester</b>
<b>Semester</b>	<b>I</b>	Year of Introduction: 2023-24	<b>Maximum Marks / Grade</b>	<b>50 Marks / O Grade (10-point scale)</b>
<b>Mode of Transaction</b>		Lecture and Practical	<b>Maximum Marks</b>	<b>18 Marks</b>

**Course Outcome (CO)**

- CO1 Understand the basic terminologies related to textiles and their classification
- CO2 Impart basic understanding of fibres, their properties and end use applications
- CO3 Enlighten about the different yarns used in apparel manufacturing
- CO4 Give an overview of the minor fibres and conventional methods of manufacturing yarns
- CO5 Understand the basic terminologies related to fabrics
- CO6 Study the properties of fabrics and their applications

<b>Unit No.</b>	<b>Topic</b>	<b>Contact Hours</b>	<b>Weightage (%)</b>	<b>BT Level</b>	<b>CO</b>	<b>PSO</b>	<b>Elements of Employability (Emp) / Entrepreneurship (Ent) / Skill Development (SD)</b>	<b>Relevance to Local (L) / National (N) / Regional (R) / Global (G)</b>	<b>Relation to Gender (G), Environment Sustainability (ES), Human Values (EV), Professional Ethics (PE)</b>
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**THEORY**

<b>I</b>	<b>Introduction to textiles and fibres</b> 1. Key terms related to textiles 2. Primary and secondary properties of fibres 3. Classification of fibres and their end uses; Properties and end uses of textile fibres 4. Manufacturing of manmade fibres 5. Comparison between natural and manmade fibres.	6	20	1, 2	CO1 CO2	PSO3	Employability, Entrepreneurship, Skill Development	Global	Gender, Environment and Sustainability
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	6. Minor Fibres: Extraction, Properties and end uses.								
<b>II</b>	<b>Yarn classification and manufacture</b> 1. Classification of yarn 2. Properties of yarns and end uses 3. Conventional methods of manufacturing yarns 4. Modern methods of yarn manufacturing 5. Carbon footprint of modern yarn manufacturing methods 6. Texturising	4	15	1, 2	CO3 CO4	PSO3	Employability, Entrepreneurship, Skill Development	Global	Gender, Environment and Sustainability
<b>III</b>	<b>Basics of fabric manufacturing</b> 1. Basic terminologies related to weaving, knitting and nonwovens 2. Properties and end use applications of woven, knitted and nonwoven fabrics 3. Basic woven and knitted structures and their applications	5	15	1, 2	CO5 CO6	PSO3	Employability, Entrepreneurship, Skill Development	Global	Gender, Environment and Sustainability
<b>PRACTICAL</b>									
<b>IV</b>	<b>Fibre Identification</b> 1. Identification of textile fibres 2. Non-technical test: feeling test, burning test 3. Technical test: microscope test and chemical test	30	50	1, 2, 3	CO3	PSO3	Employability, Entrepreneurship, Skill Development	Global	Gender, Environment and Sustainability



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4. Identification and application of yarns and fabrics.

**SUGGESTED EVALUATION**

**CCE (50% IA)**

**SEE (50% UA)**

Evaluation type	Marks	Mode	Nature	Objective	Evaluation type	Marks	Mode	Nature	Objective
Mid semester examination	10	Written Mode	Traditionally essay type	For depth and planned preparation.	Semester Exam	25	Written Mode	Traditionally essay type	For depth and planned preparation
Class test	10	Written mode	Traditionally essay type	Fixed date forces students to learn.					
Lab Work	5	Practical	Component of working with one's hand	Keep the students on the task.					
Total	25				Total	25			

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# SEMESTER II

Course Code	Course Title	Credits	Course Type
FAM2002C	Sewing Fundamentals	4 (0+4)	Major
FAM2012C	Structural Textile Design	4 (2+2)	Major
FAE2002C	New Materials for Fashion	4 (4+0)	Minor
MDC2382C	Garment Production & Machinery	4 (2+2)	MDC
AEC2262C	Developing Communication Skills in English	2 (2+0)	AEC
SEC2552C	Computer Literacy – II	2 (1+1)	SEC
VAC2322C	Environment Science	2 (2+0)	VAC
		<b>Total</b>	<b>22</b>



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<b>Year</b>	<b>I</b>	<b>FAM2002C SEWING FUNDAMENTALS (Major 3)</b>	<b>Credits / Hours per semester</b>	<b>4 (0+4) Credits / 8 Hours per week (Practical: 120 hours) Total: 120 hours/semester</b>
<b>Semester</b>	<b>II</b>	Year of Introduction: 2023-24	<b>Maximum Marks / Grade</b>	<b>100 Marks / O Grade (10-point scale)</b>
<b>Mode of Transaction</b>		Practical	<b>Maximum Marks</b>	<b>36 Marks</b>

**Course Outcome (CO)**

- CO1 Introduce sewing preparatory processes like marker planning, spreading and cutting
- CO2 Develop an understanding of various defects in a sewing machine and its rectification through proper selection of needle and thread
- CO3 Understand the importance of fabric grain, layout & use of various finishing techniques, hems, seams, etc.
- CO4 Demonstrate pattern drafting and stitching of kids wear
- CO5 Understand post sewing operations like finishing, pressing and packaging

<b>Unit No.</b>	<b>Topic</b>	<b>Contact Hours</b>	<b>Weightage (%)</b>	<b>BT Level</b>	<b>CO</b>	<b>PSO</b>	<b>Elements of Employability (Emp) / Entrepreneurship (Ent) / Skill Development (SD)</b>	<b>Relevance to Local (L) / National (N) / Regional (R) / Global (G)</b>	<b>Relation to Gender (G), Environment Sustainability (ES), Human Values (EV), Professional Ethics (PE)</b>
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**PRACTICAL**

<b>I</b>	<b>Fabric spreading, marker making and cutting</b> 1. Spreading of fabric: methods of laying - nap one way, nap either way, symmetry, fabric grain, face and back side 2. Marker: preparation and placement of marker (stripes, checks, one way and two-way designs) 3. Cutting	12	10	2, 3	CO1	PSO2	Employability, Entrepreneurship, Skill Development	Global	Gender, Environment and Sustainability
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<b>II</b>	<p><b>Compatibility of sewing needle and sewing thread in relation with other sewing parameters</b></p> <ol style="list-style-type: none"> <li>1. Correlation between sewing thread and fabric and its impact to stitch performance</li> <li>2. Controlling stitch performance and quality and minimizing of defect occurrence</li> </ol>	12	10	2, 3	CO2	PSO2	Employability, Entrepreneurship, Skill Development	Global	Gender, Environment and Sustainability
<b>III</b>	<p><b>Design features</b></p> <ol style="list-style-type: none"> <li>1. Seams for different types of fabrics correlating with types of needles and threads</li> <li>2. Types of tucks - basic, pin, shell, corded</li> <li>3. Different types of pleats and gathers</li> <li>4. Calculation of fabrics - various styles and age groups</li> <li>5. Neckline finishes: importance of stay stitching, importance of notches and slits / clippings, facing and bias facing, bias binding, French binding</li> <li>6. Plackets / pockets: two-piece placket / kurta placket, continuous placket, patch, welt / bound, in-seam</li> <li>7. Types of waistbands</li> <li>8. Type of fasteners: buttons / button hole, press button, hook / eye, velcro, zipper, centered, lapped, concealed</li> <li>9. Types of cuffs</li> <li>10. Binding edges: inside corner, outside corner</li> </ol>	48	40	2, 3, 6	CO3	PSO2	Employability, Entrepreneurship, Skill Development	Global	Gender, Environment and Sustainability



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	11. Type of collars; Peter pan, collar with V-neck, mandarin, shirt collar, roll collar								
<b>IV</b>	<b>Child's basic block and sleeve</b> 1. Standard body measurements 2. Garments: baby pants - ruffles, elastic waist, run and fell seam, bias facing 3. 'A' line frock - Peter pan collar and puffed sleeve, patch pocket	36	30	2, 3, 6	CO4	PSO2	Employability, Entrepreneurship, Skill Development		Gender, Environment and Sustainability
<b>V</b>	<b>Post sewing procedures</b> 1. Techniques, processes and equipment in finishing 2. Introduction to ironing, pressing, finishing equipment 3. Selection of machinery and techniques in relation to style, fabrics and customers' demands under pressing, molding 4. Elements of pressing - hand irons, buck presser, steam, blowing, foam finisher, steam electric iron, thermostat, buck padding, zero pressure point, carousel press, steam tunnel, steam dolly 5. Spotting chemicals, packing, pressing, shrinkage.	12	10	2, 3, 6	CO5	PSO2	Employability, Entrepreneurship, Skill Development		Gender, Environment and Sustainability

**SUGGESTED EVALUATION**

CCE (50% IA)					SEE (50% UA)				
Evaluation type	Marks	Mode	Nature	Objective	Evaluation type	Marks	Mode	Nature	Objective



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Class work	20	Submission	Continuous assessment	Continuous and Comprehensive Evaluation (CCE)	Semester Exam	20	Practical examination	Attempt the questions practically in lab	Practical skill evaluation
Mid semester examination, Lab work	20	Practical examination	Component of working with one's hand	Keep the students on the task.	Class work	20	Submission	Continuous assessment	Continuous and Comprehensive Evaluation (CCE)
Viva/Oral examination	10	Viva	Individually or in small groups.	Practical experience towards job interview situation.	Viva/Oral examination	10	Viva	Individually or in small groups.	Practical experience towards job interview situation.
Total	50				Total	50			

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<b>Year</b>	<b>I</b>	<b>FAM2012C STRUCTURAL TEXTILE DESIGN (Major 4)</b>	<b>Credits / Hours per semester</b>	<b>4 (2+2) Credits / 6 Hours per week (Theory: 30 hours Practical: 60 hours) Total: 90 hours/semester</b>
<b>Semester</b>	<b>II</b>	Year of Introduction: 2023-24	<b>Maximum Marks / Grade</b>	<b>100 Marks / O Grade (10-point scale)</b>
<b>Mode of Transaction</b>		Theory and Practical	<b>Maximum Marks</b>	<b>36 Marks</b>

**Course Outcome (CO)**

- CO1 Gain an understanding of woven fabric manufacturing process, different types of weaves, their properties and applications
- CO2 Impart basic knowledge regarding knitted fabric, different types of knitted structures, their properties and end uses
- CO3 Understand manufacturing of nonwoven fabrics and their applications with respect to the apparel industry
- CO4 Get hands on practice of woven fabric manufacturing
- CO5 Demonstrate knitted and nonwoven fabric manufacturing process

<b>Unit No.</b>	<b>Topic</b>	<b>Contact Hours</b>	<b>Weightage (%)</b>	<b>BT Level</b>	<b>CO</b>	<b>PSO</b>	<b>Elements of Employability (Emp) / Entrepreneurship (Ent) / Skill Development (SD)</b>	<b>Relevance to Local (L) / National (N) / Regional (R) / Global (G)</b>	<b>Relation to Gender (G), Environment Sustainability (ES), Human Values (EV), Professional Ethics (PE)</b>
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**THEORY**

<b>I</b>	<b>Woven fabrics</b> 1. Introduction to weaving 2. Methods of weaving: cardboard weaving, card weaving, frame weaving, loom weaving 3. Weaving preparatory processes 4. Loom and its parts 5. Preparation of the loom 6. Handloom, power loom and automatic loom including dobby and jacquard attachments 7. Basic weaves and their variations	12	20	1, 2	CO1	PSO3	Employability, Skill Development	Global	Environment and Sustainability
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	8. Designation on point paper								
<b>II</b>	<b>Knitted fabrics</b> 1. Introduction to knitting 2. Knit vocabulary 3. Difference between knitted and woven fabrics 4. Warp and weft knitting 5. Different types of knitting needles 6. Properties and applications of plain, rib, interlock and purl knit structures	12	20	1, 2	CO2	PSO3	Employability, Skill Development	Global	Environment and Sustainability
<b>III</b>	<b>Non-woven fabrics</b> 1. Introduction 2. Web formation: carding, air laying, wet laying, spun bond, melt blown 3. Web bonding: mechanical, chemical and thermal 4. Finishing of nonwoven: classification, applications 5. Application of nonwoven in garments	6	10	1, 2	CO3	PSO3	Employability, Skill Development	Global	Environment and Sustainability
<b>PRACTICAL</b>									
<b>IV</b>	<b>Woven samples</b> 1. Preparation of samples by cardboard weaving technique 2. Preparation of samples of three basic weaves and their variation on the loom and product preparation	48	40	2, 3, 6	CO4	PSO3	Employability, Skill Development		Environment and Sustainability



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<b>V</b>	<b>Knitted and nonwoven</b> 1. Visits to knitting and non-woven manufacturing units	12	10	2, 3, 4	CO5	PSO3	Employability, Skill Development	Environment and Sustainability
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**SUGGESTED EVALUATION**

CCE (50% IA)					SEE (50% UA)				
Evaluation type	Marks	Mode	Nature	Objective	Evaluation type	Marks	Mode	Nature	Objective
Mid semester examination	25	Written Mode	Traditionally essay type	For depth and planned preparation.	Semester Exam	50	Written Mode	Traditionally essay type	For depth and planned preparation
Lab Work	25	Practical	Component of working with one's hand	Keep the students on the task.					
Total	50				Total	50			

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1.	Ajgaonkar, D. B. (1998). <i>Principles of Knitting</i> . California: Universal Publishing Corporation.
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<b>Year</b>	<b>I</b>	<b>FAE2002C NEW MATERIALS FOR FASHION (Minor 2)</b>	<b>Credits / Hours per semester</b>	<b>4 (4+0) Credits / 4 Hours per week (Theory: 60 hours) Total: 60 hours/semester</b>
<b>Semester</b>	<b>I</b>	Year of Introduction: 2023-24	<b>Maximum Marks / Grade</b>	<b>100 Marks / O Grade (10-point scale)</b>
<b>Mode of Transaction</b>		Lecture	<b>Maximum Marks</b>	<b>36 Marks</b>

**Course Outcome (CO)**

- CO1 Impart knowledge regarding existing trends related to fabrics, fasteners and other materials.  
CO2 Enable students to use fabrics, accessories and related materials for innovative application to apparels.  
CO3 Study new materials suitable for avant-garde fashion or innovative fashion.

<b>Unit No.</b>	<b>Topic</b>	<b>Contact Hours</b>	<b>Weightage (%)</b>	<b>BT Level</b>	<b>CO</b>	<b>PSO</b>	<b>Elements of Employability (Emp) / Entrepreneurship (Ent) / Skill Development (SD)</b>	<b>Relevance to Local (L) / National (N) / Regional (R) / Global (G)</b>	<b>Relation to Gender (G), Environment Sustainability (ES), Human Values (EV), Professional Ethics (PE)</b>
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**THEORY**

<b>I</b>	<b>New trends in fashion materials</b> 1. Terms and terminologies 2. Types of textures in materials 3. Materials suitable for haute couture 4. Recent trends in: fabrics, closures and fasteners – buttons, buttonholes, zippers, hooks, drawstrings and ties, others, trims – braids, cords, fringes, laces, rickrack's, strings, tapes, ribbons, piping, others, surface embellishment – appliqué, beads and sequences, embossing, embroidery, rhinestones, printing, others; Their applications 5. Forecasting of materials	15	25	1, 2	CO1	PSO4	Skill Development	Global	Gender, Environment and Sustainability, Human Values
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	6. Trends, shifts, fashion 7. Innovations in materials with technological advancements 8. Materials vs end use								
<b>II</b>	<b>Understanding apparel market</b> 1. Market survey of trends in fabrics, trims and accessories 2. Sourcing: types, market, cost, fabrics, closures and fasteners – buttons, buttonholes, zippers, hooks, drawstrings and ties, others, trims – ribbons, rickrack, braids, cords, fringes, laces, strings, tapes, piping, others, surface embellishments – appliqué, beads and sequences, embossing, embroidery, rhinestones, printing, others	15	25	1, 2	CO1	PSO4	Skill Development	Global	Gender, Environment and Sustainability, Human Values
<b>III</b>	<b>Alternate methods of fabric joining</b> 1. Purpose, methods, advantages and disadvantages of faggoting, fusing, welding and moulding	12	20	1, 2	CO2	PSO4	Skill Development	Global	Gender, Environment and Sustainability, Human Values
<b>IV</b>	<b>Case study</b> 1. Haute couture designers and recent fashion weeks	18	30	3, 4, 5	CO3	PSO4	Skill Development	Global	Gender, Environment and Sustainability, Human Values

**SUGGESTED EVALUATION**

CCE (50% IA)					SEE (50% UA)				
Evaluation type	Marks	Mode	Nature	Objective	Evaluation type	Marks	Mode	Nature	Objective



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Mid semester examination	25	Written Mode	Traditionally essay type	For depth and planned preparation.	Semester Exam	50	Written Mode	Traditionally essay type	For depth and planned preparation
Class test	15	Written mode	Traditionally essay type	Fixed date forces students to learn.					
Quizzes/Objective test	10	Written mode	Short duration structured tests	Excellent validity as greater syllabus coverage.					
Total	50				Total	50			

**REFERENCES**

1.	Adair, J. (2009). <i>The Art of Creative Thinking: How to Be Innovative and Develop Great Ideas</i> , Edition reprint. UK: Kogan Page Publishers.
2.	Balaram, S. (2011). <i>Thinking Design</i> , National Institute of Design. New Delhi: Sage Publications.
3.	Brown, S. (2013). <i>Refashioned: Cutting Edge Clothing from Upcycled Material</i> , UK: Laurence King Publishing Ltd.
4.	Bubonia, J. E. (2014). <i>Apparel Production Terms and Processes</i> . New York: Bloomsbury.
5.	Carr, H. and Latham, B. (2008). <i>Technology of Clothing Manufacture</i> . Edited by David J. Tyler, 4th edn. Oxford: Blackwell.
7.	Guy, C., Bill, L. (2007). <i>The Creative Thinking Plan: How to Generate Ideas and Solve Problems in Your Work and Life</i> , Edition revised. Great Britain: Financial Times/Prentice Hall.
8.	Jennings, T. (2011). <i>Creativity in fashion design- An inspiration workbook</i> . USA: Faichlid Books.
9.	Lau, J. Y. F. (2011). <i>An Introduction to Critical Thinking and Creativity: Think More, Think Better</i> . New Jersey: John Wiley & Sons.
10.	O'Day, R. (2010). <i>Creative Thinking</i> , Edition reprint. US: Kessinger Publishing.
11.	Worsely, H. (2011). <i>100 Ideas that changed fashion</i> . London: Laurence King Publishing Ltd.
12.	The ICFAI University (2004). <i>Creativity</i> , Hyderabad: ICFAI University.
13.	<a href="http://www.brainstorming.co.uk/tutorials/creativethinking.html">http://www.brainstorming.co.uk/tutorials/creativethinking.html</a>
14.	Fashion Magazine: Vogue, Elle, Harper's Bazaar, Cosmopolitan, Grazia, GQ, etc.



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**B. Sc. (F.T.) (Honors) Fashion and Apparel Technology First Year – Level 4.5**

<b>Year</b>	<b>I</b>	<b>MDC2382C GARMENT PRODUCTION &amp; MACHINERY (Major 4)</b>	<b>Credits / Hours per semester</b>	<b>4 (2+2) Credits / 6 Hours per week (Theory: 30 hours Practical: 60 hours) Total: 90 hours/semester</b>
<b>Semester</b>	<b>II</b>	Year of Introduction: 2023-24	<b>Maximum Marks / Grade</b>	<b>100 Marks / O Grade (10-point scale)</b>
<b>Mode of Transaction</b>		Theory and Practical	<b>Maximum Marks</b>	<b>36 Marks</b>

**Course Outcome (CO)**

- CO1 Enable the students to understand the mass production technical knowhow in a readymade garment manufacturing unit
- CO2 Inculcate understanding regarding the various types of machines and its accessories used for apparel manufacturing in bulk
- CO3 Expose the students to the latest practices and technological world of garment production
- CO4 Enable the students to select appropriate machinery for the production of the required production line in a readymade garment unit
- CO5 Develop practical understanding regarding different ways to overcome problems during the process

<b>Unit No.</b>	<b>Topic</b>	<b>Contact Hours</b>	<b>Weightage (%)</b>	<b>BT Level</b>	<b>CO</b>	<b>PSO</b>	<b>Elements of Employability (Emp) / Entrepreneurship (Ent) / Skill Development (SD)</b>	<b>Relevance to Local (L) / National (N) / Regional (R) / Global (G)</b>	<b>Relation to Gender (G), Environment Sustainability (ES), Human Values (EV), Professional Ethics (PE)</b>
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**THEORY**

<b>I</b>	<p><b>Marker planning, spreading and cutting</b></p> <ol style="list-style-type: none"> <li>1. Marker planning: planning, drawing and reproducing the marker, requirements of marker planning, maximizing marker utilization, methods of marker planning</li> <li>2. Spreading: spreading the fabric, requirements of the spreading process, methods of spreading</li> <li>3. Cutting: objectives of cutting, methods of cutting, preparation of cut work for the sewing room</li> </ol>	12	20	1, 2	CO1	PSO1 PSO2	Skill Development	Global	Environment and Sustainability, Professional Ethics
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<b>II</b>	<b>Sewing</b> 1. Seam types 2. Stitch types 3. Sewing machine feed mechanisms 4. Sewing machine needles 5. Sewing threads 6. Classification of sewing machines 7. Basic sewing machine shapes and associated work aids 8. Automatic machines	12	20	1, 2	CO2	PSO1 PSO2	Skill Development	Global	Environment and Sustainability, Professional Ethics
<b>III</b>	<b>Alternative methods of joining materials</b> 1. Fusing: advantages of using fusible interlinings, requirements of fusing, fusing process, factors affecting fusing, fusing equipment, methods of fusing, quality control in fusing 2. Welding and adhesives	6	10	1, 2	CO3	PSO1 PSO2	Skill Development	Global	Environment and Sustainability, Professional Ethics
<b>PRACTICAL</b>									
<b>IV</b>	<b>Demonstration</b> 1. Demonstration of marker planning and spreading, cut-order plan preparation, identification of sewing machine parts, preparing a log book of various sewing machine attachments, demonstration of threading on different sewing machines	48	40	2, 3, 5	CO4	PSO1 PSO2	Employability, Skill Development	Global	Environment and Sustainability, Professional Ethics



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	2. Identification of seams and stitches.								
<b>V</b>	<b>Troubleshooting</b> 1. Troubleshooting in the cutting and sewing room	12	10	2, 3, 4	CO5	PSO1 PSO2	Employability, Skill Development	Global	Environment and Sustainability, Professional Ethics

**SUGGESTED EVALUATION**

CCE (50% IA)					SEE (50% UA)				
Evaluation type	Marks	Mode	Nature	Objective	Evaluation type	Marks	Mode	Nature	Objective
Mid semester examination	25	Written Mode	Traditionally essay type	For depth and planned preparation.	Semester Exam	50	Written Mode	Traditionally essay type	For depth and planned preparation
Quizzes/Objective test	10	Written mode	Short duration structured test	Excellent validity as greater syllabus coverage.					
Lab Work	15	Practical	Component of working with one's hand	Keep the students on the task.					
Total	50				Total	50			

**REFERENCES**

1.	Bheda, R. (2003). <i>Managing Productivity in the Apparel Industry</i> . New Delhi: CBS Publishers & Distributors.
2.	Carr, H. & Latham, B. (2008). <i>Technology of Clothing Manufacture - 4<sup>th</sup> Edition</i> . Oxford: Blackwell Publishing.
3.	Chuter, A. J. (1995). <i>Introduction to Clothing Production Management - 2<sup>nd</sup> Edition</i> . Oxford: Blackwell Publishing.
4.	Cooklin, G. (1997). <i>Garment Technology for Fashion Designers</i> . New Delhi: Wiley India Pvt. Ltd.
5.	Fan, J., & Hunter, L. (2009). <i>Engineering Apparel Fabrics and Garments</i> . New Delhi: Woodhead Publishing Pvt. Ltd.



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6.	Glock, R. E., & Kunz, G. I. (2005). <i>Apparel Manufacturing: Sewn Product Analysis - 4<sup>th</sup> Edition</i> . Chennai: Pearson India.
7.	Jones, I., & Stylios, G., K. (2013). <i>Joining Textiles: Principles and Applications</i> . New Delhi: Woodhead Publishing Pvt. Ltd.
8.	Rathinamoorthy, R., & Surjit, R. (2015). <i>Apparel Machinery and Equipments</i> . New Delhi: Woodhead Publishing Pvt. Ltd.
9.	Solinger, J. (1988). <i>Apparel Manufacturing Handbook- Analysis, Principles and Practice</i> . South Carolina: Bobbin Blenheim Media Corp.
10.	Nayak, R., & Padhye, P. (2015). <i>Garment Manufacturing Technology</i> . London: Woodhead Publishing.

FASHION & APPAREL TECHNOLOGY



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# **FASHION AND APPAREL TECHNOLOGY**

## **Second Year Syllabus as per NEP 2020**

FASHION & APPAREL TECHNOLOGY



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## **PROGRAMME SPECIFIC OUTCOMES**

### **SECOND YEAR (LEVEL 5.0)**

- PSO 1 Acquire technical knowhow of sewing kid's, women's and men's clothing along with technical and sustainable aspects of mass production.
- PSO 2 Appreciate the concepts of advanced pattern making, anthropometry, sizing and grading and their applications in apparel industry.
- PSO 3 Impart technical skills in computers, designing software, CAD and information technology.
- PSO 4 Deliver multidisciplinary knowledge about the intellectual property rights to enhance the overall growth and development in apparel sector.
- PSO 5 Inculcate acute awareness of the current trends and commercial aspects of sourcing, costing and international trade.
- PSO 6 Understand the various aspects of processing, finishing and packaging of various textile materials.
- PSO 7 Prepare globally competitive industry ready graduates by imparting training and experiential learning through internships.
- PSO 8 Enhance proficiency over visual and digital communication skills for professional advancement and employability.

**Bloom's Taxonomy (BT) Levels:** 1. Remember 2. Understand 3. Application 4. Analysis 5. Evaluation 6. Creation



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## COURSE CURRICULUM

Course Code	Course		Credits	Course Type
	YEAR II	SEMESTER I		
	Kid's & Women's Wear		4 (0+4)	Major
	Advanced Pattern Making		4 (0+4)	Major
	Anthropometry, Sizing & Grading		4 (0+4)	Major
	Intellectual Property Rights		4 (4+0)	MDC
	English for Entrepreneurship**		2 (2+0)	AEC
	International Trade Practices		2 (2+0)	SEC
	Sustainable Apparel Production		2 (2+0)	IKS
		<b>Total</b>	<b>22</b>	
		<b>YEAR II SEMESTER II</b>		
	Men's Wear		4 (0+4)	Major
	Computer Aided Pattern Designing & Development		4 (0+4)	Major
	Processing & Packaging in Apparel Industry		4 (2+2)	Major
	Budgeting & Costing in Apparel Industry		4 (4+0)	Minor
	English for Digital & Virtual Communication**		2 (2+0)	AEC
	Global Sourcing		2 (2+0)	SEC
	Finishing Technology		2 (1+1)	VAC
		<b>Total</b>	<b>22</b>	



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# SEMESTER I

Course Code	Course Title	Credits	Course Type
	Kid's & Women's Wear	4 (0+4)	Major
	Advanced Pattern Making	4 (0+4)	Major
	Anthropometry, Sizing & Grading	4 (0+4)	Major
	Intellectual Property Rights	4 (4+0)	MDC
	English for Entrepreneurship	2 (2+0)	AEC
	International Trade Practices	2 (2+0)	SEC
	Sustainable Apparel Production	2 (2+0)	IKS
	<b>Total</b>	<b>22</b>	



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<b>Year</b>	<b>II</b>	<b>KID'S AND WOMEN'S WEAR (Major 5)</b>	<b>Credits / Hours per semester</b>	<b>4 (0+4) Credits / Hours per week (Practical: 120 hours) Total: 120 hours/semester</b>
<b>Semester</b>	<b>I</b>	Year of Introduction: 2023-24	<b>Maximum Marks / Grade</b>	<b>100 Marks / O Grade (10-point scale)</b>
<b>Mode of Transaction</b>		Practical	<b>Minimum Marks</b>	<b>36 Marks</b>

**Course Outcome (CO)**

- CO1 The students shall understand the different sewing machines used in apparel industry.  
 CO2 The students will gain fundamental knowledge about various terms used in kid's and women's fashion.  
 CO3 Develop ability to construct garments by incorporating various garment construction techniques for women's and kid's wear.  
 CO4 The students will inculcate understanding regarding operational breakdown and preparation of spec sheet.

<b>Unit No.</b>	<b>Topic</b>	<b>Contact Hours</b>	<b>Weightage (%)</b>	<b>BT Level</b>	<b>CO</b>	<b>PSO</b>	<b>Elements of Employability (Emp) / Entrepreneurship (Ent) / Skill Development (SD)</b>	<b>Relevance to Local (L) / National (N) / Regional (R) / Global (G)</b>	<b>Relation to Gender (G), Environment Sustainability (ES), Human Values (EV), Professional Ethics (PE)</b>
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**PRACTICAL**

<b>I</b>	<b>Introduction to Industrial and Specialized Sewing Machine</b> 1. Basic sewing machine: Presser Foot, Throat Plate, Presser spring, Needle bar, take up Lever, Tension Device, Take up Spring, Thread guides, Bobbin & Bobbin case, Feed Dog, Stitch Regulator, Back Tack Lever, Needle. 2. Feed Mechanism: Variable top Feed, Needle Feed, Unison Feed, Compound Feed	12	10	1, 2, 3, 6	1	1, 2	Skill Development	Global	Environment and Sustainability, Professional Ethics
<b>II</b>	<b>Introduction and Classification of Kid's and Women's Apparel</b>	6	5	1, 2, 3	2	1, 2	Skill Development	Global	Environment and Sustainability, Professional Ethics



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	1. Glossary of Children's Wear Terms, styling features, sizes, garment use according, fabric selection to export quality.								
<b>III</b>	<b>Sewing of Kid's garment</b> 1. Romper 2. Two-piece playsuits 3. Skirts 4. Dresses 5. Jumpsuits	30	25	1, 2, 3, 6	2, 3, 4	1, 2	Skill Development	Global	Environment and Sustainability, Professional Ethics
<b>IV</b>	<b>Stitching of Women's garments</b> 1. Skirt & its variation 2. Trouser & its variation 3. Shirt & its variation 4. Dress & its variation	30	25	1, 2, 3, 6	2, 3, 4	1, 2	Skill Development	Global	Environment and Sustainability, Professional Ethics
<b>V</b>	<b>Operation Breakdown &amp; Spec sheet Preparation</b> 1. Garment operation breakdown and Process flow 2. Spec sheet preparation of garments	24	20	1, 2, 3, 6	4	1, 2	Skill Development	Global	Environment and Sustainability, Professional Ethics

**SUGGESTED EVALUATION**

**CCE (50% IA)**

**SEE (50% UA)**

<b>Evaluation type</b>	<b>Marks</b>	<b>Mode</b>	<b>Nature</b>	<b>Objective</b>	<b>Evaluation type</b>	<b>Marks</b>	<b>Mode</b>	<b>Nature</b>	<b>Objective</b>
Class work	20	Submission	Continuous assessment	Continuous and Comprehensive Evaluation (CCE)	Semester Exam	20	Practical examination	Attempt the questions practically in lab	Practical skill evaluation
Mid semester examination, Lab work	20	Practical examination	Component of working with one's hand	Keep the students on the task.	Class work	20	Submission	Continuous assessment	Continuous and Comprehensive Evaluation (CCE)



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Viva/Oral examination	10	Viva	Individually or in small groups.	Practical experience towards job interview situation.	Viva/Oral examination	10	Viva	Individually or in small groups.	Practical experience towards job interview situation.
Total	50				Total	50			

**REFERENCES**

1.	Aldrich, W. (2015). <i>Metric Pattern Cutting for Women's Wear - 6<sup>th</sup> Edition</i> . New York: Wiley-VCH GmbH & Co.
2.	Carr, H. & Latham, B. (2008). <i>Technology of Clothing Manufacture - 4<sup>th</sup> Edition</i> . Oxford: Blackwell Publishing.
3.	Crawford, C. A. (1993). <i>Fashion your Own Skirts the Simple Way</i> . New Delhi: Bloomsbury Publishing India Ltd.
4.	Glock, R. E., & Kunz, G. I. (2005). <i>Apparel Manufacturing: Sewn Product Analysis - 4<sup>th</sup> Edition</i> . Chennai: Pearson India.
5.	Juvekar, V. B. (1953). <i>Easy Cutting</i> . Mumbai: Ball Co.
6.	Moulton, B. (1968). <i>Simplified Tailoring</i> . London: BT Batsford Ltd.
7.	Pandit, S. (1967). <i>A Manual of Children's Clothing</i> . Mumbai: Orient Longmans Limited.
8.	Singer. (1989). <i>Sewing Pants that Fit</i> . Minnesota: Cowles Creative Publishing Inc.
9.	Thomas, A. J. (1996). <i>Art of Sewing</i> . New Delhi: UBJ Publication Ltd.



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**B. Sc. (F.T.) (Honors) Fashion and Apparel Technology Second Year – Level 5.0**

<b>Year</b>	<b>II</b>	<b>ADVANCED PATTERN MAKING (Major 6)</b>	<b>Credits / Hours per semester</b>	<b>4 (0+4) Credits / Hours per week (Practical: 120 hours) Total: 120 hours/semester</b>
<b>Semester</b>	<b>I</b>	Year of Introduction: 2023-24	<b>Maximum Marks / Grade</b>	<b>100 Marks / O Grade (10-point scale)</b>
<b>Mode of Transaction</b>		Practical	<b>Minimum Marks</b>	<b>36 Marks</b>

**Course Outcome (CO)**

- CO1 A thorough understanding of the basic terminologies related to sleeves, patterns of sleeves, collars, patterns of collars.  
 CO2 Development of enhanced drafting skills for sleeves, collars and their variation.  
 CO3 Students will gain control over pattern aspects for achieving desired fit in a women's dress and trouser.  
 CO4 Enhanced ability to generate and manipulate patterns for well-fitting garments with a desired style line.  
 CO5 Ability to detect pattern defects that affect fit of a garment and their rectification at the pattern making stage.

<b>Unit No.</b>	<b>Topic</b>	<b>Contact Hours</b>	<b>Weightage (%)</b>	<b>BT Level</b>	<b>CO</b>	<b>PSO</b>	<b>Elements of Employability (Emp) / Entrepreneurship (Ent) / Skill Development (SD)</b>	<b>Relevance to Local (L) / National (N) / Regional (R) / Global (G)</b>	<b>Relation to Gender (G), Environment Sustainability (ES), Human Values (EV), Professional Ethics (PE)</b>
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**PRACTICAL**

<b>I</b>	<b>Sleeve and its modifications</b> 1. Basic terminology of sleeve 2. Basic pattern of sleeve: various parameters controlling fit and fall of sleeve 3. Balance points in sleeve and its significance in fit and fall of sleeve 4. Balancing of patterns and notches and its importance 5. Discussion on various defects and their rectifications at pattern stage	24	20	2, 3, 4	1, 2	1, 2	Skill Development	National, Global	Gender, Environment and Sustainability
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	6. Sleeve variation – cap / flare / shirt / puff; Grown on sleeve – dolman / Raglan (2pc / darted / 1pc); 2pc sleeve patterns								
<b>II</b>	<b>Collar and its modifications</b> 1. Collar terms and classifications 2. Fit problems of the collar 3. Variation of collar: shirt collar, straight collar, undercollar, folded basic collar 4. Collar variations: peter pan collar, sailor collar, collars with deep, open necklines 5. Basic mandarin 6. Collar with stand 7. All-in-one collar and stand 8. Roll collars	24	20	2, 3, 4	1, 2	1, 2	Skill Development	National, Global	Gender, Environment and Sustainability
<b>III</b>	<b>Dress and its adaptation:</b> 1. Introduction to fish dart and its difference from the open-ended darts 2. Fits of dresses – shift / sheath / box / tent / contoured 3. Importance and relevance of various parameters controlling the fit and fall of dresses 4. Dress variations – princess / panel	30	25	2, 3, 4	3	1, 2	Skill Development	National, Global	Gender, Environment and Sustainability
<b>IV</b>	<b>Trouser and its adaptation:</b> 1. Basic trouser block 2. Terminology used for trouser 3. Trouser leg line variations and fit variations – jeans / slacks / jumpsuit / dungaree 4. Various components of trouser i.e. pockets / fly etc.	30	25	2, 3, 4	3,4	1, 2	Skill Development	National, Global	Gender, Environment and Sustainability



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<b>V</b>	<b>Defects at pattern stage</b> 1. Discussion of various defects and their rectifications at pattern stage	12	10	2, 3, 4	5	1, 2	Skill Development	National, Global	Environment and Sustainability
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**SUGGESTED EVALUATION**

CCE (50% IA)					SEE (50% UA)				
Evaluation type	Marks	Mode	Nature	Objective	Evaluation type	Marks	Mode	Nature	Objective
Mid semester examination	20	Written Mode	Traditionally essay type	For depth and planned preparation.	Craft work	50	Practical Mode	Component of working with one's hand	Encourage application of concepts learnt
Open book test	10	Written Mode	Allowed choice of reference book	Measure what students can do with resources, less stress on memory					
Viva/Oral exam	10	Oral Mode	Individually or small group	Practical experience towards job interview situation					
Craft work	10	Practical Mode	Component of working with one's hand	Encourage application of concepts learnt					
Total	50				Total	50			

**REFERENCES**

2.	Al-Haboui, M. H. (1992). <i>Anthropometry for a Mix of Different Populations</i> . Amsterdam: Applied Ergonomics, Elsevier.
3.	Annis, J. F. (1978). <i>Variability in Human Body Size- Anthropometric Source Book</i> . Washington DC: NASA Reference Publication.
4.	Aldrich, W. (2015). <i>Metric Pattern Cutting for Women's Wear - 6<sup>th</sup> Edition</i> . New York: Wiley-VCH GmbH & Co.
5.	Armstrong, H. J. (2009). <i>Pattern making for Fashion design – 5<sup>th</sup> Edition</i> . Noida: Harper Collins Publishers India.



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7.	Holzman, D. C. (1996). <i>Fewer Sizes Fit All</i> . Technology Review. Discussion of Paal's method of creating an optimized sizing system based on anthropometric data.
8.	Hudson, P. B. (1979). <i>Generating Patterns</i> . Bobbin. 20(8).
9.	Peterson, E. A. (1980). <i>Standardization of industrial garment fit: Is it feasible? Is it necessary? Is it desirable?</i> London: Industrial Launderer.
10.	Reich, N., & Goldserry, E. (1993). <i>Development of body measurement tables for women 55 and older and the relationship to ready-to-wear garment size</i> . (Research Technical Report Number PCN 33-000006-18, ISR 06). Philadelphia: American Society for Testing and Materials/Institute for Standards Research.
11.	Shoben, M. M., & Ward, J. P. (1990). <i>Pattern Cutting and Making Up – Revised Edition</i> . Oxford: Butterworth Heinmann.
12.	Stoudt, H. W. (1981). <i>The Anthropometry of the Elderly</i> . Human Factors, 23(1).
13.	Suhner, I. A. (2012). <i>Technical Drawing for Fashion Design: Garment Source Book</i> . Netherlands: The Pepin Press.
14.	Zarapkar, K. R. (2008). <i>Zarapkar System of Cutting</i> . Mumbai: Navneet Publication (India) Ltd.



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<b>Year</b>	<b>II</b>	<b>ANTHROPOMETRY, SIZING &amp; GRADING (Major 7)</b>	<b>Credits / Hours per semester</b>	<b>4 (0+4) Credits / 8 Hours per week (Practical: 120 hours) Total: 120 hours/semester</b>
<b>Semester</b>	<b>I</b>	Year of Introduction: 2023-24	<b>Maximum Marks / Grade</b>	<b>100 Marks / O Grade (10-point scale)</b>
<b>Mode of Transaction</b>		Practical	<b>Minimum Marks</b>	<b>36 Marks</b>

**Course Outcome (CO)**

- CO1 Clear understanding of the importance of anthropometric studies.
- CO2 Gain and understanding of the parameters of different size charts and sizing methods followed by apparel manufacturers.
- CO3 Knowledge about the technicalities of pattern components like darts and contouring principles.
- CO4 Education about the different methods of sizing and grading.
- CO5 Students shall learn to develop technical sketches and specification sheets.
- CO6 Students will develop size chart through body measurements.

<b>Unit No.</b>	<b>Topic</b>	<b>Contact Hours</b>	<b>Weightage (%)</b>	<b>BT Level</b>	<b>CO</b>	<b>PSO</b>	<b>Elements of Employability (Emp) / Entrepreneurship (Ent) / Skill Development (SD)</b>	<b>Relevance to Local (L) / National (N) / Regional (R) / Global (G)</b>	<b>Relation to Gender (G), Environment Sustainability (ES), Human Values (EV), Professional Ethics (PE)</b>
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**PRACTICAL**

<b>I</b>	<b>Study of human figure:</b> 1. Meaning and Purpose of Anthropometrics 2. 8 Head theory for Men and Women 3. Traditional and new methods and instruments used to measure human figure in apparel industry 4. Advantages of anthropometric measurements 5. Figure analysis	16	14	1, 2	1	1, 2	Employability, Skill Development	National, Global	Gender, Professional Ethics
<b>II</b>	<b>Sizing:</b> 1. Understanding of size chart-Woven and Knit 2. Sizing survey - History, advantages, challenges and factors affecting sizing 3. Need of sizing survey in India 4. Generation of size chart	28	24	1, 2, 3, 4	2, 4	1, 2	Employability, Skill Development	Regional, National,	Gender, Professional Ethics Human Values



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	5. Made-to-measure concept and 3D body scanning								
<b>III</b>	<b>Grading:</b> 1. Grading rules 2. Methods of grading 3. Grading of patterns (women's wear, men's wear, children's wear)	20	16	1, 2	4	1, 2	Employability, Skill Development	National, Global	Gender, Professional Ethics
<b>IV</b>	<b>Designing with darts and styleline and Principle of added fullness:</b> 1. Graduated and radiating darts; Parallel darts; Asymmetric darts; Intersecting darts 2. Classic princess, Armhole princess and panel princess styleline 3. Principle of added fullness and blouson foundation	20	16	1, 2, 3	3	1, 2	Employability, Skill Development	Global	Gender, Professional Ethics
<b>V</b>	<b>Contouring:</b> 1. Contouring principles 2. Contour guide patterns 3. Classic, empire, surplice, off-shoulder, halter	20	16	1, 2, 3	3	1, 2	Employability, Skill Development	Global	Gender, Professional Ethics
<b>VI</b>	<b>Development of Techpack:</b> 1. Flat/Technical sketches of top, shirt, dress, trouser 2. Developing spec sheet	16	14	2, 3, 6	5	1, 2	Employability, Skill Development	National, Global	Gender, Professional Ethics

**SUGGESTED EVALUATION**

CCE (50% IA)					SEE (50% UA)				
Evaluation type	Marks	Mode	Nature	Objective	Evaluation type	Marks	Mode	Nature	Objective
Mid semester examination	20	Written Mode	Traditionally essay type	For depth and planned preparation.	Craft work	50	Practical Mode	Component of working with one's hand	Encourage application of concepts learnt
Open book test	10	Written Mode	Allowed choice of reference book	Measure what students can do with resources,					



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				less stress on memory					
Viva/Oral exam	10	Oral Mode	Individually or small group	Practical experience towards job interview situation					
Craft work	10	Practical Mode	Component of working with one's hand	Encourage application of concepts learnt					
<b>Total</b>	<b>50</b>				<b>Total</b>	<b>50</b>			

**REFERENCES**

1. Al-Haboui, M. H. (1992). Anthropometry for a Mix of Different Populations. Amsterdam: Applied Ergonomics, Elsevier.
2. Annis, J. F. (1978). Variability in Human Body Size- Anthropometric Source Book. Washington DC: NASA Reference Publication.
3. Aldrich, W. (2015). Metric Pattern Cutting for Women's Wear - 6<sup>th</sup> Edition. New York: Wiley-VCH GmbH & Co.
4. Armstrong, H. J. (2009). Pattern making for Fashion design – 5<sup>th</sup> Edition. Noida: Harper Collins Publishers India.
5. Basia, S. (2010). Technical Drawing for Fashion. London: Laurence King Publishing.
6. Holzman, D. C. (1996). Fewer Sizes Fit All. Technology Review. Discussion of Pal's method of creating an optimized sizing system based on anthropometric data.
7. Hudson, P. B. (1979). Generating Patterns. Bobbin. 20(8).
8. Peterson, E. A. (1980). Standardization of industrial garment fit: Is it feasible? Is it necessary? Is it desirable? London: Industrial Launderer.
9. Reich, N., & Goldserry, E. (1993). Development of body measurement tables for women 55 and older and the relationship to ready-to-wear garment size. (Research Technical Report Number PCN 33-000006-18, ISR 06). Philadelphia: American Society for Testing and Materials/Institute for Standards Research.
10. Shoben, M. M., & Ward, J. P. (1990). Pattern Cutting and Making Up – Revised Edition. Oxford: Butterworth Heinmann.
11. Singh, D., & Young, R. K. (1995). Body weight, waist-to-hip ratio, breasts and hips: roles in judgments of female attractiveness and desirability for relationships. Ethology and Sociobiology.
12. Stoudt, H. W. (1981). The Anthropometry of the Elderly. Human Factors, 23(1).
13. Suhner, I. A. (2012). Technical Drawing for Fashion Design: Garment Source Book. Netherlands: The Pepin Press.
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<b>Year</b>	<b>II</b>	<b>INTELLECTUAL PROPERTY RIGHTS (Multi-disciplinary Course 3)</b>	<b>Credits / Hours per semester</b>	<b>4 (4+0) Credits / 4 Hours per week (Practical: 60 hours) Total: 60 hours/semester</b>
<b>Semester</b>	<b>I</b>	Year of Introduction: 2023-24	<b>Maximum Marks / Grade</b>	<b>100 Marks / O Grade (10-point scale)</b>
<b>Mode of Transaction</b>		Lecture	<b>Minimum Marks</b>	<b>36 Marks</b>

**Course Outcome (CO)**

- CO1 Developing a discerning approach to Intellectual Property Rights.
- CO2 Diving deep into the concept of intellectual property as a business/commercial property.
- CO3 Acquire and understanding of the different ways to protect intellectual property.
- CO4 Students shall be able to elucidate the procedures and process of protection.
- CO5 Attaining knowledge of various IP tools and how they can be integrated into business.

<b>Unit No.</b>	<b>Topic</b>	<b>Contact Hours</b>	<b>Weightage (%)</b>	<b>BT Level</b>	<b>CO</b>	<b>PSO</b>	<b>Elements of Employability (Emp) / Entrepreneurship (Ent) / Skill Development (SD)</b>	<b>Relevance to Local (L) / National (N) / Regional (R) / Global (G)</b>	<b>Relation to Gender (G), Environment Sustainability (ES), Human Values (EV), Professional Ethics (PE)</b>
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**THEORY**

<b>I</b>	<b>Introduction of Intellectual property rights</b> 1. Need of Intellectual property rights 2. Intellectual property rights Tools 3. Importance of intellectual property rights 4. The IPR System in India 5. IPR Policy 2016 and its objectives 6. IPR Status of India 7. The Structure of the Intellectual Property Offices of INDIA	15	25	1, 2	1, 3, 4	4	Employability, Skill Development	National, Global	Human value, Professional Ethics
<b>II</b>	<b>Copyright, Trademark, Geographical Indication</b> 1. Introduction, Need, Advantages & Disadvantages 2. Types of trademark, , flow chart of trademark application filing upto acceptance	8	14	1, 2	2, 3, 4	4	Employability, Skill Development	Regional, National, Global	Human value, Professional Ethics



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	3. Registration of copyright, Concept of collective management of copyright "Use of Work" protected by copyright 4. Protection of GI at National/International Level.								
<b>III</b>	<b>Patents, Industrial Designs, Trade secrets</b> 1. Introduction, Need, Advantages & Disadvantages 2. Protection of patents 3. Registration of patent in India & abroad 4. Flow chart of patent granting system 5. Registration of Industrial design in India & Abroad 6. Protection of trade secrets 7. Developing trade secret strategy for business	14	24	1, 2	2, 3, 4	4	Employability, Skill Development	National, Global	Human value, Professional Ethics
<b>IV</b>	<b>IP Transactions, Web Sites &amp; domain names, IP in International Business Strategy, IP Audits, IP Valuation.</b> 1. Introduction & Need 2. Licensing, Franchising, merchandising 3. Protection of elements of the website 4. PCT, Madrid, Hague 5. Audit Plan of audits 6. Significance parameters for assisting valuation	14	24	1, 2	2, 3, 4	4	Employability, Skill Development	Global	Human value, Professional Ethics
<b>V</b>	<b>Character merchandising</b> 1. Introduction 2. Source of characters 3. Brief history of Character merchandising 4. Types of Character merchandising rights and ownership of characters 5. Legal protection of the merchandising character	8	13	1, 2	2, 5	4	Employability, Skill Development	Global	Human value, Professional Ethics

**SUGGESTED EVALUATION**

**CCE (50% IA)**

**SEE (50% UA)**



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<b>Evaluation type</b>	<b>Marks</b>	<b>Mode</b>	<b>Nature</b>	<b>Objective</b>	<b>Evaluation type</b>	<b>Marks</b>	<b>Mode</b>	<b>Nature</b>	<b>Objective</b>
Mid-Semester Exam	20	Written mode	Traditionally essay type	For depth and planned preparation	Semester Exam	50	Written mode	Traditionally essay type	For depth and planned preparation
Open book test	20	Written mode	Allowed choice of reference Book	Measures what students can do with resources, less stress on memory					
Case Studies	10	Written mode	Analyse a given case (real or fictional)	To assess thinking, value, and attitude					
Total	50				Total	50			

**REFERENCES**

1.	Tewari, R. & Bhardwaj, M. (2021) Intellectual Property A Primer for Academia. Chandigarh: publication bureau panjab university
2.	A stitch in time-Smart use of Intellectual Property by textile companies, WIPO.
3.	icsi (2015), intellectual property rights-law and practice
4.	Annual Report 2015-16: O/O Controller General Of Patents, Designs, Trademarks And Geographical Indications
5.	Intellectual property and Tech. law updates January 2017
6.	Kanthababu, M. (2012) overview of intellectual property rights (iprs)- centre for intellectual property rights anna university, chennai



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<b>Year</b>	<b>II</b>	<b>INTERNATIONAL TRADE PRACTICES (Skill Enhancement Course 3)</b>	<b>Credits / Hours per semester</b>	<b>2 (2+0) Credits / 2 Hours per week (Theory: 30 hours) Total: 30 hours/semester</b>
<b>Semester</b>	<b>I</b>	Year of Introduction: 2023-24	<b>Maximum Marks / Grade</b>	<b>50 Marks / O Grade (10-point scale)</b>
<b>Mode of Transaction</b>		Lecture	<b>Minimum Marks</b>	<b>18 Marks</b>

**Course Outcome (CO)**

CO1 Define the basic concepts and principles of international trade, including comparative advantage, globalization, and trade barriers.

CO2 The students will gain fundamental knowledge regarding import and export procedures, documentation, and regulations.

CO3 Understand the legal framework governing international trade, including trade regulations, anti-dumping laws, and intellectual property rights.

CO4 Develop an awareness of compliance requirements and ethical considerations in global business transactions.

<b>Unit No.</b>	<b>Topic</b>	<b>Contact Hours</b>	<b>Weightage (%)</b>	<b>BT Level</b>	<b>CO</b>	<b>PSO</b>	<b>Elements of Employability (Emp) / Entrepreneurship (Ent) / Skill Development (SD)</b>	<b>Relevance to Local (L) / National (N) / Regional (R) / Global (G)</b>	<b>Relation to Gender (G), Environment Sustainability (ES), Human Values (EV), Professional Ethics (PE)</b>
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**THEORY**

<b>I</b>	<b>Procedures and Documents</b> 1. Terms and definitions 2. Basic Import Export, IEC 3. International trade contract procedure 4. Methods of Payments 5. International trade documents 6. Uniform customs and Practices	11	35	1, 2	1	5	Employability	Global	Professional Ethics
<b>II</b>	<b>Import-Export</b> 1. Export and import procedure under customs 2. Modes of Transport, Types of Containers 3. Types of risks in international trade 4. GST in Export & Import	10	35	1, 2	2	5	Employability	Global	Professional Ethics
<b>III</b>	<b>Policy and Shipment</b>	9	30	1, 2	3	5	Employability	Global	Professional Ethics



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1. Foreign Trade Policy
2. FEMA regulations relating to exports and imports
3. Export credit from banks in India: Pre-shipment and Post shipment credit Application of sustainable materials and technologies

**SUGGESTED EVALUATION**

CCE (50% IA)					SEE (50% UA)				
Evaluation type	Marks	Mode	Nature	Objective	Evaluation type	Marks	Mode	Nature	Objective
Mid semester examination	15	Written mode	Traditionally essay type	For depth and planned preparation	Semester Exam	25	Written mode	Traditionally essay type	For depth and planned preparation
Viva/Oral examination	10	Viva	Individually or in small groups.	Practical experience towards job interview situation.					
Total	25				Total	25			

**REFERENCES**

1.	David, A., & Robbins, S., P. (1996). Human Resource Management. New York: John Wiley.
2.	Frings, G., S. (1999). Fashion from Concept to Consumer. New Jersey: Prentice Hall.
3.	Gorden, L., J. (1961). Economics for Consumer. New York: American Book Co.
4.	Chris, G., B. (1960). An Outline on Advertising. New York: The Macmillan Co.
5.	Kreitner, R. (2004). Management - ninth ed. Boston: Houghton Mifflin.
6.	Kotler, P. (2004). Principles of Marketing -tenth ed. New Delhi: Prentice Hall of India Pvt. Ltd.
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<b>Year</b>	<b>II</b>	<b>SUSTAINABLE APPAREL PRODUCTION (Indian Knowledge System Course 2)</b>	<b>Credits / Hours per semester</b>	<b>2 (2+0) Credits / 2 Hours per week (Theory: 30 hours) Total: 30 hours/semester</b>
<b>Semester</b>	<b>I</b>	Year of Introduction: 2023-24	<b>Maximum Marks / Grade</b>	<b>50 Marks / O Grade (10-point scale)</b>
<b>Mode of Transaction</b>		Lecture	<b>Minimum Marks</b>	<b>18 Marks</b>

**Course Outcome (CO)**

- CO1 Define and grasp the key concepts and principles of sustainable apparel production, including environmental, social, and economic dimensions.  
CO2 Analyze the principles of sustainable design and its impact on the entire product lifecycle.  
CO3 The students will gain a knowledge on fashion sustainability.  
CO4 Formulate plans to enhance the overall sustainability performance of a fashion brand.

<b>Unit No.</b>	<b>Topic</b>	<b>Contact Hours</b>	<b>Weightage (%)</b>	<b>BT Level</b>	<b>CO</b>	<b>PSO</b>	<b>Elements of Employability (Emp) / Entrepreneurship (Ent) / Skill Development (SD)</b>	<b>Relevance to Local (L) / National (N) / Regional (R) / Global (G)</b>	<b>Relation to Gender (G), Environment Sustainability (ES), Human Values (EV), Professional Ethics (PE)</b>
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**THEORY**

<b>I</b>	<b>Environmental impacts of apparel production, distribution and consumption</b> 1. Introduction 2. Major environmental impacts 3. Environmental impact of: a. apparel manufacturing and distribution b. consumer care c. end of life/disposal 4. Effluent treatment in apparel industry	6	20	1, 2	1	1	Skill Development	Global	Environment and Sustainability
<b>II</b>	<b>Life Cycle Assessment (LCA)</b> 1. Definition of LCA 2. Phases of LCA 3. Organizations working on LCA and Standards	6	20	1, 2	2	1	Skill Development	Global	Environment and Sustainability



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	4. LCA model for textiles 5. Limitations of LCA								
<b>III</b>	<b>Sustainability and Fashion</b> 1. Sustainable design strategies for fashion design process 2. New business models for sustainable fashion 3. Sustainable design principles 4. Framework for fashion sustainability 5. Application of sustainable materials and technologies	9	30	1, 2	3	1	Skill Development	Global	Environment and Sustainability
<b>IV</b>	<b>Assessment of Sustainable Apparel Production</b> 1. Eco-parameters and testing of sustainable textiles and apparels 2. Test methods related to characteristics, performance 3. Ecological and safety parameters 4. Sustainable measures taken by industry affiliates, nonprofit organizations and government and educational institutions	9	30	1, 2	4	1	Skill Development	Global	Environment and Sustainability

**SUGGESTED EVALUATION**

CCE (50% IA)					SEE (50% UA)				
Evaluation type	Marks	Mode	Nature	Objective	Evaluation type	Marks	Mode	Nature	Objective
Mid semester examination	15	Written mode	Traditionally essay type	For depth and planned preparation.	Semester Exam	25	Written mode	Traditionally essay type	For depth and planned preparation
Class test	5	Written mode	Traditionally essay type	Fixed date forces students to learn.					



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Quizzes/Objective test	5	Written mode	Short duration structured test	Excellent validity as greater syllabus coverage.					
Total	25				Total	25			

**REFERENCES**

1.	Muthu, S. S. (2023). <i>Progress of Life Cycle Assessment in Textiles and Clothing</i> . Singapore: Springer Nature Pte Ltd.
2.	Nayak, R. & Padhye, R. (2015). <i>Garment Manufacturing Technology</i> . Cambridge: Woodhead Publishing.
3.	Parthiban, M., Srikrishnan, M. R. & Kandhavdivu, P. (2019). <i>Green Apparels</i> . New Delhi: Woodhead Publishing India Pvt. Ltd.
4.	Muthu, S. S. (2015). <i>Handbook of Sustainable Apparel Production</i> . New York: CRC Press.
5.	Fairhurst, C. (2008). <i>Advances in Apparel Production</i> . New York: CRC Press.
6.	Muthu, S. S. (2023). <i>Circular Economy in Textiles and Apparels</i> . Cambridge: Woodhead Publishing.

# SEMESTER II

Course Code	Course Title	Credits	Course Type
	Men's Wear	4 (0+4)	Major
	Computer Aided Pattern Designing & Development	4 (0+4)	Major
	Processing & Packaging in Apparel Industry	4 (2+2)	Major
	Budgeting & Costing in Apparel Industry	4 (4+0)	Minor
	English for Digital & Virtual Communication	2 (2+0)	AEC
	Global Sourcing	2 (2+0)	SEC
	Finishing Technology	2 (1+1)	VAC
		<b>Total</b>	<b>22</b>



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<b>Year</b>	<b>II</b>	<b>MEN'S WEAR (Major 8)</b>	<b>Credits / Hours per semester</b>	<b>4 (0+4) Credits / Hours per week (Practical: 120 hours) Total: 120 hours/semester</b>
<b>Semester</b>	<b>I</b>	Year of Introduction: 2023-24	<b>Maximum Marks / Grade</b>	<b>100 Marks / O Grade (10-point scale)</b>
<b>Mode of Transaction</b>		Practical	<b>Minimum Marks</b>	<b>36 Marks</b>

**Course Outcome (CO)**

- CO1 Study different body types and style preferences of men to create tailored and personalized fashion solutions.  
 CO2 Develop and manipulate patterns for men's wear garments, considering fit, style, and construction techniques.  
 CO3 Demonstrate advanced skills in constructing men's wear garments, using appropriate techniques and materials through a spec. sheet  
 CO4 Stay updated on current trends, innovations, and emerging technologies within the realm of men's fashion to develop collection and portfolio.

<b>Unit No.</b>	<b>Topic</b>	<b>Contact Hours</b>	<b>Weightage (%)</b>	<b>BT Level</b>	<b>CO</b>	<b>PSO</b>	<b>Elements of Employability (Emp) / Entrepreneurship (Ent) / Skill Development (SD)</b>	<b>Relevance to Local (L) / National (N) / Regional (R) / Global (G)</b>	<b>Relation to Gender (G), Environment Sustainability (ES), Human Values (EV), Professional Ethics (PE)</b>
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**PRACTICAL**

<b>I</b>	<b>Drafting and stitching of men's garments in trends:</b> 1. Upper wear: One Indian Wear [Kurta] 2. Lower wear: One Indian Wear [Churidar]	24	20	1, 2, 3, 6	1	1, 2	Skill Development	Global	Environment and Sustainability
<b>II</b>	<b>Basic Blocks: Adults bodice block (shirt) and lower block (trouser) for men</b> 1. Different features to be covered: shirt- yoke, collars, sleeves, cuff, plackets, pockets, variation in hemlines; 2. Trousers- waistband, different type of pockets, fly	24	20	1, 2, 3, 6	1	1, 2	Skill Development	Global	Environment and Sustainability
<b>III</b>	<b>Jacket:</b> 1. Indian / Western / Blazer - Linings, interlinings, pockets, lapel.	24	20	1, 2, 3, 6	1	1, 2	Skill Development	Global	Environment and Sustainability



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<b>IV</b>	<b>Menswear Designing</b> 1. Sample preparation from spec sheet, Specification sheet analysis and its pattern making for the designed garment, 2. Generations of sample garment (one garment)	24	20	1, 2, 3, 6	2, 3	1, 2	Skill Development	Global	Environment and Sustainability
<b>V</b>	<b>Theme based collection on current fashion trends</b>	24	20	1, 2, 3, 6	1, 2, 3, 4	1, 2	Skill Development	Global	Environment and Sustainability

**SUGGESTED EVALUATION**

CCE (50% IA)					SEE (50% UA)				
Evaluation type	Marks	Mode	Nature	Objective	Evaluation type	Marks	Mode	Nature	Objective
Class work	20	Submission	Continuous assessment	Continuous and Comprehensive Evaluation (CCE)	Semester Exam	20	Practical examination	Attempt the questions practically in lab	Practical skill evaluation
Mid semester examination, Lab work	20	Practical examination	Component of working with one's hand	Keep the students on the task.	Class work	20	Submission	Continuous assessment	Continuous and Comprehensive Evaluation (CCE)
Viva/Oral examination	10	Viva	Individually or in small groups.	Practical experience towards job interview situation.	Viva/Oral examination	10	Viva	Individually or in small groups.	Practical experience towards job interview situation.
Total	50				Total	50			

**REFERENCES**

1. Aldrich, W. (2015). *Metric Pattern Cutting for Women's Wear - 6<sup>th</sup> Edition*. New York: Wiley-VCH GmbH & Co.



**NAAC Accredited "A+" Grade  
Institute of Fashion Technology  
Faculty of Family and Community Sciences  
The Maharaja Sayajirao University of Baroda**

**Academic Year**

**2025-26**

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3.	Crawford, C. A. (1993). <i>Fashion your Own Skirts the Simple Way</i> . New Delhi: Bloomsbury Publishing India Ltd.
4.	Juvekar, V. B. (1953). <i>Easy Cutting</i> . Mumbai: Ball Co.
5.	Long, C. (2000). <i>Sewing with Knits: Classic, Stylish Garments from Swimsuits to Eveningwear</i> . Connecticut: Taunton Press.
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7.	Pandit, S. (1967). <i>A Manual of Children's Clothing</i> . Mumbai: Orient Longmans Limited.
8.	Singer. (1989). <i>Sewing Pants that Fit</i> . Minnesota: Cowles Creative Publishing Inc.
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10.	Zarapkar, K.R. (2008). <i>Zarapkar System of Cutting</i> . Navneet Publication (India) Ltd., Mumbai.

B. Sc. (F.T.) (Honors) Fashion and Apparel Technology Second Year – Level 5.0											
Year	II	COMPUTER AIDED PATTERN DESIGNING & DEVELOPMENT (Major 9)			Credits / Hours per semester		4 (0+4) Credits / 8 Hours per week (Practical: 120 hours) Total: 120 hours/semester				
Semester	II	Year of Introduction: 2023-24			Maximum Marks / Grade		100 Marks / O Grade (10-point scale)				
Mode of Transaction		Practical			Minimum Marks		36 Marks				
<b>Course Outcome (CO)</b>											
CO1 Knowledge about the different pattern making software used in apparel industry.											
CO2 Demonstrate proficiency in using industry-standard Computer-Aided Design (CAD) software for pattern designing and development.											
CO3 Apply grading techniques using CAD tools to create size variations for different body types and garment specifications											
CO3 Develop competency in CAD applications for pattern making and alterations.											
Unit No	Topic			Contact Hours	Weightage (%)	BT Level	CO	PSO	Elements of Employability (Emp) / Entrepreneurship (Ent) / Skill Development (SD)	Relevance to Local (L) / National (N) / Regional (R) / Global (G)	Relation to Gender (G), Environment Sustainability (ES), Human Values (EV), Professional Ethics (PE)
<b>PRACTICAL</b>											
I	<b>Introduction to computer aided pattern design and development</b> 1. Need of pattern making software 2. Features of commercially available pattern making Software			6	5	1, 2	1	3	Employability, Skill Development	Global	Gender, Environment and Sustainability
II	<b>Pattern Development on TukaCAD Software</b> 1. Pattern making of basic block, basic skirt, t-shirt, trouser, shirt 2. Pattern grading: grading standard size blocks to various size, master pattern grading 3. Marker planning			48	40	1, 2, 3, 4	2	3	Employability, Skill Development	Global	Gender, Environment and Sustainability
III	<b>Pattern Development on Richpeace Software</b> 1. Pattern making of basic block, basic skirt, t-shirt, trouser, shirt 2. Pattern grading: grading standard size blocks to various size, master pattern grading 3. Marker planning			48	40	1, 2, 3, 4	2	3	Employability, Skill Development	Global	Gender, Environment and Sustainability

<b>IV</b>	<b>Fitting and pattern alteration in CAD</b>	18	15	1, 2, 3, 4	3	3	Employability, Skill Development	Global	Gender, Environment and Sustainability
	1. Fitting: analysis of garment fit on a toile, solving fitting problems in various garments 2. Pattern alteration-importance of altering patterns: Common pattern alterations in a garment, alteration of pattern for irregular figures								

### SUGGESTED EVALUATION

CCE (50% IA)					SEE (50% UA)				
Evaluation type	Marks	Mode	Nature	Objective	Evaluation type	Marks	Mode	Nature	Objective
Lab work	25	Practical	Component of working with one's hand	Keep the students on the task.	Lab work	15	Practical	Component of working with one's hand	Keep the students on the task.
Craft work	15	Practical	Component of working with one's hand	Encourage application of concepts learnt.	Craft work	10	Practical	Component of working with one's hand	Encourage application of concepts learnt.
Quiz	10	Oral	Small group of 2-5 members work on a joint task	Assess memory power.	Viva/Oral examination	25	Viva	Individually or in small groups.	Practical experience towards job interview situation.
Total	50				Total	50			

### REFERENCES

1.	Armstrong, H. J. (2009). <i>Pattern making for Fashion design – 5<sup>th</sup> Edition</i> . Noida: Harper Collins Publishers India.
2.	Cooklin G. (1992). <i>Pattern Cutting for Women's Outerwear</i> . New Delhi: Wiley India Pvt. Ltd.
3.	Cooklin G. (1990). <i>Pattern Grading for Women's Clothes</i> . New Delhi: Wiley India Pvt. Ltd.
4.	Cooklin G. (1992). <i>Pattern Grading for Men's Clothes</i> . New Delhi: Wiley India Pvt. Ltd.
5.	Cooklin G. (1991). <i>Pattern Grading for Children's Clothes</i> . New Delhi: Wiley India Pvt. Ltd.
6.	Zarapkar, K. R. (2008). <i>Zarapkar System of Cutting</i> . Mumbai: Navneet Publication (India) Ltd.
7.	TukaCAD software user manual.
8.	Richpeace software user manual.

Year	II	PROCESSING & PACKAGING IN APPAREL INDUSTRY (Major 10)	Credits / Hours per semester	4 (2+2) Credits / 6 Hours per week (Theory: 30 hours Practical: 60 hours) Total: 90 hours/semester					
Semester	II	Year of Introduction: 2023-24	Maximum Marks / Grade	100 Marks / O Grade (10-point scale)					
Mode of Transaction	Lecture and Practical		Minimum Marks	36 Marks					
<b>Course Outcome (CO)</b>									
CO1 Develop a holistic understanding of the finishing and packaging processes in textiles and apparel industry.									
CO2 Gain a comprehensive understanding of various processing techniques used in the apparel industry, including dyeing, printing, and finishing									
CO3 Develop skills in quality control to ensure consistency and adherence to standards in all processing stages.									
CO4 Understand effective packaging strategies for various types of apparel products, considering protection, aesthetics, and sustainability.									
Unit No.	Topic	Contact Hours	Weightage (%)	BT Level	CO	PSO	Elements of Employability (Emp) / Entrepreneurship (Ent) / Skill Development (SD)	Relevance to Local (L) / National (N) / Regional (R) / Global (G)	Relation to Gender (G), Environment Sustainability (ES), Human Values (EV), Professional Ethics (PE)
<b>Theory</b>									
<b>I</b>	<b>Dyeing</b> 1. Sequence and Objectives of fabric preparatory processes 2. Classification of Dyes based on Method of Application 3. Dyeing Methods of Cellulosic, Protein and Synthetic Fibers	12	20	1, 2, 3	1	6	Employability, Skill Development	Global	Environment and Sustainability
<b>II</b>	<b>Printing</b> 1. Difference between Dyeing and Printing 2. Styles of Printing – Direct, Discharge and Resist 3. Methods of Printing – Block, Roller, Screen, Digital 4. After Treatment Processes – Fixation	12	20	1, 2, 3	1	6	Employability, Skill Development	Global	Environment and Sustainability
<b>III</b>	<b>Pressing and Packaging</b> 1. Pressing-Objective of pressing, fabric and garment characteristics, Pressing equipment, parametric conditions, Types of pressing. 2. Packaging & Folding: Criteria for packaging Specifications & standards for packaging & folding Material & equipment used for	6	10	1, 2, 3	4	6	Employability, Skill Development	Global	Environment and Sustainability

	packaging Considerations for packaging & folding. 3. Background to the standard 4. Overview of Packaging Industry 5. A definition of packaging 6. The functions of packaging 7. Packaging materials 8. Review of the packaging legislation 9. Printing and decoration of packaging, include labels and labelling 10. Environmental issue and waste disposal								
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**PRACTICAL**

<b>IV</b>	<b>Dyeing</b> 1. Dyeing of cotton fabric with direct dye, reactive dye, vat dye and sulphur dye 2. Dyeing of silk fabric with acid dye and basic dye 3. Dyeing of wool fabric using metal complex dye and reactive dye	24	20	1, 2, 3	3	6	Employability, Skill Development	Global	Environment and Sustainability
<b>V</b>	<b>Printing</b> Printing of cotton using direct, resist and discharge styles (for each select one or two dyes)	24	20	1, 2, 3	3	6	Employability, Skill Development	Global	Environment and Sustainability
<b>VI</b>	<b>Packaging- folds, materials and relevance</b> 1. Infant wear 2. Kids wear 3. Women's wear 4. Men's wear 5. Innovating a folding and packaging technique	12	10	1, 2, 3	4	6	Employability, Skill Development	Global	Environment and Sustainability

**SUGGESTED EVALUATION**

CCE (50% IA)					SEE (50% UA)				
Evaluation type	Marks	Mode	Nature	Objective	Evaluation type	Marks	Mode	Nature	Objective
Mid semester examination	20	Written Mode	Traditionally essay type	For depth and planned preparation.	Semester Exam	50	Written mode	Traditionally essay type	For depth and planned preparation

Class test	15	Written mode	Traditionally essay type	Fixed date forces students to learn.				
Lab Work	15	Practical	Component of working with one's hand	Keep the students on the task.				
Total	50				Total	50		

#### REFERENCES

1.	Broadbent, A. D. (2001). <i>Basic Principles of Textile Coloration</i> . London: Society of Dyers and Colourists.
2.	Datya, K. V., & Vaidya, A. A. (1984). <i>Chemical Processing of Synthetic Fibers and Blends</i> . New York: Wiley-VCH GmbH & Co.
3.	Lewin, M., & Sello, S., B. (1984). <i>Chemical Processing of Fibers and Fabrics – Functional Finishes, Part B</i> . New York: Marcel Dekker.
4.	Marsh, J. T. (1979). <i>An Introduction to Textile Finishing</i> . Ahmedabad: B. I. Publications Pvt. Ltd.
5.	Miles, L. W. C. (1994). <i>Textile Printing: 2<sup>nd</sup> Edition</i> . London: Society of Dyers and Colourists.
6.	Schindler, W. D., & Hauser, P. J. (2004). <i>Chemical Finishing of Textiles</i> . New Delhi: Woodhead Publishing Ltd.
7.	Shenai, V. A. (1981). <i>Technology of Textile Processing - Vol. III, V, VII &amp; VIII</i> . Chennai: Shevak Publications.
8.	Glock, R. E., & Kunz, G. I. (2005). <i>Apparel Manufacturing: Sewn Product Analysis - 4th Edition</i> . Chennai: Pearson India.

**B. Sc. (F.T.) (Honors) Fashion and Apparel Technology Second Year – Level 5.0**

<b>Year</b>	<b>II</b>	<b>BUDGETING &amp; COSTING IN APPAREL INDUSTRY (Minor 3)</b>	<b>Credits / Hours per semester</b>	<b>4 (4+0) Credits / 4 Hours per week (Theory: 60 hours) Total: 60 hours/semester</b>
<b>Semester</b>	<b>II</b>	Year of Introduction: 2023-24	<b>Maximum Marks / Grade</b>	<b>100 Marks / O Grade (10-point scale)</b>
<b>Mode of Transaction</b>	Lecture		<b>Minimum Marks</b>	<b>36 Marks</b>

**Course Outcome (CO)**

- CO1 Demonstrate Fundamental understanding of costing methods in apparel manufacturing.
- CO2 Develop ability to calculate the material, labour and manufacturing cost of various apparel products.
- CO3 Ability to elucidate the various factors affecting retail apparel cost.
- CO4 Comprehend the concepts of GST in apparel industry

<b>Unit No.</b>	<b>Topic</b>	<b>Contact Hours</b>	<b>Weightage (%)</b>	<b>BT Level</b>	<b>CO</b>	<b>PSO</b>	<b>Elements of Employability (Emp) / Entrepreneurship (Ent) / Skill Development (SD)</b>	<b>Relevance to Local (L) / National (N) / Regional (R) / Global (G)</b>	<b>Relation to Gender (G), Environment Sustainability (ES), Human Values (EV), Professional Ethics (PE)</b>
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**THEORY**

<b>I</b>	<b>Introduction to costing</b> 1. Definition and objectives of costing 2. Elements and classification of cost: direct, indirect, overheads 3. Difference between costing and pricing 4. Stages of costing 5. Costing methods 6. Breakeven analysis	12	20	1, 2, 3, 5	1	5	Employability, Entrepreneurship, Skill Development	Global	Professional Ethics
<b>II</b>	<b>Material cost</b> 1. Parameters involving material costing 2. Inventory control and evaluation, accounting for wastage, scrap and defects, depreciation 3. Factors influencing fabric cost and trims cost 4. Fabric costing for woven and knitted products: weaving cost, costing as per fabric construction, fabric cost per meter, fabric cost/garment, yarn cost, calculation for GSM, fabric cost per kg 5. Trims and accessories cost: cost of trims (labels, tags, buttons, etc.), accessories (hanger, inner board, poly bag, buttons, etc.),	15	25	1, 2, 3, 5	2	5	Employability, Entrepreneurship, Skill Development	Global	Professional Ethics

	CMT charges, other charges (print, embroidery, etc.)								
<b>III</b>	<b>Labor and manufacturing cost</b> 1. Labor cost: parameters of labor costing, labor cost budgeting and variances, wage rate and piece rate: comparative analysis, incentive plans 2. Manufacturing cost: classification of overheads, allocation and appointment, calculation of prime cost 3. General operating expenses.	15	25	1, 2, 3, 5	2	5	Employability, Entrepreneurship, Skill Development	Global	Professional Ethics
<b>IV</b>	<b>Retail pricing</b> 1. Markups/markdown calculation 2. Retail pricing strategy overview 3. Export pricing 4. INCOTERMS and their application 5. Freight costing: types of freight cost, freight cost calculations 6. Breakeven analysis	12	20	1, 2, 3, 5	3	5	Employability, Entrepreneurship, Skill Development	Global	Professional Ethics
<b>V</b>	<b>Goods and Services Tax (GST)</b> 1. Introduction 2. Journey of GST in India 3. Objectives, components and advantages of GST 4. Tax laws before GST 5. GST and price reduction 6. New compliances under GST 7. GST in apparel industry	6	10	1, 2	4	5	Employability, Entrepreneurship, Skill Development	Global	Professional Ethics

### SUGGESTED EVALUATION

CCE (50% IA)					SEE (50% UA)				
Evaluation type	Marks	Mode	Nature	Objective	Evaluation type	Marks	Mode	Nature	Objective
Mid semester examination	25	Written Mode	Traditionally essay type	For depth and planned preparation.	Semester Exam	50	Written mode	Traditionally essay type	For depth and planned preparation

Class test	15	Written mode	Traditionally essay type	Fixed date forces students to learn.				
Quizzes/Objective test	10	Written mode	Short duration structured test	Excellent validity as greater syllabus coverage.				
Total	50				Total	50		

#### REFERENCES

1.	Clodfelter, R. (2015). <i>Retail Buying: From Basics to Fashion</i> . New York: Fairchild Publications Inc.
2.	Glock, R. E., & Kunz, G. I. (2005). <i>Apparel Manufacturing: Sewn Product Analysis - 4<sup>th</sup> Edition</i> . Chennai: Pearson India.
3.	Horngren, C. T., Datar, S. M., & Rajan, M. V. (2015). <i>Cost Accounting - 15<sup>th</sup> Edition</i> . Chennai: Pearson India.
4.	Jeffrey, M. & Evans, N. (2011). <i>Costing for the Fashion Industry</i> . Oxford: Berg Publishers.
5.	Lezama, M., Webber, B., & Dagher, C. (2004). <i>Sourcing Practices in Apparel Industry</i> . London: Commonwealth Secretariat.
6.	Nayak, R., & Padhye, R. (2015). <i>Garment Manufacturing Technology</i> . New Delhi: Woodhead Publishing.

**B. Sc. (F.T.) (Honors) Fashion and Apparel Technology Second Year – Level 5.0**

<b>Year</b>	<b>II</b>	<b>GLOBAL SOURCING (Skill Enhancement Course 4)</b>	<b>Credits / Hours per semester</b>	<b>2 (2+0) Credits / 2 Hours per week (Theory: 30 hours) Total: 30 hours/semester</b>
<b>Semester</b>	<b>II</b>	Year of Introduction: 2023-24	<b>Maximum Marks / Grade</b>	<b>100 Marks / O Grade (10-point scale)</b>
<b>Mode of Transaction</b>	Lecture		<b>Minimum Marks</b>	<b>36 Marks</b>

**Course Outcome (CO)**

- CO1 Develop a comprehensive understanding of the role of sourcing in the overall supply chain management process.  
 CO2 Assess and select suitable countries and vendors for sourcing based on factors such as cost, quality, lead time, and ethical considerations.  
 CO3 The students will gain knowledge on dependency of the apparel production process and sourcing  
 CO4 Understand and promote ethical sourcing practices, including social responsibility, fair labor practices, and environmental sustainability.

<b>Unit No.</b>	<b>Topic</b>	<b>Contact Hours</b>	<b>Weightage (%)</b>	<b>BT Level</b>	<b>CO</b>	<b>PSO</b>	<b>Elements of Employability (Emp) / Entrepreneurship (Ent) / Skill Development (SD)</b>	<b>Relevance to Local (L) / National (N) / Regional (R) / Global (G)</b>	<b>Relation to Gender (G), Environment Sustainability (ES), Human Values (EV), Professional Ethics (PE)</b>
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**THEORY**

<b>I</b>	<b>Understanding Basics of Global Sourcing</b> 1. Terms 2. Sourcing and its evolution 3. Need and relevance of Global Sourcing 4. Advantages and Disadvantages of Sourcing	9	30	1, 2	1	5	Employability, Entrepreneurship	Global	Professional Ethics
<b>II</b>	<b>Global Sourcing Process and legal aspects</b> 1. Make and Buy decisions 2. Development and management of Suppliers 3. Negotiations and Supplier Evaluation.	9	30	1, 2, 3	2	5	Employability, Entrepreneurship	Global	Professional Ethics
<b>III</b>	<b>Opportunities and challenges in Global Sourcing</b> 1. Effects of Global Sourcing on the Industry. 2. Sourcing and Sustainability Considerations.	6	20	1, 2	3	5	Employability, Entrepreneurship	Global	Professional Ethics
<b>IV</b>	<b>Current Scenario in Global Sourcing</b> 1. Trends in Global Sourcing	6	20	1, 2	4	5	Employability, Entrepreneurship	Global	Professional Ethics

**SUGGESTED EVALUATION**

<b>CCE (50% IA)</b>					<b>SEE (50% UA)</b>				
<b>Evaluation type</b>	<b>Marks</b>	<b>Mode</b>	<b>Nature</b>	<b>Objective</b>	<b>Evaluation type</b>	<b>Marks</b>	<b>Mode</b>	<b>Nature</b>	<b>Objective</b>

Mid semester examination	15	Written Mode	Traditionally essay type	For depth and planned preparation	Semester Exam	25	Written mode	Traditionally essay type	For depth and planned preparation
Class work	10	Submission	Continuous assessment	Continuous and Comprehensive Evaluation (CCE)					
Total	25				Total	25			

#### REFERENCES

1.	Cadigan, Erin "Sourcing and selecting textiles for fashion" Bloomsbury, New York, 2014
2.	David Birnbaum, "Birnbaum's Global Guide To Material Sourcing" Fashionindex, 2005
3.	E.Glock Ruth and I. Kunz Grace, "Apparel Manufacturing - Sewn Product Analysis", Blackwell Scientific Publications, 1996
4.	<a href="http://www.onlineclothingstudy.com/2013/07/sourcing-of-clothing-fabrics-on.html">http://www.onlineclothingstudy.com/2013/07/sourcing-of-clothing-fabrics-on.html</a>
5.	Grace I. Kunz, Myrna B. Garner "Going global : the textile and apparel industry" 2nd edition, Fairchild Books, New York, 2011
6.	Herold Carr and Barbara Lathem, "The Technology of Clothing Manufacturing", 2nd Edition, Blackwell Scientific Publications, London, 1988.
7.	Janace E. Bubonia, editor: Olga T. Kontzias "Apparel production terms and processes" Fairchild; Oxford: Berg[distributor], New York, 2012
8.	Jeannette Jamow, Kitty G.Dickerson,"Inside the Fashion Business", Prentice-Hall of India,1997.
9.	Rugman, A and Collinson, S., "International Business" Pearson, London, 2012
10.	Tyler J David "Materials Management in Clothing Production", 1991.

**B. Sc. (F.T.) (Honors) Fashion and Apparel Technology Second Year – Level 5.0**

<b>Year</b>	<b>II</b>	<b>FINISHING TECHNOLOGY (Value Added Course 2)</b>	<b>Credits / Hours per semester</b>	<b>2 (1+1) Credits / 3 Hours per week (Theory: 15 hours Practical: 30 hours) Total: 45 hours/semester</b>
<b>Semester</b>	<b>II</b>	Year of Introduction: 2023-24	<b>Maximum Marks / Grade</b>	<b>100 Marks / O Grade (10-point scale)</b>
<b>Mode of Transaction</b>	Lecture and Practical		<b>Minimum Marks</b>	<b>36 Marks</b>

**Course Outcome (CO)**

- CO1 Develop a comprehensive understanding of various finishing processes used in textiles and apparel manufacturing.  
 CO2 Assess and select appropriate finishes for different types of fabrics and garments based on desired properties and end-use applications.  
 CO3 Demonstrate and understanding of the various types of finishes and to identify their effects on properties and their end uses in the apparel sector  
 CO4 The students know the modern techniques of garment finishing in relation to productivity, cost, quality and performance  
 CO5 Develop a comprehensive knowhow for finishing procedures, including standard operating procedures (SOPs) and quality control protocols by practice.

<b>Unit No.</b>	<b>Topic</b>	<b>Contact Hours</b>	<b>Weightage (%)</b>	<b>BT Level</b>	<b>CO</b>	<b>PSO</b>	<b>Elements of Employability (Emp) / Entrepreneurship (Ent) / Skill Development (SD)</b>	<b>Relevance to Local (L) / National (N) / Regional (R) / Global (G)</b>	<b>Relation to Gender (G), Environment Sustainability (ES), Human Values (EV), Professional Ethics (PE)</b>
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**THEORY**

<b>I</b>	<b>Fabric finishing</b> 1. Objectives and Significance of finishing 2. Classification of finishes 3. Principle, Process and Application of Chemical finishes: Softening, Stiffening, Durable Press Finish, Weighing, Crease Resistance, Soil Release, Flame Retardant, Water Repellent, Rot and Mildew, Moth Proof and Antistatic Finish. 4. Principle, Process and Application of Mechanical Finishes: Calendaring, Sanforizing, Raising, Brushing, Crabbing, Decatizing, Parchmenting, Milling, etc.	5	17	1, 2, 3	1, 2, 3	6	Employability, Entrepreneurship, Skill Development	Global	Environment Sustainability
<b>II</b>	<b>Finishing of wool</b> 1. Milling, setting, shrink-resistant finishing, special finishing of silk 2. Energy efficient technology; Low liquor application and foam finishing.	5	17	1, 2, 3	1, 2, 3, 4	6	Employability, Entrepreneurship, Skill Development	Global	Environment Sustainability

	<ul style="list-style-type: none"> <li>3. Finishing of synthetics; Heat setting, Antistatic and other special finishing, Nanotechnology</li> <li>4. Finishing machines: Mangles, driers and Stenters</li> </ul>								
<b>III</b>	<p><b>Finishing of Garments</b></p> <ul style="list-style-type: none"> <li>1. Finishing of Garments - Different types of finish - Durable press finish</li> <li>2. Wash n wear finish</li> <li>3. Spotting and washing of garments</li> <li>4. Identification of stains, characteristics &amp; history - Selection criteria of spotting chemicals - Factors for spotting</li> <li>5. Finishing of jeans with special emphasis on various types of jeans washing</li> <li>6. Stone Wash, acid wash, enzyme wash, sandblasting, ozone and lazer fading, quick wash denims, crush finish.</li> <li>7. Environment pollution, eco friendliness in washing &amp; finishing.</li> <li>8. Cost estimation of finishing processes - Basic knowledge on the cost involvement of the various types of finishes.</li> </ul>	5	17	1, 2, 3	1, 2, 3	6	Employability, Entrepreneurship, Skill Development	Global	Environment Sustainability
<b>PRACTICAL</b>									
<b>IV</b>	<p><b>Garment finishes-chemical</b></p> <p>Finishes on garments (shirt/denims)</p> <ul style="list-style-type: none"> <li>1. Various jean washes- mechanical and chemical</li> <li>2. Abraded effect (sandpaper, abrading machine)</li> <li>3. Spray finishing</li> <li>4. Bleaching</li> <li>5. Innovating a denim finish using above methods</li> <li>6. Stain removal (grease, blood, lipstick, tea/coffee, gravy, ink/ball point, soil so on.)</li> </ul>	30	50	1, 2, 3	5	6	Employability, Entrepreneurship, Skill Development	Global	Environment Sustainability

<b>SUGGESTED EVALUATION</b>									
<b>CCE (50% IA)</b>					<b>SEE (50% UA)</b>				
<b>Evaluation type</b>	<b>Marks</b>	<b>Mode</b>	<b>Nature</b>	<b>Objective</b>	<b>Evaluation type</b>	<b>Marks</b>	<b>Mode</b>	<b>Nature</b>	<b>Objective</b>
Mid semester examination	20	Written Mode	Traditionally essay type	For depth and planned preparation.	Semester Exam	50	Written mode	Traditionally essay type	For depth and planned preparation
Class test	15	Written mode	Traditionally essay type	Fixed date forces students to learn.					
Lab Work	15	Practical							
Total	50				Total	50			

#### **REFERENCES**

1.	Marsh, J. T. (1979). <i>An Introduction to Textile Finishing</i> . Ahmedabad: B. I. Publications Pvt. Ltd.
2.	Booth, J. E. (1996). <i>Principles of Textile Testing – 3rd Edition</i> . New York: CBS Publishers & Distributors Pvt. Ltd.
3.	Carr, H. & Latham, B. (2008). <i>Technology of Clothing Manufacture - 4<sup>th</sup> Edition</i> . Oxford: Blackwell Publishing.
4.	Corbman, B. P. (1985). <i>Textiles: Fiber to Fabrics - 6<sup>th</sup> Edition</i> . New York: McGraw-Hill Education.
5.	Glock, R. E., & Kunz, G. I. (2005). <i>Apparel Manufacturing: Sewn Product Analysis - 4<sup>th</sup> Edition</i> . Chennai: Pearson India.
6.	Lewin, M., & Sello, S. B. (1984). <i>Chemical Processing of Fibres and Fabrics - Functional Finishes, Part B</i> . New York: Marcel Dekker.
7.	Mehta, P. V. (2012). <i>Quality Management Handbook for the Apparel Industry</i> . New Delhi: New Age International Pvt. Ltd.
8.	Tortora, P. G., & Collier, B. J. (1996). <i>Understanding Textiles- 7<sup>th</sup> Edition</i> . New Jersey: Prentice Hall.

**B. Sc. (F.T.) (Honors) Fashion and Apparel Technology Second Year – Level 5.0**

<b>Year</b>	<b>II</b>	<b>SUMMER INTERNSHIP (Summer Internship)</b>	<b>Credits / Hours per semester</b>	<b>4 (0+4) Credits / 4 Hours per day (30 days) Total: 120 hours/semester</b>
<b>Semester</b>	<b>II</b>	Year of Introduction: 2024-25	<b>Maximum Marks / Grade</b>	<b>100 Marks / O Grade (10-point scale)</b>
<b>Mode of Transaction</b>	Lecture and Practical		<b>Minimum Marks</b>	<b>36 Marks</b>

**Course Outcome (CO)**

- CO1 To enhance student's personal and professional development through hands on skill in any fashion and apparel related firm.  
 CO2 Gain insights into the operational dynamics of apparel industry.  
 CO3 Cultivate and strengthen entrepreneurial mindset and skills.

<b>Unit No.</b>	<b>Topic</b>	<b>Contact Hours</b>	<b>Weightage (%)</b>	<b>BT Level</b>	<b>CO</b>	<b>PSO</b>	<b>Elements of Employability (Emp) / Entrepreneurship (Ent) / Skill Development (SD)</b>	<b>Relevance to Local (L) / National (N) / Regional (R) / Global (G)</b>	<b>Relation to Gender (G), Environment Sustainability (ES), Human Values (EV), Professional Ethics (PE)</b>
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**PRACTICAL**

<b>I</b>	<b>Internship of 1 month in any of the following:</b> <ul style="list-style-type: none"> <li>• Apparel manufacturing units</li> <li>• Fashion designer boutiques</li> <li>• Fashion startups</li> <li>• Accessory manufacturing units</li> <li>• Retail stores</li> <li>• Textile / Apparel Testing Laboratories</li> <li>• Student internship programme offered by universities</li> </ul>	120	100	1, 2, 3, 4, 5, 6	1, 2, 3	7	Employability, Entrepreneurship, Skill Development	Global	Gender, Environment Sustainability, Human Values, Professional Ethics
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**FASHION AND APPAREL TECHNOLOGY**  
**Third Year Syllabus as per NEP 2020**

FASHION & APPAREL TECHNOLOGY

## **PROGRAMME SPECIFIC OUTCOMES THIRD YEAR (LEVEL 5.5)**

- PSO 1: Develop the ability to design optimal layouts that maximize workflow and minimize waste in garment production facilities.
- PSO 2: Develop comprehensive techpacks that include detailed product specifications, materials, construction techniques, and quality standards.
- PSO 3: Develop a product from concept through to market launch, understanding the critical stages involved.
- PSO 4: Develop integrated marketing and visual merchandising strategies that effectively communicate the brand message across various channels.
- PSO 5: Understand the role of e-commerce and digital platforms in expanding market reach and enhancing customer experiences.
- PSO 6: Develop and deliver engaging presentations that effectively convey research findings, project outcomes, or industry insights.
- PSO 7: Demonstrate knowledge of various testing methods for textiles and finished garments, including durability, colorfastness, and fit.
- PSO 8: Create a comprehensive business plan that outlines the vision, mission, strategy, and financial forecast for a fashion-related venture.
- PSO 9: Develop foundational skills in designing research projects relevant to the apparel industry, including qualitative and quantitative methods, such as surveys, interviews, and observational studies, tailored to the apparel context.
- PSO 10: Gain hands-on experience in various aspects of the apparel industry, enhancing theoretical knowledge with real-world applications.

**Bloom's Taxonomy (BT) Levels:** 1. Remember 2. Understand 3. Application 4. Analysis 5. Evaluation 6. Creation

## COURSE CURRICULUM

Course Code	Course	Credits	Course Type
<b>YEAR III SEMESTER I</b>			
	Plant Layout in Apparel Industry	4(0+4)	Major 11
	Orientation to Research	4(4+0)	Major 12
	Fashion Product Development	4(0+4)	Major 13
	2 minor courses from a basket of 6 courses		
	Fashion Branding	4(4+0)	Minor 4
	Fashion Supply Chain Management	4(4+0)	Minor 5
	Teckpach Development	2(0+2)	SEC 5
	<b>TOTAL</b>	<b>22 (12+10)</b>	
<b>YEAR III SEMESTER II</b>			
	Communication Skills and Paper Presentation	4(1+3)	Major 14
	Cost Analysis in Apparel Industry	4(3+1)	Major 15
	Testing & Quality Control in Apparel Industry	4(2+2)	Major 16
	1 minor courses from a basket of 6 courses		
	Entrepreneur Development	4(4+0)	Minor 6
	Role of Information Technology in Apparel Industry	2(2+0)	AEC 5
	Internship in Apparel Industry	4(0+4)	SEC 6
	<b>Total</b>	<b>22(12+10)</b>	

# SEMESTER I

Course Code	Subject Code	Credit	Course type
	Plant Layout in Apparel Industry	4(0+4)	Major 11
	Orientation to Research	4(4+0)	Major 12
	Fashion Product Development	4(0+4)	Major 13
	2 minor courses from a basket of 6 courses		
	Fashion Branding	4(4+0)	Minor 4
	Fashion Supply Chain Management	4(4+0)	Minor 5
	Techpack Development	2(0+2)	SEC 5
	<b>TOTAL</b>	<b>22 (12+10)</b>	

**B. Sc. (F.T.) Fashion and Apparel Technology Third Year – Level 5.5**

<b>Year</b>	<b>III</b>	<b>Plant Layout in Apparel Industry (Major 11)</b>	<b>Credits / Hours per semester</b>	<b>4 (0+4) Credits / 8 Hours per week (Practical: 120 hours) Total: 120 hours/semester</b>
<b>Semester</b>	<b>I</b>	<b>Year of Introduction: 2023-24 Year of Syllabus Revision:</b>	<b>Maximum Marks/ Minimum Marks</b>	<b>100 Marks / 36 Marks</b>
<b>Mode of Transaction</b>		<b>Practical</b>		

**Course Outcome (CO)**

CO1 Learn various components and different types of layout used in an apparel industry.

CO2 Impart hand on experience to gain understanding the floor planning and management.

CO3 Enable the students to work out flowchart and layout for various departments for apparel manufacturing unit.

CO4 Understand different services, work place design, output analysis and material handling.

<b>Unit No.</b>	<b>Topic</b>	<b>Contact Hours</b>	<b>Weightage (%)</b>	<b>BT Level</b>	<b>CO</b>	<b>PSO</b>	<b>Elements of Employability (Emp)/ Entrepreneurship (Ent)/ Skill Development (SD)</b>	<b>Relevance to Local (L)/ National (N)/ Regional(R) / Global (G)</b>	<b>Relation to Gender (G), Environment and Sustainability (ES), Human Values (HV)and Professional Ethics (PE)</b>
<b>I.</b>	<b>Capacity Planning and line balancing:</b> 1. Operator performance 2. Work in process (WIP) 3. Operation bulletin 4. Balancing and Steps to balance the line 5. Efficiency 6. Cycle checks	18	15	1, 2, 3	1	2,1	Employability, Entrepreneurship, Skill Development	Local, National, Regional, Global	Gender, Environment and Sustainability, Human Values and Professional Ethics
<b>II.</b>	<b>Layout for different type of manufacturing and production system</b> 1. Type of layout: vertical and horizontal 2. Manufacturing systems 3. Production systems	12	10	1, 2, 3	1	1	Employability, Entrepreneurship, Skill Development	Local, National, Regional, Global	Gender, Environment and Sustainability, Human Values and Professional Ethics

<b>III. Introduction to material handling</b> 1. Importance and objective of material handling 2. Types of material handling equipment; 3. Specialized material handling equipment's / systems related to the apparel industry	12	10	2, 3, 4, 5, 6	2	1	Employability, Entrepreneurship, Skill Development	Local, National, Regional, Global	Environment and Sustainability, Human Values and Professional Ethics
<b>IV. Workstation design</b> 1. location standards for area requirements per person per workstation 2. Understanding of good layout- interior spaces in terms of lighting, ventilation, flow patterns, clearances	12	10	2, 3, 4, 5, 6	2	1	Employability, Entrepreneurship	Local, National,	Gender, Environment and Sustainability, Human Values and
<b>V. List of activities in an apparel manufacturing unit and their space analysis</b> 1. Factory area- storage of fabrics to warehouse; Processes checking, cutting, sewing, finishing; Areas for production personnel; 2. Utilities- canteen/crèche/toilets/drinking water, etc.; 3. Administrative area; Reception; Offices- managers / supervisor's office; etc.	30	25	2, 3, 4, 5, 6	2	1	Employability, Entrepreneurship, Skill Development	Local, National, Regional, Global	Gender, Environment and Sustainability, Human Values and Professional Ethics
<b>VI. Product and required output analysis</b> 1. Man, machine and area calculation; Storage requirements	24	20	2, 3, 4, 5, 6	4	1	Employability, Entrepreneurship, Skill Development	Local, National, Regional, Global	Human Values and Professional Ethics
<b>VII. Health &amp; Safety Issues – Guidelines &amp; Compliances</b>	12	10	2, 3, 4, 5, 6	4	1	Employability, Entrepreneurship	Local, National, Regional, Global	Gender, Environment and Sustainability, Human Values and Professional Ethics

**SUGGESTED EVALUATION**

CCE (50% IA)					SEE (50% UA)				
Evaluation type	Marks	Mode	Nature	Objective	Evaluation type	Marks	Mode	Nature	Objective
Class work	15	Submission	Continuous assessment	Continuous and Comprehensive Evaluation (CCE)	Viva/Oral examination	25	Oral	Individually or in small groups.	Practical experience towards job interview situation.

Mid semester examination, Lab work	15	Practical examination	Component of working with one's hand	Keep the students on the task.	Viva/Oral examination	25	Product presentation	Individually or in small groups.	Practical experience towards job interview situation.
Viva/Oral examination	10	Viva	Individually or in small groups.	Practical experience towards job interview situation.					
Attendance	10	-	-	-					
Total	50				Total	50			

#### Reference Books

1.	Babu, V., R. (2012). <i>Industrial Engineering in Apparel Production</i> . New Delhi: Woodhead Publishing India Pvt. Ltd.
2.	Bheda, R. (2003). <i>Managing Productivity in the Apparel Industry</i> . New Delhi: CBS Publishers & Distributors.
3.	Carr, H. & Latham, B. (2008). <i>Technology of Clothing Manufacture - 4<sup>th</sup> Edition</i> . Oxford: Blackwell Publishing.
4.	Glock, R. E., & Kunz, G. I. (2005). <i>Apparel Manufacturing: Sewn Product Analysis - 4<sup>th</sup> Edition</i> . Chennai: Pearson India.
5.	Nayak, R., & Padhye, R. (2015). <i>Garment Manufacturing Technology</i> . New Delhi: Woodhead Publishing.

**B. Sc. (F.T.) Fashion and Apparel Technology Third Year – Level 5.5**

<b>Year</b>	<b>III</b>	<b>Orientation to Rresearch (Major 12)</b>	<b>Credits / Hours per week</b>	<b>4 (4+0) 4 hrs/week Theory = 60 hrs Total = 60 hrs/week</b>
<b>Semester</b>	<b>II</b>	<b>Year of Introduction: 2023-2024 Year of Syllabus Revision:</b>	<b>Maximum Marks / Minimum marks</b>	<b>100 Marks/ 36 Marks</b>

**Mode of Transaction**
**Lecture**
**Course Outcome (CO)**

- CO1 Understand the fundamental principles and types of research  
 CO2 Develop skills in literature review and source evaluation  
 CO3 Understand research design, methods, and tools  
 CO4 Recognize the importance of ethical practices in research  
 CO5 Introduced to data analysis and interpretation  
 CO6 Gain the ability to create a basic research proposal or report.

<b>Unit No.</b>	<b>Topic</b>	<b>Contact Hours</b>	<b>Weightage (%)</b>	<b>BT Level</b>	<b>CO</b>	<b>PSO</b>	<b>Elements of Employability (Emp)/ Entrepreneurship (Ent)/ Skill Development (SD)</b>	<b>Relevance to Local (L)/ National (N)/ Regional(R)/Global (G)</b>	<b>Relation to Gender (G), Environment and Sustainability (ES), Human Values (HV)and Professional Ethics (PE)</b>
<b>I.</b>	<b>Introduction to Research and process</b> 1. Definition and Importance of Research 2. Objectives and Applications of Research 3. Types of Research (Basic, Applied, Qualitative, Quantitative) 4. Characteristics of Good Research 5. Steps in the Research Process 6. Identifying Research Problems 7. Framing Research Questions and Hypotheses 8. Importance of Clear Objectives	12	20	1,2	1	9	Skill Development	Local, National, Regional, Global	Professional Ethics

<b>II.</b>	<b>Literature Review, Research Design and Methodology</b> 1. Purpose of a Literature Review 2. Finding and Evaluating Academic Sources 3. Citation and Referencing Basics (e.g., APA, MLA) 4. Avoiding Plagiarism 5. Introduction to Research Designs (Descriptive, Experimental, Exploratory) 6. Sampling Techniques and Population Selection 7. Data Collection Methods (Surveys, Interviews, Experiments) 8. Tools and Technologies for Research	12	20	1,2	2,3	9	Skill Development	Local, National, Regional, Global	Professional Ethics
<b>III.</b>	<b>Data Analysis and Interpretation and Ethics in Research</b> 1. Basics of Data Collection and Organization 2. Qualitative vs. Quantitative Data Analysis 3. Overview of Statistical Tools (e.g., SPSS, Excel) 4. Presenting Data: Tables, Charts, Graphs 5. Importance of Research Ethics 6. Informed Consent and Confidentiality 7. Avoiding Bias and Misrepresentation of Data 8. Institutional Review Boards (IRBs)	12	20	1,2	4,5	9	Skill Development	Local, National, Regional, Global	Professional Ethics
<b>IV.</b>	<b>Writing and Presenting Research</b> 1. Structuring a Research Proposal or Paper 2. Abstract, Introduction, Methodology, Results, Discussion, Conclusion 3. Effective Presentation of Research Findings 4. Formatting and Style Guidelines	12	20	1,2,3	6	9	Skill Development	Local, National, Regional, Global	Professional Ethics
<b>V.</b>	<b>Practical Application and Feedback</b> 1. Developing a Mini Research Proposal 2. Peer Review and Feedback Sessions 3. Mock Presentation of Research	12	20	1,2,3,4	6	9	Skill Development	Local, National, Regional, Global	Professional Ethics

**SUGGESTED EVALUATION**

CCE (50% IA)					SEE (50% UA)				
Evaluation type	Marks	Mode	Nature	Objective	Evaluation type	Marks	Mode	Nature	Objective

Mid semester examination Class test	25	Written	Traditional essay type	For depth and planned and preparation	Semester Exam	50	Written mode	Traditional essay type	For depth and planned and preparation
Class assignment	15	Written	With defined time	Student's performance to make decision					
Home assignment	10	Written	With undefined time	Reinforce learning and facilitate mastery of specific skills					
Attendance	05	-	-	-					
Total	50				Total	50			

#### Reference Books

1	Kothari, C. R., & Garg, G. (2019). Research methodology: Methods and techniques (4th ed.). New Age International Publishers.
2	Mishra, R. C. (2017). Educational research. APH Publishing Corporation.
3	Pandey, P., & Pandey, M. M. (2021). Research methodology: Tools and techniques (2nd ed.). Bridge Center.
4	Ranjit, K. (2020). Research methodology: A practical guide for social sciences. Sage India
5	Sharma, R. D. (2018). Research methodology in social sciences. Kalyani Publishers.
6	Singh, Y. K. (2016). Fundamentals of research methodology and statistics. New Age International Publishers.

**B. Sc. (F.T.) Fashion and Apparel Technology Third Year – Level 5.5**

<b>Year</b>	<b>III</b>	<b>Fashion Product Development (Major 14)</b>	<b>Credits / Hours per semester</b>	<b>4 (0+4) Credits / 8 Hours per week (Practical: 120 hours) Total: 120 hours/semester</b>
<b>Semester</b>	<b>I</b>	<b>Year of Introduction: 2023-24 Year of Syllabus Revision:</b>	<b>Maximum Marks / Minimum Marks</b>	<b>100 Marks / 36 Marks</b>
<b>Mode of Transaction</b>		<b>Practical</b>		

**Course Outcome (CO)**

- CO1 Provide students with a comprehensive understanding of the fashion product development process from concept to production.  
 CO2 Equip students with skills to design, plan, and manage fashion products.  
 CO3 Explore the integration of market trends, design, technology, and sustainability in product development.  
 CO4 Prepare the students for roles in product management, design, and apparel manufacturing

<b>Unit No.</b>	<b>Topic</b>	<b>Contact Hours</b>	<b>Weightage (%)</b>	<b>BT Level</b>	<b>CO</b>	<b>PSO</b>	<b>Elements of Employability (Emp)/ Entrepreneurship (Ent)/ Skill Development (SD)</b>	<b>Relevance to Local (L)/ National (N)/ Regional(R)/Global (G)</b>	<b>Relation to Gender (G), Environment and Sustainability (ES), Human Values (HV) and Professional Ethics (PE)</b>
<b>I.</b>	<b>Introduction to Fashion Product Development</b> 1. Overview of product development in the fashion industry. 2. Key players: Designers, merchandisers, product developers, and manufacturers. 3. Product lifecycle: Concept to consumer. 4. Importance of collaboration and cross-functional teams.	12	10	2,3,4	1	3	Employability, Entrepreneurship, Skill Development	Local, National, Regional, Global	Gender, Environment and Sustainability, Human Values and Professional Ethics
<b>II.</b>	<b>Market Research and Trend Analysis</b> 1. Understanding target markets and consumer behavior. 2. Conducting market research: Tools and methods. 3. Interpreting trends: Colors, fabrics, and silhouettes.	18	15	2,3,4,5	3	3	Employability, Entrepreneurship, Skill Development	Local, National, Regional, Global	Gender, Environment and Sustainability, Human Values and Professional Ethics

	<b>Design and Development Process</b> <ol style="list-style-type: none"> <li>Design ideation: Concept boards, mood boards, and inspiration sources.</li> <li>Garment sketching: Flat sketch</li> <li>Selecting fabrics, trims, and materials.</li> <li>Creating prototypes and samples.</li> <li>Balancing aesthetics, functionality, and cost considerations.</li> </ol>	24	20	2,3,4,5,6	2,4	3	Employability, Entrepreneurship, Skill Development	Local, National, Regional, Global	Gender, Environment and Sustainability, Human Values and Professional Ethics
<b>III.</b>	<b>Production Planning and Quality Control</b> <ol style="list-style-type: none"> <li>Overview of production processes: Sampling, bulk production, and finishing. Quality assurance: Standards and testing methods.</li> <li>Managing timelines and minimizing production delays.</li> <li>Sustainable production practices and waste management.</li> </ol>	12	10	2,3	1	3	Employability, Entrepreneurship, Skill Development	Local, National, Regional, Global	Gender, Environment and Sustainability, Human Values and Professional
<b>IV.</b>	<b>Technical Development and Specification</b> <ol style="list-style-type: none"> <li>Introduction to tech packs and their importance in production.</li> <li>Key components of a tech pack: Flat sketches, measurements, grading, and construction details.</li> <li>Material specifications: Fabric, trims, and labels</li> </ol>	24	20	2,3,4,5	2,4	3	Employability, Entrepreneurship, Skill Development	Local, National, Regional, Global	Gender, Environment and Sustainability, Human Values and Professional Ethics
<b>V.</b>	<b>Costing and Sourcing</b> <ol style="list-style-type: none"> <li>Costing basics: Materials, labor, overheads, and profit margins.</li> <li>Importance of sourcing: Fabrics, trims, and manufacturing partners.</li> <li>Sustainable and ethical sourcing practices.</li> </ol>	12	10	2,3,4,5	1	3	Employability, Entrepreneurship, Skill Development	Local, National, Regional, Global	Gender, Environment and Sustainability, Human Values and Professional Ethics
<b>VI.</b>	<b>Marketing and Product Launch</b> <ol style="list-style-type: none"> <li>Developing a marketing plan for fashion products.</li> <li>Packaging, branding, and presentation of products.</li> <li>Retail and online strategies for product launch.</li> </ol>	18	15	4,5	4	3	Employability, Entrepreneurship, Skill Development	Local, National, Regional, Global	Gender, Environment and Sustainability, Human Values and Professional Ethics

**SUGGESTED EVALUATION**

CCE (50% IA)					SEE (50% UA)				
Evaluation type	Marks	Mode	Nature	Objective	Evaluation type	Marks	Mode	Nature	Objective
Lab work	20	Practical	Component of working with one's hand	Keep the students on the task	Viva/Oral examination	25	Oral	Individually or in small groups.	Practical experience towards job interview situation.
Craft work	20	Practical	Component of working with one's hand	Encourage applications of concept learnt	Viva/Oral examination	25	Product presentation	Individually or in small groups.	Practical experience towards job interview situation.
Attendance	10	-	-	-					
Total	50				Total	50			

**Reference Books**

1	Gokalp, E. et al. (2019). <i>Industry 4.0 - Revolution in clothing and apparel factories: Apparel 4.0</i> . METU Informatics Institute. Ankara, Turkey.
2	Rahman, M., Mashud, M., & Rahman M. (2023). <i>Advanced technology in textiles: fibre to apparel</i> . Singapore: Springer Nature Singapore Pte Ltd.
3	Nayak, R. & Padhye, R. (2018). <i>Automation in garment manufacturing</i> . United Kingdom: Woodhead Publishing Ltd.
4	Hu, J. (2011). <i>Computer technology for textile and apparel</i> . United Kingdom: Woodhead Publishing Ltd.
5	Gilchrist, A. (2016). <i>Industry 4.0: The industrial internet of things</i> . New York: Springer Science.
6	Surjit, R., Rathinamoorthy, R., & Vardhini, K. (2016). <i>ERP for textiles and apparel industry</i> . New Delhi: Woodhead Publishing Ltd.

**B. Sc. (F.T.) Fashion and Apparel Technology Third Year – Level 5.5**

<b>Year</b>	<b>III</b>	<b>Fashion Branding (Minor 4)</b>	<b>Credits / Hours per week</b>	<b>04 (4+0) / 04 4 (4+0) 4 hrs/week Total = 60 hrs/week</b>
<b>Semester</b>	<b>I</b>	<b>Year of Introduction: 2023-2024 Year of Syllabus Revision:</b>	<b>Maximum Marks / Minimum Marks</b>	<b>100 Marks / 36 Marks</b>

**Mode of Transaction** Lecture

**Course Outcome (CO)**

CO1 Apply branding concepts to create a personal/fashion brand  
 CO2 Demonstrate the value and importance of the brand for the company and the customer  
 CO3 Define the branding process and develop a roadmap for creating a brand

<b>Unit No.</b>	<b>Topic</b>	<b>Contact Hours</b>	<b>Weightage (%)</b>	<b>BT Level</b>	<b>CO</b>	<b>PSO</b>	<b>Elements of Employability (Emp)/ Entrepreneurship (Ent)/ Skill Development (SD)</b>	<b>Relevance to Local (L)/ National (N)/ Regional(R)/ Global (G)</b>	<b>Relation to Gender (G), Environment and Sustainability (ES), Human Values (HV) and Professional Ethics (PE)</b>
<b>I.</b>	<b>Understanding the Brand</b> 1. The brand 2. Brand logic 3. Definition of brand 4. Brand issue	12	20	1, 2	1	4,5	Employability, Entrepreneurship, Skill Development	Local, National, Regional, Global	Gender, Environment and Sustainability, Human Values and Professional Ethics
<b>II.</b>	<b>Branding Process</b> 1. The brand decision and positioning, Communicating, Launching, a. Evaluation of brand b. Brand audit c. Growth strategies d. Brand repositioning e. Relaunching and Revitalization f. Brand Failure g. Brand growth, economic downturns,	15	25	2,3	1,2	4,5	Employability, Entrepreneurship, Skill Development	Local, National, Regional, Global	Gender, Environment and Sustainability, Human Values and Professional Ethics

	<ul style="list-style-type: none"> <li>h. Star luxury brand</li> <li>2. Mass market brands- Premium brands, Private label</li> </ul>								
<b>III.</b>	<b>The Fashion Brand</b> <ul style="list-style-type: none"> <li>1. Luxury Fashion Brand- Objective, definition, branding, brand decision, vision, product mix, brand identity, Positioning strategy, brand communication, brand evaluation and audit, brand growth, economic downturns, star luxury brand</li> <li>2. Mass market brands- Premium brand, private label</li> <li>3. Retail brands –Consumer, concept, merchandise, price, location, service, experience, communication, growth, e-Tailing</li> </ul>	18	30	2,3	2	4,5	Employability, Entrepreneurship, Skill Development	Local, National, Regional, Global	Gender, Environment and Sustainability, Human Values and Professional Ethics
<b>IV.</b>	<b>Age of interactive wireless and virtual brands</b> <ul style="list-style-type: none"> <li>1. Interactive brand:</li> <li>2. mass communication</li> <li>3. Wireless brand: RFID and mobile technologies</li> <li>4. M-branding</li> <li>5. Beaming</li> <li>6. Audio targeting</li> <li>7. The power of I</li> </ul>	9	15	2,3	3	4,5	Employability, Entrepreneurship, Skill Development	Local, National, Regional, Global	Gender, Environment and Sustainability, Human Values and Professional Ethics
<b>V.</b>	<b>Redesigning the brand</b> <ul style="list-style-type: none"> <li>1. The impact of new technologies and model</li> <li>2. Micro-brands</li> <li>3. Experiential branding</li> <li>4. Positioning</li> <li>5. Image.</li> </ul>	6	10	4,5	3	4,5	Employability, Entrepreneurship, Skill Development	Local, National, Regional, Global	Gender, Environment and Sustainability, Human Values and Professional Ethics

**SUGGESTED EVALUATION**

**CCE (50% IA)**

**SEE (50% UA)**

Evaluation type	Marks	Mode	Nature	Objective	Evaluation type	Marks	Mode	Nature	Objective
Class Test	10	Written	Traditional essay type	Fixed date force students to learn	Semester exam	50	Written	Traditional essay type	For depth and planned preparation
Mid semester class test	25	Written	Traditional essay type	For depth and planned preparation					
Case study	10	Written	Analyze a given case (real or fictional)	To assess thinking, value and attitude					
Attendance	05	-	-	-					
Total	50				Total	50			

#### Reference Books

1. Abellam, M. & Minquet, J., M. (2010). *Fashion Branding*. London: Trans-Atlantic Publications.
2. Brennan, B. & Schafer, L. (2012). *Branded: How Retailers Engage Consumers with Social Media and Mobility*. New Jersey: Hoboken & SAS Business.
6. Kendall, G. (2009). *Fashion Brand Merchandising*. New York: Fairchild Books.
7. Meadows, T. (2007). *How to Step up and Run a Fashion Label*. London: Laurance King Publishing.
8. Okonkwo, U. (2007). *Luxury Fashion Branding: Trends, Tactics, Techniques*. London: Palgrave Macmillan.
9. Tangate, M. (2012). *Fashion Brands: Branding Style from Armani to Zara*. London: Kogan.

**B. Sc. (F.T.) Fashion and Apparel Technology Third Year – Level 5.5**

<b>Year</b>	<b>III</b>	<b>Fashion Supply Chain Management (Minor 5)</b>	<b>Credits / Hours per week</b>	<b>04 (4+0) / 04 4 (4+0) 4 hrs/week Total = 60 hrs/week</b>
<b>Semester</b>	<b>I</b>	<b>Year of Introduction: 2023-2024 Year of Syllabus Revision:</b>	<b>Maximum Marks / Minimum marks</b>	<b>100 marks/ 36 marks</b>
<b>Mode of Transaction</b>		<b>Lecture</b>		

**Course Outcome (CO)**  
 CO1 Understand the principles and components of the fashion supply chain.  
 CO2 Learn the intricacies of managing supply chain operations specific to the fashion and apparel industry.  
 CO3 Explore strategies for procurement, inventory, and logistics in a globalized fashion market.  
 CO4 Recognize the importance of sustainability and ethical practices in the fashion supply chain.

<b>Unit No.</b>	<b>Topic</b>	<b>Contact Hours</b>	<b>Weightage (%)</b>	<b>BT Level</b>	<b>CO</b>	<b>PSO</b>	<b>Elements of Employability (Emp)/ Entrepreneurship (Ent)/ Skill Development (SD)</b>	<b>Relevance to Local (L)/ National (N)/ Regional(R)/Global (G)</b>	<b>Relation to Gender (G), Environment and Sustainability (ES), Human Values (HV)and Professional Ethics (PE)</b>
<b>I.</b>	<b>Introduction and structure of Fashion Supply Chain Management</b> 1. Overview of Supply Chain Management (SCM) 2. Key Elements of the Fashion Supply Chain 3. Importance of SCM in the Fashion Industry 4. Challenges in Managing Fashion Supply Chains 5. Key Players: Suppliers, Manufacturers, Distributors, Retailers, and Customers 6. Relationships and Communication Across the Supply Chain 7. Vertical vs. Horizontal Supply Chains 8. Role of Third-Party Logistics (3PL) Providers	15	25	1,2	1,2	10	Employability, Entrepreneurship	Local, National, Regional, Global	Environment and Sustainability, Human Values and Professional Ethics

<b>II.</b>	<b>Procurement, Sourcing and Inventory management in Fashion</b> 1. Raw Material Sourcing: Fabric, Trims, and Accessories 2. Vendor Selection and Evaluation 3. Global Sourcing: Advantages and Challenges 4. Inventory Types: Raw Materials, Work-in-Progress, Finished Goods 5. Inventory Control Techniques: JIT (Just-in-Time), EOQ (Economic Order Quantity) 6. Managing Seasonal Demand and Overstock Issues 7. Apparel Manufacturing Process Flow 8. Managing Lead Times and Reducing Delays	15	25	1,2	2,3	10	Employability, Entrepreneurship	Local, National, Regional, Global	Environment and Sustainability, Human Values and Professional Ethics
<b>III.</b>	<b>Distribution and Retailing in Fashion</b> 1. Transportation and Warehousing in the Fashion Industry 2. Retail Supply Chain Strategies (Omni channel, E-commerce, and Physical Stores) 3. Visual Merchandising and Stock Replenishment Systems 4. Reverse Logistics (Returns and Recycling)	9	15	1,2,3	1,2	10	Employability, Entrepreneurship	Local, National, Regional, Global	Environment and Sustainability, Human Values and Professional Ethics
<b>IV.</b>	<b>Technology in Fashion Supply Chain</b> 1. Role of Digital Tools: RFID, Block chain, and AI in SCM 2. Automation and Robotics in Warehousing 3. Predictive Analytics for Demand Forecasting 4. Role of Software (SAP, Oracle SCM) in Supply Chain Management	9	15	2,3,4	1,2	10	Employability, Entrepreneurship	Local, National, Regional, Global	Environment and Sustainability, Human Values and Professional Ethics

<b>V.</b>	<b>Global Trends and Innovations in Fashion SCM</b>	12	20	2,3,4	1,2	10	Employability, Entrepreneurship	Local, National, Regional, Global	Gender, Environment and Sustainability, Human Values and Professional Ethics
	1. Impact of Globalization on the Supply Chain								
	2. Fast Fashion vs. Slow Fashion Supply Chains								
	3. Impact of Geopolitical Issues on Sourcing and Logistics								
4. Future Trends: Smart Fabrics, On-Demand Manufacturing									

### SUGGESTED EVALUATION

CCE (50% IA)					SEE (50% UA)				
Evaluation type	Marks	Mode	Nature	Objective	Evaluation type	Marks	Mode	Nature	Objective
Class Test	10	Written	Traditional essay type	Fixed date force students to learn	Semester exam	50	Written	Traditional essay type	For depth and planned preparation
Mid semester class test	25	Written	Traditional essay type	For depth and planned preparation					
Case study	10	Written	Analyze a given case (real or fictional)	To assess thinking, value and attitude					
Attendance	05	-	-	-					
Total	50				Total	50			

### Reference Books

1	Bruce, M., Daly, L., & Towers, N. (2004). Fashion marketing: Contemporary issues. Elsevier Butterworth-Heinemann.
2	Frings, G. S. (2018). Fashion: From concept to consumer (11th ed.). Pearson.
3	Gupta, A. (2020). *Textile and apparel supply chain management
4	Hines, T., & Bruce, M. (2007). Fashion supply chain management: A systems approach to managing the apparel industry. Routledge.
5	Jackson, T., & Shaw, D. (2009). Mastering fashion buying and merchandising management. Palgrave Macmillan.
6	Jones, R. M., & Hayes, S. G. (2004). Apparel product development. Wiley-Blackwell.
7	Rosy, B. M. (2015). Fashion supply chain management using radio frequency identification (RFID) technologies. Elsevier.
8	Tyler, D., Heeley, J., & Bhamra, T. (2006). Supply chain management in textiles: A practical approach. Woodhead Publishing.

**B. Sc. (F.T.) Fashion and Apparel Technology Third Year – Level 5.5**

<b>Year</b>	<b>III</b>	<b>Tech pack Development (SEC 5)</b>	<b>Credits / Hours per semester</b>	<b>2 (0+2) Credits /4 Hours per week Practical: 60 hours) Total: 60 hours/semester</b>
<b>Semester</b>	<b>I</b>	<b>Year of Introduction: 2023-24 Year of Syllabus Revision:</b>	<b>Maximum Marks / Minimum Marks</b>	<b>50 Marks / 18 Marks</b>

**Mode of Transaction** Practical

**Course Outcome (CO)**

- CO1 Provide an understanding of the product design process in the fashion and apparel industry  
 CO2 Equip students with skills to create technical specification documents (tech packs)  
 CO3 Familiarize students with industry-standard tools and practices for product development  
 CO4 Integrate innovation in product design and development.

<b>Unit No.</b>	<b>Topic</b>	<b>Contact Hours</b>	<b>Weightage (%)</b>	<b>BT Level</b>	<b>CO</b>	<b>PSO</b>	<b>Elements of Employability (Emp)/ Entrepreneurship (Ent)/ Skill Development (SD)</b>	<b>Relevance to Local (L)/ National (N)/ Regional(R)/Global (G)</b>	<b>Relation to Gender (G), Environment and Sustainability (ES), Human Values (HV) and Professional Ethics (PE)</b>
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**Practical**

I.	<b>Technical Specification and Tech Pack Basics</b> 1. Introduction to tech pack and its importance in the industry. 2. Key components of a tech pack: 3. Technical drawings and flat sketches. 4. Measurements, grading, and size charts. 5. Fabric and trim specifications. 6. Grading and size adjustments for different markets 7. Construction details and sewing instructions. 8. Packaging and labelling requirements.	16	26	2,3	2,3	2,10	Employability, Entrepreneurship, Skill Development	Local, National, Regional, Global	Environment and Sustainability, Human Values and Professional Ethics
II.	<b>Material Selection and Testing</b> 1. Fabric properties and their role in design. 2. Selection of trims, accessories, and embellishments. 3. Basics of material testing and quality standards.	10	15	1,2,3	3	2,10	Employability, Entrepreneurship, Skill Development	Local, National, Regional, Global	Environment and Sustainability, Human Values and Professional Ethics

III.	<b>Manufacturing and Communication</b> 1. Role of the tech pack in the production process. 2. Effective communication with manufacturers and suppliers. 3. Quality assurance and pre-production sampling.	10	15	2,4	3	2,10	Employability, Entrepreneurship, Skill Development	Local, National, Regional, Global	Environment and Sustainability, Human Values and Professional Ethics
IV.	<b>Product research for Tech pack development</b> 1. Research and present a trend analysis for a specific apparel product. 2. Create a product development timeline for a specific apparel line.	12	20	3,4,6	3,4	2,3	Employability, Entrepreneurship, Skill Development	Local, National, Regional, Global	Environment and Sustainability, Human Values and Professional Ethics
V.	<b>Tech pack development</b> 1. Develop a basic tech pack for a simple garment (e.g., T- shirt). 2. Prepare a material board for a garment collection 3. Create a complete tech pack for a multi-component garment (e.g., a jacket).	12	24	3,4,6	3, 4	2,3	Employability, Entrepreneurship, Skill Development	Local, National, Regional, Global	Environment and Sustainability, Human Values and Professional Ethics

#### SUGGESTED EVALUATION

CCE (50% IA)					SEE (50% UA)				
Evaluation type	Marks	Mode	Nature	Objective	Evaluation type	Marks	Mode	Nature	Objective
Lab work	10	Practical	Component of working with one's hand	Keep the students on the task	Viva/Oral examination	25	Oral	Individually or in small groups.	Practical experience towards job interview situation.
Craft work	10	Practical	Component of working with one's hand	Encourage applications of concept learnt					
Attendance	05	-	-	-					
Total	25				Total	25			

#### Reference Books

1.	Aldrich, W. (2022). Metric pattern cutting for women's wear (7th ed.). Wiley.
2.	Cooklin, G., Hayes, S. G., & Fairclough, J. (2015). Cooklin's garment technology for fashion designers. Wiley-Blackwell.
3.	Glock, R. E., & Kunz, G. I. (2022). Apparel manufacturing: Sewn product analysis (5th ed.). Pearson.

4.	Hethorn, J., & Ulasewicz, C. (2020). Sustainable fashion: Why now? A conversation about issues, practices, and possibilities (2nd ed.). Bloomsbury Publishing.
5.	Keiser, S. J., & Garner, M. B. (2023). Beyond design: The synergy of apparel product development (5th ed.). Bloomsbury Publishing.

**Bloom's Taxonomy (BT) Levels:** 1. Remember 2. Understand 3. Application 4. Analysis 5. Evaluation 6. Creation

FASHION & APPAREL TECHNOLOGY

# SEMESTER II

<b>Course Code</b>	<b>Subject Code</b>	<b>Credit</b>	<b>Course type</b>
	Communication Skills and Paper Presentation	4(1+3)	Major 14
	Cost Analysis in Apparel Industry	4(3+1)	Major 15
	Testing & Quality Control in Apparel Industry	4(2+2)	Major 16
	1 minor courses from a basket of 6 courses		
	Entrepreneur Development	4(4+0)	Minor 6
	Role of Information Technology in Apparel Industry	2(2+0)	AEC 5
	Internship in Apparel Industry	4(0+4)	SEC 6
	<b>TOTAL</b>	<b>22(12+10)</b>	

**B. Sc. (F.T.) Fashion and Apparel Technology Third Year – Level 5.5**

<b>Year</b>	<b>III</b>	<b>Communication Skills and Paper Presentation (Major 14)</b>	<b>Credits / Hours per semester</b>	<b>4 (1+3) Credits / 7 Hours per week (Theory: 15 hours, Practical: 90 hours) Total: 105 hours/semester</b>
<b>Semester</b>	<b>II</b>	Year of Introduction: 2023-2024 Year of Syllabus Revision:	<b>Maximum Marks / Minimum Marks</b>	<b>100 Marks / 36 Marks</b>

**Mode of Transaction** Theory and Practical

**Course Outcome (CO)**

CO1 Develop effective communication skills for personal, academic, and professional contexts.

CO2 Enhance students' writing and presentation skills for research and academic papers.

CO3 Familiarize students with the structure, style, and methods of technical and research communication.

CO4 Build confidence in public speaking, professional communication, and academic discourse.

Unit No.	Topic	Contact Hours	Weightage (%)	BT Level	CO	PSO	Elements of Employability (Emp)/ Entrepreneurship (Ent)/ Skill Development (SD)	Relevance to Local (L)/ National (N)/ Regional(R)/Global (G)	Relation to Gender (G), Environment and Sustainability (ES), Human Values (HV) and Professional Ethics (PE)
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**Theory**

I.	<b>Fundamentals of Communication</b> 1. Introduction to communication: Process, types, and barriers. 2. Verbal and non-verbal communication. 3. Importance of communication in the fashion and apparel industry. 4. Active listening and critical thinking skills.	15	25	1,2	1	6	Employability, Entrepreneurship, Skill Development	Local, National, Regional, Global	Human Values and Professional Ethics
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**Practical**

II.	<b>Professional and Business Communication</b> 1. Writing professional emails, cover letters, and reports. 2. Basics of business communication: Clarity, tone, and brevity.	18	15	1,2,3	1,2,4	6	Employability, Entrepreneurship, Skill Development	Local, National, Regional, Global	Human Values and Professional Ethics
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	<ul style="list-style-type: none"> <li>3. Communication for teamwork and collaboration.</li> <li>4. Conflict resolution and negotiation skills.</li> </ul>								
III.	<p><b>Research Writing and Paper Structuring</b></p> <ul style="list-style-type: none"> <li>1. Fundamentals of academic and technical writing.</li> <li>2. Components of a research paper: Abstract, introduction, literature review, methodology, results, discussion, and conclusion.</li> <li>3. Referencing and citation styles (APA, MLA, etc.).</li> <li>4. Avoiding plagiarism and ensuring academic integrity.</li> </ul>	24	20	2,3,4	2,3	6	Employability, Entrepreneurship, Skill Development	Local, National, Regional, Global	Human Values and Professional Ethics
IV.	<p><b>Presentation Skills</b></p> <ul style="list-style-type: none"> <li>1. Preparing effective PowerPoint presentations: Design, structure, and visuals.</li> <li>2. Public speaking skills: Body language, voice modulation, and engagement techniques.</li> <li>3. Techniques to manage stage fear and build confidence.</li> <li>4. Handling Q&amp;A sessions during presentations.</li> </ul>	24	20	2,3,4,6	2,3,4	6	Employability, Entrepreneurship, Skill Development	Local, National, Regional, Global	Human Values and Professional Ethics
V.	<p><b>Technical Paper Presentation</b></p> <ul style="list-style-type: none"> <li>1. Selecting a topic and conducting background research.</li> <li>2. Writing, revising, and finalizing a technical paper.</li> <li>3. Presenting the paper: Structuring content for oral delivery.</li> <li>4. Using visual aids and multimedia effectively.</li> </ul>	24	20	2,3,4,6	2,3,4	6	Employability, Entrepreneurship, Skill Development	Local, National, Regional, Global	Human Values and Professional Ethics

**SUGGESTED EVALUATION**

<b>CCE (50% IA)</b>					<b>SEE (50% UA)</b>				
<b>Evaluation type</b>	<b>Marks</b>	<b>Mode</b>	<b>Nature</b>	<b>Objective</b>	<b>Evaluation type</b>	<b>Marks</b>	<b>Mode</b>	<b>Nature</b>	<b>Objective</b>
Lab work	20	Practical	Component of working with one's hand	Keep the students on the task	Integrated	50	Integrated mode	Individually or in small groups.	Learn from others presentation.
Craft work	20	Practical	Component of working with one's hand	Encourage applications of concept learnt					
Attendance	10	-	-	-					
Total	50				Total	50			

**Reference Books**

1.	Alley, M. (2013). The craft of scientific writing (4th ed.). Springer.
2.	Anderson, P. V. (2017). Technical communication: A reader-centered approach (9th ed.). Cengage Learning.
3.	Guffey, M. E., & Loewy, D. (2022). Essentials of business communication (12th ed.). Cengage Learning.
4.	Lucas, S. E. (2020). The art of public speaking (13th ed.). McGraw Hill.
5.	McCroskey, J. C. (2015). An introduction to rhetorical communication: A Western rhetorical perspective (10th ed.). Routledge.

**B. Sc. (F.T.) Fashion and Apparel Technology Third Year – Level 5.5**

<b>Year</b>	<b>III</b>	<b>Cost Analysis of Apparel Industry (Major 15)</b>	<b>Credits / Hours per semester</b>	<b>4 (3+1) Credits / 5 Hours per week (Theory: 45 hours, Practical: 30 hours) Total: 75 hours/semester</b>
<b>Semester</b>	<b>II</b>	Year of Introduction: 2023-2024 Year of Syllabus Revision:	<b>Maximum Marks / Minimum Marks</b>	<b>100 Marks / 36 Marks</b>

<b>Mode of Transaction</b>	<b>Theory and Practical</b>
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**Course Outcome (CO)**  
 CO1 Impart basic knowledge of costing methods in apparel manufacturing  
 CO2 Enable students to calculate the product cost of various apparel products based on its values  
 CO3 Understand the basic concepts of GST in apparel industry  
 CO4 Make the students understand about the various factors affecting retail apparel cost

<b>Unit No.</b>	<b>Topic</b>	<b>Contact Hours</b>	<b>Weightage (%)</b>	<b>BT Level</b>	<b>CO</b>	<b>PSO</b>	<b>Elements of Employability (Emp)/ Entrepreneurship (Ent)/ SD (SD)</b>	<b>Relevance to Local (L)/ National (N)/ Regional(R)/Global (G)</b>	<b>Relation to Gender (G), Environment and Sustainability (ES), Human Values (HV) and Professional Ethics (PE)</b>
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<b>Theory</b>									
I.	<b>Introduction to costing</b> 1. Role of costing 2. Costing timeline 3. Costing terms and vocabulary 4. Traditional apparel costing: First cost, markup; Factors affecting costing	9	15	1, 2	1	8,10	Employability, Entrepreneurship, Skill Development	Local, National, Regional, Global	Environment and Sustainability, Human Values and Professional Ethics
II.	<b>Global Production Sourcing and Costing</b> 1. Effects of global production on costing 2. International costing terms 3. Direct factory sourcing 4. Buying office and sourcing agent fees 5. Freight forwarding charges 6. Custom clearance fees; Duty.	9	15	1, 2, 3, 5	2	8,10	Employability, Entrepreneurship, Skill Development	Local, National, Regional, Global	Environment and Sustainability, Human Values and Professional Ethics

III.	<b>Target Market and Private-Label Pricing</b> <ol style="list-style-type: none"> <li>1. Identifying target customer</li> <li>2. Types of pricing; Competitor research</li> <li>3. Target market costing</li> <li>4. Value-based vs. cost-based pricing</li> <li>5. Private label pricing</li> </ol>	9	15	1, 2, 3, 5	2	8,10	Employability, Entrepreneurship, Skill Development	Local, National, Regional, Global	Environment and Sustainability, Human Values and Professional Ethics
IV.	<b>Margins, Markups, Markdowns and cost-cutting</b> <ol style="list-style-type: none"> <li>1. Profit margins</li> <li>2. Omni-channel retailing</li> <li>3. Discounts; Markdowns; Chargebacks</li> <li>4. Meeting the customer's needs</li> <li>5. Winning the profit game</li> <li>6. Cost cutting in fabric and trims</li> <li>7. Negotiations with vendors to achieve profit margin</li> <li>8. Indirect cost-cutting.</li> </ol>	9	15	1, 2, 3, 5	3	8,10	Employability, Entrepreneurship,	Local, National, Regional, Global	Environment and Sustainability, Human
V.	<b>Goods and Services Tax (GST)</b> <ol style="list-style-type: none"> <li>1. Introduction to GST</li> <li>2. Stages of production</li> <li>3. Value addition</li> <li>4. Journey of GST in India</li> <li>5. Objectives of GST; Advantages of GST; Components of GST</li> <li>6. Tax laws before GST</li> <li>7. GST and price reduction</li> <li>8. New compliances under GST</li> <li>9. GST in apparel industry</li> </ol>	9	15	1, 2, 3, 5	2	8,10	Employability, Entrepreneurship, Skill Development	Local, National, Regional, Global	Environment and Sustainability, Human Values and Professional Ethics
<b>Practical</b>									
VI.	<b>Material cost</b> <ol style="list-style-type: none"> <li>1. Fabric costing for woven and knitted products</li> <li>2. weaving cost</li> <li>3. Costing of fabric construction</li> <li>4. fabric cost per meter, fabric cost/garment, yarn cost, fabric cost per</li> </ol>	12	10	1, 2, 3, 5	2	8,10	Employability, Entrepreneurship, Skill Development	Local, National, Regional, Global	Environment and Sustainability, Human Values and Professional Ethics
		12	10	1, 2, 3, 5	3	8,10	Employability, Entrepreneurship, Skill Development	Local, National, Regional, Global	Environment and Sustainability, Human Values and

kg									Professional Ethics
5. Trims and accessories cost: cost of trims (labels, tags, buttons, etc.), accessories (hanger, inner board, poly bag, buttons, etc.), CMT charges, other charges (print, embroidery, etc.)									
<b>Labor and manufacturing cost</b>									
1. Labor cost: parameters of labor costing, labor cost budgeting and variances, wage rate and piece rate:	6	5	1, 2, 3, 5	3	8,10	Employability, Entrepreneurship, Skill Development	Local, National, Regional, Global		Environment and Sustainability, Human Values and Professional Ethics
2. Comparative analysis, incentive plans; Manufacturing cost:									
3. Classification of overheads, allocation and appointment, calculation of prime cost; General operating expenses.									
<b>Retail pricing</b>									
1. Markups/markdown calculation									
2. Export pricing									
3. Freight costing and freight cost calculations									

**SUGGESTED EVALUATION**

CCE (50% IA)					SEE (50% UA)				
Evaluation type	Marks	Mode	Nature	Objective	Evaluation type	Marks	Mode	Nature	Objective
Mid semester examination Class test	25	Written	Traditional essay type	For depth and planned and preparation	Semester Exam	50	Written mode	Traditional essay type	For depth and planned and preparation
Class assignment	15	Written	With defined time	Student's performance to make decision					
Home assignment	10	Written	With undefined time	Reinforce learning and facilitate mastery of specific skills					
Attendance	05	-	-	-					
<b>Total</b>	<b>50</b>				<b>Total</b>	<b>50</b>			

**Reference Books**

1.	Clodfelter, R. (2015). <i>Retail Buying: From Basics to Fashion</i> . New York: Fairchild Publications Inc.
2.	Glock, R. E., & Kunz, G. I. (2005). <i>Apparel Manufacturing: Sewn Product Analysis - 4<sup>th</sup> Edition</i> . Chennai: Pearson India.
3.	Hornngren, C. T., Datar, S. M., & Rajan, M. V. (2015). <i>Cost Accounting - 15<sup>th</sup> Edition</i> . Chennai: Pearson India.
4.	Jeffrey, M. & Evans, N. (2011). <i>Costing for the Fashion Industry</i> . Oxford: Berg Publishers.
5.	Lezama, M., Webber, B., & Dagher, C. (2004). <i>Sourcing Practices in Apparel Industry</i> . London: Commonwealth Secretariat.
6.	Nayak, R., & Padhye, R. (2015). <i>Garment Manufacturing Technology</i> . New Delhi: Woodhead Publishing.

FASHION & APPAREL TECHNOLOGY

**B. Sc. (F.T.) Fashion and Apparel Technology Third Year – Level 5.5**

<b>Year</b>	<b>III</b>	<b>Testing &amp; Quality control in apparel industry (Major-16)</b>	<b>Credits / Hours per week</b>	<b>4 (2+2) 6 hrs/week Theory = 30 hrs, Practical = 60 hrs Total = 90 hrs/week</b>
<b>Semester</b>	<b>II</b>	Year of Introduction: 2023-2024 Year of Syllabus Revision:	<b>Maximum Marks / Minimum Marks</b>	<b>100 Marks / 36 Marks</b>

**Mode of Transaction** **Lecture and Practical**

**Course Outcome (CO)**

- CO1 Make the students understand the importance and application of textile testing
- CO2 Understand the effect of moisture on various properties of textiles
- CO3 Enable the students to understand the testing of yarns and fabrics used for apparels and its end uses
- CO4 Help the students understand the colorfastness properties of textiles
- CO5 Demonstrate the yarn and fabric testing procedures followed in an industry

<b>Unit No.</b>	<b>Topic</b>	<b>Contact Hours</b>	<b>Weightage (%)</b>	<b>BT Level</b>	<b>CO</b>	<b>PSO</b>	<b>Elements of Employability (Emp)/ Entrepreneurship (Ent)/ Skill Development (SD)</b>	<b>Relevance to Local (L)/ National (N)/ Regional(R)/Global (G)</b>	<b>Relation to Gender (G), Environment and Sustainability (ES), Human Values (HV) and Professional Ethics (PE)</b>
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**Theory**

<b>I</b>	<b>Introduction to textile testing</b> 1. Reasons for textile testing 2. Standardization of testing 3. Sampling 4. Measurement of test results	3	5	1, 2	1	7	Skill Development	Local, National, Regional, Global	Environment and Sustainability (ES), Professional Ethics (PE)
<b>II</b>	<b>Textiles and moisture</b> 1. Effect of moisture on physical properties 2. Atmospheric moisture 3. Regain and moisture content 4. Control of testing room atmosphere	3	5	1, 2	2	7	Skill Development	Local, National, Regional, Global	Environment and Sustainability, Professional Ethics
<b>III</b>	<b>Yarn tests</b> 1. Linear density 2. Twist 3. Yarn evenness 4. Yarn hairiness	3	5	1, 2	3	7	Skill Development	Local, National, Regional, Global	Environment and Sustainability, Professional Ethics

	<b>Fabric tests</b> 1. Tensile strength a. Tensile terminology b. Factors affecting tensile testing c. Strip test and grab test 2. Tear strength 3. Bursting strength 4. Stretch and recovery properties 5. Seam strength 6. Dimensional stability 7. Serviceability a. Snagging b. Pilling c. Abrasion resistance d. Wearer trials 8. Comfort properties a. Thermal comfort b. Moisture transport c. Sensorial comfort d. Water absorption e. Water repellency 9. Fabric handle a. Bending length b. Stiffness c. Drape d. Crease recovery e. Fabric thickness	15	25	1, 2	3	7	Skill Development	Local, National, Regional, Global	Environment and Sustainability, Professional Ethics
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FASHION & APPAREL TECHNOLOGY

<b>V</b>	<b>Colourfastness tests</b> 1. Introduction 2. Scales for visual comparison of colors 3. Evaluation of colorfastness to <ol style="list-style-type: none"> <li>Washing or laundering</li> <li>Dry cleaning</li> <li>Light</li> <li>Crocking</li> <li>Perspiration</li> <li>Abrasion (frosting)</li> <li>Heat</li> <li>Burnt gas fumes</li> <li>Bleaching</li> <li>Water</li> <li>Chlorinated pool</li> <li>Sea water</li> <li>Water spotting</li> </ol>	6	10	1, 2	4	7	Skill Development	Local, National, Regional, Global	Environment and Sustainability, Professional Ethics
<b>Practical</b>									
<b>VI</b>	1. Yarn testing <ol style="list-style-type: none"> <li>Yarn count</li> <li>Yarn twist</li> <li>Yarn strength</li> </ol> 2. Fabric testing <ol style="list-style-type: none"> <li>Fabric construction using pick glass</li> <li>Beesley's balance</li> <li>Crimp</li> <li>Cover factor</li> <li>Thickness</li> <li>Tensile strength – Strip test</li> <li>Tearing strength</li> <li>Seam strength</li> <li>Pilling</li> <li>Abrasion</li> <li>Drape</li> <li>Stiffness</li> <li>Crease recovery</li> <li>Shrinkage</li> </ol>	60	50	2, 3, 4, 5	5	7	Skill Development	Local, National, Regional, Global	Environment and Sustainability, Professional Ethics

o. Air permeability									
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**SUGGESTED EVALUATION**

CCE (50% IA)					SEE (50% UA)				
Evaluation type	Marks	Mode	Nature	Objective	Evaluation type	Marks	Mode	Nature	Objective
Mid semester examination Class test	25	Written	Traditional essay type	For depth and planned and preparation	Semester Exam	50	Written mode	Traditional essay type	For depth and planned and preparation
Class assignment	15	Written	With defined time	Student's performance to make decision					
Home assignment	10	Written	With undefined time	Reinforce learning and facilitate mastery of specific skills					
Attendance	05	-	-	-					
<b>Total</b>	<b>50</b>				<b>Total</b>	<b>50</b>			

**Reference Books**

1.	Booth, J. E. (1996). <i>Principles of Textile Testing – 3rd Edition</i> . New York: CBS Publishers & Distributors Pvt. Ltd.
2.	Bubonia, J. E. (2014). <i>Apparel Quality: A Guide to Evaluating Sewn Products</i> . London: Bloomsbury Publishing.
3.	Das, S. (2010). <i>Quality Characterization of Apparel</i> . New Delhi: Woodhead Publishing India Pvt. Ltd.
4.	Kadolph, S. J. (2007). <i>Quality Assurance for Textiles and Apparel – Second ed.</i> London: Bloomsbury Publishing.
5.	Kadolph, S. J., & Langford, A. L. (2006). <i>Textiles – 10<sup>th</sup> Edition</i> . New Jersey: Prentice Hall.
6.	Mehta, P. V. (2012). <i>Quality Management Handbook for the Apparel Industry</i> . New Delhi: New Age International Pvt. Ltd.

**B. Sc. (F.T.) Fashion and Apparel Technology Second Year – Level 5.5**

<b>Year</b>	<b>III</b>	<b>Entrepreneur Development (Minor 6)</b>	<b>Credits / Hours per week</b>	<b>4(4+0)4 hrs/week Theory = 60 hrs Total = 60 hrs/week</b>
<b>Semester</b>	<b>II</b>	<b>Year of Introduction: 2023-2024 Year of Syllabus Revision:</b>	<b>Maximum Marks / Minimum Marks</b>	<b>100 Marks / 36 Marks</b>

**Mode Of Transaction** Lectures

**Course Outcome (CO) FGT**  
 CO1 Acquaint the students with an in-depth knowledge source for an intending entrepreneur  
 CO2 Enable students gain perspective of the entrepreneurial functions  
 CO3 Understand the enterprise management and development process  
 CO4 Aid students to adopt and implement the entrepreneurial functions in practice

<b>Unit No.</b>	<b>Topic</b>	<b>Weight age (%)</b>	<b>BT Level</b>	<b>CO</b>	<b>PSO</b>	<b>Elements of</b> Employability (Emp)/ Entrepreneurship (Ent)/ Skill Development (SD)	<b>Relevance to</b> Local (L)/ National (N)/ Regional(R)/Global (G)	<b>Relation to</b> Gender (G), Environment and Sustainability (ES), Human Values (HV)and Professional Ethics (PE)
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**THEORY**

I.	<b>Entrepreneur and entrepreneurship</b> 1. The concept of entrepreneur 2. The concept of entrepreneur 3. Distinction between manager and entrepreneur 4. Qualities of a successful entrepreneur 5. Functions of an entrepreneur					Employability, Entrepreneurship, Skill	Local, National,	Gender, Environment and Sustainability, Human
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	6. Types of entrepreneur 7. Nature and characteristics of entrepreneurship 8. Entrepreneurship and intrapreneurship	20	1, 2	1	8	Development	Regional, Global	Values and Professional Ethics
II.	<b>Enterprise start-up</b> 1. Business system: an introduction; Nature scope and types of business system 2. History and evolution of business system 3. Business ownership	20	1, 2	1	8	Employability, Entrepreneurship, Skill Development	Local, National, Regional, Global	Gender, Environment and Sustainability, Human Values and Professional Ethics
III.	<b>Enterprise financing</b> 1. Institutional finance and support to entrepreneurs 2. Finance planning 3. Capital structure and primary policies	10	1, 2	2	8	Employability, Entrepreneurship, Skill Development	Local, National, Regional, Global	Gender, Environment and Sustainability, Human Values and Professional Ethics
IV.	<b>Enterprise management</b> 1. Working capital and inventory management 2. Production and operation management 3. Marketing management 4. Personnel management 5. Quality management	20	1, 2	3	8	Employability, Entrepreneurship, Skill Development	Local, National, Regional, Global	Gender, Environment and Sustainability, Human Values and Professional Ethics
V.	<b>Enterprise development</b> 1. Growth strategies 2. Accounting 3. Sickness in enterprise 4. Ecommerce 5. Franchising	10	1, 2	3	8	Employability, Entrepreneurship, Skill Development	Local, National, Regional, Global	Gender, Environment and Sustainability, Human Values and Professional Ethics
VI.	<b>Presentation of a detailed business proposal of any business related to garment industry</b>	20	2, 3, 4	4	8	Employability, Entrepreneurship, Skill Development	Local, National, Regional, Global	Gender, Environment and Sustainability, Human Values and Professional Ethics

**SUGGESTED EVALUATION**

CCE (50% IA)					SEE (50% UA)				
Evaluation type	Marks	Mode	Nature	Objective	Evaluation type	Marks	Mode	Nature	Objective

Mid semester examination Class test	25	Written	Traditional essay type	For depth and planned and preparation	Semester Exam	50	Written mode	Traditional essay type	For depth and planned and preparation
Class assignment	15	Written	With defined time	Student's performance to make decision					
Home assignment	10	Written	With undefined time	Reinforce learning and facilitate mastery of specific skills					
Attendance	05	-	-	-					
<b>Total</b>	<b>50</b>				<b>Total</b>	<b>50</b>			

Reference Books	
1.	Chandran, R. (2009). <i>International Business - 2<sup>nd</sup> Edition</i> . Mumbai: Jaico Publishing House.
2.	Drucker, P. F. (2015). <i>Innovation and Entrepreneurship: Practices and Principles</i> . New York: Routledge Classics.
3.	Granger, M., & Sterling, T. (2011). <i>Fashion Entrepreneurship: Retail Business Planning</i> . London: Bloomsbury Publishing.
4.	Gupta, C. B., & Khanka, S.S. (2011). <i>Entrepreneurship and Small Business Management</i> . New Delhi: Sultan Chand & Sons.
5.	Hisrich, R. D., Peters, M. P., & Shepherd, D. A. (2008). <i>Entrepreneurship</i> – Sixth ed. New Delhi: Tata McGraw Hill Education Pvt. Ltd.
6.	Kotler, P. (2004). <i>Principles of Marketing - 10<sup>th</sup> Edition</i> . New Delhi: Prentice Hall.
7.	Krueger, N. F. (2002). <i>Entrepreneurship: Critical Perspectives on Business and Management</i> . New York: Routledge Classics.
8.	Kumar, A. (2012). <i>Entrepreneurship: Creating and Leading an Entrepreneurial Organization</i> . New Delhi: Pearson India Ltd.
9.	Mohanty, S. K. (2017). <i>Fundamentals of Entrepreneurship</i> . New Delhi: PHI Learning Pvt. Ltd.
10.	Sharma, S., Singh, B., & Singhal, S. (2005). <i>Entrepreneurship Development</i> . New Delhi: Wisdom Publication.
11.	Stokes, D., Wilson, D., & Mador, M. (2010). <i>Entrepreneurship</i> . Hampshire: Cengage Learning.

**B. Sc. (F.T.) Fashion and Apparel Technology Third Year – Level 5.5**

<b>Year</b>	<b>III</b>	<b>Role of Information Technology in Apparel Industry (Ability Enhancement Course)</b>	<b>Credits / Hours per week</b>	<b>2 (2+0) 2 hrs/week Theory = 30 hrs Total = 30 hrs/week</b>
<b>Semester</b>	<b>I</b>	<b>Year of Introduction: 2023-2024 Year of Syllabus Revision:</b>	<b>Maximum Marks / Minimum Marks</b>	<b>50 Marks / 18 Marks</b>

**Mode of Transaction** Lecture

**Course Outcome (CO)**

- CO1 Understand the basic concepts of Information Technology
- CO2 Appreciate artificial intelligence and its importance in apparel industry
- CO3 Explore the role of Industry 4.0 in apparel industry
- CO4 Study the ERP systems and its usefulness in apparel manufacturing

<b>Unit No.</b>	<b>Topic</b>	<b>Contact Hours</b>	<b>Weightage (%)</b>	<b>BT Level</b>	<b>CO</b>	<b>PSO</b>	<b>Elements of Employability (Emp)/ Entrepreneurship (Ent)/ Skill Development (SD)</b>	<b>Relevance to Local (L)/ National (N)/ Regional(R)/Global (G)</b>	<b>Relation to Gender (G), Environment and Sustainability (ES), Human Values (HV)and Professional Ethics (PE)</b>
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**THEORY**

<b>I</b>	<b>Basics of Information Technology</b> 1. Introduction 2. Information Systems (IS) 3. Classification of Information Systems 4. Security issues in Information Systems 5. Need of IT support in apparel industry	6	20	1, 2	1	5	Skill Development	Local, National, Regional, Global	Professional Ethics
<b>II</b>	<b>Artificial intelligence and its application in the apparel industry</b> 1. Introduction 2. Types of artificial intelligence 3. Applications of artificial intelligence in apparel industry	6	20	1, 2	2	5	Skill Development	Local, National, Regional, Global	Professional Ethics

	4. Challenges and future directions of artificial intelligence								
III	<b>Industry 4.0 in Clothing and Apparel Industry</b> 1. Definitions, need and importance of Industry 4.0 2. Characteristics of Industry 4.0 3. Design principles and building blocks of Industry 4.0 4. Industry 4.0 for apparel production and management	9	30	1, 2, 3	3	5	Skill Development	Local, National, Regional, Global	Professional Ethics
IV	<b>ERP in Apparel Industry</b> 1. Introduction, needs and benefits of ERP 2. Lifecycle of ERP 3. Technical modules in ERP 4. Role of ERP in apparel industry 5. Vendors and consultants for apparel ERP 6. Process flow in ERP for apparel industry 7. Benefits of ERP in apparel industry 8. Cloud ERP and its benefits	9	30	1, 2, 3	4	5	Skill Development	Local, National, Regional, Global	Professional Ethics

**SUGGESTED EVALUATION**

CCE (50% IA)					SEE (50% UA)				
Evaluation type	Marks	Mode	Nature	Objective	Evaluation type	Marks	Mode	Nature	Objective
Class Test	10	Written	Traditional essay type	Fixed date force students to learn	Semester exam	25	Written	Traditional essay type	For depth and planned preparation
Mid semester class test	10	Written	Traditional essay type	For depth and planned preparation					
Attendance	05	-	-	-					
Total	25				Total	25			

Reference Books	
1.	Keiser, S. J., & Garner, M. B. (2023). <i>Beyond design: The synergy of apparel product development</i> (5th ed.). Bloomsbury Publishing.
2.	Brannon, E. L., & Divita, L. (2020). <i>Fashion forecasting</i> (5th ed.). Bloomsbury Publishing.
3.	Burns, L. D., Mullet, K. K., & Bryant, N. O. (2016). <i>The business of fashion: Designing, manufacturing, and marketing</i> (5th ed.). Bloomsbury Publishing.
4.	Rosenau, J. A., & Wilson, D. L. (2014). <i>Apparel merchandising: The line starts here</i> (2nd ed.). Fairchild Books.
5.	Cooklin, G., Hayes, S. G., & Fairclough, J. (2015). <i>Cooklin's garment technology for fashion designers</i> . Wiley-Blackwell.
6.	Hethorn, J., & Ulasewicz, C. (2020). <i>Sustainable fashion: Why now? A conversation about issues, practices, and possibilities</i> (2nd ed.). Bloomsbury Publishing.

FASHION & APPAREL TECHNOLOGY

**B. Sc. (F.T.) Fashion and Apparel Technology Third Year – Level 5.5**

<b>Year</b>	<b>III</b>	<b>Internship in Apparel Industry (Internship)</b>	<b>Credits / Hours per semester</b>	<b>4 (0+4) Credits / 4 Hours per day (30 days) Total: 120 hours/semester</b>
<b>Semester</b>	<b>II</b>	<b>Year of Introduction: 2024-25 Year of Syllabus Revision:</b>	<b>Maximum Marks / Minimum marks</b>	<b>100 Marks/ 36 Marks</b>

**Mode of Transaction** Practical

**Course Outcome (CO)**

CO1 Enhance student's personal and professional development through hands on skill in any fashion and apparel related firm.

CO2 Gain insights into the operational dynamics of apparel industry. CO3 Cultivate and strengthen entrepreneurial mindset and skills.

Unit No.	Topic	Contact Hours	Weightage (%)	BT Level	CO	PSO	Elements of Employability (Emp) / Entrepreneurship (Ent) / Skill Development (SD)	Relevance to Local (L) / National (N) / Regional (R) / Global (G)	Relation to Gender (G), Environment Sustainability (ES), Human Values (EV), Professional Ethics (PE)
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**PRACTICAL**

<b>I</b>	<b>Internship of 1 month in any of the following:</b> 1. Apparel manufacturing unit 2. Fashion startups 3. Textile / Apparel Testing Laboratories 4. Student internship programme offered by universities	120	100	1, 2, 3, 4, 5, 6	1, 2, 3	10	Employability, Entrepreneurship, Skill Development	Local, National, Regional, Global	Gender, Environment Sustainability, Human Values, Professional Ethics
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**SUGGESTED EVALUATION**

CCE (50% IA)					SEE (50% UA)				
Evaluation type	Marks	Mode	Nature	Objective	Evaluation type	Marks	Mode	Nature	Objective

Field assignment	40	Integrated	Field visit with report	Develop observation and recording skills	Viva/Oral exam	30	Oral	Individual	Practical experience towards job interview situation
Attendance	10				Report writing	20	Written	On activities performed or even observed	Develop a key transferable skill
Total	50				Total	50			

FASHION & APPAREL TECHNOLOGY