PERIYAR UNIVERSITY

PERIYAR PALKALAI NAGAR

SALEM-636011

DEGREE OF BACHELOR OF SCIENCE

CHOICE BASED CREDIT SYSTEM

Syllabus for

B.Sc. FASHION TECHNOLOGY

(SEMESTER PATTERN)

(For Candidates admitted in the College Affiliated to Periyar University From 2026-2027 onwards)

REGULATIONS

I. ELIGIBILITY

Candidate seeking admission to the first year Degree of Bachelor of Science in Fashion Technology shall be required to have passed in any Higher Secondary course examination (Regular academic or Vocational) of the State Board/CBSE/ICSE or other examination accepted as equivalent thereto by the Syndicate, subject to such other conditions as may be prescribed. Pass in any three year Diploma in Fashion/Costume/Textile/Apparel related course is eligible to admit in direct second year of this UG course.

II. DURATION

The course for the degree of Bachelor of Science Fashion Technology shall extend over a period of three academic years - 6 Semesters and each semester normally consisting of 90 workingdays or 450 Hours.

III. ELIGIBILITY FOR THE DEGREE

A candidate shall be eligible for the degree of Bachelor of Science Fashion Technology, if he/she has satisfactorily undergone the prescribed courses of the study for a period not less than 6 semesters in an institution approved by the university has passed the prescribed examinations in all the 6 Semesters.

IV. SUBJECT OF STUDY

The subjects of the study for the B.Sc., Fashion Technology and the syllabus for the subjects are given in the annexure.

V. REQUIREMENT OF EXAMINATION

The theory examinations will be conducted for 3 hours by the university in the subjects prescribedfor all the semesters in every semester.

The practical examinations will be conducted by the university for 3 hours with respective toallied and core practical in all the subjects prescribed in every semester.

VI. SCHEME OF THE EXAMINATION

The scheme of examinations for the course is given in Annexure. All the practical examinations
/Internship work shall be conducted and evaluated internally by the institution themselves with internal and external examiners appointed by the university.

VII. PASSING RULES

Theory

- 75% of the marks for external evaluation and 25% marks are allotted for internal evaluation.
- Candidate is demand to have passed to a subject, if he/she get a minimum of 40% of total marks in theory subjects with internal mark of 10 marks and external marks of 30 marks.

Practical

- 60% of the marks for external evaluation and 40% marks are allotted for internal evaluation.
- For practical subjects, the candidate should get minimum marks of 24 marks in external evaluation outof 60 and 16 marks in internal evaluation out of 40.
- For project viva voce, 60 % of the marks for internal evaluation and 40 % marks are allotted forexternal evaluation.
- For project, the candidate should get minimum marks of 16 marks in internal evaluation

out of 40 and24 marks in external evaluation out of 60.

Program Specific Objectives (PSOs)	
B.Sc. (Fashion Technology)	
PSO-1	Apply principles of textile fibres, yarns, fabrics, wet processing, finishing, and quality control in textile and apparel industries.
PSO-2	Design and develop apparel products using pattern making, grading, draping, garment construction, and fashion design methodologies for men, women, and children.
PSO-3	Utilize fashion illustration, CAD tools, digital design applications, and portfolio development techniques for effective fashion communication.
PSO-4	Demonstrate proficiency in apparel manufacturing technologies, merchandising, costing, fashion marketing, and production management.
PSO-5	Integrate sustainability, innovation, entrepreneurship, and professional ethics in fashion and textile business practices.
PSO-6	Develop industry-ready competencies through internships, industrial training, projects, and skill enhancement courses for employment and self-employment opportunities.

Program Objectives (POs)	
B.Sc. (Fashion Technology)	
PO – 1	Provide comprehensive knowledge of textiles, apparel production, fashion design, merchandising, and fashion marketing.
PO –2	Develop technical skills in garment construction, pattern making, grading, draping, and apparel manufacturing processes.
PO – 3	Equip students with creative and innovative design abilities through fashion illustration, computer-aided design, and portfolio development.
PO - 4	Foster understanding of textile science, wet processing, testing, quality control, and sustainable textile practices.
PO - 5	Prepare students for careers in fashion design, garment production, merchandising, entrepreneurship, and allied industries.
PO - 6	Enhance professional competencies through internships, industrial exposure, skill enhancement courses, and project-based learning.
PO-7	Promote ethical values, environmental responsibility, entrepreneurship, and lifelong learning.

Programme Outcomes (POs)

After successful completion of the programme, students will be able to:

PO1: Fashion and Textile Knowledge
Demonstrate comprehensive knowledge of textile materials, apparel production, fashion design, merchandising, and marketing principles.

PO2: Design and Creativity
Develop innovative fashion concepts and creative solutions using design principles, colour harmonies, fashion illustration, and visualization techniques.

PO3: Technical Competency
Construct apparel products through pattern development, grading, draping, garment construction, and finishing techniques.

PO4: Textile Processing Skills
Apply textile wet processing, finishing, testing, and quality control techniques to ensure product performance and quality.

PO5: Digital Proficiency
Utilize computer applications, digital design tools, e-designing software, and emerging technologies in fashion and apparel development.

PO6: Problem Solving
Identify and solve challenges related to apparel production, manufacturing efficiency, quality assurance, and merchandising operations.

PO7: Communication and Presentation
Communicate fashion concepts effectively through sketches, technical drawings, presentations, reports, and professional portfolios.

PO8: Professional and Ethical Responsibility
Demonstrate ethical practices, social responsibility, value-based decision making, and professional conduct in the fashion industry.

PO9: Sustainability and Environmental Awareness
Apply sustainable approaches in textile selection, manufacturing, waste reduction, environmental management, and resource conservation.

PO10: Entrepreneurship and Business Management
Plan and manage fashion enterprises through knowledge of costing, merchandising, fashion marketing, business start-ups, and entrepreneurship development.

PO11: Teamwork and Leadership
Work effectively as individuals and team members in multidisciplinary environments while demonstrating leadership qualities.

PO12: Lifelong Learning
Engage in continuous learning, professional development, skill enhancement, and adaptation to emerging trends in fashion and textile industries.

Program Educational Outcomes (PEOs)	
The B.Sc. (Fashion Technology) program describes accomplishments that graduates are expected toattain within five to seven years after Graduation	
PEO1	Professional Knowledge Apply comprehensive knowledge of fashion design, textile technology, apparel manufacturing, merchandising, and marketing in professional practice.
PEO2	Technical Competency Demonstrate proficiency in pattern making, garment construction, draping, textile processing, quality control, and apparel production techniques.
PEO3	Creative Design Skills Develop innovative and aesthetically appealing fashion products by integrating design principles, fashion trends, and consumer needs.
PEO4	Digital and Technological Proficiency Utilize modern design software, computer applications, and digital technologies for fashion product development and business operations.
PEO5	Industry Readiness Adapt effectively to the dynamic requirements of the fashion, textile, retail, and apparel

	industries through practical and experiential learning.
PEO6	Entrepreneurship Development Establish and manage fashion-related enterprises, boutiques, design studios, or apparel businesses with sound managerial and entrepreneurial skills.
PEO7	Sustainable Practices Incorporate sustainable, ethical, and environmentally responsible practices in textile selection, apparel production, and fashion business activities.
PEO8	Communication and Leadership Exhibit effective communication, teamwork, leadership, and interpersonal skills in multidisciplinary and multicultural work environments.
PEO9	Research and Innovation Engage in research, innovation, and problem-solving activities to develop creative solutions for challenges in fashion and textile sectors.
PEO10	Lifelong Learning and Professional Growth Pursue higher education, professional development, certifications, and continuous learning to remain competitive in the evolving global fashion industry.

GRADUATE ATTRIBUTES

The programme nurtures graduates who are:

1. Creative and Innovative Designers
2. Skilled Apparel Technologists
3. Ethical Professionals
4. Effective Communicators
5. Sustainable Fashion Practitioners
6. Industry-Ready Technicians
7. Entrepreneurs and Business Leaders
8. Lifelong Learners

QUESTION PAPER PATTERN

THEORY

Time: 3 Hours **Total Marks: 75 Marks**

QUESTION PAPER PATTERN

Unit	Section-A	Section-B	Section-C
I	Q. 1, 2,3	Q. 16	Q. 21a, 21b
II	Q. 4,5,6	Q. 17	Q. 22a, 22b
III	Q. 7,8,9	Q. 18	Q. 23a, 23b
IV	Q. 10,11,12	Q. 19	Q. 24a, 24b
V	Q. 13,14,15	Q. 20	Q. 25a, 25b

SECTION A (15 x 1 = 15)

ANSWER ALL THE QUESTIONS

SECTION B (2 x 5 = 10)

ANSWER ANY TWO QUESTIONS

SECTION C (5 x 10 = 50)

EITHER OR CHOICE
ANSWER ALL THE QUESTIONS

INTERNAL ASSESSMENT

MARKS

TEST:	15
ASSIGNMENT:	5
ATTENDANCE:	5
	25

PASSING MINIMUM (IA) 40% - 10 MARKS

PASSING MINIMUM (UE) 40% - 30 MARKS

PASSING MINIMUM TOTAL - 40MARKS

PRACTICAL:

Time: 3 Hours **Total Marks: 60Marks**

SECTION A (1X20= 20) Either or Choice ANSWER ANYONE

SECTION B (1 X40= 40) Either or Choice ANSWER ANYONE

INTERNALMARKS:

RECORD:	25
SAMPLE:	10
ATTENDANCE:	05
TOTAL:	**40 MARKS**

PASSING MINIMUM (IA) 40% - 16 MARKS

PASSING MINIMUM (UE) 60% - 24 MARKS

PASSING MINIMUM TOTAL - 40 MARKS

B.Sc., FASHION TECHNOLOGY PROGRAMME
SCHEME OF EXAMINATION
LEARNING OUTCOMES-BASED CURRICULUM FRAMEWORK WITH CBCS
(For the students admitted in the academic year 2026 – 2027 onwards)

S. No	Semester	Course Code	Part	Course Group	Course Type	Course Title	Hours/ Week	Exam Hours	CIA	EA	Total Marks	Credit	Page No
1	I		I	Language I	Theory	General Tamil -I	6	3	25	75	100	3	
2			II	Language II	Theory	General English -I	6	3	25	75	100	3	
3			III	Core I	Theory	Pattern Making and Grading	5	3	25	75	100	5	14
4				Core II	Practical	Basics of Apparel Designing Practical	6	3	40	60	100	5	16
5				Allied I	Theory	Fiber and Yarn Science	4	3	25	75	100	4	18
6			IV	NME - I	Practical	E – Designing Practical	2	3	40	60	100	2	20
7				Foundation Course - I	Theory	Value Education	1	3	25	75	100	1	
						Total	**30**		**700**			**23**	
8	II		I	Language I	Theory	General Tamil – II	6	3	25	75	100	3	
9			II	Language II	Theory	General English - II	6	3	25	75	100	3	
10			III	Core III	Theory	Historic Costumes and Textiles of India	4	3	25	75	100	5	22
11				Core IV	Practical	Children's Apparel Practical	4	3	40	60	100	5	24
12				Allied II	Practical	Fashion Illustration & Sketching Practical	4	3	40	60	100	4	26
13			IV	NME –II	Practical	Needle Craft and Fabric Painting Practical	2	3	40	60	100	2	27
14				Foundation Course II	Theory	Disaster Management	2	3	25	75	100	1	
15				NMSDC-I	Theory	NMSDC	2	3	25	75	100	2	
						Total	**30**		**800**			**23+2**	

S. No	Semester	Course Code	Part	Course Group	Paper Type	Subject Title	Hours/ Week	Exam Hours	CIA	EA	Total Marks	Credit	Page No
16	III		I	Language I	Theory	General Tamil - III	6	3	25	75	100	3	
17			II	Language II	Theory	General English -III	6	3	25	75	100	3	
18			III	Core V	Theory	Fabric Science	3	3	25	75	100	3	29
19				Core VI	Practical	Fashion Design Concept and Methodology Practical	3	3	40	60	100	2	31
20				Allied III	Practical	Fabric Science	4	3	40	60	100	4	33
21			IV	Elective I	Theory	Apparel Manufacturing Machineries and Equipments / Fashion Clothing Psychology	4	3	25	75	100	3	34/36
				Skill Enhancement Course (SEC-I)	Practical	Beauty Care Practical	2	3	40	60	100	2	38
22				NMSDC II	Theory	NMSDC	2	3	25	75	100	2	
23				Foundation Course III	Theory	Health and Wellness	-	Commended / Highly Commended				1	
						Total	**30**		**800**			**21+2**	
24	IV		I	Language I	Theory	General Tamil – IV	6	3	25	75	100	3	
25			II	Language II	Theory	General English -IV	6	3	25	75	100	3	
26			III	Core VII	Theory	Textile Wet Processing	4	3	25	75	100	5	39
27				Core VIII	Practical	Women's Apparel Practical	4	3	40	60	100	5	41
28				Allied IV	Practical	Home Textiles Practical	3	3	40	60	100	4	42
29				Elective II	Theory	Textile Finishing / Garment Accessories & Trims	3	3	25	75	100	3	43/44
30			IV	Skill Enhancement Course (SEC-II)	Practical	Textile Wet Processing Practical	2	3	40	60	100	2	46
31				NMSDC-III	Theory	NMSDC	2	3	25	75	100	2	
						Total	**30**		**800**			**25+2**	

15 days internship in a Garment Production/Buying House/Textile Processing Industries during summer holidays. Assessment will be at the end of Vth Semester.

S. No	Semester	Course Code	Part	Course Group	Paper Type	Subject Title	Hours/ Week	Exam Hours	CIA	EA	Total Marks	Credit	Page No
32	V		III	Core IX	Theory	Apparel Costing and Merchandising	6	3	25	75	100	5	48
33				Core X	Practical	Men's Apparel Practical	7	3	40	60	100	5	51
34				Core XI	Practical	Computer Application in Garment Designing Practical	6	3	40	60	100	5	52
35				Elective III	Theory	Knitting and Non-woven/ Basics of Cosmetology	5	3	25	75	100	3	54/56
36			IV	Skill Enhancement Course (SEC-III)	Theory	Fashion Business Start up	2	3	25	75	100	2	58
37				EVS	Theory	Environmental Studies	2	3	25	75	100	2	
38				-	Summer Internship / Industrial Training	Internship Project - Viva-Voce	-	Commended / Highly Commented				2	60
39				NMSDC- IV	Theory	NMSDC	2	3	25	75	100	2	
						Total	**30**		**700**			**24+2**	
40	VI		III	Core XII	Theory	Textile Testing and Quality Control	7	3	25	75	100	5	62
41				Core XIII	Practical	Surface Embellishment and Fashion Accessories Practical	6	3	40	60	100	5	64
42				Core XIV	Project & Viva-Voce	Fashion Portfolio Presentation - Viva Voce	5	3	40	60	100	5	66
43				Core XV	Theory	Fashion Marketing	5	3	25	75	100	5	68
44				Core XVI	Practical	Fashion Draping Practical	5	3	40	60	100	5	70
45			IV	NMSDC V	Theory	NMSDC	2	3	25	75	100	2	
46						Extension Activity	-		-	-	-	1	
						Total	**30**		**600**			**26+2**	
							180		**4400**			**142+10**	

NME* - **Non-Major Elective course**

NMSDC* - **Naan Mudhalvan Skill Development Course**

LIST OF ELECTIVE COURSES

Elective – I

1A - Textile Finishing

1 B - Garment Accessories & Trims

Elective – II

2A - Apparel Manufacturing Machineries and Equipments

2B - Fashion Clothing Psychology

Elective – III

3A - Knitting and Non-woven

3B - Basics of Cosmetology

LIST OF ALTERNATIVE COURSES FOR NMSDC

Students who do not pass the Naan Mudhalvan course shall appear for the following alternative course offered during the respective semester and complete the examination as an arrear course.

NMSDC – I - Fashion Appreciation - Page Number - 71

NMSDC – II - Care and Maintenance of Textiles -Page Number - 72

NMSDC – III - Apparel Production Management - Page Number - 74

NMSDC – IV - Fashion Forecasting - Page Number - 76

NMSDC – V - Entrepreneurship Development - Page Number - 78

FIRST SEMESTER

SEMESTER I

Course Code	Course Title	Course Category	Credits	Hours
	PATTERN MAKING AND GRADING	**Core Course – I-Theory**	**5**	**5**

Course Objectives:

- To understand the importance of body measurements, standardization techniques, and the preparation of measurement charts for different age groups.
- To develop knowledge and skills in pattern drafting, dart manipulation, commercial pattern preparation, and garment fitting techniques.
- To acquire practical competency in draping methods, dress form preparation, grain identification, and muslin preparation for garment development.
- To apply grading principles and fabric preparation techniques for accurate pattern scaling and efficient fabric cutting.
- To analyze pattern alteration requirements and create optimized pattern layouts using conventional and AI-assisted pattern-making practices.

Expected Course Outcomes:

On the successful completion of the course, student will be able to learn as follows:

CO1	Explain body measurement techniques, standardization procedures, and prepare measurement charts for apparel production.	K2
CO2	Draft basic garment patterns, perform dart manipulations, and evaluate commercial patterns for various apparel categories.	K3
CO3	Demonstrate draping techniques by preparing dress forms, muslin fabric, and grain-aligned pattern components.	K3
CO4	Analyze and apply grading methods, fabric preparation processes, and cutting principles for quality garment manufacturing.	K4
CO5	Modify patterns, prepare efficient layouts, and utilize AI-based tools to support sustainable and innovative pattern-making practices.	K5-K6

K1 - Remember; **K2** - Understand; **K3** - Apply; **K4** - Analyze; **K5** - Evaluate; **K6** – Create

Unit:1	**BODY MEASUREMENTS**

Importance, Preparation for measuring, Girls and Ladies measurements, Boy's and Men's measurements. Standardizing body measurements, Importance, Techniques used. Relative length and girth measurements. Preparation of standardized measurement chart.

Unit:2	**DRAFTING**

Pattern making terminology, Methods of pattern making, Types of paper patterns, Pattern making tools, Steps in drafting Bodice front, Bodice back, Sleeve, Skirt front and back, Collar- one piece peter pan and shirt collar. Dart Manipulation, Technique-Slash and Spread method and Pivotal method. Study of commercial pattern, Merits and Demerits. Preparation of commercial pattern for kids. Fitting – Standards of a good fit, Steps in preparing a blouse for fitting, checking the fit of a blouse.

Unit:3	**DRAPING**

Draping -Definition and Meaning, Need for draping, Importance of Draping Technique, Advantages and Disadvantages, Tools and Equipment's used for Draping, Preparation of dress form. Importance of grain, preparation of Muslin Material, straightening, tearing and pressing.

Unit:4	**GRADING AND PREPARATION OF FABRIC FOR CUTTING**

Grading-Introduction and importance of grading, Manual Grading of basic bodice – front and back, Sleeve, skirt and Collar, Computerized Grading. Basic terms: Grain, Selvedge, On grain, Off Grain, Off Grain Print, With the Grain, Against the Grain, Importance of Grain in Fabric. Cutting-Preparing the Fabric for Cutting, Methods of straightening fabric ends, Methods of straightening fabric grain, shrinking fabrics.

Unit:5	**PATTERN ALTERATION AND LAYOUT**

Importance of altering patterns, Principles for pattern alteration, common pattern alteration in blouse. Pattern layout - Definition, Purpose, Rules in layout, Types of layout and Special layouts. Piecing, transferring pattern markings, AI tools for pattern drafting and grading, future trends and sustainable practices using AI for Pattern making.

Text Book(s)

1	Mary Mathews, Practical Clothing Construction- Part I and II, - Cosmic Press, Madras,1990
2	Helen Joseph Armstrong, (2014).Pattern Making for FashionDesign.5theditions. India: Dorling Kindersley
3	GayatriVerma, (2006).Cutting and Tailoring Course. New Delhi: Asian publishers.
4	Connie Amaden Crawford,(2005).The Art of Fashion Draping III Edition. OM Books International.
5	LoriA.Knowles,(2005).The Practical *Guide to Pattern Making for Fashion Designers*. NewYork: Fair Child, Publications, Inc.

Related Online Contents [MOOC, SWAYAM, NPTEL, Websites etc.]

1	https://textilelearner.blogspot.com/2014/03/methods-off-garment-parttern-grading.html
2	https://www.threadsmagazine.com/2008/11/01/making-sense-of-pattern-grading
3	https://www.clothingpatterns101.com/pattern-grading.html

SEMESTER I

Course Code	Course Title	Course Category	Credits	Hours
	BASIC APPAREL DESIGNING PRACTICAL	**Core Course – II - Practical**	**5**	**6**

Course Objectives:

- To develop practical skills in preparing and analyzing various seam and seam finish samples used in garment construction.
- To provide hands-on experience in producing different classes of stitches (Class 100 to Class 600) and understanding their applications.
- To train students in the construction of hems, fullness techniques, facings, bindings, plackets, and fasteners used in apparel manufacturing.
- To enable students to prepare and evaluate different garment components such as sleeves, collars, yokes, and pockets.
- To enhance technical competency, accuracy, and workmanship in garment construction through sample development and practice.

Expected Course Outcomes:

On the successful completion of the course, student will be able to:

CO1	Identify and classify various seams, seam finishes, stitch classes, hems and Fullness techniques used in apparel construction.	P1
CO2	Explain the construction features and applications of facings, bindings, plackets, fasteners, sleeves, collars, yokes, and pockets.	P2
CO3	Prepare samples of seams, stitches, hems, fullness, facings, bindings, plackets, and fasteners using suitable sewing methods.	P3
CO4	Analyze and select appropriate garment construction techniques based on fabric properties, design requirements, and functional needs.	P4
CO5	Develop high-quality garment component samples demonstrating precision, creativity, and industry-standard finishing techniques.	P5

P1 – Imitation; **P2** – Manipulation; **P3** – Precision; **P4** – Articulation; **P5** – Naturalization

List of Experiments

1. Preparation of Samples for Seams and Seam Finishes.
2. Preparation of Stitches ((Class 100 to Class 600))
3. Preparation of Samples for Hems.
4. Preparation of Samples for Fullness. (Darts, Tucks, Pleats, Gathers, Flares, Ruffles, Godets and Gathers)
5. Preparation of Samples for Facing and binding. (Any2)
6. Preparation of Samples for Plackets and fasteners. (Any2)
7. Preparation of Samples for different Sleeves. (Any2)
8. Preparation of Samples for different Collars. (Any2)
9. Preparation of Samples for different Yokes. (Any2)
10. Preparation of Samples for different pockets. (Any2)

Text Book(s)

1	Gayatri Verma and Kapil Dev,(2006).*Cutting and TailoringCourse*. New Delhi: AsianPublishers
2	.KRZarapker, (2005*).ZarapkerSystemofCutting.*New Delhi: NavneetPublicationsLtd.
3	ThangamSubramaniam,(2006).DressMaking-BombayTailoringand Embroidery College
4	Ruth Sleigh Johnson,(2011).Practical sewing techniques. London :AandC Blackpublishers

Related Websites

1	https://ecourseonline.iasri.res.in/mod/page/view.phb?id=114171
2	https://www.fibertofashion.com/industry-article/5658/basic-of-pattern-making
3	https://www.clothingpatterns101.com/style-lines.html

SEMESTER I

Course Code	Course Title	Course Category	Credits	Hours
	FIBER AND YARN SCIENCE	**Allied– I- Theory**	**4**	**4**

Course Objectives:

The main objectives of this course are to:

- To provide fundamental knowledge of textile fibers, their classification, properties, manufacturing processes, and applications in the textile industry.
- To develop an understanding of natural, regenerated, and synthetic fibers, including their physical, chemical, and performance characteristics.
- To familiarize students with pre-spinning processes such as ginning and blow room operations, and their role in fiber preparation.
- To impart knowledge of yarn manufacturing processes including carding, drawing, combing, simplex, and ring spinning operations.
- To enable students to analyze yarn structures, twist classifications, count systems, and the production of various yarn and thread types.

Expected Course Outcomes:

On the successful completion of the course, student will be able to:

CO1	Explain the classification, properties, manufacturing processes, and end uses of natural, regenerated, and synthetic textile fibers.	K2
CO2	Differentiate various textile fibers based on their physical, chemical, and functional characteristics for specific applications.	K3
CO3	Describe and apply the principles of ginning and blow room processes involved in fiber preparation.	K3
CO4	Analyze the sequence and functions of yarn production processes from carding to ring spinning.	K4
CO5	Evaluate yarn types, twist classifications, and count systems for selecting suitable yarns in textile and apparel applications.	K5

K1 - Remember; **K2** - Understand; **K3** - Apply; **K4** - Analyze; **K5** - Evaluate; **K6** – Create

Unit:1	**Introduction of Textile Fibers**	

Introduction to Textile fibers - Definition, Classification of fibers - Essential and Desirable properties – Natural fibers- cotton, linen, silk, wool, Jute, - Manufacturing, Physical and chemical Properties and end uses. Brief study of fibres - Kapok, Bamboo, Banana, Coir, Sisal, Hemp, Soy bean.

Unit:2	**Filament Spinning System**

Manmade fibers - Polyester, Nylon. Regenerated fibers – Viscose rayon, Modal, Manufacturing, Physical, chemical Properties and end uses. Brief study of Kevlar, spandex/ Lycra, Lyocell and Glass fibres.	
Unit:3	**Pre-Production Process**
Ginning – Objects – Types of Ginning - Working principle of knife roller gin. Blow room process – objects of mixing, objects of blow room, working principles of axi-flow cleaner, krischner beater, lap forming Unit (Scutcher) - cleaning efficiency.	
Unit:4	**Yarn Production Process**
Carding – Objects, working principles of modern carding. Draw frame – Objects, Roller drafting, working principles of draw frame. Comber – Objects, working principles. Simplex – Objects, working principles, Spinning (Ring frame) – Objects, Working principles.	
Unit:5	**Post Yarn Production Process**
Yarn – Definition, Classification, simple, fancy and sewing threads, manufacturing process. Yarn twist – classification of twist, yarn count systems.	
Text Book(s)	
1	A Text Book of Fiber Science and Technology, Mishra, S.P, New Age International (P) Ltd Publishers, New Delhi 2000.
2	Spun Yarn Technology, Eric Oxtoby, Butterworth-Heinemann, Published in 1987.
3	The Motivate Series – Textiles, Wynne, A, Publisher : Macmillan EducationLtd., London, 1997.
4	Hand Book of Textile Fibers – Vol. I and Vol. II. Gordon Cook, J, Wood Head Publishing Ltd., Cambridge, England, 1984.
5	Man-made Fibers, Moncrieff, W, Butterworth Scientific Publication, 1975.
6	Handbook of Textile Fibers: Natural Fibers,J Gordon Cook , Wood head publication Limited, 1984.
Related Online Contents [MOOC, SWAYAM, NPTEL, Websites etc.]	
1	https://textilelearner.blogspot.com/
2	https://www.textiletoday.com.bd/category/innovations/fiber-yarn-fabric/
3	https://study.com/academy/lesson/textile-yarns-definition-types-classification.html

SEMESTER I

Course Code	Course Title	Course Category	Credits	Hours
	E- DESIGNING PRACTICAL	**Non-Major Elective Course I-Practical**	**2**	**2**

Course Objectives:

- To develop practical skills in using design software for creating brand identity elements such as logos, stationery, labels, and tags.
- To enable students to design professional visual communication materials including visiting cards, letterheads, envelopes, and calendars.
- To provide hands-on experience in applying various colour harmony schemes to create aesthetically appealing design compositions.
- To demonstrate the application of design principles such as balance, rhythm, emphasis, proportion, and harmony in dress design.
- To foster creativity and technical proficiency in developing integrated visual communication and fashion design projects.

Expected Course Outcomes:

On the successful completion of the course, student will be able to:

CO1	Create brand identity materials including logos, visiting cards, letterheads, envelopes, labels, tags, and calendars using design software.	P1
CO2	Apply appropriate software tools and design techniques to produce professional-quality visual communication designs.	P2
CO3	Develop design compositions using monochromatic, analogous, complementary, split-complementary, triad, tetrad, double complementary, and neutral colour harmonies.	P3
CO4	Analyze and incorporate principles of design such as balance, rhythm, emphasis, proportion, and harmony in dress design projects.	P4
CO5	Produce a portfolio of creative visual communication and apparel design works demonstrating technical competence and aesthetic understanding.	P5

P1 – Imitation; **P2** – Manipulation; **P3** – Precision; **P4** – Articulation; **P5** – Naturalization

1.Using design software create the following visual communication design

- Create brand name and design logo for it.
- Design Visiting card, Letter pad and Envelop design
- Design a Calendar
- Design Label for your brand
- Design Tag for your brand

2. Application of colour harmony in Design

- Monochromatic colour harmony
- Analogous colour harmony
- Complementary colour harmony
- Double Complementary colour harmony
- Split complementary colour harmony
- Triad colour harmony
- Tetrad colour harmony

• Neutral colour harmony
3. Applications of principles of design in dress design • Balance –Formal and informal • Rhythm – by line movement, gradation, repetition. • Emphasis • Proportion • Harmony

Text Books	
1	Bride M. Whelan, "Colour Harmony – A Guide to Creative Colour Combinations", Rockport Publishers, USA (1997).
2	James Stockton, "Color", Chronicle Book Publishers, San Francisco (1984).
3	Computer Aided Design and Manufacturing (Test CAD Programs Inside), Sadhu Singh, Khanna Publications, 1998.
Related Online Content [MOOC, SWAYAM, NPTEL, Websites etc.]	
1	https://medcraveonline.com/JTEFT/various-approaches-in-pattern-making-for-garment-sector.html
2	https://www.youtube.comwatch?v=jTWtQNTJt_A
3	https://www.youtube.comwatch?v=iX7O4X7O4fNQijA

SEMESTER II

Course Code	Course Title	Course Category	Credits	Hours
	HISTORIC COSTUMES AND TEXTILES OF INDIA	**Core Course III-Theory**	**5**	**4**

Course Objectives:

The main objectives of this course are to:

- To study the evolution of costumes from ancient civilizations and understand their influence on Indian costume traditions.
- To examine the history and development of Indian costumes from the Pre-Vedic period to the British Raj.
- To understand the techniques, characteristics, and significance of dyed, printed, and handwoven textiles of India.
- To explore the traditional costumes, embroideries, and jewellery practices of different regions and cultures of India.
- To develop an appreciation of India's rich textile, embroidery, and jewellery heritage and its contribution to fashion and cultural identity.

Expected Course Outcomes:

On the successful completion of the course, student will be able to:

CO1	Analyze the evolution of costumes from ancient civilizations and various historical periods of India.	K4
CO2	Explain the processes, characteristics, and cultural importance of Indian dyed, printed, and handwoven textiles.	K2
CO3	Identify and describe the traditional costumes of different states of India and their regional variations.	K1
CO4	Understand the origin, techniques, materials, and distinctive features of major traditional embroideries of India.	K2
CO5	Evaluate the historical significance and artistic value of Indian jewellery, gems, and precious stones across different periods.	K5

K1 - Remember; **K2** - Understand; **K3** - Apply; **K4** - Analyze; **K5** - Evaluate; **K6** – Create

Unit:1	**Fashion Evolution**

Fashion Evolution -Beginning of Civilization –costumes of men and women: Ancient Greek, Ancient Roman, Ancient Egyptian, and French costumes at 17th century. **Indian Costumes-** Beginning of costumes- Pre Vedic Era and Post Vedic Era: Mauryan, Kushan Dynasty, Gupta Dynasty - Mughal Period - Costumes of the British Raj.

Unit:2	**Dyed and Printed Textiles of India**

Dyed and Printed Textiles of India -Process Of Dyed And Printed textiles of India: Kalamkari, Ikkat, Bandhani, Batik, Bagru Hand woven textiles of India: Dacca Muslin, Banarasi/ Chanderi, Brocades, Baluchari, Himrus and Amrus, Kashmiri shawls, Pochampalli Sarees, Silk sarees of Kancheepuram.

Unit:3	**Traditional Costume of Different States of India**

Traditional Costume of Different States of India -Tamil Nadu , Kerala , Andhra Pradesh , Karnataka, Assam, Orrisa, Bihar, Karnataka, West Bengal, Maharastra, Rajasthan, Haryana, Uttar Pradesh, Jammu and Kashmir, Gujarat, Madhya Pradesh.

Unit:4	**Traditional Embroideries of India**

Traditional Embroideries of India - Origin ,Embroidery stitches used –embroidery of Kashmir, Phulkari of Punjab ,Gujarat – Kutch and Kathiawar, embroidery of Rajasthan , Kasuti of Karnataka ,Chicken work of Lucknow, Kantha of Bengal – in all the above – types and colors of fabric /thread.	
Unit:5	**Indian Jewellery**
Indian Jewellery– jewelleries used in the period of Indus valley civilization ,Mauryan period , Gupta Period , the Pallava and Chola Period ,Symbolic Jewellery of South India,Mughal period. Temple Jewellery of South India, Tribal jewellery.A brief study of gems and precious stones.	
Text Book(s)	
1	G.H Ghosrye, “Indian Costume”, Popular books Pvt Ltd
2	Jamila Brij Bhushan, D B Tarapore, “The costumes and textiles and India” , vala Sons and Co, Bombay (1958)
3	Das S.N, DB Tarapore, “Costumes of India and Pakistan”, vala Sons and co, Bombay (1956).
4	Francois Boucher, “History of Costumes in the West”
5	Elizabeth Ewing, “History of 20th Century Fashion”, [Revised By -Alice Macrell].

Course Code	Course Title	Course Category	Credits	Hours
	CHILDREN'S APPAREL PRACTICAL	**Core Course IV-Practical**	**5**	**4**

Course Objectives:

- To develop knowledge of measurement taking, pattern drafting, layout planning, and garment construction techniques for children's garments.
- To acquire skills in designing and drafting various styles of children's wear based on standard measurements.
- To understand garment components, assembly sequences, seam applications, and production methods used in children's apparel.
- To analyze garment construction processes through breakdown analysis and quality requirements.
- To calculate CMT (Cutting, Making, and Trimming) cost and total garment cost for children's garments.

Expected Course Outcomes:

On the successful completion of the course, student will be able to:

CO1	Recall standard body measurements, pattern symbols, and layout methods used in children's garment construction.	P1
CO2	Explain garment components, construction procedures, assembly sequences, and seam types used in children's wear.	P2
CO3	Apply pattern drafting, cutting, and stitching techniques to construct various children's garments such as bibs, panties, frocks, knickers, and shirts.	P3
CO4	Analyze garment breakdown processes, fabric utilization, and production requirements for different children's garment styles.	P4
CO5	Evaluate CMT costing and total garment costing for children's garments based on material and manufacturing requirements.	P5

P1 – Imitation; **P2** – Manipulation; **P3** – Precision; **P4** – Articulation; **P5** – Naturalization

Designing, drafting and constructing the following garments for the features prescribed in the following criteria.

- Measurements chart
- Layout method
- Break down analysis of the garment
- Sequence of Assembling and its procedures.
- Type of seam for each assembly process.
- CMT costing and garment costing

CHILDREN'S GARMENTS

1. Bib- Variation in outline shape
2. Panty-plain or plastic lined panty
3. Jabla- without sleeve, front open (or) Magyar sleeve, back opens
4. Baba suit- knicker with chest piece attached (or)Romper
5. A-Line Frock- double pointed dart, neck line and arm hole finished with facing
6. Summer frock- with suspenders at shoulder line, without sleeve/collars(or) Angel top with raglan sleeve, fullness at neck line
7. Yoke frock- yoke at chest line, with open, puff sleeve, gathered skirt9OR0 frock-with collar, without sleeve, gathered/ circular skirt at waist line(or) Princess line frock
8. Knicker- elastic waist, side pockets.
9. Shirt- open collar, with pocket

Text Book(s)

1	Practical Clothing Constructing-Part I and II, Mary Mathews, Cosmic Press, Chennai(1986)
2	Zarapker System of Cutting- Zarapker. K. R, Navneet Publications ltd.
3	Cutting and Tailoring course, Gayathri Verma and Kapil Dev, Computech Publications
Related Online Contents [MOOC, SWAYAM, NPTEL, Websites etc.]	
1	https://epgp.inflibnet.ac.in/home/viewsubject?catid=827
2	https://www.youtube.com/watch?v=LuazkYL0j3a
3	https://www.youtube.com/watch?v=nI-shbmnuVg

SEMESTER II

Course Code	Course Title	Course Category	Credits	Hours
	FASHION ILLUSTRATION AND SKETCHING PRACTICAL	**Allied II - Practical**	**4**	**4**

Course Objectives:

- To develop fundamental skills in fashion figure drawing and fashion illustration techniques.
- To enhance the ability to sketch garments, design details, and fashion accessories accurately.
- To train students in rendering fabrics, textures, colors, and surface ornamentation in fashion sketches.
- To improve visual communication skills for presenting fashion ideas and design concepts.
- To enable students to create professional fashion illustrations and presentation sheets for apparel design.

Expected Course Outcomes:

On the successful completion of the course, student will be able to:

CO1	Recall the principles of fashion illustration, body proportions, and sketching techniques.	P1
CO2	Explain the methods of drawing fashion figures, garments, accessories, and design details.	P2
CO3	Apply illustration techniques to create fashion sketches using various drawing and rendering media.	P3
CO4	Analyze garment silhouettes, fabric drapes, textures, and design elements through fashion illustration	P4
CO5	Create professional fashion illustrations, portfolio sheets, and design presentations for apparel collections.	P5

P1 – Imitation; **P2** – Manipulation; **P3** – Precision; **P4** – Articulation; **P5** – Naturalization

1. Different types of collar, Sleeve, Neckline and skirts.
2. Different types of ladies tops, Shirt, Pant(Full and half)
3. Different types of Accessories – Bags ,footwear , hats etc
4. Different types of Ornaments
5. Facial features – Eyes ,nose , lips, Ears
6. Face ,hands legs – Different positions
7. Lay figure -7 1/2 head
8. Fashion figure -8 , 10 ,12 head.
9. Illustrate Male and Female face – Front View, Three quarter turned view and Profile View (Side View)

Text Book(s)

1	Patric John Ireland, Fashion Design Illustration –Women, B.T.Batsfort Ltd, London (1993).
2	Patric John Ireland, Fashion Design Drawing and Presentation, B.T.Batsfort Ltd, London (1982).
3	Patric John Ireland, Fashion Design Illustration –Men, B.T. Batsfort Ltd, London(1996).
4	Wolfgang. H. Hageney, Checks And Stripes –Classic Variations in Colour Vol.I,Belveden (1997).

SEMESTER II

Course Code	Course Title	Course Category	Credits	Hours
	NEEDLE CRAFT AND FABRIC PAINTING PRACTICAL	**Non-Major Elective Course II- Practical**	**2**	**2**

Course Objectives:

- To develop basic skills in needlecraft techniques such as crochet, braiding, knotting, fringes, and tassel making.
- To provide practical knowledge of decorative textile embellishment methods used in apparel and home furnishings.
- To familiarize students with color theory and the preparation of color wheel charts.
- To train students in various fabric painting techniques including freehand, one-stroke, multi-stroke, dry brush, wet brush, and stencil painting.
- To encourage creativity and craftsmanship in designing and producing decorative textile samples.

Expected Course Outcomes:

On the successful completion of the course, student will be able to:

CO1	Identify the materials, tools, and techniques used in needlecraft and fabric painting.	P1
CO2	Explain the principles of color harmony, textile decoration, and various painting techniques.	P2
CO3	Apply crochet, braiding, knotting, fringe-making, tassel-making, and fabric painting techniques to create decorative samples.	P3
CO4	Analyze the aesthetic and functional applications of needlecraft and painted textile embellishments.	P4
CO5	Create innovative textile samples and decorative designs using a combination of needlecraft and fabric painting techniques.	P5

P1 – Imitation; **P2** – Manipulation; **P3** – Precision; **P4** – Articulation; **P5** – Naturalization

Prepare the following Samples

1. Crochet – Samples (2-4)
2. Fringes – Samples 2
3. Tassels – Samples 2
4. Prepare each 2 samples on Braiding and Knotting Techniques

Prepare sketches for the following

Prepare Color wheel Chart

1. Free Hand Painting – 2 Samples
2. One Stroke painting and Multi Stroke Painting – Each 1
3. Dry brush Painting – 1 Sample
4. Wet brush Painting – 1 Samples
5. Stencil Painting – Positive and Negative – Each 1 Samples

Text Book(s)	
1	Needle craft (Rd Home Handbook Series) Paperback – Import, 1 May 1990
2	Crafts of India – Handmade in India – Aditi Ranjan and MP Ranjan, Council of Handicraft Development Corporations., 2007
3	The Arts and Crafts of India and Ceylon by Coomara-Swamy, Ananda K., Noonday Press, New York, 1964..
4	Craft Atlas of India By Jaya Jaitly, Niyogi Books, New Delhi, 2012
5	The Complete Book of Fabric Painting, Linda S Kanzinger, The Alcott press, 1993
6	Fabric Painting with Cindy Walter: A Beginner's Guide, ebook, Sep 2011

SEMESTER III

Course Code	Course Title	Course Category	Credits	Hours
	FABRIC SCIENCE	**Core Course- V-Theory**	**3**	**3**

Course Objectives:

- To impart knowledge on woven fabrics
- To help students to understand fabric formation process.
- To impart knowledge on woven fabric designs and structures.
- To learn about knitting
- To learn about knitting machines

Expected Course Outcomes:

On the successful completion of the course, student will be able to:

CO1	Explain the preparatory processes involved in the production of fabrics	K1
CO2	Explain the principles of different fabric production methods	K2
CO3	Understand different structures of woven fabric	K3
CO4	Analyze the knitting process	K5
CO5	Evaluate the working principles of knitting machines	K4

K1 - Remember; K2 - Understand; K3 - Apply; K4 - Analyze; K5 - Evaluate; K6 – Create

Unit:1	Preparatory Process

Introduction- Classification of fabric forming methods- weaving preparatory processes - pirn winding – Objects - Passage of material through an automatic high speed pirn winder. Objects of warping – Types of warping – Passage of material through high speed modern beam warping machine and sectional warping machine

Unit:2	Weaving Mechanisms

Loom Mechanisms - Passage of material through a plain power loom – Basic mechanisms of a loom – Primary, secondary and auxiliary motions – Tappet shedding – Cone over pick and under pick mechanisms – Beat up mechanism – Types of let off and take up mechanisms – Fabric defects, causes and remedies

Unit:3	Basic Weaves

Introduction to Weaves – Weave diagram – Plain weave and derivatives – Twill weave and derivatives – Satin and sateen weaves – Ordinary and Brighten Honey Comb; Huck-a-Back; Mock Leno; extra warp and extra weft figuring – single and double color.

Unit:4	Knitting

Knitting – Definition, classification and history. Types of knitting – hand and machine - characteristics of knitted goods. General terms and principles of knitting Technology, Machine knitting, parts of machine, knitted loop structure, stitch Density.

Unit:5	Knitting Machines

Weft Knitting – classification – circular rib knitting machine, purl interlock, Jacquard – single Jersey machine– basic knitting elements – types and functions – knitting cycle, cam system – 3way technique to develop design – knit, tuck, miss – effect of stitches on fabric properties.

Warp Knitting-lapping variations-tricot, raschel, simplex and Milanese -kitten raschel -single bar, 2 bar, multi bar machines. Types of threading, production of nets, curtains, heavy fabrics and elasticized fabrics.

Text Book(s)	
1	R.Marks, A.T.C. Robinson, Principles of Weaving, The Textile Institute, Manchester(1976)
2	B.Hasmukhrai, Fabric Forming, SSM ITT Cooperative stores Ltd, Komarapalayam(1996).
3	K.T.Aswani, Fancy Weaving Mechanism, Mahajan Book Distributors, Ahmadabad(1990).
4	N.Gokarneshan, Fabric Structure and Design, New Age International Publishers,New Delhi(2004).
5	David spencer, “Knitting Technology”, Pergamen press, Oxford (1982)
6	D B Ajgonker, “Principles of Knitting”, Universal publishing corporation.(1998)
Related Online Contents [MOOC, SWAYAM, NPTEL, Websites etc.]	
1	https://www.cottonworks.com/topics/sourcing-manufacturing/weaving/basic-woven-designs-introduction-to-woven-fabric/
2	https://www.textileschool.com-453-wovendesign-
3	https://www.intechopen.com/books/advances-in-modern-woven-fabric-technology/color-and-weave-relationship-in-woven-fabric

SEMESTER III

Course Code	Course Title	Course Category	Credits	Hours
	FASHION DESIGN CONCEPT AND METHODOLOGY	**Core Course VI-Theory**	**2**	**3**

Course Objectives:

The main objectives of this course are to:

1. To acquaint the student with the history of fashion and its elements.
2. To impart knowledge on fashion art and its importance.

Expected Course Outcomes:

On the successful completion of the course, student will be able to:

CO1	Understand the design types, elements and principles of design	K2
CO2	Appraise the color combinations with standard color harmonies	K5
CO3	Interpret the fashion cycles, consumer groups and fashion theories	K3
CO4	Develop dress design for unusual figure types	K6
CO5	Define and describe the fashion terminologies and fashion profiles	K1

K1 - Remember; K2 - Understand; K3 - Apply; K4 - Analyze; K5 - Evaluate; K6 – Create

Unit:1	Design Elements and Principles

Introduction to fashion- Fashion Definition – Fashion terminologies – Classification of fashion – Fashion cycle –Factors influencing in fashion – Role and responsibilities of a fashion designer – Types of fashion designers.

Unit:2	Standard Color Harmonies

Elements of design- 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 and physical proportion.

Unit:3	Fashion Evolution and Fashion Forecasting

Color and Color theory 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	Designing Dresses for Unusual Figures

Principles of design, 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	Fashion Terminologies and Fashion Profiles

Introduction to fashion style details and various garments Importance of details in apparel design – Various types of neck, collar and sleeve – Different types of waist and hem lines – Types of plackets, Pockets- Garments for men, women and kids – Unisex garments – Intimate , active and functional garments

Text Book(s)	
1	Injoo Kim and Mykyung Uh, “Apparel Making in Fashion Design”, Fair child Publications, New York (2002).
2	Bride M. Whelan, “Colour Harmony – A Guide to Creative Colour Combinations”, Rockport Publishers, USA (1997).
3	James Stockton, “Color”, Chronicle Book Publishers, San Francisco (1984).
4	Axel Venn, “Color Kaleidoscope, Mode”, Information Group (1997).
5	Sumathi.G.J, “Elements of Fashion and Apparel Design”, New Age International (P) Ltd, New Delhi (2002).
6	Patric John Ireland, “Fashion Design Drawing and Presentation”, B.T. Batsfort Ltd, London (1982)
7	Jenny Davis, “A Complete Guide to Fashion Designing”, Bharat Bhushan Abhishek Publication (2006).
8	Kathryn Mckelvey and Janine Munslow, “Fashion Design”, Blackwell Publication (2003).

SEMESTER III

Course Code	Course Title	Course Category	Credits	Hours
	FABRIC SCIENCE PRACTICAL	**Allied - III PRACTICAL**	**4**	**4**

Course Objectives:

1. To impart the knowledge about the physical property of textile & their testing procedures and to develop an understanding of the principles involved in testing.
2. To identify the different types of weaves
3. To understand the woven fabrics designs

Expected Course Outcomes:

On the successful completion of the course, student will be able to

CO1	Calibrate design, draft and peg-plan for simple woven fabrics.	P3
CO2	Determine the designs for decorative woven fabrics.	P3
CO3	Formulate the draft and peg-plan for decorative woven fabrics	P3

P1– Imitation;P2–Manipulation;P3–Precision;P4–Articulation;P5 –Naturalization.

1. To analyse the following particulars of the woven fabrics: Woven structural analysis: Design, Draft, Peg-plan
2. Plain weave and its derivatives
3. Twill weaves – 2/1, 3/1.
4. Satin / Sateen
5. Honey comb
6. Huck – a – back
7. Crepe weaves
8. Extra Warp
9. Extra Weft
10. Mock leno
11. Pile weave
12. Fancy weave

Text Book(s)

1	Principles of weaving, R. Marks, A.T.C. Robinson, Publication by the textile institute Manchester (1976)
2	Fabric forming, B. Hasmukhroi, Publication by SSM ITT Cooperative stores Ltd, Komarapalayam (1996)
3	Weaving mechanism Vol 1 & Vol 2, Prof. N.N. Banerjee, Published by Srimati. Tandra Banerjee, West Bengal (1999)
4	Mechanism of Weaving machines, Prof. J.L. Chakravorty, Srimati B. Chakravorty, Serapur, Publication by West Bengal, 1984
5	Handbook of Weaving, Sabit Adanur, Technomic publishing Company, Inc, USA (2001)

SEMESTER III

Course Code	Course Title	Course Category	Credits	Hours
	APPAREL MANUFACTURING MACHINERIES AND EQUIPMENTS	**Elective - IA**	**3**	**4**

Course Objectives:

1. To acquaint students of the basic production machinery and equipment used in apparelconstruction.
2. To learn about the garment industry.
3. To learn the working process of the various departments in garment industry.

Expected Course Outcomes:

On the successful completion of the course, student will be able to:

CO1	Describe the various machineries and process involved in fabric spreading and cutting.	K2
CO2	Generalize the types of garment production machineries and its application methods.	K2
CO3	Summarize the sewing machines and its special attachments for higher production.	K4
CO4	Explain the special machines and its functions in Garment Industry.	K2
CO5	Identify garment finishing machineries and its working principles.	K4

K1-Remember; **K2**-Understand; **K3**-Apply; **K4**-Analyze; **K5**-Evaluate; **K6**–Create

Unit:1 **Introduction to Garment Industry Process**

Introduction to garment industry process details. Spreading machine: Types and working Procedures. Cutting machines: Types of cutting machines and its application – Detailed study on bandknife, straight knife, drills and notches.

Unit:2 **Classification of Garment Manufacturing Machines**

Classification of garment manufacturing machines and applications. Studies on different sewing Machine – Lockstitch machine (chain stitch formation) - Features of advanced lock stitching machines. Over lock machine – Classification - Three thread over-lock machine – Stitch forming elements. Brief study on double needle lock stitch machine, flat lock machines.

Unit:3 **Sewing Machine and its Details**

Sewing machine shapes - Sewing machine bed types-Description and application of each bed – Flat bed - Cylinder bed - Post bed – Applications. Feed mechanisms – Types - Drop feed – Compound feed-Unison feed–Drop and variable top feed – Differential bottom and variable top feed (description of each type of feed mechanisms with sketch).

Unit:4 **Machine Parts**

Requirements – Guides – Types (edge and curve guide) - Compensating foot - Specialized presser Foot – Stitching jig- hem folders - Slack feeding and elastication – Cutting aids (threads, elastic and tapes) - Stacker. Simple automatics - Button hole – Button sew – Bar tack machine - Label sewers. Types and parts of machine needles – Needle sizes – Details of stand, table and motor for sewing machines.

Unit:5 **Garment Finishing Process**

Introduction to various machines for garment finishing – Fusing – Sucking – Ironing - Packing.Pressing-Purposeofpressing–Categoriesofpressing-Themeansofpressing-pressingequipmentandmethods-Ironandsteampresses.Packaging-Typesofpackageforms-Typesofpackagingmaterials-Qualityspecificationofpackagingmaterials-MerchandisingPackaging-Shipment packaging- Selection of package design.

Text Book(s)	
1	The Technology of Clothing Manufacture, Harold Carrand Barbara Latham, Publication by Blackwell Science Ltd, England 1994.
2	IntroductiontoClothingManufacture,GerryCooklin,PublicationbyBlackwell Science Ltd, England 1991.
3	TerryBrackenbury,KnittedClothingTechnology,PublicationbyBlackwell Science Ltd, England,1992.
4	ClothingConstructionandWardrobePlanning,Dora.S.Lewis,MabelGoodeBowersand Marietta Kettunen, Publication by The Macmillan Company, New York, 1955.
RelatedOnlineContents[MOOC,SWAYAM, NPTEL,Websitesetc.]	
1	https://www.onlineclothingstudy.com/2018/05/machinery-needed-for-garment.html
2	https://garmentsmerchandising.com/garment-machine-function/
3	https://dir.indiamart.com/indianexporters/m_texmch.html

SEMESTER III

Course Code	Course Category	Course Title	Credits	Hours/ Week
	Elective IB	**FASHION CLOTHING PSYCHOLOGY**	**3**	**4**

Course Objectives

• To understand the evolution and importance of fashion and clothing in society.	K1
• To explain fashion cycles, fashion movement and factors influencing fashion trends.	K2
• To analyze the role of designers, manufacturers and retailers in the fashion industry.	K3
• To compare Indian and international fashion designers, fashion centres and fashion brands.	K4
• To evaluate the applications of AI in fashion forecasting, trend prediction and consumer preference analysis.	K5

Expected Course Outcomes

On the successful completion of the course, student will be able to:

CO1	Explain the evolution of fashion and its importance in society and the digital era.
CO2	Describe fashion cycles, fashion movement and factors influencing fashion trends.
CO3	Analyze the role of designers, manufacturers and retailers in the fashion industry.
CO4	Examine Indian and international fashion designers, fashion centres and fashion brands.
CO5	Evaluate the applications of AI in fashion forecasting, trend prediction and consumer preference analysis.

K1 - Remember; **K2** - Understand; **K3** - Apply; **K4** - Analyze; **K5** - Evaluate; **K6** – Create

Unit:1 Evolution of Fashion

Fashion evolution – Importance of Fashion in society and digital era, Development of Fashion (Traditional to Digital Evolution). Fashion cycles, Length of cycles, Consumer groups in fashion cycles – Fashion leaders, Fashion innovators, Fashion motivation, Fashion victim and Fashion followers. Adoption of Fashion – Fashion theory and consumer behaviour. Fashion forecasting – Evaluating the collection, Trends and Market Research.

Unit:2 Fashion Focus

Fashion Focus – Role of Designers, Manufacturers and Retailers in the fashion industry. Scope of Fashion Business – Primary Level, Secondary Level, Retail Level and Auxiliary Level. Fashion Terminologies. Understanding Fashion Designers – designer personality types: Classicist, Idealist, Influenced, Realist and Thinking Poet. Fashion Career Roles – High Fashion Designer, Stylist and Freelance Designer. Sources of Design Inspiration. Clothing and Personality

Unit:3 Movement of Fashion

Movement of Fashion – Factors Influencing Fashion Movement: Accelerating Factors, Retarding Factors and Recurring Fashions. Predicting Fashion Movement. Psychological influence of Media, Celebrities and Social Media on fashion adoption. Introduction to AI Applications in Fashion Trend Prediction – colour forecasting and consumer preference analysis.

Unit:4 Indian Fashion Designers

Classification of Indian Fashion Designers – Haute Couture: Rohit Khosla, Gitanjali Kashyap, Hemant Trivedi, J. J. Valaya, James Ferreira, Ritu Kumar, Rohit Bal and Tarun Tahiliani. Minimalists: Himanshu and Sonali Sattar, Sangeeta Chopra and Wendell Rodricks. Village India / Traditional and Craft Revival: Bhamini Subramaniam, Anju Modi, Indira Broker and Madhu Jain. Studio Line: Bhairavi Jaikishan,

Kishan Mehta, Ravi Bajaj, Ritu Beri and Rocky S.	
Unit:5	**International Fashion Centers and Designers**
World Fashion Centres – Study of International Fashion Centres: France, Italy, England, Germany, Canada and New York. Major International Fashion Designers – Coco Chanel, Christian Dior, Giorgio Armani, Gianni Versace, Ralph Lauren and Calvin Klein. Study of International Fashion Brands – Women's Wear, Men's Wear, Kids Wear, Sports Wear, Cosmetics and Accessories.	

Text Book(s)	
1	Elaine Stone, The Dynamics of Fashion, Fairchild Publications, New York, 2008..
2	Gini Stephens Frings, Fashion: From Concept to Consumer, Prentice Hall / Pearson Education, 2008.
3	Rajiv Malhotra & Vijay Prashad, Artificial Intelligence and the Future of Fashion, TechStyle Publications, 2022.
4	Calum Chace, Artificial Intelligence and the Two Singularities, CRC Press, 2018.
5	Maria Rucki (Ed.), Digital Fashion and Virtual Clothing, Bloomsbury Visual Arts, 2023.
6	McKinsey & Company, The State of Fashion (Annual Reports). 2024.
7	Teri Agins, The End of Fashion, HarperCollins Publications, 2000.
8.	Evelyn L. Brannon and Tony Divita, Fashion Forecasting, Fairchild Publications, 2015.
9.	Gini Stephens Frings, Fashion: From Concept to Consumer, Prentice Hall, 1999.

Course Code	Course Title	Course Category	Credits	Hours
	BEAUTY CARE PRACTICAL	**Skill Enhancement Course – I – Practical (Entrepreneurial Skill)**	**2**	**2**

Course Objectives:

- Produce a capable and skillful workforce as required by the prevailing market demands.
- Equip the trainees with skills and knowledge to ensure adherence to safety measures in saloon.
- Select, operate and handle equipment according to the professional standards

Expected Course Outcomes:

On the successful completion of the course, student will be able to:

CO1	Create various techniques used in beauty care	P5
CO2	Design traditional and modern style makeup using different equipments.	P5
CO3	Practice beauty techniques and procedures for different occasions.	P5

P1– Imitation**;P2–**Manipulation**;P3**–Precision;**P4–**Articulation;**P5 –**Naturalization.

Practice the following,

1. Different types of haircuts, cutting techniques and blow drying of hair.
2. Traditional hair styling techniques- Rolls, Braids, interlocks, Twisting styles.
3. Henna designing, Tattoo designing and saree draping (4styles).
4. Basic Nail art techniques.
5. Facial -Skin analysis, cleaning and facial with different equipments, application of different types of packs and masks according to the skin types.
6. Different types of makeup - Daytime, Evening, Party and Bridal.
7. Pedicure and manicure.
8. Threading and waxing

Text Books

1	Complete Beautician Course by Renu Gupta
2	Be your own Beautician by Parvesh Handa
3	Advance makeup and hairstyle by Urvashi Dave

Related Online Contents

1	https://bit.ly/2DB2WQM
2	https://youtu.be/sYoz3G2OH5g
3	https://youtu.be/_o9cpvQPqBY

SEMESTER IV

Course Code	Course Title	Course Category	Credits	Hours
	TEXTILE WET PROCESSING	**Core Course – VII-Theory**	**5**	**4**

Course Objectives:

The main objectives of this course are to:

- Understand the processes involved in textile wet processing, finishing, dyeing and printing techniques.
- Gain knowledge on advanced textile technologies including smart finishes, digital printing, natural dyes and AI/IoT applications in textile industries.
- Analyze sustainable textile processing methods, effluent treatment systems and AI-based environmental monitoring techniques in textile industries.

Expected Course Outcomes:

On the successful completion of the course, student will be able to:

CO1	Explain the process sequence of textile wet processing and AI-based monitoring techniques used in textile industries	K2
CO2	Describe the various basic, aesthetic, functional and smart finishes used in textile materials	K2
CO3	Classify textile dyes, explain dyeing methods and interpret the role of AI and IoT in modern dyeing industries	K3
CO4	Illustrate direct, digital and screen printing techniques and identify the applications of AI tools in textile printing and defect detection	K2
CO5	Outline discharge printing methods, effluent treatment processes and AI-based sustainable practices in textile processing industries	K2

K1 - Remember; **K2** - Understand; **K3** - Apply; **K4** - Analyze; **K5** - Evaluate; **K6** – Create

Unit:1 **Wet Processing Process and Basic Finishes**

Process sequence of textile wet processing; AI-based monitoring and control of wet processing parameters; Use of sensors and machine learning for process optimization in bleaching and dyeing. Basic preparatory processes – Singeing, desizing, scouring, bleaching and mercerizing – Process sequence and methods. Basic finishes – Definition, objectives and types of finishes.

Unit:2 **Aesthetic, Functional and Special Finishes**

Aesthetic finish Embossed, Napped, Glazed, Moiré, Laser finishing. Functional finish - Flame retardant, Water repellant, Antistatic, UV-protective, Plasma treatment. Special purpose finish - Enzyme wash, Stone wash, Ozone wash, Fragrance, Antibacterial, Laser fading in denim. Recent trends - Microencapsulation, Nano finishes, Waterless finishing, Bio-based finishes, Digital twin technology in finishing, AI-assisted smart finishing technologies.

Unit:3 **Dyes and Dyeing Machines**

Dyes – classification and suitability of dyes to the fabric, stages of dyeing – fiber, yarn, fabric and garment dyeing, Natural dyes and its significance, Dyeing machines – loose stock fiber bale – hank package – jigger – winch – HTand HP Beam, jet – padding mangles. Garment dyeing machines. IoT and AI integration in modern dyeing industries.

Unit:4 **Direct Printing**

Printing – Difference between dyeing and Printing. Preparation of Printing Paste, Properties and types of Thickeners, Direct Printing – Block Printing - History and techniques used. Screen Printing – Flat screen and Rotary screen, techniques used. Digital textile printing using AI software tools;

Computer vision techniques for print defect identification.	
Unit:5	**Resist, Discharge Printing and Effluent Treatment**
Discharge Printing, other methods – Digital Printing, Heat transfer printing Effluent Treatment – Pollution created by the processing unit, Process sequence in Effluent treatment Plant. Smart monitoring systems in Effluent Treatment Plants (ETP); AI-based sustainable textile processing.	
Text Book(s)	
1	Textile Chemistry, Paters R.H, Elsevier Publishing, 1967.
2	Technology of Textile Processing, Shenai V.A., Sevak publications, Bombay, 1981.
3	Textile Finishing , Shenai.V.A. Sevak Publications, Mumbai, 1999.
4	Functional Finishes, Menachem Lewin and Stephen B. Sello, Marcel Dekker, Inc., 1984.
5	Textile Finishing, R.S.Prayag, Shree J Printers, India, 1994.
6	Artificial Intelligence in the Textile Industry — R. Senthil Kumar, Woodhead Publishing, 2023, 1st Edition
7	Digital Textile Printing — H. Ujiie, Woodhead Publishing, 2006, 1st Edition.
Related Online Contents [MOOC, SWAYAM, NPTEL,Websitesetc.]	
1	https://textilecourse.blogspot.com/2018/08/working-process-printing-
2	http://www.neoakruthi.com/blog/etp-for-textile-industry.html
3	https://textilelearner.blogspot.com/2011/08/flow-chart-of-wet-processing-process.html
4	https://www.textileschool.com/343/fabric-wet-processing-techniques/
5	https://www.fibre2fashion.com/industry-article/1699/special--finishes-to-garment-an-overview
6	https://textilelearner.net/artificial-intelligence-in-textile-and-apparel-industry/
7	https://onlinecourses.nptel.ac.in/e-learning/preview/noc25_te12
8	https://www.ultralytics.com/blog/the-future-of-textile-production-with-ai-driven-manufacturing

SEMESTER IV

Course Code	Course Title	Course Category	Credits	Hours
	WOMEN'S APPAREL PRACTICAL	**Core Course VIII - PRACTICAL**	**5**	**4**

Course Objectives:

The main objectives of this course are to:

- Design Garments for women
- Impart Skills in pattern drafting
- Construct garments by sewing

Expected Course Outcomes:

On the successful completion of the course, student will be able to:

CO1	Students will be able to understand the women's body with respect to design selection of fabrics and accessories.	P1
CO2	Students will be able to independently design a dress for women's fashion wear.	P2
CO3	Design Garments for Women	P3
CO4	Develop patterns for women using drafting method	P4
CO5	Construct garment by sewing	P5

P1 – Imitation; **P2** – Manipulation; **P3** – Precision; **P4** – Articulation; **P5** – Naturalization

Design, draft and construct the following garments for the features prescribed in the following criteria.

- Measurements chart
- Layout method
- Break down analysis of the garment
- Sequence of Assembling and its procedures.
- Type of seam for each assembly process.
- CMT costing and garment costing

WOMEN'S GARMENTS

1. Saree Petticoat- 6,7,8 core Panel , Decorated bottom.
2. Skirts – Circular/ Umbrella/ Panel with style variations.
3. Blouse - Front open, fashioned neck, Waist band at front, with sleeve.
4. Salwar (or) Churidhar (or) Parallels (or) Bell Bottom
5. Kameez – with /without slit, with or without flare, with /without opening, with or without Panels, with / without yoke.
6. Nightie –With yoke, Front open, with sleeve, Full length.
7. Ladies pant- Waist band, Zip attached, tight fitting / Parallel pants.
8. Short kurta / Top – Decorative / Surface design in tailored placket, with or without collar.

Text Book(s)

1	Scientific garment quality –K M Illege and Sons , Plot No. 43 , Somuvar Peth pune411011
2	Practical Clothing Constructing-Part I and II, Mary Mathews, Cosmic Press, Chennai(1986)
3	Dress making- Smt Thangam Subramaniam, Bombay Tailoring and embroidery College,Bombay-32

Related Online Contents [MOOC, SWAYAM, NPTEL, Websites etc.]

1	https://www.patternsonline.com-default.aspex
2	https://shoeguide.com/

SEMESTER IV

Course Code	Course Title	Course Category	Credits	Hours
	HOME TEXTILES PRACTICAL	**Allied IV - Practical**	**4**	**3**

Course Objectives:

The main objectives of this course are to:

1.Impart knowledge on the various home textile products.

2.Gain insights on the bed linens, kitchen linens, bathroom linens.

3.Acquire better understanding on the choice of fabrics for the home textile products.

4.To train students in the use of tools, equipment, and machines required for home textile production.

5.To enhance creativity in designing aesthetically appealing and functional home textile products.

Expected Course Outcomes:

On the successful completion of the course, student will be able to:

CO1	Classify the home textile products and list out the fabric selection factors.	P1
CO2	Categorize the types of floor and wall coverings in home textiles.	P2
CO3	Distinguish doors and window treatments in home furnishing	P3
CO4	Generalize the furnishing used in living room.	P4
C05	Discover the furnishing types of kitchen and dining.	P5

P1 – Imitation; **P2** – Manipulation; **P3** – Precision; **P4** – Articulation; **P5** – Naturalization

LIST OF EXPERIMENTS

- Pillow cover -2 types
- Cushion -2 types
- Cloth organizer for wardrobe-2 types
- Apron -2 types
- Mitten -2types
- Matt (door or kitchen)-3 types
- Door curtain – 2 types
- Prepare a baby bed with pillow and bolster (or) Prepare a maternity pillow
- Prepare a window curtain with pelmets -2 types
- Prepare a wall hanging -2 types

Text Book(s)

1	Home Comforts-The Arts and Science of Keeping Home, Cheryl Mendelson, Scriber, New York, 2005
2	Cushions and Pillows- Professional Skills – Made Easy, Hamlyn Octopus, Octopus Publishing Group, New York, 2001
3	The Ultimate Sewing Book 200 Sewing Ideas For You and Your Home, Magi Mc McCormick Gordon, Collins and Brown, London, 2002
4	Design and make curtains, Heather Luke, New Holland publishers, London,1999

SEMESTER IV

Course Code	Course Title	Course Category	Credits	Hours
	TEXTILE FINISHING	**Elective - II A - Theory**	**3**	**3**

Course Objectives:

The main objectives of this course are to:

- To impart knowledge and understanding of chemistry, mechanism and application process of various textile finishes.
- It aims to enhance the awareness of future trends in textile finishing.
- To impart the knowledge about finishing methods of fabric based on their function

Expected Course Outcomes:

On the successful completion of the course, students will be able to:

CO1	Understand the method and application of finishes on different textile substrates.	K2
CO2	Gain awareness of new advancement in the area of finishing	K2
CO3	Apply various finishes based on the various functions of the fabric	K3
CO4	Analyze the various methods to process the fabric	K4
CO5	Analyze new eco-friendly technologies to produce eco-friendly product	K4

K1 - Remember; K2 - Understand; K3 - Apply; K4 - Analyze; K5 - Evaluate; K6 – Create

UNIT-1 Finishing

Finishing - Introduction – Objects of finishing, Importance of finishing, Classification of finishes, Advantages of finishing.

UNIT-2 Mechanical Finishing

Mechanical Finishes Beetling,Shearing,Calendaring,Tentering,Moiering,Embossing,Glazing,Napping, Chemical Weighting of Silk, Sizing, Sanforizing, Schreinering, Wrinkle free finish.

UNIT-3 Functional Finishing

Functional Finish - Resin finish, Water Proof finish, Water Repellent finish, Antimicrobial finish, Flame Retardant finish, Soil Release finish - Process and Recipe, Types and Method of Fusing, Welding and Adhesives, Molding.

UNIT-4 Advanced Finishes

Advanced Functional Finish - Stiff finish - Process and Recipe, Softening - Silicone finish, Denim finish, Stone Wash finish, Anti - Pilling finish, Anti Mildew finish

UNIT-5 Special finishes

Special Finishes on Garments–Finishing of Woven/Knitted garments–Stone less, Stone wash effects–Mud wash, Ion wash, Chalk wash, Water resistant Breathable finish, Bio polishing, Leathery Finish, Protective Finishes–Deodorizing, Cool Finish and Thermostat finishes, AI in garment finishing – AI-based process optimization, smart defect detection, predictive maintenance, digital twins, smart sensors, sustainable finishing and adaptive smart finishes.

Textbook(s) :

1 ShenaiandSaraf.1995.TechnologyofTextileFinishing, Sevak Publications.
2 NallangilliandJayaprakasam.2005.TextileFinishing.S.S.MInstituteofTextile Technology.
3 Prayag.1996.Technologyoffinishing.ShreeJ.Printers,Pune

Related Online Contents [MOOC, SWAYAM, NPTEL, Websites etc.]

1 https://nptl.ac.in/courses/116/102/116102054/
2 https://ugcmoocs.inflibnet.ac.in/ugcmoocs/view_ug.php/130

SEMESTER IV

Course Code	Course Title	Course Category	Credits	Hours
	GARMENT ACCESSORIES AND TRIMS	**Elective - II B Theory**	**3**	**3**

Course Objectives:

The main objectives of this course are to:

- To impart knowledge on different trims, components and accessories used in apparel industry
- To gain knowledge about quality requirements in accessories

Expected Course Outcomes:

On the successful completion of the course, student will be able to:

CO1	Learn about various types of closures used in garment	K3
CO2	Distinguish the types of accessories used in garment	K2
CO3	Assess the various types of closures used in apparels	K3
CO4	List out the quality requirements for polybags	K2
CO5	Differentiate the different types of fiber used in Sewing and Embroidery threads	K3

K1 -Remember; **K2** -Understand;**K3** -Apply; **K4** -Analyze; **K5** -Evaluate;**K6** –Create

Unit:1 Garment Accessories

Introduction to garment accessories – selecting garment accessories- Types of garment accessories; Basic Accessories – Decorative accessories – Finishing Accessories – Accessories for Children's wear – Design development for different accessories – Safety issues for different accessories in children's garment – Decorative trims and Embellishments.

Unit:2 Sewing and Embroidery Threads

Sewing threads – Textile fibers used for making sewing threads – Thread Construction – Ticket Number – Quality parameter applicable to sewing threads and testing. Thread packages – Embroidery threads – Quality requirements – Fibers used for embroidery threads – Quality evaluation for embroidery threads.

Unit:3 Closures

Zippers – Components parts – types – Application techniques – Quality parameters and testing – Buttons – types – Quality requirements and testing procedures – Elastic – Application techniques- types – Quality requirements and testing procedures. Draw strings – Method of application- Quality parameters – Velcro – Method of application techniques – Quality parameters – hooks – types – methods of application – Quality norms

Unit:4 Supporting and Decorative Trims

Lining : Importance - Method of application – Quality requirements – Interlining : Importance - Types - Method of application – Quality requirements - Fusing foam : importance – Types – Method of application – Quality requirements – Label and its types – Method application on garment – Quality requirements – Lace – Importance and its types – Quality parameters – Method of application – Appliqué : Importance – Types of materials – Applique cutting techniques – Application methods – Quality requirements . Sequins: Introduction about various sequins and their types – Application techniques – Quality requirements.

Unit:5 Packing Accessories

Tags and its types – Quality requirements – Poly bags and its types - Quality norms pertaining to poly bags – Hangers and its types – Cartons and its types –Testing required for apparel export Cartons – Factors to be considered for export cartons - Wrappers and Tissues – Pouches for inner wear – Latest innovation in packing accessories

Text Book(s)	
1	Fashion apparel accessories and home finishing‟ s, Diamond Professor Emeritus, Jay; Diamond Ajunct Faculty, Ellen., Prentice Hall, 2006 2 Know Your Fashion Accessories, Celia Stall
2	Fashion apparel accessories and home finishing‟ s, Diamond Professor Emeritus, Jay; Diamond Ajunct Faculty, Ellen., Prentice Hall, 2006 2 Know Your Fashion Accessories, Celia Stall
3	Carr and Latham‟ s Technology of Clothing Manufacture, Edited by David J. Tyler, 2009
4	Apparel Manufacturing Handbook, Analysis, Principles and Practice, Jacob Solinger, Bobbin Media Corporation, 1988
RelatedOnlineContents [MOOC, SWAYAM,NPTEL, Websites etc.]	
1	https://ordnur.com/textile/list-of-trimmings-and-accessories-use-in-garments
2	https://www.onlineclothingstudy.com/2018/10/the-fusing-technology-fusing-parameters.html
3	https://apparelresources.com/fashion-news/trends/trims-and-accessories-from-beingfunctional-to-giving-an-innovative-edge-to-garments/
4	https://medium.com/@stitchdiary/importance-of-decorative-trims-in-the-garment-industry3b306e4b59ef

SEMESTER IV

Course Code	Course Title	Course Category	Credits	Hours
	TEXTILE WET PROCESSING PRACTICAL	**SEC-II PRACTICAL**	**2**	**2**

Course Objectives:

The main objectives of this course are to:

- To gain practical hands-on training in textile wet processing, dyeing and printing techniques.
- To understand the technical importance of preparatory processes, dye selection and sustainable dyeing methods including natural dyes.
- To develop practical skills in modern textile processing techniques, digital applications and quality assessment in textile wet processing laboratories.

Expected Course Outcomes:

On the successful completion of the course, student will be able to:

CO1	Prepare textile samples using pre-treatment processes and calculate weight loss percentage accurately	P5
CO2	Formulate suitable dyeing recipes for different fabric samples using various classes of dyes including natural dyes	P5
CO3	Produce dyed and printed fabric samples using conventional and modern textile processing techniques and evaluate shade and print quality	P5

P1– Imitation**;P2–**Manipulation**;P3–**Precision;**P4–**Articulation;**P5 –**Naturalization.

Preparation of samples for Processing:

- Desizing
- Scouring
- Bleaching
- Mercerizing

Dye the given fabric using suitable dye:

- Direct Dye
- Sulphur Dyes
- Vat Dye
- Disperse Dye
- Reactive Dyes
- Acid Dye
- Natural Dyes-Any two/ plant/vegetable dyes

Printing of Fabrics

- Printing of cotton using block and screen printing (2 samples each).
- Printing of tie and dye and batik (2 samples each).
- Printing on cotton fabric with natural colors(2 samples).

Text Book(s)

1	AATCC Garment wet processing Technical manual (1994)
2	Textile processing and properties, Preparation, Dying, Finishing and Performance, Tyrone L. Vigo, elsewhere publishing, Netherland
3	Textile Wet processing, Manoj Dole, Manoj Dole Publications Co. India (2018)
4	Chemical Processing of Textiles — T. Karthik, P. Ganesan, D. Gopalakrishnan and B. Senthilkumar, Woodhead Publishing India, 2016, 1st Edit
5	Natural Dyes for Textiles — Padma Shree Vankar, Woodhead Publishing, 2017, 1st Edition.

Related Online Contents[MOOC,SWAYAM, NPTEL,Websitesetc.]	
1	https://britanicca.com/topic/textile/dying-and-printing
2	https://www.sciencedirect.com-topics/engineering/dying-process
3	https://textilelearner.net/natural-dyes-properties-types-production/

SEMESTER V

Course Code	Course Title	Course Category	Credits	Hours
	Apparel Costing and Merchandising	**Core Course – IX**	**5**	**6**

Course Objectives:

- Impart knowledge of principles of costing, budgeting, and digital pricing strategies in apparel industry
- Enable students to estimate and analyse costs for domestic and export garment production with modern tools
- Develop skills in preparing, managing, and interpreting export documentation and compliance systems
- Acquaint students with roles and responsibilities of a modern apparel merchandiser in a global supply chain
- 5. Introduce AI-powered tools and sustainable costing techniques relevant to contemporary industry practice

Expected Course Outcomes:

On the successful completion of the course, students will be able to:

CO1	Apply principles of costing to price apparel products accurately for domestic and export markets	**K3**
CO2	Develop budgeting plans using modern tools, analysing fixed vs. variable cost structures in apparel firms	**K4**
CO3	Estimate fabric and production costs by integrating digital calculation methods and sustainability metrics	**K5**
CO4	Manage and interpret export documentation, compliance systems, and buyer audit requirements	**K4**
CO5	Design promotional strategies using digital marketing, AI-driven tools, and omnichannel retail management	**K6**

K1 - Remember; **K2** - Understand; **K3** - Apply; **K4** - Analyse; **K5** - Evaluate; **K6** – Create

Unit:1	**Fundamentals of Apparel Costing**

Requirements of a good costing system – cost unit – types of costs. Elements of cost: Direct materials, direct wages, and direct expenses. Indirect costs: Overheads – manufacturing, administrative, selling & distribution. INCO terms and their impact on garment pricing. Value chain analysis in apparel costing – costing at each stage of production. SAM (Standard Allowed Minutes) / SMV (Standard Minute Value) and their role in labour costing.

Digital tools for cost estimation: ERP systems (SAP, Oracle), PLM software, and cloud-based costing platforms.

Unit:2	**Budgeting in the Apparel Industry**

Budgeting principles for the apparel industry – purpose and significance. Fixed vs. variable budgets – Master budget structure. Open-to-Buy (OTB) planning in retail merchandise budgeting. Activity-Based Costing (ABC) in garment manufacturing units. Cost-Volume-Profit (CVP) analysis for apparel brands and CMT units. Financial risk management in global sourcing – currency fluctuations and raw material volatility. Budget software tools: Microsoft Dynamics, Tally ERP, and cloud-based apparel ERP systems.

Unit:3	Fabric and Production Cost Estimation

Cost estimation for yarn – yarn count, twist, and pricing. Knitted fabric costing – stitch length, GSM, machine gauge. Woven fabric costing: Fabric types, yarn consumption, EPI/PPI, weaving price. Dyeing, printing, and finishing costs – types and calculation. Trim and accessories costing – zippers, labels, hangtags, packaging. Minimum Order Quantity (MOQ) and its relationship to unit cost. CMT costing: Cutting, stitching (SAM-based), checking, packing, forwarding, shipping, and insurance.

Digital fabric consumption tools – CAD marker efficiency and waste analysis. 3D virtual prototyping and its impact on sampling cost reduction (CLO 3D, Browzwear).

Unit:4	Export Documentation and Merchandising Operations

Order sheet and its contents – Tech pack essentials. Modern tech pack creation: Digital tools – Techpacker, Adobe Illustrator, PLM systems. Packing list, commercial invoice, inspection, and testing reports. Assortment planning and types – size ratios and colour breakdowns. Document recording and maintenance – digital filing systems.

Digital merchandise management – ERP/PLM integration with buyer portals. Claims, reasons for claims, and claim management processes. Buyer code of conduct and ESG (Environmental, Social, Governance) compliance requirements. Roles of a modern merchandiser: Timeline management (TNA – Time and Action calendar), costing negotiation, and sample approvals.

Unit:5	Product Promotion, Retail Management, and AI Applications in Apparel

Advertising: Scope, importance, types (print, digital, outdoor, influencer), merits and demerits. Sales promotion strategies: Coupons, flash sales, loyalty programmes, social media campaigns. Retail formats: Physical, e-commerce, D2C (Direct-to-Consumer), and social commerce. Visual merchandising: Planograms, store layout, window display, and VM for e-retail. Inventory management: FIFO, FEFO, ABC analysis, dead stock management.

Digital marketing for apparel brands: SEO, social commerce (Instagram Shops, Pinterest), and content marketing. AI chatbots and virtual assistants for B2B buyer communication and order management.

TEXT BOOKS	
1	Apparel Costing: A Functional Approach, M. Krishnakumar. Abhishek Publications, New Delhi, 2011.
2	Apparel Costing, Andrea Kennedy, Andrea Reyes, Francesco Venezia. Bloomsbury Visual Arts, London, 2020.
3	Retailing Management, Swapna Pradhan, 7th Edition. McGraw-Hill Education (India) Pvt. Ltd., New Delhi, 2024.
4	Visual Merchandising, Fourth Edition, Tony Morgan. Laurence King Publishing, London, 2022.

Related Websites	
1	https://www.mckinsey.com/industries/retail/our-insights

2	https://www.businessoffashion.com/insights/
3	https://www.fibre2fashion.com/industry-article/costing
4	https://corporatefinanceinstitute.com/resources/knowledge/finance/budgeting/
5	https://www.apparelresources.com/
6	https://www.aepc.gov.in/ (Apparel Export Promotion Council)
7	https://www.shopify.com/blog/retail-merchandising (Omnichannel merchandising)
8	https://www.ibm.com/topics/ai-in-retail
9	McKinsey & Company and The Business of Fashion (BoF) – Artificial Intelligence in Fashion & Retail. Industry Report / White Paper, 2023–2024. Available at: https://www.mckinsey.com and https://www.businessoffashion.com

SEMESTER V

Course Code	Course Title	Course Category	Credits	Hours
	MEN'S APPAREL PRACTICAL	**Core Course – X PRACTICAL**	**5**	**7**

Course Objectives:

- To impart the practical knowledge in pattern drafting and garment construction skill in men's wear for the Students.
- To develop creative skills in designing and constructing men's wear for different age group
- To List out the measurements required and materials suitability.

Expected Course Outcomes:

On the successful completion of the course, student will be able to:

CO1	Prepare patterns and construct the garments.	P1
CO2	Assess the suitability of fabric for men	P2
CO3	Learn specific requirements for men's wear designing.	P3
CO4	Students will be able to independently design a dress for men's fashion wear.	P4
CO5	Develop skills, and create creative patterns for men's garments.	P5

P1 – Imitation; **P2** – Manipulation; **P3** – Precision; **P4** – Articulation; **P5** – Naturalization

1. S.B.Vest – with/ without collar, button attached,sleeveless
2. Slack shirt – full open, shirt collar, patchpocket,
3. Nehru kurtha –stand collar, side pocket, halfopen
4. Pyjama- Elastic /Tape attachedwaist.
5. Pleated trousers – pleats in front, Darts at back, side pocket, fly with button/zip.
6. T-Shirt – open collar, zipattached
7. Bermudas –patchpocket
8. Kalidhar Kurta

Text Book(s)

1	Practical Clothing Constructing-Part I and II, Mary Mathews, Cosmic Press, Chennai(1986)
2	Zarapker System of Cutting- Zarapker. K. R, Navneet Publicationsltd.

Related Online Contents [MOOC, SWAYAM, NPTEL, Websites etc.]

1	https://shoeguide.com/
2	https://www.patternsonline.com-default.aspex

SEMESTER V

Course Code	Course Title	Course Category	Credits	Hours
	COMPUTER APPLICATION IN GARMENT DESIGNING PRACTICAL	**Core Course - XI**	**5**	**6**

Course Objectives:

The main objectives of this course are to:

- Impart knowledge on the significant role played by the computers in the garment industry
- Create an awareness on the latest technologies available in the various sectors of the garment industry
- Teach the advantages of using computer technology to improve the production qualitatively and quantitatively

Expected Course Outcomes:

On the successful completion of the course, student will be able to:

CO1	Articulate the specifications and functions of a computer and its peripherals	P1
CO2	Appraise the inevitable role played by computers in various sections of a textile /garment industry	P2
CO3	Understand the application of CAD and CAM in the areas of textile and garment designing	P3
CO4	Discover the use of computers in the field of body measurements, pattern Making and grading	P4
CO5	Weigh the advantages of computer technology in the process sequences and thereby increase production	P5

P1 – Imitation; **P2** – Manipulation; **P3** – Precision; **P4** – Articulation; **P5** – Naturalization

Unit:1	**Computers and its Peripherals**

Classification of computers, computer generations, computer specification, organization of computer sections. Types of storage devices (primary, secondary and tertiary),input devices, output devices.

Unit:2	**Computers in Fashion Industry**

Role of computers in fashion industry – Information flow – CAD, CAM, CIM, CAA, PDC – Definition and functions. Computers in production planning and production scheduling computerized colour matching system.

Unit:3	**Computers in Creating Fabric and Garment Designs**

CAD in creating designs–Advantages. Computerized weaving, knitting and printing, creating Computerized embroidery machines, Garment designing with CAD–2Dand3Dforms.

Unit:4	**Body Measurements, Pattern Making and Grading**

3D Body scanning systems, Made to measure systems, CAD in patternmaking and grading–System description–information flow–process involved in pattern making, process involved in pattern grading

Unit:5	**Computers in the Garment Manufacturing**

Computer application in fabric defect checking, laying/spreading, cutting marker planning, Labeling –Parts and functions. Computerized sewing machines.

Text Book(s)	
1	Computers in the Garment Industry–Dr R Sheela John and DrSAmsamani, ShangaVerlag, Coimbatore,2013
2	Fashion: From Concept to Consumer4th Edition–GiniStephens Frings, PrenticeHall, Pearson,2007
3	Computer Fundamentals, P K Sinha, BPB Publications, Delhi,1992
4	TheTechnologyofClothingManufacture,HaroldCarrandBarbaraLatham,BlackwellLtd,1994
5	Computer Technology for Textiles and Apparel, Jinlian Hu,Elsevier,2011
6	AutomationinGarmentManufacturing,RajkishoreNayakandRajivPadhye,WoodheadPublishing,2017
Related Online Contents [MOOC, SWAYAM, NPTEL, Websitesetc.]	
1	https://inifdahmedabad.com/blog/importance-of-cad-in-fashion-industry/
2	https://clothingindustry.blogspot.com/2018/02/application-cad-weaving.html
3	http://textilescommittee.nic.in/writereaddata/files/publication/gar4.pdf
4	https://study.com/academy/lesson/how-is-cad-cam-used-in-textiles.html
5	https://clothingindustry.blogspot.com/2018/02/importance-cad-textile-designing.html
6	https://textilelearner.blogspot.com/2012/03/computer-application-areas-in-textile.html
7	https://link.springer.com/chapter/10.1007/978-3-642-58214-1_47

SEMESTER V

Course Code	Course Title	Course Category	Credits	Hours
	KNITTING AND NON-WOVEN	**Elective III A**	**3**	**5**

Course Objectives:

The main objectives of this course are to:

1. Familiarize with the basics of knitting process
2. Impart knowledge on the warp and weft knitting techniques
3. To know the recent trends and technologies adopted in the industry

Expected Course Outcomes:

On the successful completion of the course, student will be able to:

CO1	Outline basics of knitting process and knitting machine process functions.	K2
CO2	Summarize the warp and weft knitting process and its production techniques.	K3
CO3	Explain seamless knitting and care of knitted fabric maintenance.	K2
CO4	Generalize non woven fabric production process and its uses	K2
CO5	Infer about technical textiles applications and its types.	K2

K1-Remember;**K2**-Understand;**K3**-Apply;**K4**-Analyze;**K5**-Evaluate;**K6**–Create

Unit:1 **Knitting Overview**

Knitting – Definition, classification and history, characteristics of knitted goods. General terms and principles of knitting technology, machine knitting, parts of machine, knitted loop structure, stitch density. AI applications in knitting machine monitoring and automation. Smart sensors and AI-based quality inspection in knitted fabric production.

Unit:2 **Principles of Weft and Warp Knitting Technology**

Weft knitting – classification - circular rib knitting machine, purl, interlock, jacquard - single jersey machine - basic knitting elements - types and functions – knitting cycle, CAM – system - 3- way technique to develop design - knit, tuck, miss - effect of stitches on fabric properties.

Warp knitting - lapping variations-tricot, raschel, simplex and Milanese - kitten raschel – single bar, 2 bar, multi bar machines. types of threading, production of nets, curtains, heavy fabrics, elasticized fabrics. AI-based production monitoring and yarn consumption analysis.

Unit:3 **Seamless Knitting and Knitting Care**

Seamless Knitting – Applications, advantages, and limitations. Care and maintenance of knitted material - washing, drying, ironing, storing. Common defects that occur in knitted fabric production. AI-based defect detection and fabric inspection systems.

Unit:4 **Non-woven**

Non-woven- Introduction, Definition, Classification, scope and applications of Non-woven- Fibers used- web preparation, opening, cleaning machine, production of parallel laid web, cross laid, and random laid web. Bonding methods- mechanical, thermal, chemical. Smart monitoring systems in web formation and bonding operations. AI-based quality control and defect prediction in non-woven fabrics.

Unit:5 **Technical Textiles**

Introduction, Definition, scope and importance and uses. Applications of agro-tech, build-tech, cloth- tech, home-tech, indu-tech, mechanical-tech, sports-tech, pack-tech, mobile-tech, protect-tech, geo-tech, medical-tech. Digital twins and smart manufacturing in technical textile industry. Future trends of AI in textile engineering and sustainable textile production

Text Book(s)	
1	Knitting Manufacture Technology - Anbumani, New Age International, Chennai ,2006
2	Knitting and Apparel Technology, S.S.M.I.T Co-operative Society. 2005
3	Knitting Technology, David J. Spencer, Woodhead Publishing Ltd., Cambridge England, 2002
4	Knitting Technology, D B Ajgaonker, Universal Publishing Corporation,1998
5	Geotextiles- N.W.M. John, Blackir, London.
6	Non-woven, Arul Dhakiya, M.G. Kamath, Raghavendra, R. Hedge and Monica Kannadnguli
7	Automation in Garment Manufacturing, Rajkishore Nayak and Rajiv Padhye,1st Edition, Woodhead Publishing, 2018

Related Online Contents[MOOC,SWAYAM, NPTEL,Websitesetc.]	
1	https://fashion2apparel.blogspot.com/2017/02/seamless-garments-advantages.html
2	https://www.indiaretailing.com/2018/06/12/fashion/indian-knitwear-market-present-and-the-future-trends/
3	https://www.fibre2fashion.com/industry-article/64/overview-of-tirupur-knitwear-industry
4	https://www.fibre2fashion.com/industry-article/7047/seamless-garment-technology
5	https://textilelearner.blogspot.com/2013/01/faultsdefects-in-knitted-fabrics.html
6	https://www.zjkwonglam.com/article-The-Future-of-Knitting-The-Rise-of-Automation-html
7	https://onlinecourses.nptel.ac.in/e-learning/preview/noc22_te12

SEMESTER V

Course Code	Course Title	Course Category	Credits	Hours
	BASICS OF COSMETOLOGY	**Elective – III B**	**3**	**5**

Course Objectives:

1. To gain knowledge about personal grooming
2. To enable the student to develop knowledge in dressing and makeup to the Etiquettes
3. To help them to understand and apply the procedures for different personalities

Expected Course Outcomes:

On the successful completion of the course, student will be able to:

CO1	Importance of cosmetology	K1
CO2	Understand Equipment used for pedicure, basic pedicure technique	K2
CO3	Be aware of Equipment and techniques used for Manicure	K2
CO4	Analyze skin and hair	K3
CO5	Apply face makeup	K4

K1-Remember;**K2**-Understand;**K3**-Apply;**K4**-Analyze;**K5**-Evaluate;**K6**-Create

Unit:1 **Cosmetology**

Cosmetology – Introduction, Definition and its importance- difference between beautician and cosmetologist -features of a cosmetologist -Types and application- Self- grooming –definition and its importance.

Unit:2 **Pedicure**

Pedicure, definition, need for pedicure, tools and equipment used for pedicure, step by- step procedure of pedicure-, pedicure technique– benefits – difference between spa and regular pedicure - pedicure safety.

Unit:3 **Manicure**

Manicure- equipment used for Manicure, Types- French, hot oil, dip power manicures- Paraffin wax treatments -shaping of nails, removal of the cuticles, Mehandi- Classical, Arabic, Glitter, Painting and Nail Art-Nail Care.

Unit:4 **Skin and hair**

Structure and function of skin, Skin types, skin tones, tips for skin care and steps in basic facial. Care for skin and hair-Basic Hairstyles: Knotted style - Rolling style - Plaited style- Basic structure of skin and hair, Products available, skin and hair care, make up for face and hairdo styles.

Unit:5 **Face makeup**

Face makeup- meaning, make up application, Make- up types, shape and colour of Hair, hair care and hair styles for occasion. Basic Haircuts - Straight Trimming, “U” - cut and “V” – Cut.

Text Book(s)

1.Dr. NeenaKhanna, Body and Beauty Care, PustakMahal Publishers, (2011).
2.Rashmi Sharma, Herbal Beauty and Body Care. PustakMahal Publishers, (2011).
3.Richa Dave, Make-up Album, Navneet Publication, (2006).

Reference Books

1.Catherine M. Frangie. Milady, Standard cosmetology, Milady Publishing Company.(2014).
2.RoshiniDayal , Natural Beauty Secrets from India, Tata publishing Enterprises. LLC,(2008).
3.P.J.Fitzgerald.,ThecompletebookofHairstyling,Mansoorbookhouse,(2003).Trinnywoodwall,sunsannalconstantive,
4. WhatNottoWearforEveryOccasion,Part-2,OrionPublishing book group, U.K,(2003).
5.Helena Biggs,Nail Art: Inspiring Designs, by the world's leading technician, Arcturus Publishing limited, U.S,(2014)

SEMESTER V

Course Code	Course Title	Course Category	Credits	Hours
	FASHION BUSINESS STARTUP	**Skill Enhancement Course – III- Theory**	**2**	**2**

Course Objectives:

The main objectives of this course are to:

1. Frame business concepts and solve challenging tasks.
2. Create ideas and strategies in order to effectively bring a business concept into action.
3. Understand financing and fund raising
4. Capture opportunity and mitigate business risks.

Expected Course Outcomes:

On the successful completion of the course, student will be able to:

CO1	Explain business theories, business models and factors influencing new venture development.	K2
CO2	Apply business planning techniques to identify opportunities and prepare project reports for startup ventures.	K2
CO3	Analyze entrepreneurial identity, creativity and business idea generation methods for startup development.	K3
CO4	Analyze strategic, technical and financial aspects of managing and expanding small businesses.	K2
CO5	Evaluate business communication practices, ethical decision-making and institutional support systems for startup enterprises.	K4

K1 - Remember; **K2** - Understand; **K3** - Apply; **K4** - Analyze; **K5** - Evaluate; **K6** – Create

Unit:1 **Business Concept Theories**

Framework of Business Theories - Economic Theory, Sociological Theory, Psychological Theory and Resource-Based Theory. Framework of Business Model - Social Development Model, Competency Model, Emerging Models of Corporate Entrepreneurship. Classification of Business – Environmental Scanning, Need Assessment, Resource Assessment, Sources of Supply; Challenges of New Venture Strategies, Pitfalls in Selecting New Ventures, Critical factors for New Venture Development, Sources of Finance and Problems.

Unit:2 **Business Opportunity Identification**

Business Plan Preparation and Project Financing; Need and Relevance of Business Plan; Market Feasibility; Technical Feasibility; Financial Viability; Project Report Preparation. Identification of Business Opportunities in the Context of Tamil Nadu – Industrial Policy; Skill Development for Entrepreneurs; Business Incubation Centers; Start-up Policy Framework and Incentives

Unit:3 **Business Identity**

Identity search: Crises, Exploration, Stress, Choice; Identity Formation - Preparation, Building New Identity; Identity Establishment - Management, Role Stress, Identity Integration, Linkage Building; Exercises - TAT, Analyzing Imagery, Risk Taking Styles, Goal Setting Behavior; Creativity and Business Idea - Methods of Idea Generation - Creative Problem Solving through business identity.

Unit:4 **Small Business Management**

Definition of Small Business, an overview of Small, Medium and Large Industries.
Strategic Management: Vision, Mission and Objectives of small business, Environmental analysis - PEST Framework, Porter's 5 Forces Model, Internal Environment Analysis - SWOT Framework; Competitive Strategies — Cost Leadership, Differentiation and Focus; Value Chain Analysis.

Technical and Financial Aspects of Small Business; Importance of Selection Process and Technologies; Balancing the Resources to Optimize Costs; Financial Statement Analysis; Strategizing - Expansion, Diversification, Modernization of small business.

Unit:5	**Business Communication and Ethics in Business and Institutional Support System for Business Startup**

Business Communication and Ethics in Business

Introduction to Communication in Organizations - Types, Process and Barriers of Communication; Professional Use of the Telephonic Interview, Group Discussion and Making Presentations. Effective Customer Care, Appropriate Mechanism for Handling Complaints, Negotiating with Customers, Business Etiquettes and Body Language. Business Ethics: An Overview; Ethical Decision-making – Why Ethical Issues and Problems occur in Workplace; Managing Ethical Behavior in Workplace; Professional Ethics Vs. Values and Moral in Workplace.

Institutional Support System for Business Startup

Sources of Finance for Short, Medium and Long Term; Venture Capital- Sources and Criteria, Financing Steps; External Resource Generation - Licensing, Franchising, Strategic Alliance, Joint Venture, Merger, Private Placements.

Text Book(s)

1	Bygrave, W., and Zacharakis, A. (2017) Entrepreneurship, 4th Edition (3rd Edition is ok too) Wiley.
2	2. Avraham Shtub, Michael Rich, (2019), Managing your startups new product development projects, World Scientific Publishing company limited.
3	3. Jonathan Sutherland, Diane Canwell, (2014), Key Concepts in Business Practice, Palgrave
4	Macmillan publications.

Related Journals

1	The Journal of Entrepreneurship – Sage publications
2	2. The International Journal of Entrepreneurship and Innovation – Sage publications
3	3. Strategic Entrepreneurship Journal - Wiley Online Library International
4	4. Journal of Entrepreneurship and Small Business – Inter Science

SEMESTER V

Course Code	Course Title	Course Category	Credits	Hours
	INTERNSHIP PROJECT VIVA-VOCE	**Summer Internship**	**2**	**-**

Course Objectives:

The main objectives of this course are to:

- Expose the students to the work environment
- Familiarize and adapt to the workplace
- Understand the methods, techniques and practices followed in the place of training

Expected Course Outcomes:

On the successful completion of the course, student will be able to:

CO1	Generalize working structure of the industry/ company	P3
CO2	Analyze the methods adopted in the training place	P4
CO3	Recognize the challenges in the training place	P2
CO4	Discover the nuances of the workplace and appreciate it	P5

P1– Imitation**;P2–**Manipulation**;P3–**Precision;**P4–**Articulation;**P5 –**Naturalization.

No CIA, Report: 80 marks and Viva: 20 marks

Generalize working structure of the industry/ company

Analyze the methods adopted in the training place

Recognize the challenges in the training place

Discover the nuances of the workplace and appreciate it

Process to be Followed

Students can identify their area of interest. Industry / companies have to be identified and a profile of the company has to be analyzed at least a month earlier. Contacts can be established by the guides allotted to the student. Prior permission has to be obtained from the place of training.
After confirmation, the student will undergo training for a period of 15 working days.

Instructions to the Students

The students should abide by the rules and regulations of the concern and get the maximum benefit from the training. The students should maintain a daily logbook where the student should record his details of the training.
A copy of the record has to be sent to the supervisor allotted to the student. The logbook must be signed (with seal) by the staff of the company. Based on the study done, the student will submit a report to the guide within a weeks' time along with the logbook. In case of any problems, the student should reach out to the supervisor immediately.

Instructions to the Supervisor

The supervisor should establish contacts with the place of training. A routine follow up has to be done with the student once in two or three days. Problems, if any faced by the student should be sorted out immediately.

Training Report and Presentation	
Training Report (30 – 50 pages) should be prepared by the student and submitted in a month's time. At the end of the semester student should present the report with a power point presentation	
Related Online Contents [MOOC, SWAYAM, NPTEL, Websites etc.]	
1	https://www.wikihow.com/Write-a-Report-After-an-Internship
2	http://mfe-iseah-kef.blogspot.com/2013/11/internship-daily-journal.html
3	https://www.academia.edu/25257761/Student_Internship_Logbook
4	https://www.indeed.com/career-advice/career-development/how-to-write-an-internship-report
5	https://valenciacollege.edu/students/internship/documents/ActivityLog.pdf
6	https://www.template.net/business/log/internship-time-log/

SEMESTER VI

Course Code	Course Title	Course Category	Credits	Hours
	TEXTILE TESTING AND QUALITY CONTROL	**Core Course XII**	**5**	**7**

Course Objectives:

The main objectives of this course are to:

- To impart knowledge in basics of testing and testing atmospheric conditions in a testing lab.
- Helps in determining the testing of fibres, yarns and fabrics.
- Enables the students to know about the various textile testing equipment's as well as their working principles.

Expected Course Outcomes:

On the successful completion of the course, student will be able to:

CO1	Explain the testing procedure for various yarn parameters	K2
CO2	List out the specifications for various woven & knitted fabrics	K2
CO3	Differentiate the various systems used for fabric inspection	K4
CO4	List out the possible defects and its causes in apparel production	K2
CO5	Differentiate the categories of defects in garment and the various standards followed in apparel testing	K4

K1-Remember;**K2**-Understand;**K3**-Apply;**K4**-Analyze;**K5**-Evaluate;**K6**–Create

Unit:1	**Testing Standards**

Introduction to testing – definition, objectives, importance and types of testing, International Quality parameters and standards like AATCC, ASTM, BIS etc. Humidity- absolute and relative (moisture content and regain), Standard atmospheric conditions, Moisture and Humidity – its importance and relationship to textiles, Determination of humidity –Wet and Dry bulb hygrometer and sling hygrometer, Measurement of moisture regain and content by Conditioning oven method.

Unit:2	**Fiber Testing**

Fiber testing - Cotton fiber length –determination of fibre length by Baer sorter method, Fineness – Air flow principle –determination of fibre fineness by Sheffield micronaire method, fibre maturity – Caustic soda swelling method, fibre strength – determination of fibre strength by Pressely bundle strength tester and Stelometer method, Determination of trash and lint in cotton by Shirley trash analyzer method.

Unit:3	**Yarn Testing**

Yarn testing - Yarn numbering system – conversion of count from one system to another, Instruments for count determination–Quadrant balance, Beesley balance. Yarn strength testing – principles of CRT, CRL, CRE – Single yarn strength tester, Lea strength tester. Yarn twist- Direction of twist, Twist testers – Tension type twist tester, Yarn evenness – classification of variation, methods of measuring evenness using blackboard method, Uster evenness tester, determination of yarn hairiness and yarn crimp.

Unit:4	**Fabric Testing**

Fabric testing– fabric weight, cover factor, fabric thickness. Fabric strength – fabric tensile strength tester, tearing strength tester, hydraulic bursting strength tester. Fabric abrasion resistance- Martindale abrasion tester, Fabric pilling – ICI pill box tester. Fabric drape – Measurement of drape, fabric stiffness – Shirley stiffness tester. Fabric crease resistance - crease recovery tester, Fabric

permeability – Shirley air permeability tester.	
Unit:5	**Final Inspection**
Color fastness in textiles – importance and factors affecting color fastness – color fastness to crocking (dry and wet), perspiration (acid and alkaline), sunlight, laundering, pressing and dry-cleaning aspects, with the use of Artificial Intelligence (AI) for digital image analysis, automated grading systems, and smart evaluation techniques. Graying scales and ratings using AI-based colour measurement and predictive models for durability and performance.	
Text Book(s)	
1	Dr. Arindam Textile Testing, SITRA Coimbatore (2001).
2	Elliot B Grover and Hamby DS, Handbook of Textile Testing and Quality Control, Willey Eastern limited, New Delhi (1988).
3	Saville BP Physical Testing of Textiles, Wood head publishing, Cambridge (2004).
4	Gopala krishnan.R,A.P. Textile Testing, SSM Institute of Technology, Komarapalayam. (2002).
5	Newnes Butterworths, B.J.E.(no date) Principles of Textile Testing, London (1976).
Related websites	
1	http://textilemerchandising.com/quality-assurance-and-quality-control/
2	https://insight-quality.com/garment-quality-control-procedures/
3	https://garmentsmerchandising.com/acceptable-quality-level-apparel-industry/
4	http://texhour.com/aql-and-type-of-defects

SEMESTER VI

Course Code	Course Title	Course Category	Credits	Hours
	SURFACE EMBELLISHMENT AND FASHION ACCESSORIES PRACTICAL	**Course XIII-PRACTICAL**	**5**	**6**

Course Objectives:

- To impart knowledge to the students about the hand and machine embroidery.
- To learn the various types of stitches.
- To provide opportunity for skill development in designing accessories.
- To impart knowledge on fashion accessories and creativity.

Expected Course Outcomes:

On the successful completion of the course, student will be able to:

CO1	Hand embroidery stitches and machine embroideries are developed.	P1
CO2	They will be able to develop and design complex fashion accessories by learning to design different accessories manually	P2
CO3	Create added structural effects using smocking	P3
CO4	Apply the techniques used in Indian traditional embroideries	P4
CO5	Design and develop the samples for beadwork	P5

P1 – Imitation; **P2** – Manipulation; **P3** – Precision; **P4** – Articulation; **P5** – Naturalization

A. Prepare samples for the following

1. Hand embroidery – 20 stitches -10 samples
2. Machine embroidery -7stitches -3 samples.
3. Applique (machine / hand)- 3 types
4. Smocking – 4 types
5. Bead Work -1 sample
6. Sequins work -1 sample
7. Zardosi work -1 sample
8. Tassels and fringes -2-3samples.
9. Mirror work –Shapes (Round, square, diamond) - 3 samples
10. Fixing the stones-1 sample.

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

1. Kantha 2.Chikan 3. Kasuti 4. Zardosi 5. Kutch work 6. Mirror work 7. Aari work Phulkari work

C. Crochet

D. Prepare samples for the following

1. Hand bag - Any 2 types
2. Hat - Any 2 types
3. Bow - Decorative bow and formal bow
4. Purse and pouches - any 2 types

Text Book(s)

1	Scientific garment quality –K M Illege and Sons , Plot No. 43 , Somuvar Peth pune411011

2	Shailaja D. Naik, Traditional embroideries of India, APH Publishing (1996)
3	Dress making- Smt Thangam Subramaniam Bombay Tailoring and embroidery college32
4	Libby Moore Thread folk, a Modern Maker's book of Embroidery, Project and Artist Collaboration, Paige Tata and Co.
Related Online Contents [MOOC, SWAYAM, NPTEL, Websites etc.]	
1	https://sueguide.csom/smocking/
2	https://www.youtube.com/watch?v=nJz9c8gEvFg

SEMESTER VI

Course Code	Course Title	Course Category	Credits	Hours
	FASHION PORTFOLIO PRESENTATION VIVA VOCE	**Core Course XIV**	**5**	**5**

Course Objectives:

The main objectives of this course are to:

- To design and execute an organized collection of creative works
- To make original works of art that demonstrates effective use of design principles
- Design collections by fulfilling the objectives of the client and user requirements.

Expected Course Outcomes:

On the successful completion of the course, student will be able to:

CO1	Apply the design principles to create a series of design collections.	P1
CO2	Apply various boards for the exhibition of their works in a portfolio.	P2
CO3	Analyze fashion forecasting for the specific season, customer profile and price range to create a portfolio collection.	P3
CO4	Create a well-structured and professionally presented portfolio.	P4
CO5	Create a design philosophy communicating their design capabilities.	P5

P1 – Imitation; **P2** – Manipulation; **P3** – Precision; **P4** – Articulation; **P5** – Naturalization

Portfolio Presentation and Design Collection

Part A

Portfolio Presentation - with Customer profile, Inspiration board, Mood Board, Colour board, Flat Sketch board, Illustration board, Swatch board, Trim board, Accessory board- for the following collection

- Fashion Show- with a theme – one ramp set
- Winter collection - 3garments
- Summer Collection -3 garments

1. Customer profile: capture photograph of customer.
2. Inspiration board: Image collection from books and magazines by scanning, Photography and drawing, use of objects for mood creation
3. Mood board: develop a theme based on group discussion, mind mapping, brain storming.
4. Colour board: spotting theme board, mood board and inspiration board arrive the color board.
5. Flat sketch board: Develop front, side and backviews

Part B

1. Construct the garments for all the above categories

Contemporary Issues

Expert lectures, online seminars – webinars

Text Books

1	Portfolio Presentation for Fashion Designers, Linda Tain, Fairchild Publishers (1998)
2	Fashion Design Drawing and Presentation, Patrick John Ireland, B T Batsford Ltd, 2006
3	Creative Fashion Presentation, Polly Guerin, Fairchild Publishers, 1987
4	New Encyclopedia of Fashion Details, Patrick John Ireland, Publisher: Pavilion Books, 2008

5	Check and Stripe: A Design-Source Book 2, Kyoto Shoin Company Ltd. 1992
Related Online Contents [MOOC, SWAYAM, NPTEL, Websites etc.]	
1	https://issuu.com/theodoracucu/docs/portfolio_internship_ba
2	https://successfulfashiondesigner.com/fashion-portfolio/fashion-portfolio-checklist/

Course Code	Course Title	Course Category	Credits	Hours
	FASHION MARKETING	**Core Course XV**	**5**	**5**

Course Objectives:

The main objectives of this course are to:

- Identify market research related to apparel production processes.
- Understand the professional and ethical responsibility of fashion marketing.
- Introduce digital marketing.

Expected Course Outcomes:

On the successful completion of the course, student will be able to:

CO1	Remembering fashion terms in textile industry	K1
CO2	Understand the fashion marketing strategies	K1
CO3	Apply fashion advertising in textile industry	K3
CO4	Evaluate the fashion market research	K5
CO5	Analyse about global markets	K4

K1 - Remember; **K2** - Understand; **K3** - Apply; **K4** - Analyze; **K5** - Evaluate; **K6** – Create

Unit:1 **FASHION**

Fashion: Meaning, Definition and Terminologies – Components of fashion - Principles of fashion – Environment of fashion: Demographic and 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 **MARKETING**

Meaning and classification of marketing, fashion marketing, fashion market size and structure, marketing environment –micro marketing environment, macro marketing environment. Trends in marketing management. Marketing function – definition and classification product planning and development importance of fashion products, nature of fashion products. The fashion industry and new product development product mix and range planning. Product line policies

Unit:3 **FASHION ADVERTISING**

Fashion advertising and preparation of advertising for apparel market. Advertising media used in apparel marketing. Advertising department, advertising agencies. A survey on analysis of customers fashion preference and international advertising. Fashion sales promotional programme for apparel marketing, communication and promotion, personal selling, point of purchase, sales promotion objectives, consumer sales promotion.

Unit:4 **MARKETING RESEARCH**

Marketing research – definition, scope and importance of market research in new product development. Pricing policies and strategies for apparel products. Importance of price policies. Functions of pricing. Factor influencing price decisions. Methods of setting prices. International pricing policy, export pricing.

Unit:5 **GLOBAL MARKET**

Global market and its participants in international marketing – Importance, growth and benefits – international market place- goods and services multinational corporations banks and insures trading companies – implications for marketing management- GATT. Present export and import details. Digital marketing- types- benefits.

Text Book(s)	
1	R.S.N. Pillai and Bagavathi, S, “Marketing”, Chand and Co ltd New Delhi –1987.
2	Philip C.F and Duneon D.T, “Marketing Principle and methods”, Irwin publications.
3	Backman T.N. Maynard H.H and Davidson W.R, “Principles of Marketing”, Ronald Press Company, New York 1970.

SEMESTER VI

Course Code	Course Title	Course Category	Credits	Hours
	FASHION DRAPING PRACTICAL	**Core Course XVI PRACTICAL**	**5**	**5**

Course Objectives:

The main objectives of this course are to:

1. To understand the basic draping & manipulation techniques.
2. To design and develop patterns for different garments based on the body measurements.
3. To interpret and transform their designs on a three-dimensional form using draping method.

Expected Course Outcomes:

On the successful completion of the course, student will be able to:

CO1	Prepare muslin and formulate the measurements for various garment's draping	P3
CO2	Produce the pattern blocks in dress form for various garments	P5
CO3	Create dart or pleat variations in appropriate garment patterns	P5

P1– Imitation**;P2–**Manipulation**;P3–**Precision;**P4–**Articulation;**P5 –**Naturalization.

List of Experiments

1. Bodice - Front &Back
2. Skirt - Front & Back and Its Types
3. Pant - Front &Back
4. Sleeve - Bell, Raglon, Cape, Puff, Circular, Kimono
5. Neckline - Boat, Key Hole, Halter, Scooped, Scalloped
6. Collar - Mandarin, Peter pan, Turtle, Ruffled &Shawl
7. Cowls
8. Twist
9. Surplice
10. Yoke - Hip Yoke, Midriff & Shirt Yoke
11. Design and Drape one couture wear for Men &Women

Text Book(s)

1	Draping for Fashion Design, 5th Edition, Nuriesrelis, Hilde Jaffe and Rose Mary Torre, Pearson Prentice Hall Publications, United States, 2012.
2	The Art of Fashion Draping, Connie Amadan Crawford, Fair Child Publications, New York, 2005.
3	Draping for Apparel Design – 3rd Edition, Helen Joseph and Armstrong, India, Bloomsbury Publications India Ltd, 2013.
4	Cutting and Draping Special Occasion Cloths: Designs for Party wear and Evening wear, Dawn Cloak, London, Batsford, 1998.

Related Online Contents [MOOC,SWAYAM, NPTEL, Websites etc.]

1	https://style2designer.com/apparel/draping-mannequin/what-is-draping-technique-and-its-process/
2	https://www.aicp.fr/portfolio-items/moulage-technique-du-moulage/?lang=en#:~:text=Draping%2C%20the%20most%20ancient%20of,to%20create%20a%20fabric%20prototype

Course Code	Course Title	Course Category	Credits	Hours
Semester II	**FASHION APPRECIATION**	**NMSDC COURSE-I (Alternate Course)**		

Course Objectives:

The main objectives of this course are to:

- To introduce various art forms to the students by classroom teaching, case studies, pictorial presentation and craft tools.
- To engage the students to work on types of fashion and art forms by making them.
- To create miniature models.
- To develop critical thinking in analyzing fashion shows, magazines, and media.
- To encourage creativity and personal style awareness.

Expected Course Outcomes:

On the successful completion of the course, student will be able to:

CO1	Remember the basics of Fashion Concepts	K1
CO2	Understand fashion styling, role of fashion and forecasting.	K2
CO3	Apply the concepts of styling as freelancing and photo shooting.	K3
CO4	Analyze the various cultural adoption and world art	K4
CO5	Create world art and writing based on fashion concept	K6

K1-Remember;K2-Understand;K3-Apply;K4-Analyze;K5-Evaluate;K6–Create

Unit:1	**Introduction To Fashion**

Introduction to fashion – Types of Fashion: Haute couture fashion – Ready-to-wear fashion - Mass market fashion - Fashion cycle- Introduction to Artificial Intelligence (AI).

Unit:2	**Fashion Styles**

Types of fashion styles: chic, bohemian, vintage, preppy, artsy, tomboy. Alternative clothing style: Punk Fashion, Gothic Fashion, hipster, steam punk, street grunge, heavy metal fashion-AI-based analysis of design patterns & motifs -Digital archives and AI mood boards.

Unit:3	**Art**

Fashion as Cultural Indicators, Cross Culture Studies, Role of fashion in human culture, Fashion Adoptions – sources of inspiration and their selection. World Art – Cubism, Pop art, German expression, Futurism, Dada- AI tools for global trend analysis.

Unit:4	**Writing**

Art Writing, writing for blogs, mind mapping and key word selection, working as a creative team with freelancing stylist. Creating story, content preparation for art and styling, working on concept boards, setting trends, curating and narrating, fashion forecasting.

Unit:5	**Photo shoot**

Styling and basic grooming – model poses based on garment – final photo shoot and outcome- AI tools in fashion design (Midjourney, CLO 3D, etc.) -AI in styling and personal wardrobe analysis.

TEXT BOOKS

1. 20,000 Years of Fashion: The History of Costume and Personal Adornment 1965
2. The World of Fashion (4th Edition)2007
3. Berg Encyclopedia of World Dress and Fashion2010

Course code		**CARE AND MAINTANENCE OF TEXTILES**
Semester	**III**	**NMSDC COURSE-II (Alternate Course)**

Course Objectives:

The main objectives of this course are to:

- Gain a better understanding method in taking proper care of the clothing
- Impart knowledge on machines and equipment's used in the washing, storing and ironing process
- Impart knowledge on the types of wash care labels and their meaning.
- To prepare students for efficient household and professional textile care management.
- To develop problem-solving skills

Expected Course Outcomes:

On the successful completion of the course, student will be able to:

CO1	Identify suitable methods of washing, drying, ironing and storing	K1
CO2	Understand the wash care labels and act accordingly	K2
CO3	Appraise the types of equipment used in the care of fabrics	K3
CO4	Recognize the need for dry cleaning for fabrics	K2
CO5	Evaluate the methods and equipments to be used for a better life of clothes	K5

K1 -Remember; **K2** -Understand;**K3** -Apply; **K4** -Analyze; **K5** -Evaluate;**K6** –Create

Unit:1 Water and Laundry Soaps

Water- hard and soft water, methods of softening water.
Laundry soaps - composition of soap types of soap, soap less detergents, detergent manufacture, advantages of detergents, Manufacturing process of soap and detergents- AI-based optimization of soap and detergent manufacturing processes. Use of AI for quality control, production monitoring and sustainable water management in detergent industries.

Unit:2 Finishes and Stain Removal

Finishes – Stiffening Agents – Starch (cold water and hot water) , Other stiffening agents, preparation of starch Laundry blues, their application.
Stain removal – common methods of removing stains; food stains, lead pencil, lipstick, mildew, nose drops, paint, perfume, perspiration / mildew, tar, turmeric and kum- kum,- AI-assisted identification of fabric finishes and selection of suitable stiffening agents.

Unit:3 Washing, Drying and Ironing

Washing – Points to be noted before washing. Machine – types semi-automatic and Fully automatic; Top loading and front loading; wash cycles in a washing machine
Drying equipment's– Indoor and outdoor drying
Iron box – Parts and functions of an electric iron box; types - automatic iron box and steam iron.
Ironing board – different types- AI-based predictive maintenance and performance monitoring of laundry equipment.

Unit:4 Laundering of Different Fabrics

Laundering of different fabrics – cotton and linen, woolens, coloured fabrics, silks, rayon and nylon. Special types of Laundry – waterproof coats, silk ties, leather goods, furs, plastics, lace- Overview of AI applications in fabric care, smart laundry systems and textile maintenance.

Unit:5 Storing, Dry Cleaning and CareLabels

Storing – Methods of storing clothes, Best way to store clothes Dry cleaning – Benefits, differences between dry cleaning and laundry, Steps in dry cleaning process.

AI-enabled smart wardrobe systems for garment organization, inventory management and clothing maintenance-Care labels – Importance and Types - The International Care Labelling System, The Japanese Care Labelling System, The Canadian Care Labelling System, The European System.

Text Book(s)	
1	Wingate I B , Textiles fabrics and their Selection, Prentice-Hall Inc Publishers, 1946
2	Fundamentals of Textiles and their Care- Susheela Dantyagi , Orient Longmann Ltd, 1980
3	Mildred T. Tate and Glisson O, Family Clothing, John Wiley and Sons Inc, Illinois, 1961
4	Durga Deulkar , Household Textiles and Laundry Work, Amla Ram and Sons, Delhi, 1951
Related Online Contents [MOOC, SWAYAM,NPTEL, Websites etc.]	
1	https://tide.com/en-us/how-to-wash-clothes/how-to-do-laundry/your-comprehensive-guide-on-how-to-do-laundry#Step1
2	https://www.coats.com/en/Information-Hub/Care-Labels#:~:text=Labels%20should%20be%20designed%20based,5)%20Wringing%20%26%2 06)%20Drying
3	https://www.customclothinglabels.com/uses/why-are-care-labels-so-important/#:~:text=Care%20labels%20are%20essential%20when,run%20could%20ruin%20the%20fabric.
4	https://www.drycleaning.com.sg/blog/5-differences-between-dry-cleaning-and-laundry.html
5	https://www.rinse.com/blog/care/what-is-dry-cleaning/
6	https://fleming.ca.uky.edu/files/clothing_storage.pdf

Course code		APPAREL PRODUCTION MANAGEMENT
Semester	IV	NMSDC COURSE-III (Alternate Course)

Course Objectives:

The main objectives of this course are to:

- The Students will be able to familiarize with the function of the garment industry,
- To various process and technical parameters in garment production.
- It will enhance awareness of seen product, machinery and equipment and prepare the students for work around the garment industry.
- To provide knowledge on cost control and production costing in the garment industry.
- To develop awareness of industrial safety, labor management, and compliance standards.

Expected Course Outcomes:

On the successful completion of the course, student will be able to:

CO1	Understand the concept of plant location and layout	K2
CO2	Analyze the work study techniques	K4
CO3	Apply the best techniques to improve productivity with quality production	K3
CO4	Understand the functions of line balancing techniques	K2
CO5	Evaluate production planning and control techniques	K5

K1 - Remember; K2 - Understand; K3 - Apply; K4 - Analyze; K5 - Evaluate; K6 – Create

Unit:1	Plant Location and Layout

Plant Location and Layout. Production - Definitions - Terminology - Organizing for Production - Function of Production Department - Introduction to Garment Industry Plant Location - Location Economics -Plant Layout – Process Layout -- Product Layout – Combination Layout -Introduction to Balancing Theory – Balance Control-AI in plant location and layout.

Unit:2	Work Study

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

Unit:3	Production and Productivity

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

Unit:4	Line Balancing

Line Balancing - Duties and Responsibilities of Production manager / Supervisor - Effective Line Supervision - Factors of Production -Production Function - Process Flow and Charts for Garment - Scheduling Calculations.

Unit:5	Production Planning and Control

Production Planning and Control - Capacity Requirement Planning [CRP] - Material Requirement Planning -Steps in Production Planning - Factors to be consider in Production Planning -Function,

Qualitative and Quantitative Analysis of Production – Coordinating Departmental Activities - Practical Difficulties in implantation-Production and planning control in AI.

Text Book(s)	
1	Carrand Latham's Technology of Clothing Manufacture, fourth edition, revised by David.J.Tyler, Blackwell Publishing UK, 2008.
2	Jacob Solinger, Apparel Manufacturers Handbook, New Age International (P) Ltd, 2005.
3	Gerry Cooklin, Introduction to Clothing Manufacture. Wiley Blackwell, 2006.
4	A. J. Chuter, Introduction to Clothing Production Management, Blackwell Scientific Publications.1988.
5	Tripathi, Personal Management and Industrial Relations, Sultan and Chand Sons, 2013.
6	O.P. Khanna, Industrial Engineering and Management, Dhanpat Rai Publications, 2018.
7	Rama Moorthi, Production and Operations Management, New Age International (P) Ltd, 2005.

Course Code		FASHION FORECASTING
Semester	**V**	**NMSDC COURSE-IV (Alternate Course)**

Course Objectives:

The main objectives of this course are to:

- Gain a better understanding of a fashion direction, trends and color forecasting.
- Impart knowledge on forecasting, role of forecaster and process of forecasting.
- To enable students to interpret and apply forecast data in apparel design and product development. To understand short-term and long-term forecasting and their applications in the fashion cycle.
- To encourage research and observation skills through market surveys, fashion shows, and media analysis.

Expected Course Outcomes:

On the successful completion of the course, student will be able to:

CO1	Describe the Forecasting trends	K2
CO2	Understand the fashion direction	K2
CO3	Analyze the scope and functions of fashion forecasting	K4
CO4	Evaluate the forecasting process through various methods	K5
CO5	Analyze the colour forecasting process	K4

K1-Remember;**K2**-Understand;**K3**-Apply;**K4**-Analyze;**K5**-Evaluate;**K6**–Create

Unit:1	**Forecasting Trends**

Trend forecasting- Introduction, Objectives. Importance of forecasting, Elements of forecasting, Principles of forecasting, Theories explaining forecasting, Steps in forecasting, Major areas of forecasting, Advantages and limitations in forecasting.

Unit:2	**Fashion Direction**

Fashion Movement; Theories of Fashion Change; Directional Theories of Fashion: Change in Tandem, Model of Vertical Flow.

Unit:3	**Fashion Forecasting**

Fashion forecasting, Role of fashion forecaster, Long- term forecasting, Short- term forecasting. Forecasting with Trend, Time series and Trends, Constant pattern, Linear pattern. Role of internet in fashion forecasting.

Unit:4	**Forecasting Process**

Fashion forecasting process, Activities. Market research- Consumer research, Shopping, Sales records, Fashion services and resources- Collection reports, Trend reports, Consulting services, Fashion editing, Trade publications.

Unit:5	**Colour Forecasting**

Colour forecasting- Steps in Colour forecasting - Colour forecast reports. Dimensions of Colour, Colours in Marketing, Consumers and the Psychology of Colours. Forecasting with Colour Cycles, Colour Research, Sources for Colour Ideas and Palettes.

Text Book(s)	
1	The fashion Forecasters: a hidden history of color and trend prediction – Blaszczyk, Regina Lee – Wubs, Ben Editor. 2018
2	Colour Forecasting for Fashion, Laurence King Publishing, London. 2012
3	GiniStephensFrings,Fashion–FromConcepttoConsumer,6thedition,PrenticeHall,1999.
Related Online Contents[MOOC,SWAYAM, NPTEL Websites etc.]	
1	https://en.wikipedia.org/wiki/Fashion_capital
2	http://www.technopak.com/Files/fashion-retail-scenario-in-india.pdf
3	https://get-green-now.com/environmental-impact-fast-fashion/

Course Code		**ENTREPRENEURSHIP DEVELOPMENT**
Semester	**VI**	**NMSDC COURSE -V (Alternate Course)**

Course Objectives:

The main objectives of this course are to:

- Familiar the students with challenges of starting new ventures
- Enable them to investigate, understand and internalize the process of setting up a new business.
- To identify business opportunities.
- To create awareness on institutional support.
- To motivate self-employment

Expected Course Outcomes:

On the successful completion of the course, student will be able to:

CO1	Outline the concept of entrepreneurship and traits of entrepreneur	K2
CO2	Identify a project and formulate a project report.	K4
CO3	Appraise the formalities of SSI's Registration for an enterprise	K4
CO4	Identify the Sources of Finance and Institutional Assistance for small scale industries.	K4
CO5	Infer about entrepreneur, Incubation centers and start up in India	K4

K1-Remember;**K2**-Understand;**K3**-Apply;**K4**-Analyze;**K5**-Evaluate;**K6**–Create

Unit:1 Introduction to Entrepreneurship

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; Entrepreneur; Manager Vs. Entrepreneur.

Unit:2 Starting the venture

Project Identification – Project formulation – Project design - preparing project report - Project Planning and Scheduling using Networking Techniques of PERT / CPM; Methods of Project Appraisal.

Unit:3 SSI and Registration

Small Enterprises and Enterprise Launching procedures and Formalities Role of SSI in Economic Development of India; SSI; Registration; NOC from Pollution Board; project report presentation guidelines

Unit:4 Sources of Finance and Institutional Assistance

Role of Support Institutions and Management of Small Business: Director of Industries; DIC; SIDO; SIDBI; Small Industries Development Corporation (SIDC); SISI; NSIC; NISIET, NIESBUD; TANSIDCO; TIIC; State Financial Corporation; KVIC

Unit:5 Financial incentives for SSI

Financial incentives and subsidies for SSI's, and Tax concessions; – seed capital assistance –Role of entrepreneur in export promotion and import substitution – Social Entrepreneur, Incubation centre, Startup India

TEXT BOOK(S)

1	Entrepreneurial Development, Dr.C.B.Gupta, Sultan Chand and Sons, New Delhi,2009
2	EntrepreneurialDevelopment,Dr.S.SKhanka,SultanChandandSons,NewDelhi,2009.
3	EntrepreneurshipDevelopmentandSmallBusinessEnterprises,Charantimath,Poornima, PearsonEducation,NewDelhi,2006
4	Entrepreneurship New Venture Creation, David H.Holt, Prentice Hal lof India Private Limited ,New Delhi,2005
Related Websites	
1	https://www.researchgate.net/publication/259843889
2	https://ncert.nic.in/textbook/pdf/kebs109.pdf