

B.Sc. Garment Designing And Production

Syllabus

AFFILIATED COLLEGES

Program Code:26N

2021 – 2022 onwards



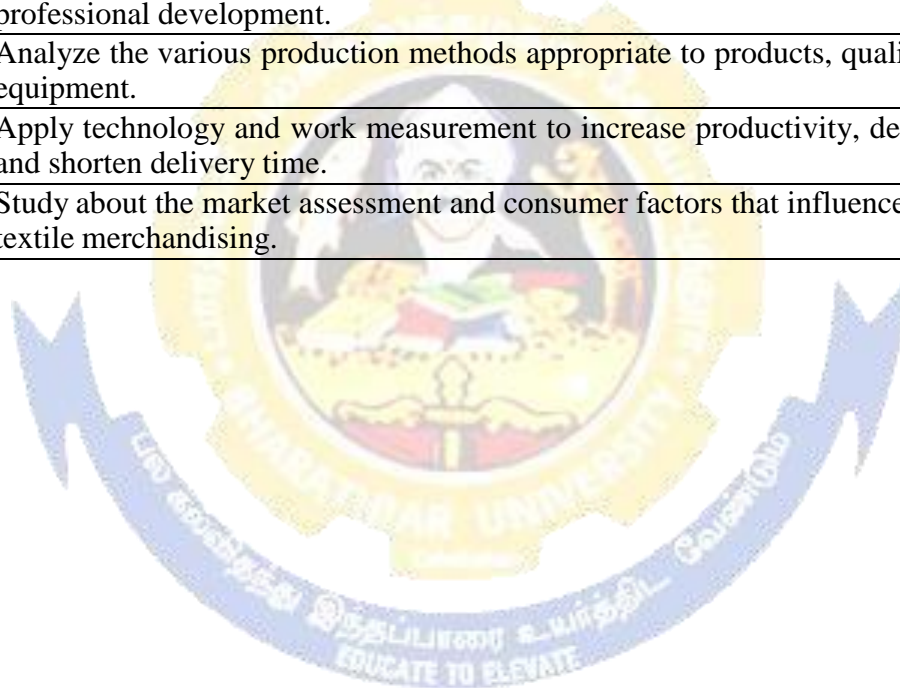
BHARATHIAR UNIVERSITY

(A State University, Accredited with “A” Grade by NAAC,
Ranked 13th among Indian Universities by MHRD-NIRF,
World Ranking: Times -801-1000, Shanghai -901-1000, URAP - 982)

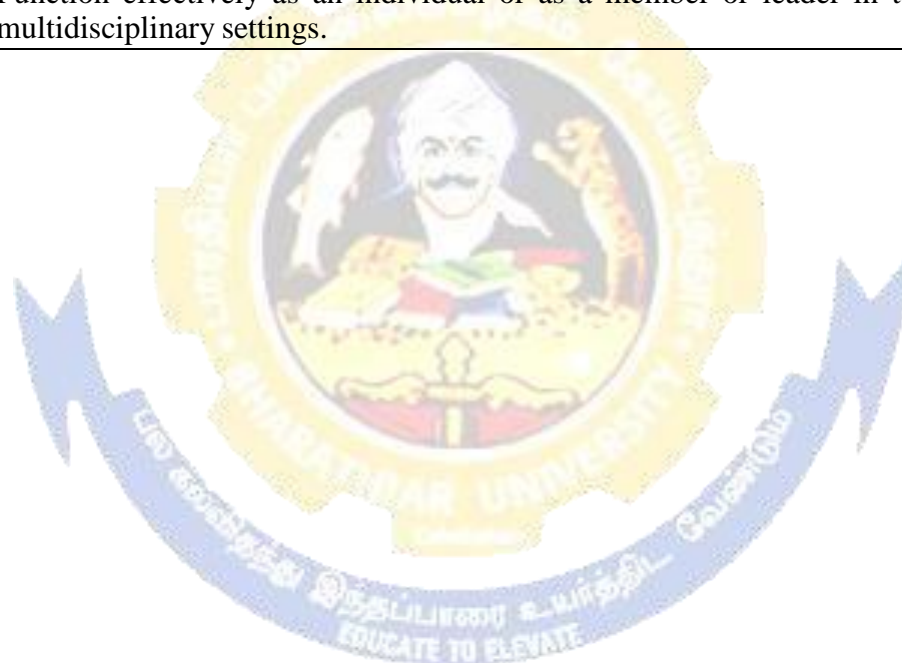
Coimbatore - 641 046, Tamil Nadu, India

Program Educational Objectives (PEOs)	
The B. Sc. Garment Designing & Production program describe accomplishments that graduates are expected to attain within five to seven years after graduation	
PEO1	Garment Designing Ethos: To bring the conceptual and methodological approaches of Garment Designing to bear on the challenges they take on, abstracting design elements, recognizing sources of uncertainty, and applying appropriate models, techniques and evaluations to develop their products.
PEO2	Application of Production Skill: To provide the students with a solid foundation in Production, Planning and Industrial Engineering principle required to develop problem solving ability and give effective solution to the garment industry.
PEO3	Diversification: To promote among student graduates the ability to gain multidisciplinary knowledge through projects and industrial training, leading to a sustainable competitive edge in R&D and meeting societal needs.
PEO4	Projects: To implant group work and team management skills with clear coordination, promote knowledge transfer and deliver a varied complex projects.
PEO5	Teamwork: To prepare the graduates for a successful career with effective communication skills, teamwork skills and work with values that meet the diversified needs of industry, academia and research.
PEO6	Self Learning: To develop self-learning ability of graduate by inculcating the attitude about continuous learn, innovate and contribute to creation of new ideas for the benefit of the society at large.
PEO7	Entrepreneurs: To encourage the graduate's qualities of leadership for technology innovation and entrepreneurship.
PEO8	Ethics and Social Relevance: To sensitize students towards issues of social relevance, openness to other international cultures and to introduce them to professional ethics and practice.
PEO9	Versatility: To build up abilities and talents leading to creativity and productivity in fields and professions beyond the regular Garment Designing & Production curriculum.
PEO10	Performance Indicator: To achieve at least 85% of the graduates employed in careers such as Product development executives, Industrial Engineers, Production Executives, Sample Designers, Chief Executive Officers, Entrepreneurs' in 5 to 7 years time.

Program Specific Outcomes (PSOs)	
After the successful completion of B.Sc. Garment Designing and Production program, the students are expected to	
PSO1	Understand the organization and structure of the global textile/apparel complex.
PSO2	Understand the raw materials and their process which are required to make ready to wear apparels.
PSO3	Develop garment products for specific target markets to meet expectations for cost and quality (materials, performance, and aesthetics).
PSO4	Evaluate the properties and performance of materials in garment products.
PSO5	Apply the creative design process both aesthetic and technical performance and evaluate outcomes.
PSO6	Apply technical knowledge and skills in pattern making, fit assessment, materials selection, and assembly processes to meet customer demand.
PSO7	Analyze factors affecting human resource management issues, production planning, scheduling, and inventory control relative to business goals and professional development.
PSO8	Analyze the various production methods appropriate to products, quality, cost, and equipment.
PSO9	Apply technology and work measurement to increase productivity, decrease costs, and shorten delivery time.
PSO10	Study about the market assessment and consumer factors that influence apparel and textile merchandising.



Program Outcomes (POs)	
On successful completion of the B.Sc. Garment Designing & Production program	
PO1	To gain basic knowledge of various sector of textile industry
PO2	To attain thorough knowledge about the concepts involved such as material selection, process etc in garment designing and production techniques
PO3	To understand and applications of intellectual, trade and manufacturing concepts for apparel sector where and when it is required
PO4	Facilitates to Identify, formulate and analyze the complex situations to arrive acceptable solutions by applying domain specific knowledge, acquired through the programme.
PO5	Understand the impact of the professional solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
PO6	Commit to professional ethics and responsibilities in the associated disciplines.
PO7	Acquire various technical skills relevant to the programme.
PO8	Function effectively as an individual or as a member or leader in teams and in multidisciplinary settings.



BHARATHIAR UNIVERSITY :: COIMBATORE 641 046
B. Sc. Garment Designing & Production - Curriculum
(For the students admitted during the academic year 2021– 22 onwards)

Scheme of Examination

Part	Title of the Course	Hours/ Week	Examination				Credits
			Duration in Hours	Maximum Marks			
				CIA	CEE	Total	
Semester I							
I	Language-I	6	3	50	50	100	4
II	English-I	6	3	50	50	100	4
III	Core Paper I – Basic Textile Studies	4	3	30	45	75	3
III	Core Paper II– Fashion Design Concept & Methodology	4	3	30	45	75	3
III	Core Practical I - Fashion and Art Design	4	3	50	50	100	4
III	Allied Practical I - Computer Application Practical	4	3	50	50	100	4
IV	Environmental Studies *	2	3	-	50	50	2
Total		30	-	260	340	600	24
Semester II							
I	Language-II	6	3	50	50	100	4
II	English-II	6	3	50	50	100	4
III	Core Paper III – Woven Fabric Manufacturing Studies	4	3	30	45	75	3
III	Core Paper IV– Apparel Manufacturing Technology I	4	3	30	45	75	3
III	Core Practical II - Woven Fabric Analysis and Textile CAD	4	3	50	50	100	4
III	Allied Practical II- Basic Apparel Production Practical	4	3	50	50	100	4
IV	Value Education – Human Rights *	2	3	-	50	50	2
Total		30	-	260	340	600	24
Semester III							
III	Core Paper V – Textile Coloration Techniques	4	3	30	45	75	3
III	Core Paper VI – Knit Fabric Manufacturing Studies	4	3	50	50	100	4
III	Core Paper VII – Apparel Manufacturing Technology II	4	3	50	50	100	4
III	Core Practical III - Pattern Making and Grading of Woven & Knits	6	3	50	50	100	4
III	Allied Practical III - Knit fabric analysis Practical	6	3	50	50	100	4
IV	Skill based Subject I - Textile Coloration Techniques Practical	4	3	30	45	75	3
IV	Tamil** / Advanced Tamil* (OR) Non-major elective - I (Yoga for Human Excellence)* / Women’s Rights*	2	3	-	50	50	2
Total		30	-	260	340	600	24
Semester IV							
III	Core Paper VIII – Apparel Merchandising & Trade Documentation	4	3	30	45	75	3

III	Core Paper IX – Apparel Testing & Quality control	5	3	50	50	100	4
III	Core Paper X – Apparel costing Techniques	4	3	50	50	100	4
III	Core Practical IV - Garment Construction Knits	5	3	50	50	100	4
III	Allied Practical IV - Apparel Testing & Quality Control Practical	5	3	50	50	100	4
IV	Skill based Subject II - Computer Aided Pattern designing Practical	5	3	30	45	75	3
IV	Tamil**/Advanced Tamil* (OR) Non-major elective -II (General Awareness*)	2	3	-	50	50	2
Total		30	-	260	340	600	24
Semester V							
III	Core Paper XI – Apparel Industrial Engineering –I	5	3	30	45	75	3
III	Core Paper XII– Total Quality Management	4	3	30	45	75	3
III	Core Paper XII – Technical Textile and Functional Apparel	4	3	30	45	75	3
III	Core Practical V- Computer Aided Fashion Art	6	3	50	50	75	3
III	Elective –I	6	3	50	50	100	4
IV	Skill based Subject III- Design Process and Product Development –II Practical	5	3	50	50	100	4
III	Internship viva voice #	-	-	25	25	50	2
Total		30	-	240	310	550	22
Semester VI							
III	Core Paper X IV - Apparel Industrial Engineering –II	6	3	30	45	75	3
III	Core Paper XV- Enterprise Resource Planning	4	3	30	45	75	3
III	Core Paper XVI- Entrepreneurship and Small Business Development	4	3	30	45	75	3
III	Elective –II	6	3	50	50	100	4
III	Elective –III	5	3	50	50	100	4
IV	Skill based Subject IV - Project Work & Viva Voce#	5	3	30	45	75	3
V	Extension Activities @	-	-	50	-	50	2
Total		30	-	270	280	550	22
Grand Total		180	-	-	-	3500	140

CIA – Continuous Internal Assessment

CEE – Comprehensive External Examination

* No Continuous Internal Assessment (CIA). Only University Examinations.

** No University Examinations. Only Continuous Internal Assessment (CIA).

#Mark Division for Internship and Project

Paper title	Total Marks	CIA	CEE	
			Evaluation	Viva-voce
Internship viva voice	50	25	15	10
Skill based Subject :IV Project & Viva Voce	75	30	30	15

Additional Credit Course

Earning Additional credit course is not mandatory for Programme Completion.

Prescribed courses under UGC – SWAYAM/ MOOCS/ NPTEL will be available for the affiliated colleges, as an optional.

List of Elective papers (Colleges can choose any one of the paper as Electives)		
Elective –I	A	Pattern Making and Garment Construction of Woven Practical
	B	Draping Practical
	C	Surface Ornamentation Practical
Elective –II	A	Design Process & Product Development –II Practical
	B	Advanced Fashion Illustration Practical
	C	Advanced CAD Practical
Elective –III	A	Fashion Merchandising
	B	Apparel Retailing
	C	Brand management

III	Elective Paper III	4	5	-	3	25	75	100
IV	Skill Based Subject IV - Project and Viva Voce*	3	-	5	3	-	75	75
V	Extension Activities @	2	-	-	-	50	-	50
Total		22	30	-	-	175	375	550
Grand Total		140	-	-	-	-	-	3500
UGC – SWAYAM / MOOCS / NPTEL Additional Credit (Optional)								

Note:

@ No University Examinations. Only Continuous Internal Assessment (CIA)

No Continuous Internal Assessment (CIA). Only University Examinations.

* For Project Work 80% Marks and Viva Voce 20% Mark

Additional Credit Course

Earning Additional credit course is not mandatory for Programme Completion.

Prescribed courses under UGC – SWAYAM/ MOOCS/ NPTEL will be available for the affiliated colleges, as an optional.

List of Elective papers (Colleges can choose any one of the paper as Electives)			
Elective –I	A	5EP	Pattern Making and Garment Construction of Woven Practical
	B	5EQ	Draping Techniques Practical
	C	5ER	Surface Ornamentation Practical
Elective –II	A	6EP	Design Process and Product Development II
	B	6EQ	Advanced Fashion Illustration
	C	6ER	Advanced CAD
Elective –III	A	6EA	Fashion Merchandising
	B	6EB	Apparel Retailing
	C	6EC	Brand Management



**First
Semester**

Course code	13A	BASIC TEXTILE STUDIES	L	T	P	C
Core	Paper I		4	-	-	3
Pre-requisite	Basic science knowledge		Syllabus Version		2021-2022	
Course Objectives:						
The main objectives of this course are to:						
1. Impart the knowledge of fibers, and their sources.						
2. Help the students to understand the identification and properties of fibers.						
3. Provide students with the knowledge of yarn manufacturing and their properties.						
Expected Course Outcomes:						
On the successful completion of the course, student will be able to:						
CO1	Understand the knowledge about textile fibers and their manufacturing process					K2
CO 2	Understand about the textile yarn and its manufacturing process					K2
CO 3	Apply the domain knowledge to identify the textile fibers and yarn					K3
CO 4	Analyze the various structural properties of textile fibers					K4
CO 5	Evaluate the quality of fibers and yarn					K5
K1 - Remember; K2 - Understand; K3 - Apply; K4 - Analyze; K5 - Evaluate; K6 – Create						
Unit:1	Textile Fibers – Cellulose Fibers				12 hours	
Textile fibers: Classification – General properties – Identification of textile fibers - Polymer – Terminologies – Polymerization types - Types of polymers – Methods of filament spinning. Cotton: Grading of cotton - Properties of cotton fiber - Production, morphological structure end uses. Jute: Introduction - Production Process - Properties - End uses. Flax: Introduction Production Process – Properties - End uses.						
Unit:2	Natural Protein Fibers				12 hours	
Wool: Producing countries - Grading - Fiber morphology – Chemical structure & composition - Properties - End Uses – Study of Woolen and Worsted Yarns - Brief study on specialty hair fibers and uses. Silk: Producing countries – production of silk fiber. Chemical composition – Properties - End uses. . Brief study on wild silk varieties.						
Unit:3	Man Made Fibers				12 hours	
Introduction – Rayon fibers -Manufacturing sequence of viscose fiber - Viscose fiber properties - Introduction of Modal, Llyocell & Bamboo fibers and uses. Manufacturing & Properties of Polyester, Nylon, Acrylic and Spandex fibers.						
Unit:4	Yarn manufacturing				12 hours	
Introduction to yarn classification – Staple spinning systems – Production sequence for cotton yarn – Comparison of carded and combed yarn – Yarn winding – Study of yarn quality parameters – Various yarn package defects – yarn numbering.						
Unit:5	Latest Trends in Fibers and Yarn				12 hours	
Introduction to blended textile. Classification of Sewing threads & applications. Introduction to organic cotton & specialty natural fibers such as, banana, pineapple, spider Silk – Brief study about OE & Air jet spinning. Introduction to fibers and yarns used in technical textiles.						
					Total Lecture hours	60 -- hours
Text Book(s)						
1	Hand book of textile fibers, J.Gordon Cook, Woodhead Publications, 1984.					

2	The Technology of Short Staple Spinning, W. Klein, North Carolina State University, 1987.
3	Manufactured Fiber Technology, V.B. Gupta & V.K. Kothari, Springer science & Business Media,1997.
Reference Books	
1	Physical Properties of Textile Fibres, W.E. Morton & J.W.S. Hearle, Woodhead Publications, 2008.
2	New Spinning Technology, W.Klien, Textile Institute, 1993.
Related Online Contents(MOOC,SWAYAM,NPTEL,Websites etc)	
https://nptel.ac.in/courses/116/102/116102026/	
https://onlinecourses.swayam2.ac.in/cec19_te01/preview	
Course Designed By: P.Murugan	

Mapping with Programme Outcomes								
COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	S	S	M	M	S	M	M	S
CO2	S	S	M	M	S	M	M	S
CO3	S	S	S	S	S	M	S	S
CO4	S	S	S	S	M	M	S	S
CO5	S	S	S	S	S	M	S	S

Course code	13B	FASHION DESIGN CONCEPT AND METHODOLOGY	L	T	P	C
Core	Paper II		4	-	-	3
Pre-requisite	Basic Knowledge in fashion and designs		Syllabus Version		2021-2022	
Course Objectives:						
The main objectives of this course are to:						
1. Impart the knowledge of fashion and their concept of evolution.						
2. Help the students to understand the principle and elements of design.						
3. Provide students with the knowledge of design development according to the fashion trends.						
Expected Course Outcomes:						
On the successful completion of the course, student will be able to:						
CO1	Understand about the fashion, design and its evolution					K2
CO 2	Understand about elements and principles of design applicable for fashion product manufacturing					K3
CO 3	Analyze about the various facts to identify the fashion trends					K4
CO 4	Apply the domain knowledge to develop design concepts					K3
CO 5	Apply the domain knowledge to develop samples using available materials					K3
K1 - Remember; K2 - Understand; K3 - Apply; K4 - Analyze; K5 - Evaluate; K6 – Create						
Unit:1	Introduction to Fashion					12 hours
Fashion Definition – Fashion terminologies – Classification of fashion – Fashion cycle – Factors influencing in fashion – Role and responsibilities of a fashion designers – Types of fashion designers.						
Unit:2	Elements of design					12 hours
Introduction to design – Types of design – Elements and their importance in a design – Line – Types – Application of line in a garment –Influence of line in various illusion - Shape – Types – Importance of shape in garment design – Texture – Determinants of texture – Effect of texture on color & physical proportion						
Unit:3	Color & Color theory					12 hours
Introduction to color theories – Dimensions of color – Color systems – Warm and cool colors – color schemes – Application of color in fashion design – Visual impact of color in a garment – Importance of color psychology						
Unit:4	Principles of design					12 hours
Importance of principles of design in fashion – Balance and its types – Proportion and its application in garment design – Emphasis – Creating emphasis in a garment using various techniques – Harmony and its impact in garment design – Rhythm – Application of rhythm in garment design						
Unit:5	Introduction to Fashion Style Details and Various Garments					12 hours
Importance of details in apparel design – Various types of neck, collar & sleeve – Different types of waist & hem lines – Types of plackets, Pockets- Garments for men, women and kids – Unisex garments – Intimate , active and functional garments						
Total Lecture hours					60 -- hours	
Text Book(s)						

1	Elements of Fashion and Apparel Design, G.J.Sumathi, New Age International private Ltd, New Delhi , 2002.
2	Fashion Source Book, Kathryn Mckelvey & Janine Munslow, Blackwell Publication, 2006.
3	Encyclopaedia of Fashion Details, Patric John Ireland, Prentice Hall, NewJ, 1988.
Reference Books	
1	Apparel Making in Fashion Design, Injoo Kim & Mykyung Uh, Fairchild Publications, New York, 1988.
2	A Complete Guide to Fashion Designing, Jenny Davis, Bharat Bhushan Abhishek Publication, 2006.
Related Online Contents(MOOC,SWAYAM,NPTEL,Websites etc)	
http://ugcmoocs.inflibnet.ac.in/ugcmoocs/view_module_ug.php/145	
https://munsell.com/color-blog/modern-traditional-color-theory-part-1/	
Course Designed By: B.Jeyanthi	

Mapping with Programme Outcomes								
COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	S	S	S	S	S	S	S	S
CO2	S	S	S	S	S	S	S	S
CO3	S	S	S	S	S	M	S	S
CO4	S	S	S	S	S	S	S	S
CO5	M	M	M	M	M	M	S	S

Course code	13P	FASHION AND ART DESIGN	L	T	P	C
Core	Practical I		-	-	4	4
Pre-requisite	Practical Knowledge on drawing		Syllabus Version		2021-2022	
Course Objectives:						
The main objectives of this course are to:						
1. Understand the fundamental and principles of design						
2. Practice different illustration techniques						
3. Provide self employment as a illustrator.						
Expected Course Outcomes:						
On the successful completion of the course, student will be able to:						
CO1	Understand motif designs, layouts, repeats, textures for textile and garment substrate using various techniques ,					K2
CO2	Create motif designs, layouts, repeats for textile and garment substrate using and apply color					K6
CO3	Understand about head theories, flat sketches for garments and accessories					K2
CO4	Create flat sketches for garments and fashion accessories					K6
CO5	Create 8 head theory figure for fashion					K6
K1 - Remember; K2 - Understand; K3 - Apply; K4 - Analyze; K5 - Evaluate; K6 – Create						
Part A						20 hours
1. Object drawing and perspective drawing						
2. Various shading methods						
3. Techniques of Enlarging & Reducing the motifs						
4. Motifs layouts - Non directional, One directional, Two directional, All over packed, All over set and All over tossed.						
5. Techniques of repeats: Straight, box, half drop, five star and random Plaids, Checks and Stripes						
6. Colour chart preparation, Colour theory and colour harmonies						
Part B						40 hours
1. Art of creating textures.- Pleats, Tucks, Smocking & Quilting						
2. Practice to draw Flat Sketches for Basic Men's , Women's & Kid's Garments						
3. Proportion study –8 head theory – sticks, block, & flesh figures for men & women.						
4. Practice to draw the accessories.- Footwear& Handbags.						
Text Book(s)						
1	Fashion Illustration Techniques: A Super Reference Book for Beginners , Zeshu Takamura, Rockport Publishers, 2012.					
2	Fashion Illustration & Design: Methods & Techniques for Achieving Professional Designs, Manuela Brambatti , Promopress Publications, 2017.					
3	Fashion Flats and Technical Drawing , Bina Abling & Felis Dacosta , Bloomsbury publications, 2017.					
Reference Books						
1	Fashion Sketch Books , Bina Abling , Bloomsbury publications,2012.					
2	Fashion Source Book, Kathryn Mc Kelvey, Wiley Blackwell Publications,1996.					

Related Online Contents(MOOC,SWAYAM,NPTEL, Websites etc)
https://www.youtube.com/watch?v=_uUNMHFSsBk
https://youtu.be/SSzQZzpGDI0
https://youtu.be/dy_wyqAS8wE
Course Designed By : R.Sneha

Mapping with Programme Outcomes								
Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	S	S	S	S	S	S	S	S
CO2	S	S	S	S	S	S	S	S
CO3	S	M	M	S	M	S	S	S
CO4	S	M	M	S	M	S	S	S
CO5	S	M	M	M	M	S	S	S

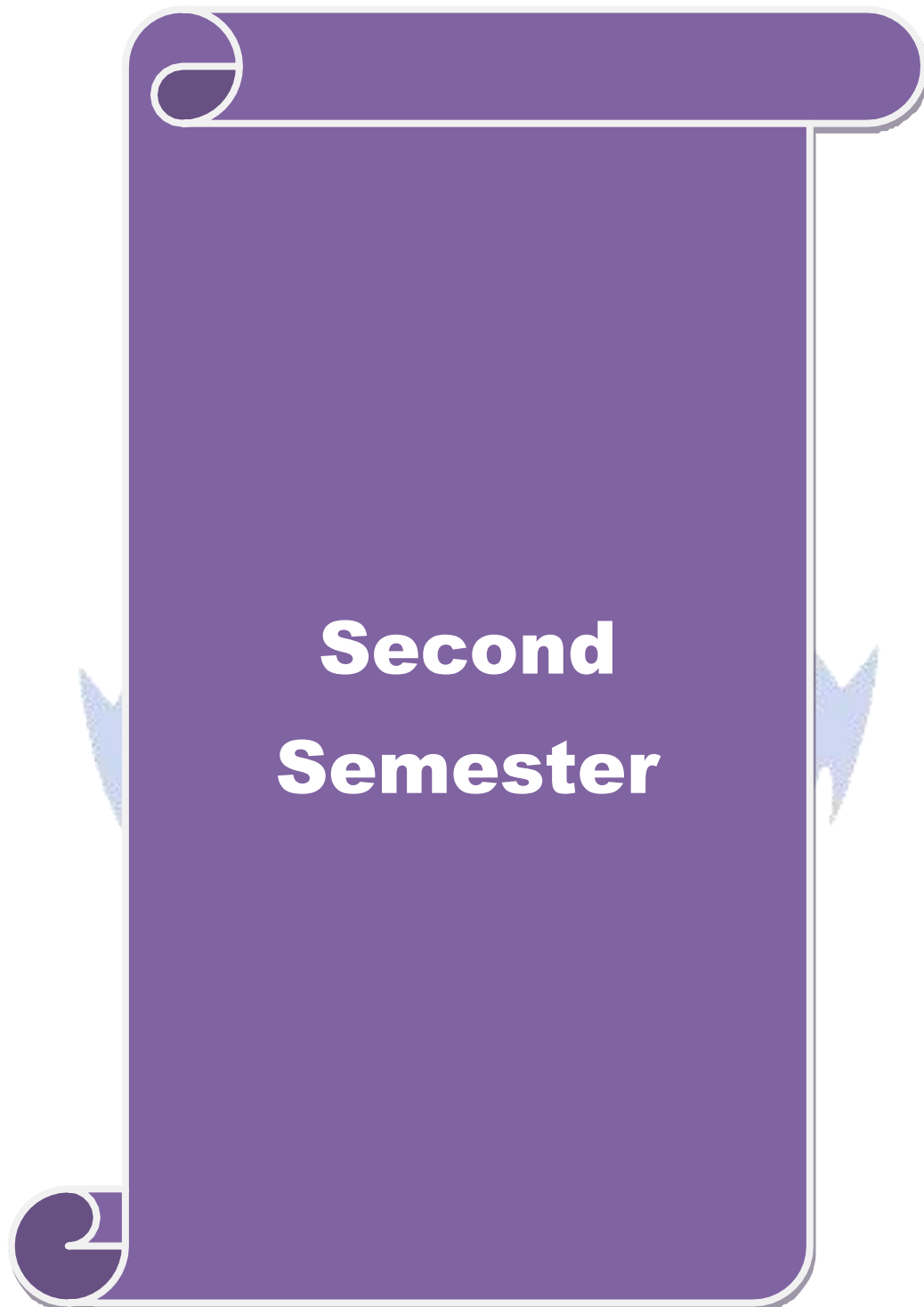


Course code	1AP	COMPUTER APPLICATION PRACTICAL		L	T	P	C															
Allied	Practical - I		-	-	4	4																
Pre-requisite	Basic knowledge about computer operating tools		Syllabus Version		2021-2022																	
Course Objectives:																						
The main objectives of this course are to:																						
1. Helps students to understand the fundamentals of Office software.																						
2. Understand the different presentation and visualization tools of Ms-Office																						
3. Understand the problem solving techniques and flow charts of Ms-Office																						
Expected Course Outcomes:																						
On the successful completion of the course, student will be able to:																						
CO1	Understand the Ms-Office tools and their application						K2															
CO 2	create the document formats by applying the domain Knowledge						K6															
CO 3	Create Excel statement and charts						K6															
CO 4	Understand about the HTML program and their application						K2															
CO 5	Create web pages with hyperlinks linking all pages						K6															
K1 - Remember; K2 - Understand; K3 - Apply; K4 - Analyze; K5 - Evaluate; K6 – Create																						
Part A	MS-Office					45 hours																
<ol style="list-style-type: none"> 1. Prepare an interview call letter using mail merge in MS word 2. Design the given advertisement using MS word. Apply various fonts and pictures. 3. Create line, bar and pie charts for the given data using MS Excel. 4. Prepare students mark statement with the following fields Roll No, Name, Sub1,Sub2, Sub3, Sub4, Sub5. Calculate Total, Average, Result and Grade. Apply Conditional formatting. 5. Prepare employee salary list with fields Employee No, Employee Name, Experience, Basic Pay, HRA,DA,LIC,PF. Calculate Gross salary & Net Salary based on the following conditions <table border="1" data-bbox="304 1384 1291 1500"> <thead> <tr> <th>Experience</th> <th>HRA</th> <th>DA</th> <th>LIC</th> <th>PF</th> </tr> </thead> <tbody> <tr> <td>5 Years & Above</td> <td>30%</td> <td>15%</td> <td>3%</td> <td>700</td> </tr> <tr> <td>Less than 5 Years</td> <td>15%</td> <td>5%</td> <td>3%</td> <td>700</td> </tr> </tbody> </table> 6. Prepare a power point presentation about a product. Apply animation and slide timing. 7. Create an Email ID and use various mail features. 								Experience	HRA	DA	LIC	PF	5 Years & Above	30%	15%	3%	700	Less than 5 Years	15%	5%	3%	700
Experience	HRA	DA	LIC	PF																		
5 Years & Above	30%	15%	3%	700																		
Less than 5 Years	15%	5%	3%	700																		
Part B	HTML					15 hours																
1. Design five web pages with hyperlinks linking all pages																						
Total Lecture hours						60 -- hours																
Text Book(s)																						
1	Word for Beginners, M.L. Humphrey, M.L. Humphrey publications, 2019.																					
2	Microsoft Word 2019 Step by Step, Joan Lambert, Microsoft Press, 2019.																					
3	Practical Techniques in Microsoft Word, Neibuer & R.Alan, Sybex Inc.,U.S. Sybex,1986																					

Reference Books	
1	Exploring Microsoft Word, Mary Anne Poatsy, Lynn Hogan & Linda Lau, Pearson Publications, 2019.
2	Benchmark Series: Microsoft Excel 2019 Levels 1&2, Audrey Roggen kamp, Ian Rutkowski & Nita Rutkosky, Paradigm Education Solutions publications, 2019
Related Online Contents(MOOC,SWAYAM,NPTEL,Websites etc)	
https://www.microsoft.com/en-in/p/swayam/9nblggh4xxml?activetab=pivot:overviewtab	
https://onlinecourses.swayam2.ac.in/cec20_cs05/preview	
Course Designed By : P.Murugan	

Mapping with Programme Outcomes								
COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	M	M	M	M	M	M	S	S
CO2	M	M	M	M	M	M	S	S
CO3	M	M	M	M	M	M	S	S
CO4	M	M	M	M	M	M	S	S
CO5	M	M	M	M	M	M	S	S





Course code	23A	WOVEN FABRIC MANUFACTURING STUDIES	L	T	P	C
Core	Paper III		4	-	-	3
Pre-requisite	Basic knowledge about textile fibre and yarn		Syllabus Version		2021-2022	
Course Objectives:						
The main objectives of this course are to:						
1. Understand the knowledge about Preparatory process of weaving.						
2. Helps the student to learn tappet, dobby and jacquard loom mechanisms.						
3. Facilitates student's skill in the field of Woven fabric designs.						
Expected Course Outcomes:						
On the successful completion of the course, student will be able to:						
CO1	Understand about the weaving preparatory process					K2
CO 2	Understand about the different looming mechanism					K2
CO 3	Apply the domain knowledge to identify the woven fabric structure					K3
CO 4	Analyze about the various structural properties of woven fabrics					K4
CO 5	Create new designs for tappet, dobby & Jacquard looms					K6
K1 - Remember; K2 - Understand; K3 - Apply; K4 - Analyze; K5 - Evaluate; K6 – Create						
Unit:1	Winding Process					10 hours
Classification of fabric forming methods – Weaving preparatory processes - Objects of winding process – Winding types – Passage of material through high speed automatic cone winding machine – Passage of material through precision winding machine – Winding terminologies, open wind and close wind – Winding defects, causes & remedies. Pirn winding – Objects - Passage of material through an automatic high speed pirn winder.						
Unit:2	Warping & Sizing Process					12 hours
Objects of warping – Types of warping – Passage of material through high speed modern beam warping machine & sectional warping machine – Warping defects, Causes & remedies. Objects of sizing – comparison of two cylinder, multi cylinder & hot air sizing machines – Sizing ingredients & their functions – Size paste preparation – Sizing defects, causes & remedies.						
Unit:3	Tappet Loom Mechanism					12 hours
Passage of material through a plain power loom – Basic mechanisms of a loom – Primary, secondary & auxiliary motions – Tappet shedding – Cone over pick & under pick mechanisms – Beat up mechanism – Types of let off & take up mechanisms – Fabric defects, causes & remedies.						
Unit:4	Weave Diagram					14 hours
Introduction to weaves – Weave diagram – Plain weave & derivatives – Twill weave & derivatives – Satin & sateen weaves – Ordinary and Brighten Honey Comb; Huck-a-Back; Mock Leno; extra warp and extra weft figuring – single and double colour.						
Unit:5	Dobby & Jacquard loom Mechanism					12 hours
Objects of dobby & jacquard mechanisms – Types of dobby & jacquard – Study of negative & positive dobbies – Study of single cylinder & double cylinder jacquard mechanisms. Shuttle less looms: Introduction - Advantages - Types of shuttle less looms: projectile, rapier, air jet, water jet and multiphase weaving.						
					Total Lecture hours	60 hours

Text Book(s)	
1	Fabric Structure and Design, N.Gokarneshan, New Age International Publishers, New Delhi, 2008.
2	Handbook of Weaving, Sabit Adanur, CRC Press, 2000.
3	Fabric Forming, B.Hasmukhrai, SSM ITT Co operative stores Ltd, Komarapalayam, 1996.
Reference Books	
1	Principles of Weaving, R.Marks, & A.T.C. Robinson, The Textile Institute, 1976
2	Design of Woven Fabrics, I.Blinov & S.Belay, MIR Publishers, Moscow, 1988
Related Online Contents(MOOC,SWAYAM,NPTEL,Websites etc)	
https://nptel.ac.in/courses/116/102/116102005/	
https://nptel.ac.in/courses/116/102/116102017/	
Course Designed By : T.Sathishkumar	

Mapping with Programme Outcomes								
COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	S	S	S	S	S	S	S	S
CO2	S	S	S	S	S	S	S	S
CO3	S	S	M	M	M	S	S	S
CO4	S	S	S	M	M	M	S	S
CO5	S	S	S	S	S	S	S	S

Course code	23B	APPAREL MANUFACTURING TECHNOLOGY I	L	T	P	C
Core	Paper IV		-	4	-	3
Pre-requisite	Basic knowledge about cutting and sewing tools and equipments		Syllabus Version		2021-2022	
Course Objectives:						
The main objectives of this course are to:						
1. Provide the knowledge about the preparatory process of sewing process.						
2. Help the students to understand the working principles of various sewing machines.						
3. Enhance the student’s knowledge in garment finishing equipments.						
Expected Course Outcomes:						
On the successful completion of the course, student will be able to:						
CO1	Understand about preparatory process and equipments for sewing ie spreading & cutting					K2
CO 2	Understand the SNLS, DNLS, O/L & F/L machine working mechanisms.					K2
CO 3	Analyze the spreading and cutting methods for one way or two way printed fabric and speciality textile materials					K4
CO 4	Apply the domain knowledge to identify the right choice of the machine and work aids for the specific style developments					K3
CO 5	Analyze the possible defects related to sewing and cutting process					K4
K1 - Remember; K2 - Understand; K3 - Apply; K4 - Analyze; K5 - Evaluate; K6 – Create						
Unit:1	Spreading Machines					12 hours
Types of Fabric Packages. Types of Fabrics – One Way – Two Way Fabrics – Their effect on spreading. Methods of Fabric spreading. Spreading equipments - manual, semi automatic and fully automatic machines. Marker planning, Marker efficiency, Factors affecting marker efficiency. Marker duplicating methods – Computer aided marker making.						
Unit:2	Cutting Machines					12 hours
Introduction to cutting machines. Types and functions of cutting machines – straight knife, round knife, band knife cutting machines, die, laser, plasma, water jet and ultra sonic cutting machines; notches, drills and thread markers & Computerized cutting machines. Common defects in cutting and their remedies.						
Unit:3	Sewing Machines					12 hours
Introduction to sewing Needles: Types, size, selection and their application - Basic parts of sewing machines – primary and auxiliary parts and their functions .Classification of sewing machine and its functions –SNLS, DNLS, over lock, flat lock. Sewing machine bed types- Description and application of each bed –Flat bed -Cylinder bed -Post bed. Special attachments in sewing machines – guides, folders, stackers, trimmers, ziggers.						
Unit:4	Special Purpose Sewing Machines					12 hours
Introduction to different special purpose sewing machines. Basic working of Feed of Arm, Button Hole sewing, button sewing, Bar tack, blind stitch machines. Embroidery sewing machines. Latest developments in sewing machines. Sewing machine maintenance.						
Unit:5	Finishing Machines					12 hours
Introduction to Fusing – principles, fusing machines and its working principle; Pressing - Principles and classification of pressing. Garment folding-types Packaging-types, materials, method and equipments. Selection of packaging design. Packaging-Types of package forms- Types of packaging materials.						

	Total Lecture hours	60 hours
Text Book(s)		
1	The Technology of Clothing Manufacture, Harold Carr & Barbara Latham, Blackwell Sciences, 1996	
2	Apparel Manufacturing Handbook, Jacob Solinger, Van Nostrand Reinhold Company, 1980.	
3	Apparel Manufacturing Sewn Product Analysis, Ruth E. Glock & Grace I. Kunz, Pearson Prentice Hall, 2005.	
Reference Books		
1	Sewing for the Apparel Industry, Shaeffer Claire, Prentice Hall, New Jersey, 2001.	
2	A New Look at Apparel Mechanization, Technical Advisory Committee of AAMA, 1978.	
Related Online Contents (MOOC, SWAYAM, NPTEL, Websites etc)		
https://youtu.be/CWpbf93Lw		
https://youtu.be/3zvhniTWhpY		
Course Designed By : S. Geetharani		

Mapping with Programme Outcomes								
COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	S	S	S	S	S	S	S	S
CO2	M	S	S	S	M	S	S	S
CO3	M	S	S	S	M	S	S	S
CO4	M	S	S	S	S	S	S	S
CO5	M	M	M	S	M	S	S	S

Course code	23P	WOVEN FABRIC ANALYSIS AND TEXTILE CAD	L	T	P	C
Core		Practical II	-	-	4	4
Pre-requisite		Basic knowledge about woven fabric	Syllabus Version		2021-2022	
Course Objectives:						
The main objectives of this course are to:						
1. Understand the fundamental and principles of weave patterns						
2. Practice different weave designs and develop draft and peg plan						
3. Practice to develop weave designs using software						
Expected Course Outcomes:						
On the successful completion of the course, student will be able to:						
CO1	Understand about the constructional parameters of fabric.					K2
CO 2	Analyze different structures of woven fabrics					K4
CO 3	Apply the draft and peg-plan which are required to convert the design into fabric					K3
CO 4	Create design, draft and peg plan for weaving the fabrics					K6
CO 5	Create various weave designs using software					K6
K1 - Remember; K2 - Understand; K3 - Apply; K4 - Analyze; K5 - Evaluate; K6 – Create						
Part A						40 hours
1. Woven structural analysis – Plain, Twill, Satin, Sateen, Honeycomb, Huck-A - Back, Extra thread figuring fabrics: Design, draft, peg plan, denting plan.						
2. Warp particulars: Material of warp - ends per length - count, direction of twist, Crimp percentage, cover factor, warp pattern.						
3. Weft particulars: Material of weft - picks per unit length- count, direction of twist, twist per length, Crimp percentage, cover factor and warp pattern.						
4. Fabric particulars: Total Cover factor, Weight of fabric and thickness.						
5. Loom requirements: Shedding mechanism, heald count, and count.						
Part B						20 hours
1. Basics of Raster and vector images, types, image formats and colour concepts.						
2. Development of dobby designs (part –I) based on interactiveness of weave.						
3. Development of dobby designs (part –II) based on interactiveness of weave and colour order.						
4. Development of motifs.						
5. Development of jacquard designs (part –I) using - colour and weave selection concepts – shade and thread Balance.						
6. Development of jacquard designs (part –II) Spot figuring – Drop.						
7. Development of jacquard designs – Ogee base.						
8. Development of jacquard designs – Diamond base.						
9. Development of jacquard designs – Sateen base.						
Text Book(s)						
1	Fabric Structure and Design, N.Gokarneshan, New Age International Publishers, New Delhi, 2008.					
2	Handbook of Weaving, Sabit Adanur, CRC Press, 2000.					
3	Fabric Forming, B.Hasmukhrai, SSM ITT Co operative stores Ltd, Komarapalayam, 1996.					
Reference Books						
1	Principles of Weaving, R.Marks, A.T.C. Robinson, The Textile Institute, 1976					

2	Design of Woven Fabrics, I.Blinov & S.Belay, MIR Publishers, Moscow, 1988
Related Online Contents (MOOC, SWAYAM, NPTEL, Websites etc)	
https://nptel.ac.in/courses/116/102/116102005/	
https://nptel.ac.in/courses/116/102/116102017/	
Course Designed By : P.Murugan	

Mapping with Programme Outcomes								
COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	S	S	M	M	M	M	S	S
CO2	S	S	M	M	M	M	S	S
CO3	S	S	M	M	M	M	S	S
CO4	S	M	M	M	M	M	S	S
CO5	S	M	M	M	M	M	S	S



Course code	2AP	BASIC APPAREL PRODUCTION PRACTICAL	L	T	P	C
Allied	Practical II		-	-	4	4
Pre-requisite	Basic knowledge about sewing machine and Tools		Syllabus Version		2021-2022	
Course Objectives:						
The main objectives of this course are to:						
1. Helps students to understand the fundamentals of sewing.						
2. Understand and practice the pattern development for various garment components.						
3. Understand and practice of various stitches, seams, seam finishes and basic bodice development						
Expected Course Outcomes:						
On the successful completion of the course, student will be able to:						
CO1	Understand about the Threading and pedalling procedure of various stitching machine ie SNLS, F/L & O/L					K2
CO 2	Apply the domain Knowledge and develop cloth sample					K3
CO 3	Create the decorative edge finished sample using F/L & O/L machines					K6
CO 4	Create patterns for various garment component parts					K6
CO 5	Create the sample for various garment component parts					K6
K1 - Remember; K2 - Understand; K3 - Apply; K4 - Analyze; K5 - Evaluate; K6 – Create						
Part A	Basic Stitching Practice					15 hours
1. Threading practice in SNLS, Over lock & Flat lock						
2. Pedaling control practice in SNLS both Paper & Cloth						
3. Straight & Wavy edge serging practice using over lock machine						
4. Fold & Top Stitch Practice using Flat lock machine						
Part B	Seams & Components Developments					45 hours
1. Seams – super imposed, lapped, bound and flat.						
2. Basic Seam Finishes - Facing, Binding Bias facing						
3. Fullness - darts, pleats, gathers and godets.						
4. Collars – flat, roll, standing and shirt.						
5. Pockets- patch, bound and side seam.						
6. Yokes – simple, with fullness, releasing fullness, partial and midriff.						
7. Plackets – one piece, two piece, and tailors.						
8. Sleeves and Cuffs – set in, with bodice and sleeveless; cuffs: basic, two piece, and contoured						
9. Basic Bodice Construction						
					Total Lecture hours	60 -- hours
Text Book(s)						
1	The Technology of Clothing Manufacture, Harold Carr & Barbara Latham, Blackwell Sciences, 1996					
2	Apparel Manufacturing Handbook, Jacob Solinger, Van Nostrand Reinhold Company, 1980					
3	Apparel Manufacturing Sewn Product Analysis, Ruth E. Glock & Grace I. Kunz, Pearson Prentice Hall, 2005.					
Reference Books						
1	Shaeffer Claire, Sewing for the Apparel Industry, Prentice Hall, New Jersey, 2001.					

2	A New Look at Apparel Mechanization, Technical Advisory Committee of AAMA, 1978.
Related Online Contents (MOOC, SWAYAM, NPTEL, Websites etc)	
https://youtu.be/HgFhBrykiro	
https://youtu.be/Ax6JDDP_6O8	
Course Designed By : S. Geetharani	

Mapping with Programme Outcomes								
COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	M	S	M	M	M	S	S	S
CO2	S	S	M	M	M	S	S	S
CO3	S	S	M	M	M	S	S	S
CO4	S	L	L	L	L	S	S	S
CO5	S	L	L	L	L	S	S	S





Course code	33A	TEXTILE COLORATION TECHNIQUES	L	T	P	C
Core	Paper V		4	-	-	3
Pre-requisite	Basic knowledge about science		Syllabus Version		2021-2022	
Course Objectives:						
The main objectives of this course are to:						
1. Provide the knowledge about the preparatory process of wet processing.						
2. Help the students to understand the working principles of various dyeing, printing and finishing machines.						
3. Enhance the students knowledge in dyeing, printing & finishing process sequences and after treatments.						
Expected Course Outcomes:						
On the successful completion of the course, student will be able to:						
CO1	Understand the terms and terminologies related to processing sector					K2
CO2	Understand the various dyes, dyeing and printing process followed in the processing sector					K2
CO3	Apply the domain knowledge to find out the right choice of dyes and process for natural and synthetic textile substrate					K3
CO4	Analyze the various printing styles and methods to find out the right choice for the natural and synthetic textile substrate					K4
CO5	Understand the various textile finishing and their process techniques and latest technologies					K2
K1 - Remember; K2 - Understand; K3 - Apply; K4 - Analyze; K5 - Evaluate; K6 – Create						
Unit:1	Introduction to coloration					12 hours
Water: water hardness – types - softening process: ion exchange - sequestering agent methods - terminology & terms related to textile industries (ph, acid, base, oxidation, reduction) – role of textile auxiliaries. Preparatory process sequence for woven & knitted fabrics. Preparatory process: singeing – objectives – types of singeing, desizing – objectives – methods, and scouring – objectives – methods. Bleaching – objectives - types of bleaching agents – Hydrogen Peroxide bleaching process – optical whiteners. Mercerizing – objectives - types.						
Unit:2	Dyeing					12 hours
Dyeing: Terminology related to dyeing process - classification of dyes – Dyeing of cotton with reactive and Vat dyes- – Dyeing of synthetic textiles using disperse and acid dyes. Dyeing of Wool & silk textiles & blended textile materials - after treatments – types & principles of different dyeing machines: winch – soft flow Jigger – cheese and HTHP machines – merits & demerits.						
Unit:3	Printing					12 hours
Printing - methods of printing – screen preparation. Styles of printing – direct, resist, discharge, transfer. Print paste ingredients – after treatments. Pigment printing. Garment printing techniques – Fancy printing techniques: flock, Hi Density, Foil, Plastisol, foam, khadi – burnout printing. Digital printing.						
Unit:4	Finishing					12 hours
Finishing: objectives of finishing – temporary and permanent finishes. Chemical finish: wrinkle free – softeners – anti microbial – fire retardant. Mechanical finish: calendaring – raising – shearing, Compacting Bio polishing. Stone washing – Application of enzymes in textile processing.						

Unit:5	Effluent Treatment	12 hours
Pollution - Brief study about ETP- Eco friendly processing techniques - Pollution - Treatment of Textile Effluents. Eco Labels & Norms. Introduction to computer colour matching system.		
Total Lecture hours		60 hours
Text Book(s)		
1	Technology of Textile Processing , V.A.Shenai , Sevak Publications , 1979	
2	Technology of Bleaching and Dyeing of Textile Fibres, R.R.Chakravarthy & S.S.Trivedi, Mahajan Book Publishers, 1979.	
3	Dyeing and chemical technology of textile fibres, E.R.Trotman, Charles Griffin & Co, 1985	
Reference Books		
1	The Bleaching and Dyeing of Cotton Material, R.S. Prayag, Weavers Service, 1983	
2	Chemical Processing of Synthetic Fibres and Blends, K.V.Datye & A.A.Vaidhay, John Wiley & Sons, New York., 1982	
Related Online Contents(MOOC,SWAYAM,NPTEL, Websites etc)		
https://nptel.ac.in/courses/116/102/116102052/		
https://nptel.ac.in/courses/116/104/116104046/		
Course Designed By : B.Jeyanthi		

Mapping with Programme Outcomes								
COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	S	S	S	S	S	S	S	S
CO2	S	S	S	S	S	S	S	S
CO3	S	S	S	M	M	S	S	S
CO4	S	S	S	M	M	S	S	S
CO5	S	S	S	M	M	S	S	S

Course code	33B	KNIT FABRIC MANUFACTURING STUDIES	L	T	P	C
Core		Paper VI	4	-	-	4
Pre-requisite		Basic skill about textile fiber and yarn	Syllabus Version		2021-2022	
Course Objectives:						
The main objectives of this course are to:						
1. Provide the knowledge about the various knitting terms and machines.						
2. Help the students to understand the working principles of various knitting machines.						
3. Enhance the students knowledge in Warp, Weft, Flat and Jacquard knit design developments.						
Expected Course Outcomes:						
On the successful completion of the course, student will be able to:						
CO1	Understand the general knitting terms and their representations					K2
CO2	Understand about the various knit structure formation					K2
CO3	Understand about various knitting machines and its working mechanism					K2
CO4	Apply the domain knowledge to develop knit designs					K4
CO5	Analyze the various structures of knit fabrics					K5
K1 - Remember; K2 - Understand; K3 - Apply; K4 - Analyze; K5 - Evaluate; K6 – Create						
Unit:1	Introduction to Knitting					12 hours
Different fabric forming methods-Comparison of weaving and knitting-Principles of weft and warp knitting – Comparison of weft and warp knitting – Classification of knitting machines - Yarn passage diagram of a circular knitting machine – Knitting machine elements and description - Knitting cycle of latch needle with sinker.						
Unit:2	Weft Knit Stitches					12 hours
Knitting terms and definitions - Principal weft knit stitches - Knit, tuck and miss stitch formation and properties - Representation of weft knit stitches – Study of Basic weft knit structures - Needle gating - Description of circular Rib & Interlock knitting machine – Characteristics of basic weft knit structures – Circular knitting GSM and production calculations.						
Unit:3	Jacquard Knitting					12 hours
Jacquard knitting - Needle selection techniques – Pattern jack, Pattern wheel , Pattern drum and Computerized jacquard knitting machines – Brief study on specialty weft knit structures – Auto stripe yarn programming – Elastomeric yarn insertion and effects – Knitted fabric faults – Causes and Remedies.						
Unit:4	Flat knitting					12 hours
Flat Knitting – Yarn passage diagram of a flat knitting machine – Mechanical type Flat knitting machine - Needle bed assembly – Racking, Carriage and Cam box arrangement - Transfer Stitch and Drop Stitch – Thread diagram, effects and applications – Introduction to computer controlled Flat knitting machine. Concept of fully-fashioned machines and seamless knit wears.						
Unit:5	Warp Knitting					12 hours
Introduction to warp knitting – Warp knitting terminologies – Open lap and closed lap. Basic lapping variations - Detailed study of knitting elements of Tricot and Raschel machines. Knitting action of Tricot and Raschel machines. Comparison of Tricot and Raschel machine. Study of standard two bar warp knit structures and their properties – Lock knit, Satin, Reverse						

lock knit, Loop raised, Sharkskin and Queens Cord.	
Total Lecture hours	
60 hours	
Text Book(s)	
1	Knitting Technology, D.B. Ajgaonkar, Universal Publishing Corporation, 2006.
2	Knitting Technology, David.J.Spencer, Pergoman Press, 2014.
3	Circular knitting technology, Chandrasekara Iyer, Meisenbach Bamberg publications, 1992.
Reference Books	
1	Flat Knitting, Dr.Samuel Raz , Meisenbach Bamberg publications, 1991
2	Warp Knitting Technology, Dr.S.Raz, Verlag Meiland Textiberichte publications, 1987.
Related Online Contents(MOOC,SWAYAM,NPTEL,Websites etc)	
https://nptel.ac.in/courses/116/102/116102056/	
https://nptel.ac.in/courses/116/102/116102008/	
Course Designed By : Dr.C.B.SenthilKumar	

Mapping with Programme Outcomes								
COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	S	S	S	S	S	S	S	S
CO2	S	S	S	S	S	S	S	S
CO3	S	S	S	M	M	S	S	S
CO4	S	S	S	M	M	S	S	S
CO5	S	S	S	M	M	S	S	S

Course code	33C	APPAREL MANUFACTURING TECHNOLOGY II	L	T	P	C
Core	Paper VII		4	-	-	4
Pre-requisite	Basic Knowledge about garment components making procedures		Syllabus Version		20201-2022	
Course Objectives:						
The main objectives of this course are to:						
1. Provide the knowledge about the fundamentals of pattern making.						
2. Help the students to understand the stitches, seams and fullness used for apparel making.						
3. Enhance the student's knowledge in making of garment components.						
Expected Course Outcomes:						
On the successful completion of the course, student will be able to:						
CO1	Understand the knowledge about basics of pattern making and its tools					K2
CO2	Understand the concept of grading and measurement					K2
CO3	Analyze about the various stitches and seam classes					K4
CO4	Analyze about the fullness and its variations applicable to garment					K4
CO5	Create the various garment component parts					K6
K1 - Remember; K2 - Understand; K3 - Apply; K4 - Analyze; K5 - Evaluate; K6 – Create						
Unit:1	Fundamentals of Pattern making Techniques					10 hours
Concepts of pattern Making - Different types of pattern making - Principles for pattern drafting – pattern making tools - Concepts of Pattern Grading and its types. Normal figures measurements and its importance – Sequence of taking body measurements – Recording of measurements - Standardization of body measurements for children and adults.						
Unit:2	Stitches, Seams & Fullness					14 hours
Stitches & Seams: Definition, stitch classes - Federal classifications, stitch parameters, factors to be considered in the selection of stitches. Stitching defects. Definition, Types of seams – Federal classifications, factors to be considered in the selection of seam, seam finishes and seam defects. Fullness: Dart & its types –Tucks and its variations – Pleats and its variations - Flare, godets, gathers, shirring, single, double frills and flounces.						
Unit:3	Neckline Finishes, Sleeves & Hemming Techniques					12 hours
Neckline Finishes: Preparation of bias strip, bias facing, bias binding, fitted facing and French binding.						
Sleeves: Types and construction of sleeves -plain, puffs, gathered, bell, bishop, circular, kimono, leg-o-mutton, Magyar sleeves and Raglan sleeves.						
Hemming Techniques: Definition, types -machine stitched hem and hand-stitched hem.						
Unit:4	Yokes & Collars					12 hours
Yokes: Definition –Selection of yoke design, Types and construction of yoke -Simple yoke – yokes with or without fullness, midriff yokes, panel yokes, partial yokes.						
Collars: Classification of collars, Types of collars–flat collars (Peter Pan collar, scalloped, flared, puritan collar, sailor collar) convertible collar, shirt collar with stand, Mandarin collar, shawl collar.						
Unit:5	Pockets & Plackets					12 hours
Pockets: Types–patch pocket –creating variations, set in pocket-bound pocket, welt pocket, pocket in a seam-front hip pocket, Attaching flap to a patch pocket.						
Plackets: Inconspicuous plackets -continuous bound placket, two piece placket, zipper placket –slot seam & lapped seam. Conspicuous plackets -Tailored placket, fly opening –						

button and buttonhole method, Zipper method. Fasteners: Types - Button and buttonholes, Hooks and Eye, Snap buttons, Velcro, Eyelets, Cords and Rivets.	
Total Lecture hours	
60 hours	
Text Book(s)	
1	Apparel Manufacturing - Sewn Product Analysis, Ruth.E.Glock, Grace.I.Kunz, Pearson Prentice Hall, 2005.
2	Practical Clothing Construction, Mary Mathews, Cosmic Press, Madras, 1986.
3	Sewing for the Apparel Industry, Claire Shaeffer, Prentice Hall Inc, New Jersey, 2001.
Reference Books	
1	Garment Technology for Fashion Designers, Gerry Cooklin, Blackwell Science Ltd., 2001.
2	System of Cutting, Zarapkar, Navneet publications, Bombay, 2017.
Related Online Contents(MOOC,SWAYAM,NPTEL,Websites etc)	
https://youtu.be/HgFhBrykiro	
https://youtu.be/Ax6JDDP_6O8	
Course Designed By : S.Geetharani	

Mapping with Programme Outcomes								
COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	S	S	S	S	M	S	S	S
CO2	S	S	S	S	M	S	S	S
CO3	S	S	S	S	S	S	S	S
CO4	S	S	S	M	S	S	S	S
CO5	S	S	S	M	S	S	S	S

Course code	33P	PATTERN MAKING AND GRADING OF WOVEN AND KNITS PRACTICAL	L	T	P	C
Core	Practical III		-	-	6	4
Pre-requisite	Basic knowledge about patternmaking tools and properties of textile fabric		Syllabus Version		2021-2022	
Course Objectives:						
The main objectives of this course are to:						
1. Helps students to understand the fundamentals of Pattern making & Grading.						
2. Understand and practice the pattern development for various Knitted Garment Styles for Kids.						
3. Understand and practice the pattern development for various Knitted Garment Styles for adults.						
Expected Course Outcomes:						
On the successful completion of the course, student will be able to:						
CO1	Remember the pattern terms and making tools					K1
CO2	Understand the pattern and grading techniques					K2
CO3	Analyze the domain Knowledge and develop paper pattern					K4
CO4	Create patterns for the various knitted garment styles for kids					K6
CO5	Create patterns for the various knitted garment styles for Adults					K6
K1 - Remember; K2 - Understand; K3 - Apply; K4 - Analyze; K5 - Evaluate; K6 – Create						
Part A	Draft the pattern and grade the following garments for Kids				30 hours	
1. Rompers						
2. Knitted frock						
3. Kids bloomer						
4. Overall with full sleeve						
Part B	Draft the pattern, grade and grade the following Women				30 hours	
1. High neck T shirt with full sleeve						
2. Kimono sleeve T shirt						
3. V Neck T shirt						
4. Legging						
5. Night pajama set						
Part C	Draft pattern and grade the following Men's wear				30 hours	
1. Basic T shirt						
2. Raglan T shirt with full sleeve						
3. Polo T shirt with short sleeve						
4. Hooded T shirt with front pocket						
5. Bermuda with side pocket						
6. Vest RN						
7. Briefs, Trunks						
8. Track pant						
					Total Lecture hours	90 -- hours
Text Book(s)						
1	Design and Pattern Making for Stretch Fabrics, Richardson, Fairchild book publications, 2008.					
2	Singer Sewing with Knits, Singer, Random House Canada, 1992.					
3	The stretch and sew guide to sewing on knits, Ann Person, KP Books, 1994.					

Reference Books	
1	Professional Pattern Making for Designers, Jack Harford, Fairchild Publishers, 2003.
2	The Theory of Garment Pattern Making, W. H. Hulme, Read Books Publishers, 2011.
Related Online Contents(MOOC,SWAYAM,NPTEL,Websites etc)	
https://www.textileschool.com/344/pattern-grading-in-garment-manufacturing/	
https://textilelearner.blogspot.com/2014/03/methods-of-garment-pattern-grading.html	
Course Designed By : B.Jeyanthi	

Mapping with Programme Outcomes								
COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	M	S	S	S	S	S	S	S
CO2	M	S	S	S	S	S	S	S
CO3	M	M	S	M	M	S	S	S
CO4	S	S	S	M	M	S	S	S
CO5	S	S	S	M	M	S	S	S



Course code	3AP	KNIT FABRIC ANALYSIS PRACTICAL	L	T	P	C
Allied		Practical III	-	-	6	4
Pre-requisite		Basic knowledge of knit fabric manufacturing concepts	Syllabus Version		2021-2022	
Course Objectives:						
The main objectives of this course are to:						
1. Helps students to understand the different types of cam setting used in knitting machines.						
2. Understand and practice the cam arrangements for various knit structures						
3. Develop cloth sample and analyze the quality parameters of fabrics						
Expected Course Outcomes:						
On the successful completion of the course, student will be able to:						
CO1	Understand about the different cam settings of various knitting machines					K2
CO2	Apply the domain Knowledge and develop cam arrangement for various knit structures					K3
CO3	Create the Knit fabric patterns for Single Jersey and its derivatives					K6
CO4	Produce the Knit fabric patterns for Double Jersey and its derivatives					K6
CO5	Generate the Knit fabric patterns for Mini Jacquard and Auto striper designs					K6
K1 - Remember; K2 - Understand; K3 - Apply; K4 - Analyze; K5 - Evaluate; K6 – Create						
					90 hours	
1. Draft the different cam diagrams used in conventional knitting machine.						
2. Draw the various cams in advanced knitting machine along with different type of stitches.						
3. Determine the knitted fabric GSM using various methods.						
4. Development of the following samples:						
1. Plain						
2. Pique						
3. Pearl						
4. Lacoste						
5. Twill						
6. Cross miss						
7. Two thread fleece						
8. Mini jacquard design						
9. Auto striper						
10. Rib waffle						
11. Flat back rib						
12. Interlock						
13. Ottoman rib						
14. Electronic Jacquard motif						
5. Analyze the given knitted fabric sample for the following particulars:						
1. Course and Wale Density						
2. Loop length						
3. Areal Density (GSM)						
4. Tightness Factor						
5. Technical graph						
6. Cam order						
7. Needle order						
					Total Lecture hours	90 -- hours
Text Book(s)						
1	Knitting Technology, D.B. Ajgaonkar, Universal Publishing Corporation, 2006.					

2	Knitting Technology, David .J.Spencer, Pergoman Press, 2014.
3	Circular knitting technology, Chandrasekara Iyer, Meisenbach Bamberg publications, 1992.
Reference Books	
1	Flat Knitting, Dr.Samuel Raz, Meisenbach Bamberg publications, 1991
2	Warp Knitting Technology, Dr.S.Raz, Verlag Meiland Textiberichte publications, 1987.
Related Online Contents(MOOC,SWAYAM,NPTEL,Websites etc)	
https://nptel.ac.in/courses/116/102/116102056/	
https://nptel.ac.in/courses/116/102/116102008/	
Course Designed By : Dr.P.P.Gopalakrishnan	

Mapping with Programme Outcomes								
COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	S	S	S	S	S	S	S	S
CO2	S	S	S	S	S	S	S	S
CO3	M	M	S	M	M	S	S	S
CO4	S	S	S	M	M	S	S	S
CO5	S	S	S	M	M	S	S	S

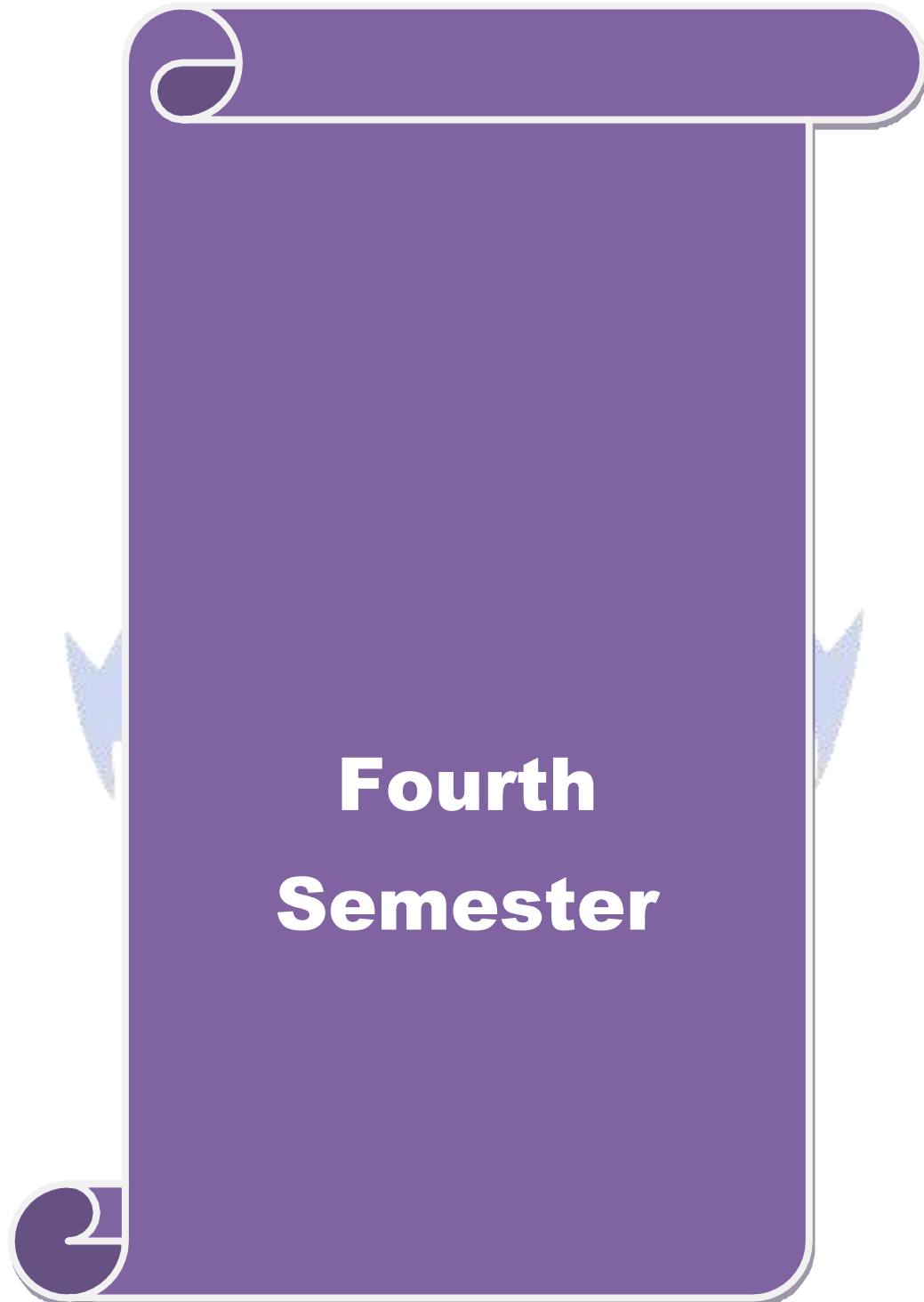
Course code	3ZP	TEXTILE COLORATION TECHNIQUES - PRACTICAL	L	T	P	C
Skill Based Subject		Skill Based Subject I	-	-	4	3
Pre-requisite		Knowledge about dyeing and printing process sequences	Syllabus Version		2021-2022	
Course Objectives:						
The main objectives of this course are to:						
1. Helps students to understand the fundamentals of wet processing techniques.						
2. Understand and practice the coloration techniques						
3. Understand and practice of various fancy effects using resist style of dyeing						
Expected Course Outcomes:						
On the successful completion of the course, student will be able to:						
CO1	Understand about the fundamentals of wet processing techniques					K2
CO2	Apply the domain Knowledge and develop the cloth sample for dyeing and printing					K3
CO3	Create the dyed sample using natural and synthetic fibers					K6
CO4	Create the printed sample using natural and synthetic fibers					K6
CO5	Create the sample using tie and dye and batik techniques					K6
K1 - Remember; K2 - Understand; K3 - Apply; K4 - Analyze; K5 - Evaluate; K6 – Create						
					60 hours	
<ol style="list-style-type: none"> 1. Estimation of water hardness by EDTA method. 2. Combined Scouring & Bleaching of grey cotton knitted fabrics and estimation of loss percentage. 3. Dye the given cotton sample with natural dyes. 4. Dye the given cotton sample with hot brand reactive dyes & H-E dyes. 5. Dye the given Silk material with acid / basic dyes. 6. Dye the given Acrylic material with basic dyes. 7. Dye the given polyester sample using carriers. 8. Dye the given fabric for the given pattern using Tie & Dye Technique. 9. Develop a batik motif and print on the given sample. 10. Prepare the print paste with pigment colour and print on the given fabric. 11. Print the given fabric with reactive dyes by discharge Style. 12. Prepare the print paste with reactive dyes and print on the given fabric by discharge style 						
					Total Lecture hours	
					60 -- hours	
Text Book(s)						
1	Textile Coloration and printing, Warren .S. Perkins, Carolina Academic Press, 1996					
2	Technology of Bleaching and Dyeing of Textile Fibres, R.R. Chakravarthy & S.S.Trivedi, Mahajan Book Publishers, 1979.					
3	Dyeing and chemical technology of textile fibres, E.R.Trotman, Charles Griffin & Co, 1985					
Reference Books						
1	The Bleaching and Dyeing of Cotton Material, R.S. Prayag, Weavers Service, 1983					
2	Chemical Processing of Synthetic Fibres and Blends, K.V.Datye & A.A.Vaidhay, John Wiley & Sons, New York., 1982					
Related Online Contents(MOOC,SWAYAM,NPTEL,Websites etc)						
https://nptel.ac.in/courses/116/102/116102052/						
https://nptel.ac.in/courses/116/104/116104046/						

Course Designed By: B.Jeyanthy

Mapping with Programme Outcomes

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	S	S	S	S	S	S	S	S
CO2	S	S	S	S	S	S	S	S
CO3	M	M	S	M	M	S	S	S
CO4	S	S	S	M	M	S	S	S
CO5	S	S	S	M	M	S	S	S





Course code	43A	APPAREL MERCHANDISING AND TRADE DOCUMENTATION	L	T	P	C
Core	Paper VIII		4	-	-	3
Pre-requisite	Basic Knowledge about various departments and their role in an apparel business		Syllabus Version		2021-2022	
Course Objectives:						
The main objectives of this course are to:						
1. Provide the knowledge about the apparel merchandising concepts.						
2. Help the students to understand the process flow and merchandising procedures of apparel sector.						
3. Enhance the student’s knowledge in export procedures.						
Expected Course Outcomes:						
On the successful completion of the course, student will be able to:						
CO1	Understand about the merchandising concepts					K2
CO2	Understand about the various process in garment sector					K2
CO3	Apply the domain knowledge to give right merchandising solution in various activities of apparel sector					K3
CO4	Understand the export procedures required for apparel business					K4
CO5	Apply the EXIM knowledge for maintain proper trade documentation policies					K5
K1 - Remember; K2 - Understand; K3 - Apply; K4 - Analyze; K5 - Evaluate; K6 – Create						
Unit:1	Merchandising Concepts				12 hours	
Merchandising: Introduction, Meaning- Apparel Merchandising – Concepts of “Six Rights – Organisation structure of an apparel industry – Classification of Exporters - Rating or Grading of export houses – Classification of buyers – Export merchandising and retail merchandising – Company profile and its contents. Types of merchandiser - Functions of a merchandiser – Essential requisites of a good merchandiser – Vendor sourcing, evaluation and development – Global sourcing – Vendor nomination by buyers – Reasons for vendor nomination.						
Unit:2	Process Flow of Garment Sector				12 hours	
Process flow in apparel industry – Buyer sourcing & communication – Enquiry – Order confirmation – order review and its importance – Planning & programming: Master planning, Scheduling or route card – Factors for route card - programming for yarn, knitting, dyeing, stitching, sampling, accessories – Samples: Meaning & importance – Types of samples – expedition of samples.						
Unit:3	Inspection and Approval Procedures				12 hours	
Inspection and its types – Testing – Check points before cutting - Pilot run or trial run and its importance – Approvals - Types of approvals – Shipping marks – Final inspection procedures – Self, Second and Third party inspection - Effective expedition procedures.						
Unit:4	Export Documents				12 hours	
Order sheet and its contents – Packing list and its contents – Document formats: order sheet, packing list, invoice, inspection and testing reports etc., - Assortment and its types. Documents recording and maintenance – Claims and reasons for claims - Factory audits – Buyers code of conducts.						
Unit:5	Export Procedures				12 hours	
Export Procedures - Import/Export Documentation – FOB, C&F, CIF–Shipping mark– Certificate of Origin- - Letter of Credit - Bill of Lading – Export License- Packing list –						

Commercial Invoice. Pre-shipment & post-shipment finance, insurance, payment instruments, foreign exchange regulations, common errors in export documentation.	
Total Lecture hours	
60 hours	
Text Book(s)	
1	Apparel Merchandising- An integrated Approach, M. Krishnakumar, Abishek Publications, 2010.
2	Apparel Merchandising, A. Jeremy, David L. Wilson, & Roseau, Fairchild Publications, 2014.
3	Export Import Handbook, Ajay Srivastava, Business Data info Publishing Co. Pvt. Ltd, 2015.
Reference Books	
1	Apparel Merchandising, Robin Mathew, Book Enclave Publishers, 2008.
2	Inside the Fashion Business, Kitty G. Dickerson, Pearson Publications, 2002.
Related Online Contents(MOOC, SWAYAM, NPTEL, Websites etc)	
https://garmentsmerchandising.com/	
https://www.fibre2fashion.com/industry-article/5743/merchandising-in-an-apparel-industry	
Course Designed By : Dr. M. Krishnakumar	

Mapping with Programme Outcomes								
COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	S	S	S	S	S	S	S	S
CO2	S	S	S	S	S	S	S	S
CO3	M	M	S	S	S	S	S	S
CO4	S	M	M	M	M	S	S	S
CO5	S	M	M	M	M	S	S	S

Course code	43B	APPAREL TESTING AND QUALITY CONTROL	L	T	P	C
Core	Paper IX		5	-	-	4
Pre-requisite	Basic knowledge of textile fiber, yarn, fabric and their properties		Syllabus Version		2021-2022	
Course Objectives:						
The main objectives of this course are to:						
1. Provide the knowledge about the raw materials and garment testing methods.						
2. Help the students to understand the working principles of various testing equipments.						
3. Enhance the students knowledge in inspection procedures and quality control techniques.						
Expected Course Outcomes:						
On the successful completion of the course, student will be able to:						
CO1	Understand about the various raw materials used in apparel and their testing procedure					K2
CO2	Understand the working principles of various testing equipments					K2
CO3	Understand about various types of inspection procedures					K2
CO4	Analyze the various structural properties of fabrics and garments					K4
CO5	Analyze about the quality control techniques					K4
K1 - Remember; K2 - Understand; K3 - Apply; K4 - Analyze; K5 - Evaluate; K6 – Create						
Unit:1	Yarn And Fabric Quality Evaluation				15 hours	
Yarn testing - linear density, twist and tensile strength. Fabric testing - tensile, tear & bursting strength, abrasion resistance, pilling, drapability, stiffness and crease recovery testing. Yarn and fabric faults – causes and remedies.						
Unit:2	Apparel Testing				15 hours	
Seam strength testing, dimensional stability, spirality, snap/button pull strength testing and zipper testing, evaluation of interlining quality. Wash care labelling						
Unit:3	Raw material And In-Process Inspection				15 hours	
Inspection – importance, functions. Fabric inspection systems- 4 point system & 10 point system. Quality parameters and their control in pattern making, cutting and sewing. Packing quality, Quality control of trims and accessories, instrumental shade sorting.						
Unit:4	Final Inspection				15 hours	
Acceptable Quality Level (AQL) standards- sampling plans, levels, Garment defects, final inspection procedure, tolerances and quality specifications for finished garment – shirt, pant, T-shirt and women's skirt .						
Unit:5	Quality Control				15 hours	
Total quality management, statistical process control, seven tools - cause and effect diagrams, check sheet, control chart, flow chart, histogram, Pareto chart and scatter diagram. ISO-9001 implementation in apparel industry.						
					Total Lecture hours	75 hours
Text Book(s)						
1	Physical Testing of Textiles, B.P.Saville, Wood head Publishing Ltd, 1999.					

2	Managing Quality in the Apparel Industry, Pradip V Mehta, New age international publishers, 1998.
3	Quality Assurance for Textiles and Apparel, Sara J. Kadolph, Fairchild publications, 2007.

Reference Books

1	Testing and Quality Management, V.K.Kothari, IAFL Publications, 1999
2	Principles of Textile Testing, J.E.Booth, CBS Publishers & Distributors Pvt Ltd, 2018.

Related Online Contents(MOOC,SWAYAM,NPTEL,Websites etc)

<https://nptel.ac.in/courses/116/102/116102029/>

<https://nptel.ac.in/courses/116/102/116102049/>

Course Designed By : Dr.K.J. Sivagnanam

Mapping with Programme Outcomes								
Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	S	S	S	S	S	S	S	S
CO2	S	S	S	S	S	S	S	S
CO3	M	M	M	M	S	S	S	S
CO4	S	M	M	M	M	S	S	S
CO5	S	M	M	M	M	S	S	S



Course code	43C	APPAREL COSTING TECHNIQUES	L	T	P	C
Core	Paper X		4	-	-	4
Pre-requisite	Basic mathematical skill and knowledge about raw material cost		Syllabus Version		2021-2022	
Course Objectives:						
The main objectives of this course are to:						
1. Provide the knowledge about the elements of costing.						
2. Help the students to understand the budgeting for apparel sectors and cost estimation of various process.						
3. Enhance the students knowledge in achieving manufacturing cost and pricing techniques .						
Expected Course Outcomes:						
On the successful completion of the course, student will be able to:						
CO1	Understand about the elements and principles of costing					K2
CO2	Understand about the budgeting process of an apparel sector					K2
CO3	Apply the domain knowledge to estimate the various process cost					K3
CO4	Analyze the various process cost to determine the manufacturing cost					K4
CO5	Apply the domain knowledge to estimate the price for retail product					K3
K1 - Remember; K2 - Understand; K3 - Apply; K4 - Analyze; K5 - Evaluate; K6 – Create						
Unit:1	Costing Principles for apparel sector					12 hours
Principles of costing - requirements of good costing system - cost unit - types of costs - Elements of cost - direct material cost - direct expenses - direct wages - indirect materials - indirect expenses - indirect labor - overheads - - prime cost - work cost - cost of production - total cost. INCO terms & its relationship with costing						
Unit:2	Budgeting for apparel sector					12 hours
Budgeting: The budgeting process: Budgeting principles for the apparel industry- Fixed vs Variable budget - Master budget-laminations of budgets- any justification effort -Planned Vs Actual Cost.						
Unit:3	Cost estimation for various process					12 hours
Cost estimation of yarn, knitted fabric, dyeing, printing & finishing. Woven Fabric Costing: fabric types, yarn consumption, weaving price Cost estimation for cutting, stitching, checking, packing, forwarding, shipping, and insurance.						
Unit:4	Manufacturing Cost					12 hours
Estimation of factory cost for Woven & Knitted - vest, briefs, shorts, t-shirts, pajamas, children's wear, ladies wear, Woven Shirt, Woven Tops & Bottom. Various factors to be considered in costing for domestic products & international products.						
Unit:5	Pricing for apparel Products					12 hours
Determining Pricing of apparel products: Price elasticity of demand and supply, sample costing-marginal revenue and marginal cost, cost plus pricing methods;, Full cost pricing, conversion cost pricing, differential cost pricing ,variable cost pricing, direct cost pricing derivation of cost of apparel products-woven/knits.						
					Total Lecture hours	60 hours

Text Book(s)	
1	Apparel Costing - A functional Approach, M.Krishnakumar, Abishek Publications, 2011.
2	Cost Accounting, R.S.N. Pillai & V. Bagavathi S, Chand and Company Ltd, 2008.
3	Cost Accounting, S.P.Jain & KL.Narang, Kalyani Publishers, 2014.
Reference Books	
1	Apparel Costing, Andrea Kennedy & Andrea Reyes, Abishek Publications, 2020.
2	Costing for the Fashion Industry, Michael Jeffrey, Nathalie Evans, Berg Publishers, 2011.
Related Online Contents(MOOC,SWAYAM,NPTEL, Websites etc)	
https://www.onlineclothingstudy.com/2019/05/garment-costing-and-pricing-strategies.html	
https://www.textileschool.com/181/garment-costing/	
Course Designed By : Dr.M.Krishnakumar	

Mapping with Programme Outcomes								
COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	S	S	S	S	S	S	S	S
CO2	S	S	S	S	S	S	S	S
CO3	M	M	M	S	S	S	S	S
CO4	M	M	M	S	S	S	S	S
CO5	M	M	M	S	S	S	S	S

Course code	43P	GARMENT CONSTRUCTION KNITS	L	T	P	C
Core		Practical IV	-	-	5	4
Pre-requisite		Pattern making, Cutting and Sewing process sequence	Syllabus Version		2021-2022	
Course Objectives:						
The main objectives of this course are to:						
1. Helps students to understand the fundamentals of sewing.						
2. Understand and practice to stitch various garment styles for kids.						
3. Understand and practice to stitch various garment styles for adults.						
Expected Course Outcomes:						
On the successful completion of the course, student will be able to:						
1	Understand various stitches, seam formation and component parts for knitwear					K2
2	Apply the domain Knowledge during the development of knitwear samples					K3
3	Create various knitted garment sample for kids wear					K6
4	Create the various knitted garment samples for Men and Women wears					K6
5	Evaluate the knitted sample for its fit and quality of construction					K5
K1 - Remember; K2 - Understand; K3 - Apply; K4 - Analyze; K5 - Evaluate; K6 – Create						
Part A						
Construct the Following Kids Wear					15 hours	
1. Knitted frock						
2. Kids bloomer						
3. Overall with full sleeve						
Part B						
Construct the Following Women's Wear					30 hours	
4. High neck T shirt with full sleeve						
5. Kimono sleeve T shirt						
6. Legging						
7. Night pajama set						
Part C						
Construct the following Men's Wear					30 hours	
8. Basic T shirt						
9. Raglan T shirt with full sleeve						
10. Polo T shirt with short sleeve						
11. Hooded T shirt with front pocket						
12. Bermuda with side pocket						
13. Briefs						
14. Track pant						
Total Lecture hours					75 -- hours	
Text Book(s)						
1	Design and Pattern Making for Stretch Fabrics, Richardson, Fairchild book, 2008.					
2	Singer Sewing with Knits, Singer, Kalyani Publication, 1992.					
3	The Stretch and Sew Guide to Sewing on Knits, Ann Person, Pearson Publication, 2000.					
Reference Books						
1	Clothing Construction, Clara M Brown, Read Books Publishers, 2011.					
2	Garment Construction: A complete course on making clothing for fit and fashion, Peg couch, Fox chapel Publishing, 2015.					
Related Online Contents(MOOC,SWAYAM,NPTEL,Websites etc)						

https://youtu.be/4_FRV8flGi0

<https://www.sciencedirect.com/topics/engineering/garment-construction>

Course Designed By :B.Jeyanthy

Mapping with Programme Outcomes

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	S	S	S	S	S	S	S	S
CO2	S	S	S	S	S	S	S	S
CO3	M	S	S	S	L	S	S	S
CO4	M	S	S	S	L	S	S	S
CO5	M	S	S	S	L	S	S	S



Course code	4AP	APPAREL TESTING AND QUALITY CONTROL PRACTICAL	L	T	P	C
Allied		Practical IV	-	-	5	4
Pre-requisite		Knowledge about quality parameters of textile fiber, yarn and fabric	Syllabus Version		2021-2022	
Course Objectives:						
The main objectives of this course are to:						
1. Helps students to understand the fundamentals of textile testing .						
2. Understand and practice the various testing procedures from fiber to garments.						
3. Understand and practice to handle various textile testing equipments.						
Expected Course Outcomes:						
On the successful completion of the course, student will be able to:						
CO1	Understand to handle the different textile testing equipments and maintenances					K2
CO2	Understand the domain Knowledge to operate the textile testing equipments					K3
CO3	Evaluate the quality of fiber and yarn and record the findings					K5
CO4	Evaluate the quality of fabric and record the findings					K5
CO5	Evaluate the quality of garment and record the findings					K5
K1 - Remember; K2 - Understand; K3 - Apply; K4 - Analyze; K5 - Evaluate; K6 – Create						
					75 hours	
<ol style="list-style-type: none"> Determination of count of yarn using wrap reel & weighing scale. Determination of lea strength & CSP using lea strength tester. Determination of yarn count from fabric swatch using Beesley balance. Determination of twist of single yarn using electronic twist tester. Fabric Analysis for determining Weight, CPI, WPI, SL, CL & Yarn Count. Identification of Fiber using microscope and by chemical test. Analysis of Blend composition of given fabrics. Determination of thickness of fabric using fabric thickness gauge. Determination of CRA of fabric using crease recover tester. Determination of Fabric Pilling Using ICI Pill Box Determination of Fabric Bursting Strength. Determination of color fastness of given sample to washing by using launderometer. Determination of color fastness of given sample to rubbing by using crock meter Determination of color fastness of given sample to perspiration by using perspirometer Determination of dimensional stability % of a given fabric / garment to washing. 						
					Total Lecture hours	75 - hours
Text Book(s)						
1	General Principles of Testing, Bureau of Indian Standards, New look Publications, 2018.					
2	AATCC Textile Testing Materials Educational Resources , AATCC Publications, Atlanta, 2019.					
3	Principles of Textile Testing, J.E.Booth, CBS Publishers & Distributors Pvt Ltd, 2018.					
Reference Books						
1	Testing and Quality Management, V.K,Kothari, IAFL Publications, 1999					
2	Textiles-Yarns, Fabrics, and General Test Methods (ANNUAL BOOK OF A S T M STANDARDS VOLUME 0701), ASTM Intl, 1999.					

Related Online Contents (MOOC, SWAYAM, NPTEL, Websites etc)
https://nptel.ac.in/courses/116/102/116102049/
https://nptel.ac.in/courses/116/102/116102029/
Course Designed By : T.Sathishkumar

Mapping with Programme Outcomes								
Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	S	S	S	S	S	S	S	S
CO2	S	S	S	S	S	S	S	S
CO3	M	S	S	S	L	S	S	S
CO4	M	S	S	S	L	S	S	S
CO5	M	S	S	S	L	S	S	S



Course code	4ZP	COMPUTER AIDED PATTERN DESIGNING - PRACTICAL	L	T	P	C
Skill Based Subject		Skill Based Subject II	-	-	5	3
Pre-requisite		Basic knowledge to operate computer tools and terms related to garment patterns	Syllabus Version		2021-2022	
Course Objectives:						
The main objectives of this course are to:						
1. Helps students to understand the basic concept about software .						
2. Understand and practice to use various tools and techniques for pattern development.						
3. Understand and practice to develop patterns for various garment styles (Kids, Men & Women)						
Expected Course Outcomes:						
On the successful completion of the course, student will be able to:						
CO1	Understand about the tools and techniques of software					K2
CO2	Apply the domain Knowledge and develop pattern on screen					K3
CO3	Analyze the fit of the pattern on computer screen					K3
CO4	Create the graded patterns for different size scale					K6
CO5	Create the marker plan and find out the efficiency					K6
K1 - Remember; K2 – Understand ; K3 - Apply; K4 - Analyze; K5 - Evaluate; K6 – Create						
						75 hours
CAD software is used to practice the following on the styles mentioned,						
<ul style="list-style-type: none"> • Create Pattern on computer screen, adding details to patterns. • Saving, extracting & editing patterns from stock library of Patterns. • Grading patterns on different size scale. • Making Marker plan for cutting fabrics. • Estimating lay length and calculating marker efficiency. • Fit analysis of the given pattern. 						
Styles						
1. Men's Basic T Shirt						
2. Raglan with Pocket						
3. Men's Polo T Shirt						
4. Men's Trouser						
5. Men's T-Shirt with hood						
6. Men's Inner Garment – Vests RN / RNS						
7. Brief						
8. Ladies Skirt						
9. Women's Nightwear						
10. Kid's Wear – Romber						
11. Kid's Wear – A Line frock						
12. Children's Suits And Pyjama						
					Total Lecture hours	75 -- hours
Text Book(s)						
1	Computer Aided Pattern Design Product Development , Alison Beazley, Terry Bond, Wiley-Blackwell, 2003.					
2	Pattern Cutting for Clothing using CAD, M.Stott, Woodhead Publishing, 2012.					
3	A Text Book Of Computer Aided Apparel Fashion Designing & Production Pattern Making, Meenu Srivastava, Himanshu Publications, 2011.					

Reference Books	
1	Automation in Garment Manufacturing, Rajkishore Nayak, Woodhead Publishing, 2017.
2	Computerized Patternmaking for Apparel Production, Laura Nugent, Fairchild Books, 2016
Related Online Contents (MOOC, SWAYAM, NPTEL, Websites etc)	
https://youtu.be/n-tWecPMIQc	
https://youtu.be/YKbwio4ocIE	
Course Designed By : P.Murugan	

Mapping with Programme Outcomes								
Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	S	S	S	S	S	S	S	S
CO2	S	S	S	S	S	S	S	S
CO3	M	S	S	S	M	S	S	S
CO4	M	S	S	S	S	S	S	S
CO5	S	S	S	S	S	S	S	S





Course code	53A	APPAREL INDUSTRIAL ENGINEERING I	L	T	P	C
Core	Paper XI		5	-	-	3
Pre-requisite	Knowledge about various process and techniques adopted in garment production		Syllabus Version		2021-2022	
Course Objectives:						
The main objectives of this course are to:						
1. Provide the knowledge about apparel production control and system.						
2. Help the students to understand the apparel production planning and scheduling.						
3. Enhance the students' knowledge in material management for an apparel sector.						
Expected Course Outcomes:						
On the successful completion of the course, student will be able to:						
CO1	Understand the pre production functions and various production systems					K2
CO2	Understand about the apparel production planning and scheduling process					K2
CO3	Understand the knowledge of materials management process required for apparel sector					K2
CO4	Apply the breakdown analysis to find out right production system					K3
CO5	Analyze the line balancing to determine the resource for a factory such as material and man power					K4
K1 - Remember; K2 - Understand; K3 - Apply; K4 - Analyze; K5 - Evaluate; K6 – Create						
Unit:1	Production Control				15 hours	
Objective, relationship of production control to the functional areas of a manufacturing organization. Pre production functions – product acceptance, steps from prototype to production model, order requirements. Cut production analysis: Cut order planning – types of spreads, spreading methods, marker utilization, economic cut quantities. Control forms in cutting department.						
Unit:2	Production Systems				18 hours	
Production system – whole garment, department, progressive bundle, unit production and modular. Guidelines for choosing suitable production system. Garment breakdown analysis with machine & attachment details - Flow process grid construction, flow process grids for production control. Control forms in production department.						
Unit:3	Production Planning And Plant Loading				15 hours	
Production Planning - production concepts, production capacity, managing plant capacity – routing, loading; Plant loading: Line balancing techniques. Determination of machinery requirements for a new factory, calculation of labour requirements, planning for multi style production – preparation of planning board.						
Unit:4	Production Scheduling				12 hours	
Introduction. Principles of scheduling, scheduling charts, GANTT chart, backlog graph, scheduling control techniques. Network representations - CPM and PERT charts.						
Unit:5	Materials Management				15 hours	
Manufacturing Resources Planning (MRP), just in time production system (JIT), Optimised production technology (OPT), Economics order quantity (EOQ). Inventory control, various Inventory modeling – Case studies.						
Unit:6	Contemporary Issues				2 hours	
Expert lectures						
					Total Lecture hours	77 hours

Text Book(s)	
1	Industrial Engineering in Apparel Production, V. Ramesh Babu, Elsevier Science & Technology, 2017
2	Apparel Manufacturing: Sewn Product Analysis, R.E. Glock & G.I. Kunz, Prentice Hall, New York, 1995.
3	Industrial Engineering Handbook, William K Hodson & Maynard's, Mc Graw-Hill, Inc., New York, 1992.
Reference Books	
1	Materials Management in Clothing Production, David J Tyler, Prentice Hall, New Jersey, 1991.
2	Fashion design and Product development, Harold Carr, John Wiley and Sons Inc., New York, 1991.
Related Online Contents (MOOC, SWAYAM, NPTEL, Websites etc)	
https://youtu.be/tXNwpcFU5HQ	
https://youtu.be/_ZqYZXMP-eY	
Course Designed By : Arundhati Ghoshal	

Mapping with Programme Outcomes								
Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	M	M	S	S	S	S	S	S
CO2	M	S	S	S	S	S	L	S
CO3	S	S	S	S	M	S	L	S
CO4	S	S	M	S	M	S	S	S
CO5	S	S	M	S	S	S	S	S

Course code	53B	TOTAL QUALITY MANAGEMENT	L	T	P	C
Core	Paper XII		4	-	-	3
Pre-requisite	Knowledge about quality terms		Syllabus Version		2021-2022	
Course Objectives:						
The main objectives of this course are to:						
1. Provide the knowledge about the principles of TQM, statistical quality Control which are vital for apparel sector.						
2. Help the students to understand the sampling plans and its risk factor for quality control process.						
3. Enhance the student's knowledge in ISO standards & EMS.						
Expected Course Outcomes:						
On the successful completion of the course, student will be able to:						
CO1	Understand about the concepts of TQM, 5s philosophy and quality circles used in an apparel sector					K2
CO2	Understand the knowledge about SQC used in apparel inspection process					K2
CO3	Apply the domain knowledge to find out sampling plan and its risk factor					K3
CO4	Analyze about the various ISO standards essential for an apparel industry					K4
CO5	Apply the Environmental Management System in an apparel sector					K4
K1 - Remember; K2 - Understand; K3 - Apply; K4 - Analyze; K5 - Evaluate; K6 – Create						
Unit:1	Principles of TQM					12 hours
Quality – Evolution of Quality management – Quality Function and Quality Planning – Basic concepts of Total Quality Management (TQM) – Principles of TQM – Important Phases of TQM – Quality Trilogy – Four pillars of TQM – PDCA cycle & PDSA cycle – Kaizan concept – 5'S Philosophy – Quality Circles.						
Unit:2	Introduction to Statistical Quality Control					12 hours
Statistical Quality Control (SQC) : Definition – SQC techniques – Frequency distributions: Discrete and Continuous – Measures of Central tendency: Mean, Median & Mode – Measures of dispersion: Range, Mean Range, Mean Deviation, Percentage Mean Deviation, Standard Deviation, Coefficient of Variation – Normal distribution – Binomial distribution – Poisson distribution.						
Unit:3	Control Charts					12 hours
Control charts: concepts and uses – Control limits – Control charts for Variables and Attributes: X Charts – R chart – P chart – NP chart – C chart – Acceptance sampling – Types of sampling plans: Single, Double and Multiple Sampling plans – OC curves – AQL and LTPD – Sampling errors and sampling risks – Producers risk and Consumers risk.						
Unit:4	ISO Standards					12 hours
ISO 9000 Standards: Meaning & Definition – ISO 9000 family of standards – Elements of ISO – Benefits – Study on ISO 9001:2008 Guidelines and Standard Clauses – Implementation Procedures and requirements for ISO 9001:2008 system – Quality Manual and its contents – Accreditation and Certification agencies – Quality audit – Types of quality audit – Audit procedure – Requirements and characteristic of a Quality auditor.						
Unit:5	Environmental Management System (EMS)					12 hours
Environmental Management System (EMS) – Meaning & Definition – Elements of EMS – Benefits of EMS – Environmental Policies – Implementation of ISO 14000 – Study on other management systems: SA8000, OHSAS 18000, WRAP.						
Total Lecture hours					60 hours	

Text Book(s)	
1	Total Quality Management, S.Bhaskar, Anuradha Publications, 2011.
2	Total Quality Management, K.Shridhara Bhat, Himalaya Publishing Corporation, 2010.
3	Handbook of Total Quality Management, Armstrong, Jaico Publications, 2001.
Reference Books	
1	Statistical Methods, Dr. S.P.Gupta, Sultan Chand & Sons, 2011.
2	Quality Control Handbook, J.M,Juran, McGraw Hill Inc,1988.
Related Online Contents(MOOC,SWAYAM,NPTEL,Websites etc)	
https://nptel.ac.in/courses/110/104/110104080/	
https://onlinecourses.swayam2.ac.in/imb19_mg22/preview	
Course Designed By : Dr.K.J.Sivagnanam	

Mapping with Programme Outcomes								
Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	M	M	S	S	S	S	S	S
CO2	M	L	S	S	S	S	S	S
CO3	L	L	S	S	S	S	S	S
CO4	L	L	S	S	S	S	S	S
CO5	L	L	S	S	S	S	S	S



Course code	53C	TECHNICAL TEXTILE AND FUNCTIONAL APPAREL	L	T	P	C
Core	Paper XIII		4	-	-	3
Pre-requisite	Knowledge about latest innovations in textile and apparel sectors		Syllabus Version		2021-2022	
Course Objectives:						
The main objectives of this course are to:						
1. Provide the knowledge about the technical fiber and yarn .						
2. Help the students to understand the various application of technical textiles products.						
3. Enhance the student’s knowledge in functional apparel design, production and utilization .						
Expected Course Outcomes:						
On the successful completion of the course, student will be able to:						
CO1	Understand the knowledge about technical textile and their application					K2
CO2	Understand about the technical fiber, yarn and fabric manufacturing process					K2
CO3	Apply the domain knowledge to design the functional garments					K3
CO4	Analyze the various production parameters needed for making functional garments					K4
CO5	Create the new concepts to develop performance oriented products					K6
K1 - Remember; K2 - Understand; K3 - Apply; K4 - Analyze; K5 - Evaluate; K6 – Create						
Unit:1	Introduction to technical textiles					12 hours
Introduction to Technical textiles, definition and scope of technical textiles, developments in fibres-natural fibres, polyamide, polyester, viscose rayon, polyolefin, high performance fibres and glass and ceramics, Application of technical textiles.						
Unit:2	Functional apparels& medical textile					12 hours
Functional apparels: Design & engineering of functional clothing, requirements, smart characteristics: structural, aesthetic, functional, comfort and fit for clothing. Medical textile: Materials used and classification. Requirements and application. Textiles for Healthcare and Hygiene products.						
Unit:3	Protective wear					12 hours
Selection of materials, requirements and functions of flame resistant, chemical, mechanical, electrical and radiation protective clothing.						
Unit:4	Sports wear					12 hours
Sportswear requirements - functional fibers, yarns and fabrics suitable for sportswear- Sweat management for sports application. Footwear Clothing: Fabric requirements, finishing adaptability.						
Unit:5	Smart and intelligent textiles					12 hours
Smart fibres: Nano fibres, Photo adaptive fibres, Chameleon fibres, Conductive fibres – properties and applications in textiles and apparels. Phase change materials: properties and applications. Shape memory polymers and properties. Stimuli sensitive intelligent textiles.						
Unit:6	Contemporary Issues					2 hours
Expert online seminars – webinars						
					Total Lecture hours	60 hours

Text Book(s)	
1	Handbook of Technical Textiles, A. R Horrock, S.C Anand, Wood head Publishing, 2000.
2	Handbook of Industrial Textiles, S.Adanur, Technomic Publication, 2001.
3	Textiles for Sportswear, Roshan Shishoo, Woodhead Publishing, 2015.
Reference Books	
1	Design and manufacture of Textile Composites, M.C Kanna, Hearle O Hear, Textile process, Textile Institute, Manchester, 2004.
2	Handbook of Medical Textiles, V Bartels , Woodhead Publishing, 2011.
Related Online Contents(MOOC,SWAYAM,NPTEL,Websites etc)	
https://nptel.ac.in/courses/116/102/116102057/	
https://www.classcentral.com/course/swayam-testing-of-functional-and-technical-textiles-13051	
Course Designed By : B.Jeyanthi	

Mapping with Programme Outcomes								
Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	S	S	S	S	M	S	S	S
CO2	S	S	S	M	S	S	S	S
CO3	S	S	S	M	M	S	S	S
CO4	M	M	M	S	S	S	S	S
CO5	M	M	M	S	S	S	S	S

Course code	53P	COMPUTER AIDED FASHION ART PRACTICAL	L	T	P	C
Core	Practical V		-	-	6	3
Pre-requisite	Knowledge about computer operating tools and creative skill		Syllabus Version		2021- 2022	
Course Objectives:						
The main objectives of this course are to:						
1. Helps students to understand the various design software relevant fashion designing.						
2. Understand and practice to develop various garment, accessory, logo and motif designs.						
3. Understand and practice to develop garment technical pack for apparel production sectors.						
Expected Course Outcomes:						
On the successful completion of the course, student will be able to:						
CO1	Understand and practice in various designing software and tools					K2
CO2	Apply the domain Knowledge and develop motif and logo designs for garments and brands					K3
CO3	Create garment flat sketches for Kids, Women's and Men's wears using relevant software					K6
CO4	Create the Accessory designs using relevant software					K6
CO5	Create the Garment technical pack for production process using software					K6
K1 - Remember; K2 - Understand; K3 - Apply; K4 - Analyze; K5 - Evaluate; K6 – Create						
						90 hours
1. Introduction to software's of Fashion CAD Laboratory.						
2. Computer aided embroidery designs.						
3. Logo designing.						
4. Digital designing of different styles of necklines, sleeves, skirts and collars.						
5. Designing different styles of apparel for men.						
6. Designing different styles of apparel for women.						
7. Designing different styles of apparel for children.						
8. Designing different types of accessories.						
9. Develop a Tech Pack design for basic garment styles.						
Total Lecture hours						90 hours
Text Book(s)						
1	CAD for Fashion Design and Merchandising, Stacy Stewart Smith, Bloomsbury Publishing India Private Limited, 2013.					
2	Adobe Photoshop for Fashion Design, Susan Lazear, Pearson Publications, 2007.					
3	Fashion and Textile Design with Photoshop and Illustrator, Robert Hume, Bloomsbury Visual Arts, 2019.					
Reference Books						
1	Adobe Illustrator Classroom in a Book, Brian Wood, Adobe Press, 2019.					
2	Adobe Photoshop Classroom in a Book, Andrew Faulkner, Adobe Press, 2019.					
Related Online Contents(MOOC,SWAYAM,NPTEL,Websites etc)						

<https://youtu.be/Py0dlOAUfp4>

https://youtu.be/1_EN9sh9MnA

Course Designed By: B.Jeyanthi

Mapping with Programme Outcomes								
Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	M	M	S	S	S	S	S	S
CO2	M	M	S	S	S	S	S	S
CO3	M	M	S	S	S	S	S	S
CO4	M	M	S	S	S	S	S	S
CO5	M	M	S	S	S	S	S	S



Course code	5ZP	DESIGN PROCESS & PRODUCT DEVELOPMENT I - PRACTICAL	L	T	P	C
Skill Based Subject	Skill Based Subject III		-	-	5	3
Pre-requisite	Knowledge about designing, pattern making and construction		Syllabus Version		2021-2022	
Course Objectives:						
The main objectives of this course are to:						
1. Helps students to understand the develop portfolio and garment tech pack.						
2. Practice the pattern development and garment construction for selected garments styles.						
3. Determine the production cost and MRP for single garment.						
Expected Course Outcomes:						
On the successful completion of the course, student will be able to:						
CO1	Understand about the design process concepts and methods					K2
CO2	Apply the domain Knowledge and develop portfolio					K3
CO3	Create the garment sample for Kids wear					K6
CO4	Create the garment for Women's wear					K6
CO5	Create the garment for Men's wear					K6
K1 - Remember; K2 - Understand; K3 - Apply; K4 - Analyze; K5 - Evaluate; K6 – Create						
					75 hours	
1. Each Student should prepare 3 ready to wear garments (kids wear/ men's wear/ women's wear).						
2. Designs may be inspired by national or international designer collection based on current trends.						
3. Students should prepare 2 kinds of file such as design process (Portfolio) & Garment Tech pack.						
4. Design file which comprises inspiration details, customer survey report, design, fabric, silhouette, color forecast details.						
5. Garment tech pack File comprises all flat sketches, Patterns, garment flow process details accessory and trims specification details and costing chart for single piece.						
					Total Lecture hours	
					75 -- hours	
Text Book(s)						
1	Fashion Design and Product development, Harold Carr, John Pomeroy, Blackwell Publication, 1992.					
2	Portfolio design + Presentation, Anna Kiper, Batasford publications, 2014.					
3	Portfolio presentation for fashion designers, Linda Tain, Fairchild Publishers, 2010.					
Reference Books						
1	Portfolio Management, S. Kevin, Prentice hall of India, PHI publications, 2006.					
2	Design with Color: The design guide to over 1000 color combination, Alles, Jeanne, Chronicle Books, 1992.					
Related Online Contents(MOOC, SWAYAM, NPTEL, Websites etc)						
https://youtu.be/HEsmu45SKv4						
https://youtu.be/buERDxlBn8w						
Course Designed By : B.Jeyanthi						

Mapping with Programme Outcomes								
Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	S	S	S	S	S	S	S	S
CO2	M	S	S	S	S	L	S	S
CO3	M	S	S	M	S	M	S	M
CO4	S	S	S	M	S	L	S	M
CO5	S	S	S	M	S	S	S	M



Course Code	57V	INTERNSHIP TRAINING	L	T	P	C
Project		Project	-	-	-	2
Pre-requisite	Basic knowledge in apparel production processes		Syllabus Version		2021-2022	
Course Objectives:						
The main objectives of this course are to:						
<ol style="list-style-type: none"> 1. Document the complete details about the processes in apparel production & related field 2. Analyze and interpret the information gathered 3. Prepare a report and make a presentation 						
Expected Course Outcomes:						
On the successful completion of the course, student will be able to:						
CO1	Break-down the process into various activities				K3	
CO2	Document the details of the activities				K3	
CO3	Prepare the requirements for each process and cost details				K4	
CO4	Develop a suitable method				K6	
CO5	Prepare the reports and presentations in the specified format.				K3	
K1 - Remember; K2 - Understand; K3 - Apply; K4 - Analyze; K5 - Evaluate; K6 - Create						
INTERNSHIP GUIDELINES						
<p>The students have to undergo full day training in Spinning / weaving / Knitting / Dyeing / Printing / Finishing/ Washing / Sewing and relate areas of apparel production. Visit to industry should be such that it covers the most of the segments of apparel industry and the time spent in each segment should also be uniform.</p> <p>Students can undergo individually or a batch of maximum 4 nos. only will be allowed for training.</p> <p>Training can be planned for a stretch 3 weeks except Saturday and Sunday during the fourth semester vacation.</p> <p>The faculty in charge will give all the formats and guidelines for preparing report.</p> <p>The students have to record all the required information and observations during training and submit a rough copy within 5 days after completion of training.</p> <p>Students have to submit the attendance copy and performance card to the faculty in charge, obtained from the respective authority of company with seal and signature. Standard format for the above documents will be given by the department. The report format and request letter from the Department should be collected by the students from the Department before the start of the training. Student must present for review meeting to assess the progress conducted during training period.</p> <p>The students will be assessed based on their Training report (30 – 50 pages), Viva-Voce examination and the PPT presentation.</p>						
Text Book(s)						
1	The Impact of Globization in a developing Market, A.Anthony, Mary Joseph.T, Published by SMEs in Indian Textile, 2010.					
2	Analysing Sample Production Processes in the Apparel Industry and a Model Proposal, Published by Magic world of textiles, 2012.					
Reference Books						
1	The Successful Internship. United States, King, Mary A., and Sweitzer, H. Frederick.,					

	Cengage Learning 2013.
Related Online Contents	
1	https://clothingindustry.blogspot.com/2018/09/sampling-process-apparel-industry.html
2	http://textilemerchandising.com/garments-sampling-process/
Course Designed By: Dr. P.P.Gopalakrishnan	

Mapping with Programme Outcomes							
COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO1	S	S	S	S	S	S	S
CO2	S	S	S	S	S	S	S
CO3	S	S	S	S	S	S	S
CO4	S	S	S	S	S	S	S
CO5	S	S	S	S	S	S	S





Course code	63A	APPAREL INDUSTRIAL ENGINEERING –II	L	T	P	C
Core	Paper XIV		6	-	-	3
Pre-requisite	Knowledge about apparel production management		Syllabus Version		2021-2022	
Course Objectives:						
The main objectives of this course are to:						
1. Provide the knowledge about industrial engineering concepts applicable to apparel sector.						
2. Help the students to understand the method study and work measurements of apparel industry.						
3. Enhance the student's knowledge in ergonomics factors applicable to apparel sector.						
Expected Course Outcomes:						
On the successful completion of the course, student will be able to:						
CO1	Understand about the industrial engineering concepts for apparel industry					K2
CO2	Understand about the method study & work measurements					K2
CO3	Apply the domain knowledge to improve productivity					K3
CO4	Analyze about the various ergonomics structures applicable to apparel sector					K4
CO5	Analyze about the personnel services and sources for apparel sectors					K4
K1 - Remember; K2 - Understand; K3 - Apply; K4 - Analyze; K5 - Evaluate; K6 – Create						
Unit:1	Introduction to IE					20 hours
Industrial engineering: Scope, concepts. Roles and functions of industrial engineer in apparel industry.						
Plant layout & material handling: Layout planning and development, types of layout, characteristics of good work station layout, layout calculations, layout for apparel industry.						
Material handling: Objectives, classifications of material handling equipments, specialized material handling equipments related to apparel industry.						
Unit:2	Productivity					15 hours
Measurement methods, productivity calculations in apparel manufacture, basic work content and added work content, reduction of work content and ineffective time. Causes for low productivity in apparel industry, suggestions for productivity improvement. Manufacturing productivity solutions. Work study- techniques, procedure. Work study and its influence on productivity.						
Unit:3	Method Study					15 hours
Procedure, process charts and symbols. Charts indicating process sequence: outline process chart, flow process charts; charts using time scale-multiple activity chart. Diagrams indicating movement – flow diagram, string diagram, cycle graph, chrono cycle graph, travel chart. Examples from apparel industry.						
Unit:4	Motion and Work study					20 hours
Motion study & operation improvement: Operation analysis, motion analysis, motion economy, two handed process chart, micro motion analysis - therbligs, SIMO chart. Evaluating motion study data, principles for improving operation methods in apparel manufacture – cutting, sewing, pressing and packing.						
Work Measurement: Procedure, techniques - time study: equipments, forms, procedure, rating, allowances and calculation of standard allowable minutes (SAM) for various operations in apparel manufacture - predetermined motion time standards (PMTS) - work sampling - standard data: general sewing data (GSD). Applications.						

Unit:5	Introduction to Ergonomics	20 hours
Work environment and services: Lighting, ventilation, climatic condition – temperature control, humidity control. Noise control, safety. Services: production, plant, administrative, personnel and convenience related. Work environment and services in apparel manufacturing firms. Ergonomics - application in apparel manufacture.		
Unit:6	Contemporary Issues	2 hours
Expert lectures		
Total Lecture hours		92 hours
Text Book(s)		
1	Managing Productivity of Apparel industry, Rajesh Bheda, CBI publishers and Distributors, 2002.	
2	Industrial engineering in apparel production, V. Ramesh Babu, Wood head publishing India Pvt Ltd, 2011.	
3	Apparel Manufacturing Hand Book, Analysis principles and practice, Jacob Solinger, Boblin Media Publishers, 1991.	
Reference Books		
1	Motion and Time Study Design and Measurement of Work, Ralph M Barnes, John Wiley & Sons Publications, 1992.	
2	Introduction to Clothing Production Management, A.J Chuter, Blackwell Publishing, 2007.	
Related Online Contents(MOOC,SWAYAM,NPTEL,Websites etc)		
https://www.youtube.com/watch?time_continue=4&v=qXFUqCijkUs&feature=emb_logo		
https://youtu.be/NzhUZ6jyrtU		
Course Designed By : Arundhati Ghoshal		

Mapping with Programme Outcomes								
Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	M	M	S	S	S	S	S	S
CO2	M	S	S	S	S	S	S	S
CO3	S	S	S	S	S	S	S	S
CO4	S	S	S	S	S	S	S	S
CO5	S	S	S	S	S	S	S	S

Course code	63B	ENTERPRISE RESOURCE PLANNING	L	T	P	C
Core	Paper XV		-	4	-	3
Pre-requisite	Basic knowledge about apparel enterprises and application and role of computer in apparel sector		Syllabus Version		2021-2022	
Course Objectives:						
The main objectives of this course are to:						
1. Provide the knowledge about the enterprises and its types.						
2. Help the students to understand the ERP software for apparel business.						
3. Enhance the student's knowledge in implement and utilize ERP in an apparel sector.						
Expected Course Outcomes:						
On the successful completion of the course, student will be able to:						
CO1	Understand about apparel enterprises and its types					K2
CO2	Understand about the implementation of ERP in apparel sector					K2
CO3	Apply the domain knowledge to carry out the ERP packages for various department of apparel sector					K3
CO4	Analyze about the production planning, costing and merchandising software					K4
CO5	Apply the various communication methods using software with consumers					K3
K1 - Remember; K2 - Understand; K3 - Apply; K4 - Analyze; K5 - Evaluate; K6 – Create						
Unit:1	Introduction to ERP					12 hours
Introduction: ERP: An Overview, enterprise – an overview, types of Enterprises, need for ERP, benefits of ERP, ERP and related technologies, Business Process Reengineering (BPR), Benefits of BPR.						
Unit:2	Implementation of ERP					12 hours
Implementation of ERP: ERP implementation lifecycle, implementation methodology, hidden costs, organizing the implementation, vendors, consultants and users, contracts with vendors, consultants and employees, project management and monitoring.						
Unit:3	Business Modules					12 hours
The Business Modules: Business modules in an ERP package - finance, manufacturing, human resources, plant maintenance, materials management, quality management, sales and distribution. Significance and advantages of each of the modules.						
Unit:4	ERP in apparel industry					12 hours
ERP in apparel industry: Production resource planning – principles and management of and demand chain analysis– quick response strategy - material management for Quick Response Just in Time (JIT) Technology; Production planning, costing and merchandising software.						
Unit:5	Computer Applications in Apparel sectors					12 hours
Computer Applications: Management Information System in garment industry – EDI in garment technology; Use of Computers in Designing, Pattern making, computerized production systems, communicating with vendors and buyers; Telephone, fax, video conferencing, intranet, internet, etc; Export documentation, retailing; Methods of communicating with consumers.						
					Total Lecture hours	60 hours
Text Book(s)						
1	ERP Demystified, Alexis Leon, Tata McGraw Hill, 2000.					

2	Apparel Manufacturing- Sewn Product Analysis, E. Glock Ruth & I.Kunz Grace Blackwell, Scientific Publications, 1996.
3	Enterprise Resource Planning – Concepts and Practice, Garg Vinod Kumar & N. K Venkita krishnan, PHI Publications, 2003.
Reference Books	
1	Concepts in Enterprise Resource Planning, Joseph A Brady, Ellen F. Monk, Bret Wagner, Thompson Course Technology, 2001.
2	Enterprise Resource Planning, Alexis Leon, McGraw Hill Education, 2007.
Related Online Contents(MOOC,SWAYAM,NPTEL,Websites etc)	
https://youtu.be/RUYm6HwMWyI	
https://youtu.be/UnbkuTOmX_g	
Course Designed By: D. Anita Rachel	

Mapping with Programme Outcomes								
COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	M	M	M	M	M	S	S	S
CO2	L	L	L	L	L	S	S	S
CO3	L	L	L	L	L	S	S	S
CO4	L	L	L	L	L	S	S	S
CO5	L	L	L	L	L	S	S	S

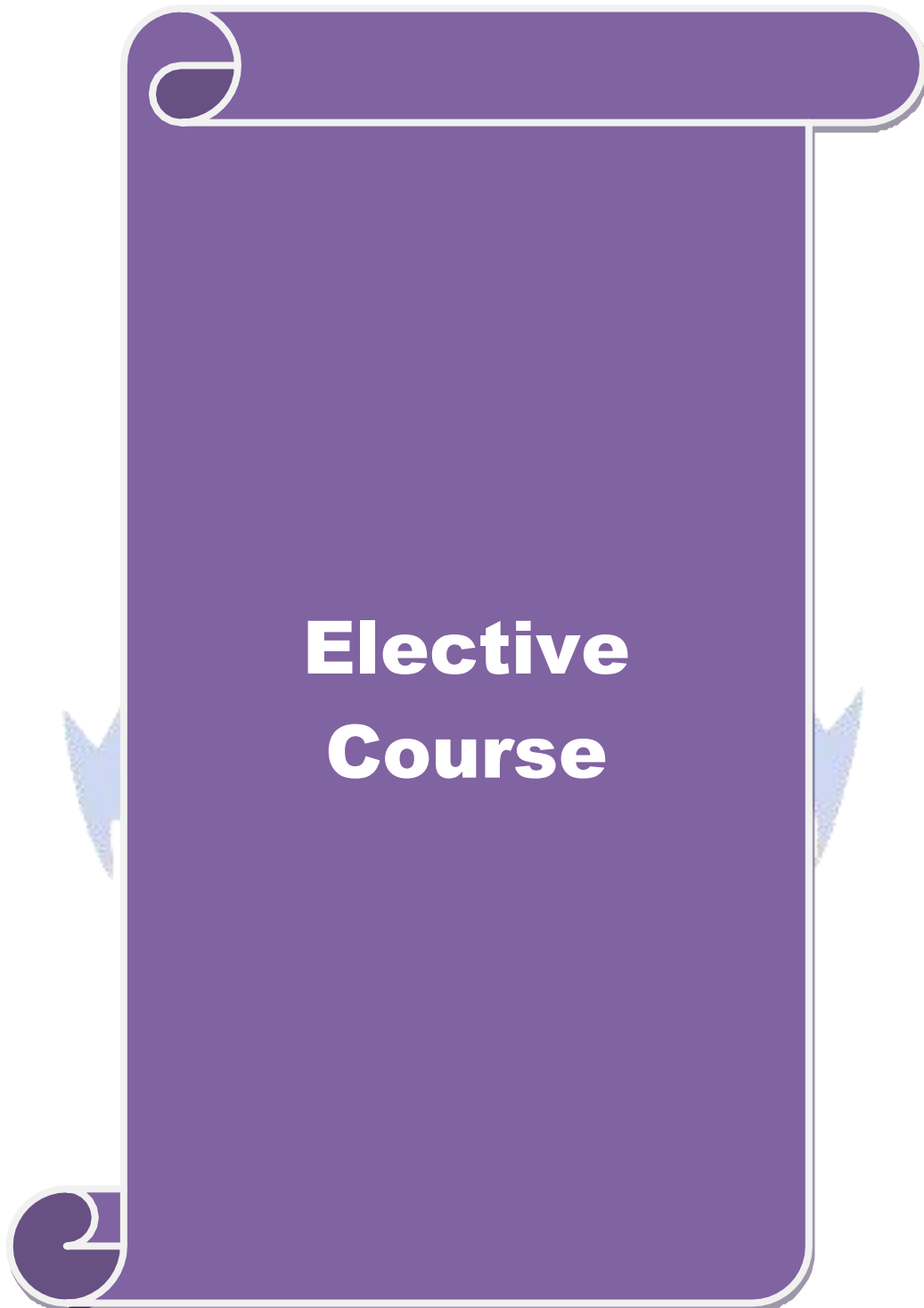
Course code	63C	ENTREPRENEURSHIP AND SMALL BUSINESS DEVELOPMENT	L	T	P	C
Core	Paper XVI		-	4	-	3
Pre-requisite	Basic knowledge about various business schemes and opportunities		Syllabus Version		2021-2022	
Course Objectives:						
The main objectives of this course are to:						
1. Provide the knowledge about the enterprise launching formalities and product selection.						
2. Help the students to understand the support institutions and management system for apparel sector.						
3. Enhance the student's knowledge in subsidies and incentive procedure to promote apparel export.						
Expected Course Outcomes:						
On the successful completion of the course, student will be able to:						
CO1	Understand about the concept of entrepreneurship					K2
CO2	Understand about the entrepreneurial opportunity and product identification					K2
CO3	Apply the domain knowledge to enterprise launching process					K3
CO4	Analyze about the various support Institutions and management of Small Business					K4
CO5	Understand about taxation benefit to SSI role of entrepreneur in export promotion and import substitution					K2
K1 - Remember; K2 - Understand; K3 - Apply; K4 - Analyze; K5 - Evaluate; K6 – Create						
Unit:1	Introduction to Entrepreneurship					12 hours
Entrepreneurship: Concept and Definitions; Entrepreneurship and Economic Development; Classification and Types of Entrepreneurs; Entrepreneurial Competencies; Factor Affecting Entrepreneurial Growth – Economic, Non-Economic Factors; EDP Programmes; Entrepreneurial Training; Traits/Qualities of an Entrepreneurs; Entrepreneur; Manager Vs. Entrepreneur.						
Unit:2	Identification and Product Selection					12 hours
Opportunity / Identification and Product Selection: Entrepreneurial Opportunity Search and Identification; Criteria to Select a Product; Conducting Feasibility Studies; Project Finalization; Sources of Information.						
Unit:3	Enterprise Launching Formalities					12 hours
Small Enterprises and Enterprise Launching Formalities : Definition of Small Scale; Rationale; Objective; Scope; Role of SSI in Economic Development of India; SSI; Registration; NOC from Pollution Board; Machinery and Equipment Selection; Project Report Preparation; Specimen of Project Report; Project Planning and Scheduling using Networking Techniques of PERT / CPM; Methods of Project Appraisal.						
Unit:4	Support Institutions and Management					12 hours
Role of Support Institutions and Management of Small Business : Director of Industries; DIC; SIDO; SIDBI; Small Industries Development Corporation (SIDC); SISI; NSIC; NISBUD; State Financial Corporation SIC; Marketing Management; Production Management; Finance Management; Human Resource Management; Export Marketing; Case Studies.						
Unit:5	Incentives and subsidies					12 hours
Incentives and subsidies – Subsidized services – subsidy for market. Transport – seed capital assistance – Taxation benefit to SSI role of entrepreneur in export promotion and import substitution.						
					Total Lecture hours	60 hours

Text Book(s)	
1	Small Scale Industries and Entrepreneurship, Desai, Vasant, Himalaya Publishing House, 2003.
2	Entrepreneurship Management, Kaulgud, Aruna, Vikas Publishing House, 2003.
3	Entrepreneurial Success: A Psychological Study, Chandra, Ravi, Sterling Publication Pvt. Ltd., 2003.
Reference Books	
1	Entrepreneurship Ideas in Action, Cynthia, L. Greene, Thomson Asia Pvt. Ltd, 2003.
2	Entrepreneurship Development: An Analytical Study, Balaraju, & Theduri, Akansha Publishing House, 2004.
Related Online Contents(MOOC,SWAYAM,NPTEL,Websites etc)	
https://nptel.ac.in/courses/110/106/110106141/	
https://nptel.ac.in/courses/110/107/110107094/	
Course Designed By: Dr.M.Mangalagowri	

Mapping with Programme Outcomes								
COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	M	M	M	M	M	S	S	S
CO2	M	M	M	M	M	S	S	S
CO3	M	M	M	M	M	S	S	S
CO4	M	M	M	M	M	S	S	S
CO5	M	M	M	M	M	S	S	S

Course code	6ZV	PROJECT WORK AND VIVA VOCE				L	T	P	C
Skill Based Subject		Skill Based Subject IV				-	-	5	3
Pre-requisite		Through Knowledge about textile, design and apparel manufacturing				Syllabus Version		2021-2022	
Course Objectives:									
The main objectives of this course are to:									
1. Helps students to involve them into research activity.									
2. Enhance the student's to conceptualize new ideas to facilitate a process or service									
3. Stimulate entrepreneurial skill of a student									
Expected Course Outcomes:									
On the successful completion of the course, student will be able to:									
CO1	Remember the subject learn from the course of time								K1
CO2	Apply the research activity in a specific topic from fiber to garment								K3
CO3	Analyze the domain Knowledge and develop new concepts or ideas								K4
CO4	Evaluate the idea or concept by either qualitative or quantitative methods								K5
CO5	Create thesis for the new findings								K6
K1 - Remember; K2 - Understand; K3 - Apply; K4 - Analyze; K5 - Evaluate; K6 – Create									
Students have to undertake project in the areas of fiber / yarn / Knitting / Weaving/ Processing /Garment Manufacturing process / Activity involved in garment business. A Team consisting of Internal & External Experts will evaluate the Project Report. The Viva-Voce will be conducted.									
								Total hours	75 hours
Text Books									
1	Research Methodology Methods and techniques, C.R.Kothari & Gaurav Garg, New Age International Publishers, 2019.								
2	Research Design: Qualitative, Quantitative and Mixed Method Approaches, John W. Crewel, Sage Publication, 2018.								
3	The Essential guide to doing research, Zina O'Leary, Vistaar Publication, 2004.								
Reference Books									
1	Research Methods, Ram Ahuja , Rawat Pubns, 2001								
2	Introducing Research Methodology: A Beginner's Guide to Doing a Research Project, Uwe Flick, Sage Publications India Private Limited, 2017								
Related Online Contents(MOOC,SWAYAM,NPTEL,Websites etc)									
https://nptel.ac.in/courses/121/106/121106007/									
https://onlinecourses.nptel.ac.in/noc19_hs59/preview									

Mapping with Programme Outcomes								
COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	S	S	S	S	S	S	S	S
CO2	S	S	S	S	S	S	S	S
CO3	S	S	S	S	S	S	S	S
CO4	S	S	S	S	S	S	S	S
CO5	S	S	S	S	S	S	S	S



Course code	5EP	PATTERN MAKING AND GARMET CONSTRUCTION OF WOVEN PRACTICAL	L	T	P	C
Elective		Paper 1 A	-	-	6	4
Pre-requisite		Knowledge about patternmaking and sewing operation	Syllabus Version		2021-2022	
Course Objectives:						
The main objectives of this course are to:						
1. Helps students to practice Pattern developments for woven garments.						
2. Understand and practice to construct woven garment Styles for Kids.						
3. Understand and practice to construct woven garment Styles for adults.						
Expected Course Outcomes:						
On the successful completion of the course, student will be able to:						
CO1	Remember the pattern development procedures for woven					K1
CO2	Understand the pattern manipulation for style line					K2
CO3	Analyze the domain Knowledge and develop pattern on fabric					K4
CO4	Create woven garments for kids wear					K6
CO5	Create woven garments for adults wear					K6
K1 - Remember; K2 - Understand; K3 - Apply; K4 - Analyze; K5 - Evaluate; K6 – Create						
Part A	Draft the pattern and Construct the following garments for Kids				25 hours	
1.	Yoke frock with gathers					
2.	Ball room gown					
3.	Shirt for boys					
4.	Pant for boys					
Part B	Draft the pattern and construct the following garments for Women				40 hours	
1.	Basic bodice					
2.	Princess cut tops					
3.	Formal shirt					
4.	Formal pant					
5.	Dividing skirts					
6.	Circular skirt					
7.	Wrap round skirt					
Part C	Draft pattern and construct the following garments for Men's wear				25 hours	
1.	Formal shirt					
2.	Casual shirt					
3.	Formal pant					
4.	Blazer					
					Total Lecture hours	90 -- hours
Text Book(s)						
1	Pattern Making for fashion design , Helen Armstrong, Pearson, 2013.					
2	Pattern Design: Fundamentals: Construction and Pattern Making for Fashion Design, Jennifer Lynne Matthews-Fairbanks, Createspace Independent Publishing Platform, 2018.					

3	The stretch and sew guide , Ann Person, Pearson Publication, 2000.
Reference Books	
1	Clothing Construction, Clara M Brown, Read Books Publishers ,2011.
2	Garment Construction: A complete course on making clothing for fit and fashion, Peg couch, Fox chapel Publishing, 2015.
Related Online Contents (MOOC, SWAYAM, NPTEL, Websites etc)	
https://youtu.be/4_FRV8fIGi0	
https://www.sciencedirect.com/topics/engineering/garment-construction	
Course Designed By: B.Jeyanthi	

Mapping with Programme Outcomes								
COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	S	S	S	S	S	S	S	M
CO2	S	S	S	S	S	S	S	M
CO3	M	S	S	S	L	S	S	M
CO4	M	S	S	S	L	S	S	S
CO5	M	S	S	S	L	S	S	S



Course code	5EQ	DRAPING PRACTICAL		L	T	P	C
Elective		Paper I B		-	-	6	4
Pre-requisite		Basic skill about pattern and fabric terms also understand the tools		Syllabus Version		2021-2022	
Course Objectives:							
The main objectives of this course are to:							
1. Helps students to understand the fundamentals of Pattern making & Grading.							
2. Understand and practice the pattern development for various Knitted Garment Styles for Kids.							
3. Understand and practice the pattern development for various Knitted Garment Styles for adults.							
Expected Course Outcomes:							
On the successful completion of the course, student will be able to:							
CO1	Remember the pattern terms and making tools						K1
CO2	Understand the pattern and grading techniques						K2
CO3	Analyze the domain Knowledge and develop paper pattern						K4
CO4	Create patterns for the various garment styles for kids						K6
CO5	Create patterns for the various garment styles for Adults						K6
K1 - Remember; K2 - Understand; K3 - Apply; K4 - Analyze; K5 - Evaluate; K6 – Create							
Part A		Draft the pattern and grade the following garments for Kids				90hours	
1. Basic Bodice front & Back							
2. Basic Skirt Front & Back							
3. Basic Sleeve							
4. Pant Front & Back							
5. Neck lines : Sweet Heart, Scooped – Boat – V neck – Round neck – Square Neck – Halter- Cowl							
6. Yokes: - Hip – Midriff – Shirt yoke							
7. Collars-Mandarin- Peter pan- Turtle – Raffeled- Shawl- Frills							
8. Skirt – Circular, Peg, Drindle, Pleated							
9. Design each one garment for men, women, and kids wear and further develop pattern through this technique.							
						Total Lecture hours	90 -- hours
Text Book(s)							
1	The Art of fashion Draping, Connie Amadan Crawford, Bloomsbury Publishing India Private Limited, 2012.						
2	Draping for Apparel Design, Hellen Joseph Armstrong, Bloomsbury Publishing India Private Limited, 2013.						
3	Draping for Fashion design, Hinbe Jaffe, Nurie Relis, Pearson Publications, 2011.						
Reference Books							
1	Draping the Complete course , Karolyn Kiisel, Laurence King Publishing, 2013.						
2	The Art of Draping, Nils-Christy, Esmod Editions, 2012.						
Related Online Contents(MOOC,SWAYAM,NPTEL, Websites etc)							
https://www.youtube.com/watch?v=_qJqziRZaG0							
https://youtu.be/h_UIHFIjDU4							

Course Designed By: Arundhati Ghoshal

Mapping with Programme Outcomes								
COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	L	L	L	L	L	S	S	S
CO2	L	L	L	M	L	S	S	S
CO3	L	M	L	M	L	S	S	S
CO4	L	M	L	L	L	S	S	S
CO5	L	L	L	L	L	S	S	S



Course code	5ER	SURFACE ORNAMENTATION - PRACTICAL	L	T	P	C
Elective		Paper I C	-	-	6	4
Pre-requisite		Basic knowledge about embroidery tools, sequins, painting, printing .	Syllabus Version		2021-2022	
Course Objectives:						
The main objectives of this course are to:						
1. Helps students to understand the fundamentals of printing of textiles.						
2. Understand and practice the pattern development for various surface embellishments using smocking, quilting etc.						
3. Understand and practice the various embroidery stitches to ornament the fabrics.						
Expected Course Outcomes:						
On the successful completion of the course, student will be able to:						
CO1	Remember the embroidery, printing and various embellishments techniques					K1
CO2	Create the fabric sample using printing techniques					K6
CO3	Create different textile texture using craft work					K6
CO4	Create embellished garment using smocking, appliqué, pleats and tucks					K6
CO5	Create various embroidery sample for garment embellishments					K6
K1 - Remember; K2 - Understand; K3 - Apply; K4 - Analyze; K5 - Evaluate; K6 – Create						
Part A	Development of samples with various printing techniques				20 hours	
<ol style="list-style-type: none"> 1. Block 2. Stencil 3. Screen 4. Tie and Dye 5. Batik 6. Fabric painting 						
Part B	Developing fabric texture using various craft techniques				10 hours	
<ol style="list-style-type: none"> 1. Drawn thread 2. Counted thread 3. Crochet 						
Part C	Developing Garment with following Embellishments				20 hours	
<ol style="list-style-type: none"> 1. Smocking 2. Applique 3. Patchwork 4. Quilting 5. Pleats and tucks 						
Part D	Developing Embroidery design on the fabric				40 hours	
Basic stitches - Includes hand & machine to form different natural & geometric forms such as, border stitches, outline stitches, filling stitches etc						
					Total Lecture hours	90 -- hours
Text Book(s)						
1	Encyclopaedia of embroidery stitches including crewel , Marion Nichols, Dover Publications, 1974.					
2	Encyclopaedia of embroidery Techniques, Pauline Brown, Search Press Ltd, 2001.					
3	The Art of Manipulating Fabric, Colette Wolff, Interweave Publication, 1996.					

Reference Books	
1	Traditional Textiles of India, Parul Bhatnagar, Suraj Publication, 2013.
2	Handcrafted Indian Textiles, Parul Bhatnagar, Abishek Publication, 2014.
Related Online Contents (MOOC, SWAYAM, NPTEL, Websites etc)	
https://youtu.be/IQD5WeYSH70	
https://youtu.be/wjCfskJeOIA	
Course Designed By: B.Jeyanthi	

Mapping with Programme Outcomes								
COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	M	M	M	L	L	S	S	S
CO2	L	L	L	L	L	S	S	S
CO3	L	L	L	L	L	S	S	S
CO4	L	L	L	L	L	S	S	S
CO5	L	L	L	L	L	S	S	S



Course code	6EP	DESIGN PROCESS & PRODUCT DEVELOPMENT II - PRACTICAL	L	T	P	C
Elective		Paper II A	-	-	6	4
Pre-requisite		Through knowledge about CAD and production techniques	Syllabus Version		2021-2022	
Course Objectives:						
The main objectives of this course are to:						
1. Provide the knowledge about the preparatory process of sewing process.						
2. Help the students to understand the working principles of various sewing machines.						
3. Enhance the students knowledge in garment finishing equipments.						
Expected Course Outcomes:						
On the successful completion of the course, student will be able to:						
CO1	Understand about the design process concepts and methods					K2
CO2	Apply the domain Knowledge and develop design portfolio and techpeck					K3
CO3	Create the garment sample for Kids wear					K6
CO4	Create the garment for Women's wear					K6
CO5	Create the garment for Men's wear					K6
K1 - Remember; K2 - Understand; K3 - Apply; K4 - Analyze; K5 - Evaluate; K6 – Create						
					90 hours	
1. Each Students make 2 High end fashion and one functional apparels (Kids / Men /Women)						
2. Designs may be inspired by national or international designer collection or their own inspiration based on current needs						
3. Students should prepare 2 kinds of file such as design process & Garment Tech pack						
4. Design file which comprises inspiration details, customer survey report, design, fabric, silhouette, color forecast details.						
5. Garment Tech pack file comprises all flat sketches , garment flow process details accessory and trims specification details and costing chart for single piece						
					Total Lecture hours	
					90 hours	
Text Book(s)						
1	Fashion Design and Product development, Harold Carr, John Pomeroy, Blackwell Publication, 1992.					
2	Portfolio design + Presentation, Anna Kiper, Batasford publications, 2014.					
3	Portfolio presentation for fashion designers, Linda Tain, Fairchild Publishers, 2010.					
Reference Books						
1	Portfolio Management, S.Kevin, Prentice hall of India, PHI publications, 2006.					
2	Design with Color: The design guide to over 1000 color combination, Alles, Jeanne, Chronicle Boos, 1992.					
Related Online Contents(MOOC,SWAYAM,NPTEL,Websites etc)						
https://youtu.be/HEsmu45SKv4						
https://youtu.be/buERDxlBn8w						
Course Designed By: B.Jeyanthy						

Mapping with Programme Outcomes								
COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	S	L	S	S	S	S	S	S
CO2	S	S	S	S	S	S	M	S
CO3	M	S	S	M	S	S	M	S
CO4	M	S	S	M	S	S	S	S
CO5	S	S	S	M	S	S	S	S

Course code	6EQ	ADVANCED FASHION AND ILLUSTRATION - PRACTICAL	L	T	P	C	
Elective		Paper II B	-	-	6	4	
Pre-requisite		Through knowledge about sketching and fashion Illustration	Syllabus Version		2021-2022		
Course Objectives:							
The main objectives of this course are to:							
1. Provide the knowledge about the drawing, painting, garment sketching.							
2. Help the students to practise fashion accessory drawing and printed designs.							
3. Enhance the student's knowledge in fashion illustration.							
Expected Course Outcomes:							
On the successful completion of the course, student will be able to:							
CO1	Understand and practise the still model and drawing from photographs					K2	
CO2	Apply the domain knowledge to practise outdoor sketching					K3	
CO3	Apply the drawing skill to develop accessory design and fashion illustration					K3	
CO4	Create painting designs for fabrics and do it on fabric					K6	
CO5	Create garment sketching for Kids, Women & Men					K6	
K1 - Remember; K2 - Understand; K3 - Apply; K4 - Analyze; K5 - Evaluate; K6 – Create							
Part A		Fashion Sketching				60 hours	
1. Still Drawing							
2. Model drawing,							
3. Fabric painting							
4. Garment Sketching - Men, Women & Kid							
a) Creating Checked effects in a garment - one colour and multiple colour							
b) Creating Printed effects in a garment - one colour and multiple colour							
5. Outdoor Sketching							
6. Fashion accessory drawing							
Part B		Fashion Illustration				30 hours	
1. Drawing from Photographs - any 2 garment designs							
2. Stylized illustration - Collage work, Cutwork illustration, 3D illustrations							
3. Group illustration with different backgrounds							
					Total Lecture hours	90 hours	
Text Book(s)							
1	Fashion Illustration Techniques, Zeshu Takamura, Rockport Publishers, 2012.						
2	Fashion Illustration & Design: Methods & Techniques for Achieving Professional Designs, Manuela Brambatti, Promopress, 2017.						
3	Fashion Flats and Technical Drawing, Bina Abling, Felis Da Costa, Bloomsbury Academic, 2017.						
Reference Books							
1	Fashion Sketch Books, Bina Abling, Bloomsbury Publishing India Private Limited, 2012.						
2	Fashion Source Book, Kathryn McKelvey, John Wiley & Sons Publications, 1996.						
Related Online Contents (MOOC, SWAYAM, NPTEL, Websites etc)							
https://youtu.be/0orqkmOGamk							
https://youtu.be/WLF00p7SDR4							

Course Designed By: R.Sneka

Mapping with Programme Outcomes								
COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	M	S	M	M	S	S	S	S
CO2	S	S	S	S	S	S	M	S
CO3	M	S	S	M	S	S	M	S
CO4	M	S	S	M	S	S	M	S
CO5	M	S	S	M	S	S	S	S



Course code	6ER	ADVANCED CAD PRACTICAL	L	T	P	C
Elective		Paper II C	-	-	6	4
Pre-requisite		Through Knowledge about fashion designing software	Syllabus Version		2021-2022	
Course Objectives:						
The main objectives of this course are to:						
1. Provide the knowledge about design software.						
2. Help the students to understand the techniques to develop designs.						
3. Enhance the student's knowledge in catalogue and fashion show backdrop designs.						
Expected Course Outcomes:						
On the successful completion of the course, student will be able to:						
CO1	Understand about various tools and techniques of software					K2
CO2	Create and develop the Image edited collage work proto type sample					K6
CO3	Create designs for screen printing in film format.					K6
CO4	Create accessory designs and Fancy effect designs on textile substrate					K6
CO5	Create garment tech pack , catalogue and fashion show back drop designs					K6
K1 - Remember; K2 - Understand; K3 - Apply; K4 - Analyze; K5 - Evaluate; K6 – Create						
Chapter:1		Collage work			10 hours	
Image Editing & Special effects, Collage work.						
Chapter:2		Print Designs on Screen making films			10 hours	
Print Designing – Designing, Colour Separation, Film Making (Each student should submit digital print out of separated color films).						
Chapter:3		Accessory design & Fancy dyeing effects			15 hours	
Accessory Designing - Hand bag, Footwear, Hat Garment designs with special effects – Batik, Tie and Die, Block print, Checks and stripes.						
Chapter:4		Garment Tech Pack development			40 hours	
Garment Tech Pack Design – Knitted casual wear.						
Chapter:5		Catalogue design and fashion show back drops			15 hours	
Layout Design, Catalogue Design – Fashion show.						
					Total Lecture hours	90 hours
Text Book(s)						
1	Fashion Designer's Handbook for Adobe Illustrator, Marianne Centner, John Wiley & Sons, 2011.					
2	Fashion Illustration & Design: Methods & Techniques for Achieving Professional Designs, Manuela Brambatti, Promopress, 2017.					
3	Practical Exercises for Photoshop & CorelDraw, J.Veeranathan, Balaji Institute of Computer Graphics, 2015.					
Reference Books						
1	PRO Fashion Sketchpad: Female Figure Poses & Accessories Templates: All in one: Design & Build Your Pro Portfolio, Aemiliana Magnus, CreateSpace Independent Publishing Platform, 2018.					

2	Fashion Illustration: Inspiration and Technique, Anna Kiper, David & Charles, 2011
Related Online Contents (MOOC, SWAYAM, NPTEL, Websites etc)	
https://www.youtube.com/watch?v=C0t1bMhKZ0Q	
https://www.youtube.com/watch?v=aTyETNebNMs	
Course Designed By: T.Suresh	

Mapping with Programme Outcomes								
COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	L	S	S	S	S	S	M	S
CO2	S	S	M	S	S	S	M	S
CO3	L	S	M	M	S	S	M	S
CO4	L	S	S	M	S	S	S	S
CO5	L	S	S	M	S	S	S	S



Course code	6EA	FASHION MERCHANDISING	L	T	P	C
Elective	Paper III A		-	5	-	4
Pre-requisite	Basic knowledge about fashion sector and their process		Syllabus Version		2021-2022	
Course Objectives:						
The main objectives of this course are to:						
1. Provide the knowledge about the fashion terms and business.						
2. Help the students to understand the fashion merchandising concepts.						
3. Enhance the student's knowledge various fashion promotion techniques.						
Expected Course Outcomes:						
On the successful completion of the course, student will be able to:						
CO1	Understand about the fashion terminologies, principles and environment					K2
CO2	Understand about the various fashion business level					K2
CO3	Understand about forecasting, designing and merchandising plan					K2
CO4	Analyze about the various fashion retailing tools					K4
CO5	Analyze the knowledge to organize to fashion promotion activities					K4
K1 - Remember; K2 - Understand; K3 - Apply; K4 - Analyze; K5 - Evaluate; K6 – Create						
Unit:1	Introduction to Fashion Terminologies					15 hours
Fashion: Meaning, Definition & Terminologies – Components of fashion - Principles of fashion – Environment of fashion: Demographic & Psychographic, Economic, Sociological and psychological factors – Fashion cycle - Leaders of fashion: Designer's role, manufacturer's role and retailer's role – Theories of fashion adoption.						
Unit:2	Fashion Business					15 hours
Scope of fashion business: Primary level, secondary level and retail level – Type of fashion designers - Fashion focus on Children Apparel: History, organization & operation, merchandising & marketing activities – Fashion focus on Ladies Apparel: History, organization & operation, merchandising & marketing activities						
Unit:3	Men's Apparel					15 hours
Fashion Focus on Men's apparel: History, organization & operation, merchandising & marketing activities – Fashion focus on Apparel accessories: History, organization & operation, merchandising & marketing activities – Fashion Forecasting – Forecasting techniques – Sources of forecasting .						
Unit:4	Fashion Merchandising					15 hours
Fashion merchandising: Store image, Target customer – Fashion direction - Design planning and selection – Merchandising plan – Buying – Receiving and Warehousing – Distribution – Retail selling and promotion – Sales evaluation – Retailing policies – Visual Merchandising (VM): Definition & Meaning – VM Techniques – Elements of VM – Functions of a Visual Merchandiser						
Unit:5	Fashion Show					15 hours
Fashion Shows –Types of Fashion Shows – Organizing fashion shows – Check points for fashion shows – Foreign Fashion Markets: France, Italy, America, Britain, German, Asian – Indian Fashion Industry. Foreign Fashion Designers: American, French, Italian, German, UK – Indian Fashion Designers – Fashion Association in India – Fashion Auxiliary services.						
					Total Lecture hours	75 hours

Text Book(s)	
1	The world of Fashion Merchandising, Mary Wolfe, Goodheart–Willcox publications, 2002
2	Inside the Fashion Business, Kitty G. Dickerson Mc Millan Publishing Co, 2002
3	Fashion Marketing and Merchandising Mary Wolfe, Goodheart –Willcox publications, 2017
Reference Books	
1	Fashion: From Concept to Consumer, Gini Stephens Frings, Pearson, 2007.
2	Visual Merchandising and Display: Studio Instant Access, Martin M. Pegler & Anne Kong, Fairchild Books, 2018
Related Online Contents(MOOC, SWAYAM, NPTEL, Websites etc)	
https://www.youtube.com/watch?v=SdPFxESXCM0	
https://www.youtube.com/watch?v=CQcOmHphL-4	
Course Designed By: B. Jeyanthi	

Mapping with Programme Outcomes								
COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	S	S	M	S	S	S	M	S
CO2	S	S	S	S	M	S	M	S
CO3	M	S	S	M	S	S	L	M
CO4	M	S	S	M	S	S	S	S
CO5	M	S	M	M	S	S	S	S

Course code	6EB	APPAREL RETAILING	L	T	P	C
Elective		Paper III B	-	5	-	4
Pre-requisite		Basic knowledge about merchandising tools and techniques	Syllabus Version		2021-2022	
Course Objectives:						
The main objectives of this course are to:						
1. Provide the knowledge about the basics of retailing.						
2. Help the students to understand the concepts and various retailing strategies.						
3. Enhance the student's knowledge brand retailing concepts.						
Expected Course Outcomes:						
On the successful completion of the course, student will be able to:						
CO1	Understand about the scope , types and functions of retailing				K2	
CO2	Understand about the various retailing strategies				K2	
CO3	Understand about the retail supply chain management				K2	
CO4	Understand about various retail operations				K2	
CO5	Understand about the retail branding				K2	
K1 - Remember; K2 - Understand; K3 - Apply; K4 - Analyze; K5 - Evaluate; K6 – Create						
Unit:1						
Introduction to Retailing					10 hours	
Retail & Retailing – Meaning & definition – Scope of apparel retailing – Retailing terminologies – Types of retailers and retail formats – Global retailing scenario – Retailing scenario in India – Functions of retailers						
Unit:2						
Retail strategies					20 hours	
Retail strategies : Operational excellence , Product differentiation, Customer intimacy – Growth strategies – Market expansion strategies – Store planning – Location planning – Store design – Store design & retailing image mix – Space mix – Effective retail space management – Store layout – Floor space management						
Unit:3						
Retail Merchandising					15 hours	
Retail merchandising – Merchandise planning – Merchandise hierarchy – Buying function – Category management – Mark up & Mark down – Shrinkage in merchandising management – Cross margin return on inventory – Supply chain management in apparel retailing – ERP in apparel industry						
Unit:4						
Fashion Merchandising					15 hours	
Retail operations – Significant areas – Store operating parameters related to customers, stocks, space, employee, finance – Managing retail personnel – Manpower planning – Types of employees in retail – Remuneration structure.						
Unit:5						
Retail Branding					15 hours	
Retail Brands and Branding – Functions of brands – Types of brands – Branding strategies – Store brands or private labels – Store brands Vs National brands – Famous apparel retail brands – Packaging – Functions of packaging – Kinds of packaging – Requisites of good package – Customer service management in retail – Service management model.						
Total Lecture hours					75 hours	
Text Book(s)						
1	Retail Management – Functional Principles & Practices, Gibson G.Vedamani, Jaico Publishing House, 2003.					

2	Retail Management Chetan Bajaj, Rajnish Tuli & Nidhi Varma Srivastava, Oxford Publisher, 2010.
3	The A to Z of Retail Management, Swapnil Saurav & Ravi Potti, Eka Publishers, 2013
Reference Books	
1	I.T. in Retailing, Robert Lewis, Unicom Seminars Ltd., 1989
2	Retail Management, Arif Sheikh and Kaneez Fatima, Himalaya Publishing House. 2008.
Related Online Contents(MOOC,SWAYAM,NPTEL,Websites etc)	
https://nptel.ac.in/courses/110/107/110107147/	
https://onlinecourses.swayam2.ac.in/imb19_mg02/	
Course Designed By: Arundhati Ghoshal	

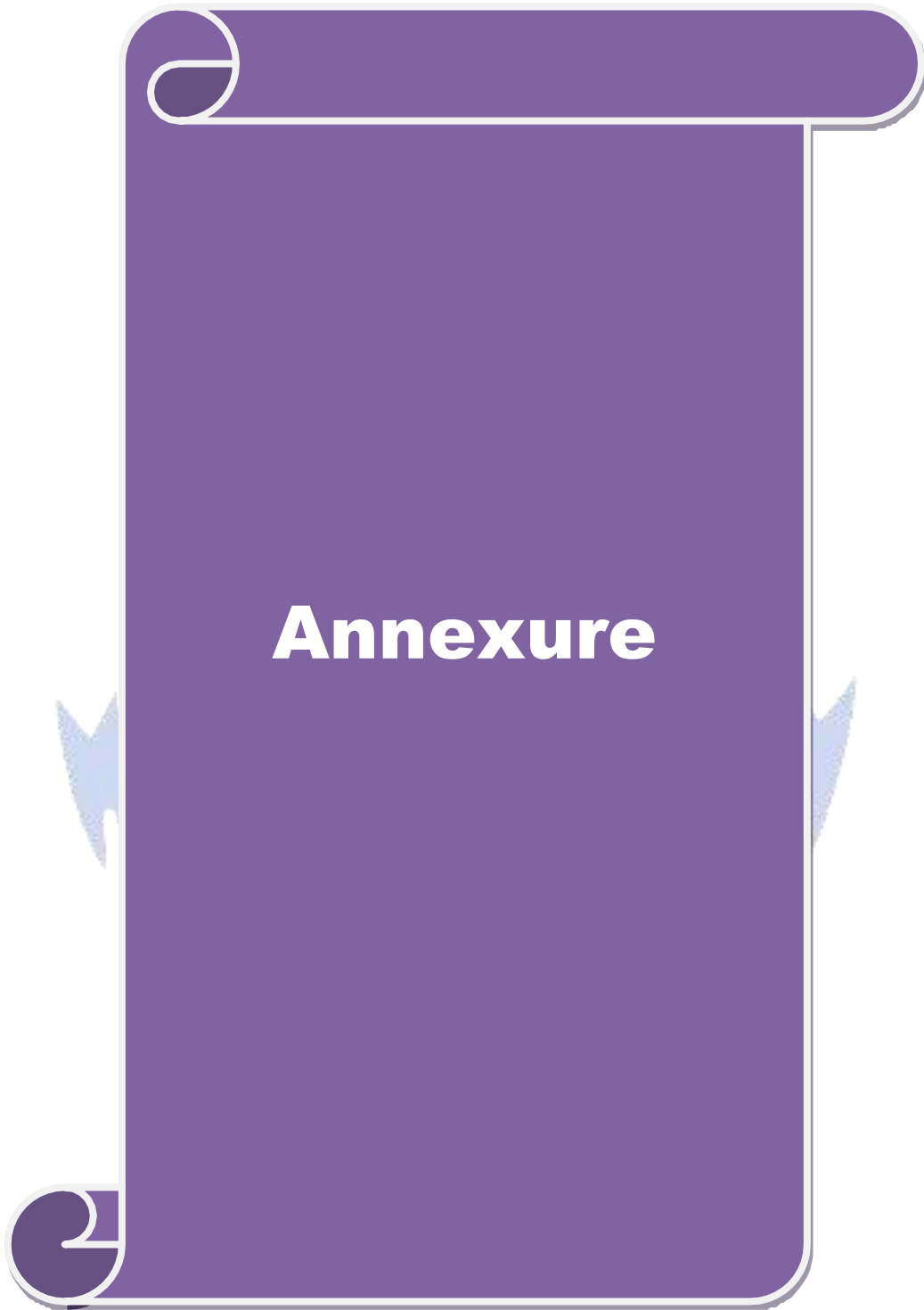
Mapping with Programme Outcomes								
COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	S	L	L	S	M	S	S	S
CO2	S	L	L	S	M	S	S	M
CO3	L	L	L	M	M	S	S	M
CO4	L	L	M	M	M	S	S	S
CO5	L	L	M	M	M	S	S	S



Course code	6EC	BRAND MANAGEMENT	L	T	P	C
Elective		Paper III C	-	5	-	4
Pre-requisite		Basic knowledge about national and international brands and their promotion techniques.	Syllabus Version		2021-2022	
Course Objectives:						
The main objectives of this course are to:						
1. Provide the knowledge about the importance of brand and its types.						
2. Help the students to understand the brand identity, position and extension activities.						
3. Enhance the students knowledge to create and maintain brand image.						
Expected Course Outcomes:						
On the successful completion of the course, student will be able to:						
CO1	Understand the concept of brand building					K2
CO2	Understand the knowledge about brand appraisal techniques					K2
CO3	Apply the domain knowledge to position brand both national and international level					K3
CO4	Analyze about the identity and extension of brand					K4
CO5	Analyze the brand promotion and and maintain brand image					K4
K1 - Remember; K2 - Understand; K3 - Apply; K4 - Analyze; K5 - Evaluate; K6 – Create						
Unit:1	Introduction to Branding					15 hours
Introduction: Brand – introduction, functions, brand significance; branding – types and strategies international apparel brands - identification of perspectives and challenges to build brand- Indian garment brands and prospects of Indian brands.						
Unit:2	Brand Appraisal					15 hours
Brand Appraisal: Brand appraisal – Definition and methods - exploration, market, customer, competition analysis, reasoning of brands importance and methods involved - laddering, emotional and rational, Brand mapping – circle, prism and triangle.						
Unit:3	Brand Positioning					15 hours
Positioning: Positioning – definition, types – benefit, usage, features, users, price, value technology, tradition, perceptual map – product class and customer segment; positioning strategies – non functional values, brand loyalty and pyramid; positioning strategies of international garment retailers.						
Unit:4	Brand Identity And Extension					15 hours
Identity And Extension: Brand identity and articulation – name, colour, design, logo and symbols, brand service advertising and cross cultural influence; brand extension – need and types; labeling and licensing of apparel products – types, license agreement, and international property rights; need for developing brand names and labels for apparel manufactured and exported from India.						
Unit:5	Brand Measurement					15 hours
Brand Measurement: Brand measurement- definition, need and methods – audit, track, brand overtime – managing brand image - need, concepts of management, forces affecting brand and maintenance of brand, Study on brands and brand management of Indian Garment.						
					Total Lecture hours	75 hours
Text Book(s)						
1	Building Brand Value, M.G.Parneswaran, Tata McGraw Hill Publishing Company					

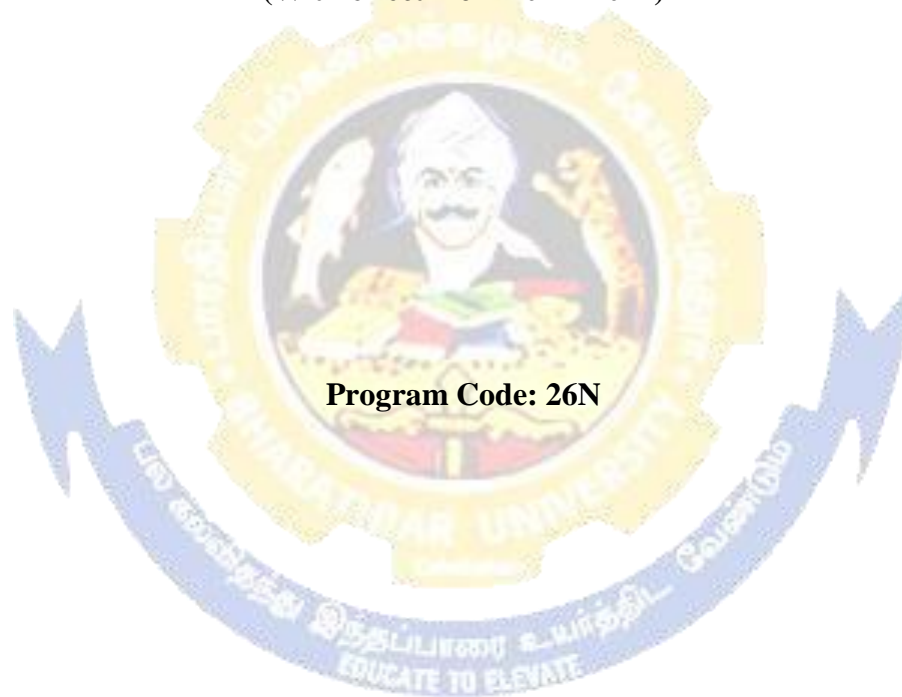
	Ltd, 2006.
2	Brand Management – The Indian Context, Y.L.R. Moorthy, Vikas Publication Pvt Ltd, 2007.
3	Brand Management Text and Cases, V. Verma Harsh, Excel books, 2006.
Reference Books	
1	Brand Management Text and Cases, U. C. Mathur, Macmillan India Ltd, 2006.
2	The Luxury Strategy: Break the Rules of Marketing to Build Luxury Brands, Jean-Noël Kapferer, Kogan Page, 2012.
Related Online Contents (MOOC, SWAYAM, NPTEL, Websites etc)	
https://www.appnova.com/marketing-strategies-for-fashion-brand/	
https://www.youtube.com/watch?v=T8lwXcdfdAU	
Course Designed By: Dr. M. Mangalagowri	

Mapping with Programme Outcomes								
Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	S	L	L	S	M	S	S	S
CO2	S	L	L	S	M	S	S	S
CO3	L	L	L	M	M	S	M	S
CO4	L	L	L	M	M	S	M	S
CO5	L	L	L	M	M	S	S	M



B. Sc. Garment Designing & Production

Syllabus
(With effect from 2021 -2022)



Program Code: 26N



Bharathiar University
(A State University, Accredited with “A“ Grade by NAAC and
13th Rank among Indian Universities by MHRD-NIRF)
Coimbatore 641 046, INDIA