

As Per NEP 2020

University of Mumbai



Title of the program

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|---|---|------------------|
| A- P.G. Diploma in Home Science – Textile and Fashion Technology | } | 2023 - 24 |
| B- M.Sc. (Home Science – Textile and Fashion Technology) (Two Years) | | |
| C- M.Sc. (Home Science – Textile and Fashion Technology) (One Year) | | 2027-28 |

Syllabus for

Semester – Sem. - III & IV

Ref: GR dated 16th May, 2023 for Credit Structure of PG

(With effect from the academic year 2024-25)

University of Mumbai



(As per NEP 2020)

Sr. No.	Heading	Particulars
1	Title of program O: _____ B	M.Sc. (Home Science – Textile and Fashion Technology) (Two Years)
2	Scheme of Examination R: _____	NEP 50% Internal 50% External, Semester End Examination Individual Passing in Internal and External Examination
3	Standards of Passing R: _____	40%
4	Credit Structure R: _____	Attached herewith
5	Semesters	Sem. III & IV
6	Program Academic Level	6.5
7	Pattern	Semester
8	Status	New
9	To be implemented from Academic Year	2024-25

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Preamble

1) Introduction

The textile sector and fashion industry play a very significant role in the Indian economy. The industry comprises traditional textiles that are a part of our rich and diverse cultural heritage as well as contemporary textile and apparel production. This industry contributes significantly to the country's exports and is one of the largest employment generators in India, providing direct and indirect employment. Against this background, the college and the University of Mumbai saw the need for a special cadre of textile and fashion related specialists, and in 1976, started the Master's Program in Home Science (in this sector, at that time, was called Textiles and Clothing). As this industry is continuously evolving and the Indian market has the opportunity to stake an even greater share in the international market, the current Master's programme **M.Sc. (Home Science) specializing in Textile and Fashion Technology** will empower students through skill building, knowledge generation and dissemination, so as to meet the country's and global needs and challenges.

The programme is an excellent blend of theory and practical and it has special relevance to Textile, Apparel and Fashion industries with advanced knowledge and experience in entrepreneurship skills, fieldwork, rural camp, internship, industrial visits, computer-aided designing, marketing and skills in textile and fashion technology related areas. It is designed to impart knowledge and skills that are life-oriented, career-oriented and community-oriented.

It includes mandatory courses, elective courses, practical and extensive research and on the job field training. A student-centric and participatory approach enhances the teaching learning process. The core areas include theoretical knowledge of Fibre Science, Colouration and Finishing, Marketing and Merchandising, Entrepreneurship, Management and Business Administration, Intellectual Property Rights, Garment Production Technology, Global Fashion Trend Forecasting, Technical Textiles.

The following are the key areas for training students in practical skills for example various areas of Fashion and Textile Designing, Pattern Making and Garment Construction, Product Development, Home Textile Designing, Draping, Womenswear, Menswear, Accessory Development, World Textile Embroideries and Textile Crafts, Costume Styling, Textile Testing and Quality Assurance. The practical course on Alternative Health Strategies helps students to build and sustain their mental and physical wellness, thus contributing to the holistic value of the programme.

The programme offers a mandatory component on research methods and statistics to hone their research skills that can be further applied for their research project work.

Courses of special interest and aptitude are offered as electives namely Fashion Photography and Videography, Fashion Writing, Surface Embellishment Techniques, Fashion Illustration, CAD for Apparel & Home Products.

The programme is designed to train students with industry relevant skills through laboratory work, on-the job training and apprenticeship in textile testing laboratories, sustainable start-ups and entrepreneurial ventures with NGOs and artisans. The curriculum is supplemented with Extension Work and Educational Trips for Experiential Learning.

The scheme for evaluation and examination includes Internal Evaluation and Semester End Examination ensuring continuous effectiveness in teaching and learning. The Internal Evaluation promotes the development of soft skills and ensures participation by students throughout in the education process. Completion of one MOOC course in a year has been included in the internal evaluation.

In addition to the aforementioned, students are encouraged to undertake industry-and socially-relevant research projects. They are also motivated to participate in research competitions at various levels, publish research findings and engage in networking and collaboration.

2) Aims and Objectives

- a) To impart the basic principles, knowledge and skills of textile science for its systematic application in the field of fibres, dyes, finishes, fabrics and apparel used in the textile, apparel and fashion industry.
- b) To familiarize students with the various theoretical and practical aspects of the industry towards designing and developing textile and fashion products. This entails various aspects of creative designing, product development, testing, quality assurance, management, marketing, merchandising, emphasizing sustainability, innovation and use of ICT and CAD.
- c) To encourage students to work in conjunction with relevant textile and apparel industries, gaining a deeper insight into the subjects of textile and fashion technology through experiential learning, within laboratories, crafts centres and on the field.
- d) To provide students with opportunities to conduct collaborative research with testing laboratories, craft centres and NGOs, upholding ethical practices and intellectual property rights.
- e) To foster entrepreneurial aptitude by providing training and opportunities to develop suitable skillsets.

3) Learning Outcomes

After successful completion of the programme, the student will be able to:	
PO1	Demonstrate extensive knowledge of fibres, yarns, fabrics and apparel and apply the principles in technical aspects of textiles and the discipline of fashion.

PO2	Express and reason out ideas, concepts, and scientific knowledge effectively; orally and in writing with the use of appropriate media technology for example, creating thematic presentations, mood-boards, product lines and systematic creative processes and outputs.
PO3	Analyse and evaluate evidences, arguments, claims, and beliefs on the basis of scientific observations; identify logical limitations and draw conclusions from quantitative / qualitative data; evaluate historic textiles and costumes, global fashion trends, innovative design and prototype development.
PO4	Identify and analyse problems by applying core concepts of the discipline to solve problems in real time for inculcating values of sustainability.
PO5	Present and defend original research using the concepts of research methodology and statistics to thrust areas of textile and fashion technology.
PO6	Collaborate effectively with all the stakeholders to create, develop and exchange knowledge for the benefit of the society.
PO7	Apply advanced and specialized skills of the discipline, to creatively and critically evaluate and seek solutions to current issues working on process improvisation, innovative product development and product enhancement.
PO8	Use various CAD CAM technologies, digital platforms and social media effectively to design, produce and present ideas.
PO9	Practice proactive, self-directed learning and act independently in planning and executing projects which involve collaboration with testing laboratories, NGOs, craft centres and with industries.
PO10	Demonstrate an understanding of the Indian Knowledge System pertaining to tradition, culture and heritage and its relation to textiles and costumes, handlooms, handicrafts, artisans and their craftsmanship and foster appreciation through multicultural sensitivity.
PO11	Inculcate awareness and attitudes to make ethical judgements in producing original research through honesty and integrity and to promote ethical behaviour in every aspect from design thinking to the ultimate consumption as well as integrating circularity, and encourage originality and uniqueness.
PO12	Develop comprehensive skills of effective communication, business administration and management for understanding group dynamics and team building. This is enabled through active participation, strengthening of relationships, creating synergy in groups and attaining goals in an adaptive environment.
PO13	Develop universal human value system and maintain a holistic learning culture to renew self-motivation, recognize personal interests and improve personal and professional skills in all stages of life.

4) Any other point (if any)

5) Credit Structure of the Program (Sem III & IV)
(Table as per Parishisht 1 with sign of HOD and Dean)

R_____

Post Graduate Programs in University:

- PG Diploma in Home Science – Textile and Fashion Technology
- M.Sc. (Home Science – Textile and Fashion Technology) (Two Years)

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Exit option: PG Diploma (44 Credits) after Three Year UG Degree

II	6.5	Sem III	<p>Course 1: Business Management and Administration in the Textile & Fashion Industry Theory (4 Cr) Credits 4</p> <p>Course 2: Technical Textiles Theory (2 Cr) Textile Finishing and Testing Practical (2 Cr) Credits 4</p> <p>Course 3: Making & Garment Construction for Womenswear (Knits) Practical (2 Cr) Draping for Womenswear (Woven & Knits) Practical (2cr) Credits 4</p> <p>Course 4: World Textile</p>	<p>Credits 4</p> <p>Course 1: Computer Aided Designing for Apparel Sector Theory (2 Cr) Computer Aided Designing for Apparel Sector Practical (2 Cr)</p> <p>OR</p> <p>Course 2: Computer Aided Designing for Home Products Theory (2 Cr) Computer Aided Designing for Home Products Practical (2 Cr)</p>			<p>Research Project (4cr) Credits 4</p>	22	<p>PG Degree After 3-YrUG</p>
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		Embroideries & Textile Crafts Practical (2 Cr) Credits 2					
Sem IV	<p>Course 1: Garment Production Technology Theory (4 Cr)</p> <p>Seminar: Trends in Textile and Fashion Industry Theory (4 Cr)</p> <p>Credits 4</p> <p>Course 2: Pattern Making & Garment Construction for Menswear (Knits) Practical (2 Cr)</p> <p>Costume Styling Practical (2 Cr)</p> <p>Credits 4</p> <p>Course 3: Intellectual Property Rights in the Textile and Apparel Industry Theory (2 Cr)</p> <p>Credits 2</p> <p>Course 4: Alternative Health Strategies and Interventions Practical (2 Cr)</p> <p>Credits 2</p>	<p>Credits 4</p> <p>Course 1: Apprenticeship - Textile Testing in Laboratories Practical (4 Cr)</p> <p>OR</p> <p>Course 2: Apprenticeship Sustainable Start-ups and Entrepreneurial Ventures in Apparel/Product Development with NGOs and Artisans Practical (4 Cr)</p>			Research Project (6 Cr) Credits 6	22	

Cum. Cr. for 1 Yr PG Degree	26	8			10	44
Cum. Cr. for 2 Yr PG Degree	54	16	4	4	10	88

Note: * The number of courses can vary for totaling 14 Credits for Major Mandatory Courses in a semester as illustrated.

Sem. - III

Syllabus
M.Sc. (Textile and Fashion Technology)
(Sem. - III)

Course Code	Course Title	Theory/ Practical	Credits	No. of Hours
TFT03C1	BUSINESS MANAGEMENT AND ADMINISTRATION IN THE TEXTILE & FASHION INDUSTRY	Theory	4	60

Course Objectives:

The course will enable the students to:

- Develop an understanding of management processes and the functional strategies
- Build the ability to make strategic decisions at various business and organisational levels
- Advance leadership skills by employing data-driven problem-solving and innovative solutions
- Establish a strategic mind-set to diagnose problems in the organisation and make practical recommendations
- Recognize, discuss, and demonstrate concepts, techniques, and decision tools available to manage business
- Apply human resource management principles to evaluate human resource initiatives and manage an organization's human capital.

Course Outcomes:

After successful completion of the course, a student will be able to:	
CO1	Identify and apply appropriate management techniques for managing business
CO2	Demonstrate competence in development and problem solving skills
CO3	Evaluate the strategies in various marketing decision making process
CO4	Enable the students to evaluate the finance plans to acquaint a deeper knowledge of finance decisions.
CO5	Acquire knowledge of the different types of management information system and the networking concepts.
CO6	Explore entrepreneurial skills and management function of a company/firm
CO7	Understand various steps involved in starting a venture and to explore marketing methods & new trends in entrepreneurship.

Syllabus Content:

Unit No.	Course Content	Hours
Unit I	<p>Introduction and basic functions of management in Textiles Industry</p> <p>Human Resource Development</p> <ul style="list-style-type: none"> • Human resource Planning, Recruitment and selection, orientation or induction, performance appraisal, training and development, motivation, compensation, Building relationship (group dynamics, conflict management) <p>Marketing and Marketing Management process</p> <ul style="list-style-type: none"> • Concepts of marketing • Market segmentation, targeting and positioning • Brand development and management • Strategic planning - Product Decisions, Price Decisions, Channel Decision, Promotion Decision <p>Management Information Systems in Textile industry</p> <ul style="list-style-type: none"> • Basics concepts of MIS • Types of MIS • Benefits of MIS • Applications of MIS in Textile and Fashion Industry 	15

<p>Unit II</p>	<p>Financial Management</p> <ul style="list-style-type: none"> • Meaning, significance, goals and objectives of finance management. • Sources of finance • Funding for the business proposal • Franchising • Budget formulation and auditing • Costing and cost control • Financial statements (Balanced Sheet, Profit and loss account, cash flow statement) – Case study • Tools of financial analysis (Break even Analysis and Ratio analysis) – Case Study • Working Capital Management • Corporate Social Responsibility <p>New methods of financial management in industries</p>	<p>15</p>
<p>Unit III</p>	<p>An Overview Of Entrepreneurship</p> <ul style="list-style-type: none"> • An Introduction to Entrepreneurship • Psychological Aspects of Entrepreneurship <p>The Entrepreneurial Process</p> <ul style="list-style-type: none"> • Entrepreneurial Opportunity Recognition, Ideation Feasibility study and Action • Business Models and Business Model Innovation <p>Form of Organization</p> <ul style="list-style-type: none"> • Choosing a form of Organization • Buying an Existing Business • Entrepreneurial Exit Strategy <p>Entrepreneurial Growth, failures and other aspects</p> <ul style="list-style-type: none"> • Entrepreneurial Growth • Entrepreneurial Failure • Corporate Entrepreneurship • Social Entrepreneurship • Business acquisition, franchising and outsourcing <p>Legal, ethical and environmental considerations of the entrepreneurial venture</p>	<p>15</p>
<p>Unit IV</p>	<p>Strategic Management in Textile industry</p> <ul style="list-style-type: none"> • Introduction, importance, levels of strategy, evolution of strategic management • Growth Strategies – Generic Business Strategies – Corporate Strategies- Choice of Strategy. • Strategic management process • Strategy Formulation – steps in strategy formulation, process of formulation • Strategy Implementation - Need for Strategy Implementation, Types of Strategy Implementation, Approaches of Strategy Implementation, Issues in Strategy Implementation • Strategic Evaluation – introduction and process of evaluation <p>Ethics in business</p> <p>Introduction, need, scope types, factors influencing ethics, field of ethics.</p>	<p>15</p>

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Evaluation:

2 CREDITS COURSE FOR TOTAL MARKS OF 50	
CONTINUOUS INTERNAL EVALUATION:	Marks
Review of literature and guided discussions	10
Class tests	15
Quiz	10
PPT Presentations for example Fibre Manufacturing and Eco-concerns	15
Total Marks for Internal Assessment	50
SEMESTER-END THEORY EXAMINATION	

All questions are compulsory with internal options	
Question 1 - Unit 1	10
Question 2 - Unit 2	10
Question 3 - Unit 3	10
Question 4 - Unit 4	10
Question 5 – Multiple Units	10
Total Marks for Semester End Examination	50
TOTAL MARKS FOR THE COURSE	100

Syllabus
M.Sc. (Textile and Fashion Technology)
(Sem. - III)

Course Code	Course Title	Theory/ Practical	Credits	No. of Hours
TFT03C1B	TECHNICAL TEXTILES	Theory	2	30

Course Objectives:

1. To study about the various technical textiles, along with the essential characteristics and properties of raw materials used in their manufacture.
2. To understand the various applications of Technical Textiles.

Course Outcomes:

After successful completion of the course, a student will be able to:	
CO1	Define and list in detail about the classifications of Technical Textiles
CO2	Understand about fibres, yarns, fabrics and methods used for the production of various Technical Textiles
CO3	Learn about the characteristics of Technical Textiles in various fields.
CO4	Acquire knowledge regarding the applications of technical textiles in various fields.
CO5	Apply the gained knowledge about impact of technical textiles in various fields

Syllabus Content:

Unit No.	Course Content	Hours
Unit I	<p>Technical Textiles</p> <ul style="list-style-type: none"> ● Introduction and overview of Technical Textiles ● Classification of Technical Textiles <p>Introduction, Types, fibers, yarns and fabrics used, characteristics and application of the following technical textiles</p> <ul style="list-style-type: none"> ● Packaging Textiles ● Medical Textiles ● Sports Textiles ● Protective Textiles ● Clothtech 	15
Unit II	<p>Introduction, Types, fibers, yarns and fabrics used, characteristics and application of the following technical textiles</p> <ul style="list-style-type: none"> ● Automotive Textiles ● Agro Textiles ● Build Tech ● Geo textiles ● InduTech ● Hometech ● Oekotech 	15

References

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Evaluation:

2 CREDIT COURSE FOR TOTAL MARKS OF 50	
CONTINUOUS INTERNAL EVALUATION:	Marks
Quiz, guided discussions, Q&A sessions	10
Class test	05
PPT Presentations	10
Total Marks for Internal Assessment	25
Semester-End Theory Examination	
All questions are compulsory with internal options	
Question 1 from Unit 1	10
Question 2 from Unit 2	10
Question 3 from multiple units	05
Total Marks for Semester End Examination	25
TOTAL MARKS FOR THE COURSE	50

Syllabus
M.Sc. (Textile and Fashion Technology)
(Sem. - III)

Course Code	Course Title	Theory /Practical	Credits	No. of Hours
TFT02C2	TEXTILE FINISHING AND TESTING	Practical	2	30

Course Objectives:

- To experiment with the chemicals used in textile finishing, along with the essential properties of raw materials used in their manufacture and application.
- To experiment with the recent chemicals and methods used in various finishing processes.
- To experiment with chemicals and methods used in various fabrics for textile finishing

Course Outcome:

After the completion of the course, the student should be able to:	
CO1	Identify and categorize the chemicals, textile auxiliaries used in textile testing and finishing
CO2	Understand the eco-concerns of the textile finishes
CO3	Recognize the various textile finishes and textile finishing processes
CO4	Compare and contrast the various types of finishes, surfactants and their applications
CO5	Test the effect of different textile finishes on various textile material
CO6	Relate to the mode of action of various textile finishes

Syllabus Content:

Unit No.	Course content	Periods
Unit I	<ul style="list-style-type: none"> • Value addition through physical and chemical finishes- functional-softening, stiffening, antimicrobial, anti-static, hydrophilic, water proof, soil release, flame retardant, Anti-microbial, UV Protection, etc. using suitable methods of application on various fabric types. Testing and evaluation of the efficacy of the above finishes. 	15
Unit II	<ul style="list-style-type: none"> • Value addition through commercially available sustainable finishes- functional- softening, stiffening, antimicrobial, anti-static, hydrophilic, water proof, soil release, flame retardant, Anti-microbial, UV Protection, using environmental friendly using suitable methods of application chemicals and reagents on various fabric types. • Testing and evaluation of the efficacy of the above finishes. 	15

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- A. J. (1986). *Textile finishing*. London: American Elsevier.
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Evaluation:

2 CREDITS COURSE FOR TOTAL MARKS OF 50	
CONTINUOUS INTERNAL EVALUATION:	Marks
Quiz, guided discussions, Q&A sessions	10
Class test	05
PPT Presentations	10
Total Marks for Internal Assessment	25
SEMESTER-END THEORY EXAMINATION	Marks
All questions are compulsory with internal choice.	
Question 1 from Unit 1	10
Question 2 from Unit 2	10
Question 3 from multiple units	05
Total Marks for Semester End Examination	25

Syllabus
M.Sc. (Textile and Fashion Technology)
(Sem. - III)

Course Code	Course Title	Theory/Practical	Credit	No. of Hours
TFT03C 3AP	Pattern Making & Garment Construction for Women'swear (Knits)	Practical	2	60

Course Objectives:

1. To acquaint students with the techniques and skills of pattern making
2. To acquaint students with the art of handling different types knitted fabrics and styles
3. To familiarize students with the special techniques of apparel making for knitted fabrics.

Course Outcome:

After successful completion of the course, a student should be able to:	
CO1	Interpret designs / sketches systematically and make patterns
CO2	Explore the different techniques of pattern making
CO3	To evaluate and identify woven and knitted fabrics in local markets through fabric sourcing to create garments
CO4	To apply the special techniques of apparel making and achieve the desired design variations while creating garments
CO5	To be able to create theme relevant boards which are essential to the design process

Syllabus Content:

Unit No.	Course Content	Periods
Unit I	<p>Pattern Drafting</p> <p>A. Introduction to:</p> <ul style="list-style-type: none"> • Different types of fabrics: viz. warp and weft knits. • Calculations for Knits • Child and adults basic block, dartless sloper and sleeves • Displacements and concealments of darts. <p>B. Theme based designing, flat pattern construction and stitching of knitted garments. (T-Shirt / Top) using the following concepts and fundamentals may be included in garments or as samples:</p> <ul style="list-style-type: none"> • Concealments • Sleeves • Collars & Necklines • Pockets & Zip attachments (Invisible and with seam). <p>A. Plackets</p>	15
Unit II	<p>A. Themed Garment – Evening Gown (1) using the following concepts and fundamentals to be included in garments or as samples.</p> <ul style="list-style-type: none"> • Concealments • Sleeves • Collars & Necklines • Pockets & Zip attachments (Invisible and with seam). • Plackets <p>Speed Test Garments (1)</p>	15

*Portfolio Presentation

References

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Evaluation:

2 CREDITS COURSE FOR TOTAL MARKS OF 50	
CONTINUOUS INTERNAL EVALUATION:	Marks
Internal Assessment during laboratory work	10
Stage-wise assessment of class work	05
Journal writing & Viva-Voce	10
Total Marks for Internal Assessment	25

SEMESTER-END PRACTICAL EXAMINATION	Marks
All questions are compulsory with internal options	
Question 1 - Unit 1	10
Question 2 - Unit 2	10
Portfolio	03
Viva-Voce	02
Total Marks for Semester End Examination	25

Syllabus
M.Sc. (Textile and Fashion Technology)
(Sem. - III)

Course Code	Course Title	Theory/ Practical	Credits	No. of Hours
TFT03C3BP	DRAPING FOR WOMENSWEAR (WOVEN & KNITS)	Practical	2	60

Course Objectives:

1. To acquaint students with the techniques of draping for woven and knitted fabrics.
2. To design and construct garments using the principles of draping.
3. To acquaint students with the skill of handling different materials and designs.
4. To familiarize students with understanding various designs and methods of draping them
5. To understand the concept of grading according to different sizes.

Course Outcome:

After successful completion of the course, a student will be able to:	
CO1	Interpret designs / sketches systematically and drape garments
CO2	Explore the knowledge related to basic techniques of draping and create designs
CO3	Evaluate and identify woven and knitted fabrics in local markets through fabric sourcing to create garments
CO4	Apply the techniques of draping and grading and achieve the desired design variations while creating garments
CO5	Create theme relevant boards which are essential to the design process
CO6	Create professional portfolio for interviews and other job profile

Syllabus Content:

Unit No.	Course Content	Hours
Unit I	A. Basic bodice, torso, dartless sloper. B. Basics lower block (Skirts & Trousers) C. Displacement and concealment of darts. A. Draping of four patterns including different collars, sleeves and concealments using woven and knitted fabrics (2 each)	15
Unit II	A. Draping & Stitching - Theme Garment (1 Garment) B. Speed Test (1 Garment) A. Grading of upper and lower block.	15

References:

- Armstrong, H. J. (2000). *Draping for apparel design*. New York: Fairchild publications.
- Cloake, D. (1976) *Fashion design on the stand*. Batsford publication.
- Crawford, Connice, A. (1989) *The art of fashion draping*. Fairchild's Publication.
- Goulbourn, M. (1971) *Introducing pattern cutting, grading and modeling*. Batsford publication
- Mee, J. & Prudy, M. (1987) *Modelling on the stand*. Oxford: BPS Professional Books.
- Silberg, L., & Shoben, M. (1992) *The art of dress modeling*. Oxford: Butterworth Heinmann publication.
- Stanley, H. (1983) *Modeling and flat cutting for fashion*. Hutchison Education publication.

Evaluation:

2 CREDITS COURSE FOR TOTAL MARKS OF 50	
CONTINUOUS INTERNAL EVALUATION:	Marks
Quiz, guided discussions, Q&A sessions	10
Class test	05
PPT Presentations	10
Total Marks for Internal Assessment	25
SEMESTER-END PRACTICAL EXAMINATION	Marks
All questions are compulsory with internal choice.	
Question 1 from Unit 1	10
Question 2 from Unit 2	10
Question 3 from multiple units	05
Total Marks for Semester End Examination	25
TOTAL MARKS FOR THE COURSE	50

Syllabus
M.Sc. (Textile and Fashion Technology)
(Sem. - III)

Course Code	Course Title	Theory/ Practical	Credits	No. of Hours
TFT03C4P	WORLD TEXTILE EMBROIDERIES & TEXTILE CRAFTS	Practical	2	60

Course Objectives:

1. To introduce students to the various textile designing concepts through weaving, printing and embroidery for different end uses.
2. To enhance the creativity of students in designing.

Course Outcome:

After successful completion of the course, a student will be able to:	
CO1	Explore the various woven, printed and embroidered textiles used across the globe
CO2	To identify and apply the various world embroideries
CO3	To create various designer products with different end-uses using world embroideries
CO4	To be able to create theme relevant boards which are essential to the design process
CO5	To create professional portfolio for interviews and other job profile

Syllabus Content:

Unit No.	Course Content	Hours
Unit I	A. Study on woven, printed, and embroidered textiles for various end- uses like apparel, accessories and home furnishings by Indian and Global designers. B. Western embroidery Bargello B. Norwich	15
Unit II	A. Ribbon embroidery B. Bead work C. Cutwork D. Mount Mellick B.	15

References:

- *Beginner's guide to silk ribbon embroidery* (1998).(1st Ed.). Kent: Search Press Ltd. Cable, S. (1997).
- *Silk ribbon embroidery*.(1st Ed.). N.Y. The reader's digest association,
- *Drawn thread embroidery*, (1977) Anchor Embroidery Book No.650 Coats Sewing Group, Glasgow.
- Elders, K. (1998) *Embroidery Projects Techniques: motifs*, Quadrilla London: Publishing Ltd.
- *Embroidery and cross stitch* (1983) for framing, Tokyo: Ondarisha publisher.
- *Embroidery and cross stitch*. (1977). Australia: Craft World Books Pvt. Ltd.
- *Encyclopedia and embroidery* (1984) London: Marshall Cavendish Books Ltd.,
- Gostelow, M. (1977). *Embroidery: Traditional designs, techniques and patterns from all over the world*. London: Marshall Cavendish Books Ltd,
- Griffiths, A. (1989). *An introduction to embroidery*, London: Apple Press. Mellick&Trott.(2002).
- *Beginner's guide mount embroidery*. Kent: Search Press Ltd. Norden, Mary (1997),
- *Decorative embroidery*, New York: The Reader's Digest Association Inc. Ondari,
- *Embroidery*, Book 2 Japan: Olympus family club
- Pauline, B. *Encyclopedia of embroidery techniques* by, Kent: Search Press Ltd. Seaman, J. (1996).
- *Fashion illustration - Basic techniques*. B. T. Batsford.
- Shenai, V. A. (1977). *History of textile design*. Bombay: Sevak.
- Snook, B., (1972). *The creative art of embroidery*, Hamlyn: Publishing Grp. Ltd. London.

Evaluation:

2 CREDITS COURSE FOR TOTAL MARKS OF 50	
CONTINUOUS INTERNAL EVALUATION:	Marks
Quiz, guided discussions, Q&A sessions	10
Class test	05
PPT Presentations	10
Total Marks for Internal Assessment	25
SEMESTER-END PRACTICAL EXAMINATION	Marks
All questions are compulsory with internal choice.	
Question 1 from Unit 1	10
Question 2 from Unit 2	10
Question 3 from multiple units	05
Total Marks for Semester End Examination	25
TOTAL MARKS FOR THE COURSE	50

Syllabus
M.Sc. (Textile and Fashion Technology)
(Sem. - III)

Course Code	Course Title	Theory /Practical	Credits	No. of Hours
TFT03C5E1A	COMPUTER AIDED DESIGNING FOR APPAREL SECTOR	Theory	2	30

Course Objectives:

The course will enable the students

- To understand the role of CAD in designing apparel in the fashion industry
- To acquaint the students with different designing software's
- To equip the students to develop the knowledge about designing using CAD software
- To understand the basic principles and tools of CAD software relevant to apparel design.

Course Outcome:

After successful completion of the course, a student will be able to:	
CO1	To learn different software for designing apparel
CO2	To understand the fundamental principles and theoretical foundations of CAD technology.
CO2	To understand the theoretical foundations of CAD algorithms and data structure
CO4	To demonstrate the methods and techniques to illustrate the designs using CAD software

Syllabus Content:

Unit No.	Course Content	Hours
Unit I	Introduction to CAD CAM <ul style="list-style-type: none"> • Basic computer terminology: hardware, software, network, internet, web pages and websites • Application and Relevance of CAD CAM in apparel industry • Benefits of CAD in apparel sector 	15
Unit II	Introduction to industry-standard CAD software <ul style="list-style-type: none"> • Basic tools and functions for apparel design CAD software • Case studies of successful CAD integration in apparel design <ul style="list-style-type: none"> A. Trends and future directions in CAD for apparel industry 	15

References:

- Aldrich, W. (1994). *CAD in clothing and textiles*, Blackwell Science.
- Jain, S. & Geetha, M. (2018). *Corel Draw Training Guide*, BPB; First Edition.
- Huss, D. & Priester, W. (1998), *Corel Draw Studio Techniques*, Osborne/McGraw-Hill.
- Linnea, D, & Gillespie, C. (2006), *The Photoshop Cs/Cs2 Wow!* Peachpit Press.
- Peacock, J. (1993). *20 century fashion: the complete source book*. London: Thames and Hudson.
- Peacock, J. (1997). *20 century fashion: the source books – the 1930's*. London: Thames and Hudson.
- Peacock, J. (1997). *Fashion source books – the 20's*. Thames and Hudson.
- Peacock, J. (1997). *Fashion source books – the 30's*. Thames and Hudson.
- Peacock, J. (1997). *Fashion source books – the 50's*. Thames and Hudson.
- Peacock, J. (1997). *Fashion source books – the 70's*. Thames and Hudson.
- Thomas, A., Evans, T. & (2012). *Exploring the Elements of Design*, Poppy Evans
- Kostellow, R., (2002), *Elements of Design* Prince AP.
- Thomas Richard K (1969). *Three Dimensional Design*. Van Nostrand Reinhold Co.

Evaluation:

CREDITS COURSE FOR TOTAL MARKS OF 50	
CONTINUOUS INTERNAL EVALUATION:	Marks
Quiz, guided discussions, Q&A sessions	10
Class test	05
PPT Presentations	10
Total	25
SEMESTER-END THEORY EXAMINATION	Marks
All questions are compulsory with internal choice.	
Question 1 from Unit 1	10
Question 2 from Unit 2	10
Question 3 from multiple units	05
Total	25
TOTAL MARKS FOR THE COURSE	50

Syllabus
M.Sc. (Textile and Fashion Technology)
(Sem. - III)

Course Code	Course Title	Theory /Practical	Credits	No. of Hours
TFT03C5E1BP	COMPUTER AIDED DESIGNING FOR APPAREL SECTOR	Practical	2	60

Course Objectives:

The course will enable the students

- To acquaint the students with different designing software's
- To equip the students to develop the knowledge about designing using CAD software
- To design different styles of costumes for various occasion based on CAD

Course Outcome:

After successful completion of the course, a student will be able to:	
CO1	To learn different software for designing apparel
CO2	To apply various software in designing apparel
CO3	To experiment with different styles of garment illustration using CAD software
CO4	To demonstrate the methods and techniques to illustrate the designs using CAD software
CO5	To create different styles of costumes using CAD
CO6	To develop and conceptualize theme based garment designs, patterns and markers for women, men and kid using CAD
CO7	To create Portfolio for the subject interviews and other job profile

Syllabus Content:

Unit No.	Course Content	Hours
Unit I	Application of Software –Adobe Photoshop or Corel draw or Open Source - CAD tools for pattern drafting <ul style="list-style-type: none"> • - Grading techniques using CAD for different sizes and fits 	15
Unit II	Design development for women's, men's and kid's apparel –(minimum 2 of each category) <ul style="list-style-type: none"> • Mood board, Inspiration boards, color board, Technical drawings/Spec sheets and Presentation of Design sheets using CAD • Working with garment construction elements (e.g., seams, pleats, darts). • Incorporating trims and accessories into designs. A. Creating digital 3D prototypes of apparel designs	15

References:

- Aldrich, W. (1994). *CAD in clothing and textiles*, Blackwell Science.
- Jain, S. & Geetha, M. (2018). *Corel Draw Training Guide*, BPB; First Edition.
- Huss, D. & Priester, W. (1998), *Corel Draw Studio Techniques*, Osborne/McGraw-Hill.
- Linnea, D, & Gillespie, C. (2006), *The Photoshop Cs/Cs2 Wow!* Peachpit Press.
- Peacock, J. (1993). *20 century fashion: the complete source book*. London: Thames and Hudson.
- Peacock, J. (1997). *20 century fashion: the source books – the 1930's*. London: Thames and Hudson.
- Peacock, J. (1997). *Fashion source books – the 20's*. Thames and Hudson.
- Peacock, J. (1997). *Fashion source books – the 30's*. Thames and Hudson.
- Peacock, J. (1997). *Fashion source books – the 50's*. Thames and Hudson.
- Peacock, J. (1997). *Fashion source books – the 70's*. Thames and Hudson.
- Thomas, A., Evans, T. & (2012). *Exploring the Elements of Design*, Poppy Evans
- Kostellow, R., (2002), *Elements of Design* Prince AP.
- Thomas Richard K (1969). *Three Dimensional Design*. Van Nostrand Reinhold Co.

- DT Editorial Services, (2017). CorelDraw X7 in Simple Steps, Dreamtech press.
- Sharma, M.C. (2008). CorelDraw Graphics Suite X3 Training Guide, BPB Publications.

Evaluation:

2 CREDITS COURSE FOR TOTAL MARKS OF 50	
CONTINUOUS INTERNAL EVALUATION	Marks
Quiz, guided discussions, Q&A sessions	10
Class test	05
PPT Presentations	10
Total Marks for Internal Assessment	25
SEMESTER-END PRACTICAL EXAMINATION	Marks
All questions are compulsory with internal choice.	
Question 1 from Unit 1	10
Question 2 from Unit 2	10
Question 3 from multiple units	05
Total Marks for Semester End Examination	25
TOTAL MARKS FOR THE COURSE	50

Syllabus
M.Sc. (Textile and Fashion Technology)
(Sem. - III)

Course Code	Course Title	Theory /Practical	Credits	No. of Hours
TFT03C5E2A	COMPUTER AIDED DESIGNING FOR HOME PRODUCTS	Theory	2	30

Course Objectives:

The course will enable the students

- To understand the role of CAD in designing apparel in the in the home product development
- To acquaint the students with different designing software's
- To equip the students to develop the knowledge about designing using CAD software
- To demonstrate basic concepts of the CAD software and apply the concepts to develop home products

Course Outcome:

After successful completion of the course, a student will be able to:	
CO1	To understand the basic concepts of designing such as emphasis, balance, harmony, repeat
CO2	To identify the various tools and medium to create home décor products using CAD.
CO3	To define the principles of design and communicate through visual presentation

Syllabus Content:

Unit No.	Course Content	Hours
Unit I	Introduction to CAD CAM <ul style="list-style-type: none"> • Basic computer terminology: hardware, software, network, internet, web pages and websites • Application and Relevance of CAD CAM in apparel industry Apparel designing software Adobe Photoshop, CorelDraw, etc.	15
Unit II	<ul style="list-style-type: none"> • Research and documentation <ul style="list-style-type: none"> - Trend - Colour - Fabric - Designs and designers Use of CAD in home textile	15

References:

- Aldrich, W. (1994). *CAD in clothing and textiles*, Blackwell Science.
- Jain, S. & Geetha, M. (2018). *Corel Draw Training Guide*, BPB; First Edition.
- Huss, D. & Priester, W. (1998), *Corel Draw Studio Techniques*, Osborne/McGraw-Hill.
- Linnea, D, & Gillespie, C. (2006), *The Photoshop Cs/Cs2 Wow!* Peachpit Press.
- Peacock, J. (1993). *20 century fashion: the complete source book*. London: Thames and Hudson.
- Peacock, J. (1997). *20 century fashion: the source books – the 1930's*. London: Thames and Hudson.
- Peacock, J. (1997). *Fashion source books – the 20's*. Thames and Hudson.
- Peacock, J. (1997). *Fashion source books – the 30's*. Thames and Hudson.
- Peacock, J. (1997). *Fashion source books – the 50's*. Thames and Hudson.
- Peacock, J. (1997). *Fashion source books – the 70's*. Thames and Hudson.
- Thomas, A., Evans, T. & (2012). *Exploring the Elements of Design*, Poppy Evans

- Thomas Richard K (1969). *Three Dimensional Design*. Van Nostrand Reinhold Co.
- Kostellow, R., (2002), *Elements of Design* Prince AP.

Evaluation:

2 CREDITS COURSE FOR TOTAL MARKS OF 50	
CONTINUOUS INTERNAL EVALUATION:	Marks
Quiz, guided discussions, Q&A sessions	10
Class test	05
PPT Presentations	10
Total	25
SEMESTER-END THEORY EXAMINATION	Marks
All questions are compulsory with internal choice.	
	Marks
Question 1 from Unit 1	10
Question 2 from Unit 2	10
Question 3 from multiple units	05
Total	25
TOTAL MARKS FOR THE COURSE	50

Syllabus
M.Sc. (Textile and Fashion Technology)
(Sem. - III)

Course Code	Course Title	Theory /Practical	Credits	No. of Hours
TFT03C5E2BP	COMPUTER AIDED DESIGNING FOR HOME PRODUCTS	Practical	2	30

Course Objectives:

The course will enable the students

- To acquaint the students with different designing software's
- To equip the students to develop the knowledge about designing using CAD software
- To design different styles of costumes for various occasion based on CAD

Course Outcome:

After successful completion of the course, a student will be able to:	
CO1	To learn different software for designing apparel
CO2	To apply various software in designing apparel
CO3	To experiment with different styles of garment illustration using CAD software
CO4	To demonstrate the methods and techniques to illustrate the designs using CAD software
CO5	To create different styles of costumes using CAD
CO6	To develop and conceptualize theme based garment designs, patterns and markers for women, men and kid using CAD
CO7	To create Portfolio for the subject interviews and other job profile

Syllabus Content:

Unit No.	Course Content	Hours
Unit I		15
Unit II		15

References:

Evaluation:

2 CREDITS COURSE FOR TOTAL MARKS OF 50	
CONTINUOUS INTERNAL EVALUATION:	Marks
Class participation, Written Test	10
Quiz	05
PPT Presentations	10
Total	25
SEMESTER-END THEORY EXAMINATION	Marks
All questions are compulsory with internal choice.	
	Marks
Question 1 from Unit 1	10
Question 2 from Unit 2	10
Question 3 from multiple units	05
Total	25
TOTAL MARKS FOR THE COURSE	50

Syllabus
M.Sc. (Textile and Fashion Technology)
(Sem. - III)

Course Code	Course Title	Theory /Practical	Credits	No. of Hours
TFT03C6	RESEARCH PROJECT IN TEXTILE AND FASHION TECHNOLOGY	Theory	4	180

Course Objectives:

- To provide students with provide an opportunity to conduct independent research in textile and fashion technology under supervision.
- To encourage students to work in conjunction with relevant industries, institutes, hospitals, schools, etc.
- To assist students in developing general research skills as well as research skills specific to textile and fashion technology.
- To encourage students to adopt best practices in research.
- To facilitate students in accomplishing the beginning steps of the research process, formulate and defend a research proposal, begin data collection, and write the first two chapters of the dissertation (Introduction and Review of Literature; Method).

Course Outcome:

After successful completion of the course, a student will be able to:	
CO1	Understand the steps involved in research
CO2	Explore and identify the real life problem worth researching
CO3	Interpret the findings of researches on the similar area
CO4	Identify and construct the objective and hypothesis of a research study
CO5	Define variables and select appropriate research design for the study
CO6	Construct tools of data collection and conduct pilot study
CO7	Analyse the data collected through pilot study
CO8	Evaluate the changes required in the tools of data collection and integrate it in the study
CO9	Organize the information collected and write initial chapters of research study

Syllabus Content:

Unit No.	Course Content	Hours
Unit I	<p>Beginning Steps of the Research Process: I</p> <ul style="list-style-type: none"> • Problem identification - Contacting and communicating with experts (locally, nationally, and internationally) • Review of literature- initially and periodically throughout the research process; reading relevant literature (e.g., scientific journals, dissertations, theses, books, literature on the Net); <p>Topic selection- Selecting appropriate topics in field of textile and fashion technology; prioritizing these topics; checking topics for feasibility.</p>	15
Unit II	<p>Beginning Steps of the Research Process: II</p> <ul style="list-style-type: none"> • Identifying possible focus areas with regard to one topic; specifying one such focus area (using relevant reading and communication with experts); Writing research objectives/questions/ hypotheses; conducting a thorough literature review; presenting a clear and convincing argument in support of the study; writing the first chapter of the dissertation, namely, the Introduction and Review of Literature, with due acknowledgement of source of ideas. 	15
Unit III	<p>Proposing Methods</p> <p>Specifying variables; defining variables (citing relevant literature); selecting an appropriate research design; making decisions related to sampling; selecting and/or constructing tools, pilot-testing tools; making a plan of analysis; writing the second chapter of the dissertation, namely, the <i>Method</i>, with due acknowledgement of source of ideas; orally defending a research proposal; integrating feedback..</p>	15
Unit IV	<p>Beginning Data Collection</p> <p>Obtaining consent from participants and relevant agencies/authorities; starting data collection; integrating changes if any; scheduling remaining data collection; starting data entry; revising the first two chapters of the Dissertation</p>	15

References:

- Bhattacharyya, G.K. & Johnson, R. A. (1977). *Statistical concepts and methods*. NY: John Wiley.
- Bhattacharjee, A. (2012) *Social Science Research Principles, Methods, and Practices*. Anol Bhattacharjee
- Dwiwedi, R. S. (1997). *Research methods in behavioral sciences*. Delhi: Macmillan India.
- Gravetter, F. J. & Waillnau, L. B. (2000). *Statistics for the behavioral sciences*. Belmont, CA: Wadsworth/Thomson Learning.
- Kerlinger, F. N. & Lee, H. B. (2000). *Foundations of behavioral research*. Orlando, Florida: Harcourt.
- Kothari, C.R. (2019) *Research Methodology: Methods and Techniques*. 4th Edition, New Age International Publishers.
- Leong, F.T.L. & Austin, J. T. (Eds.) (1996). *The psychology research handbook*. New Delhi: Sage.

Evaluation:

2 CREDITS COURSE FOR TOTAL MARKS OF 50	
CONTINUOUS INTERNAL EVALUATION:	Marks
Continuous evaluation of problem identification, topic selection and checking feasibility of the study	25
Continuous evaluation of review of literature, developing objective and hypothesis	25
Development of methodology	25
Submission of Chapters- Introduction, Review of literature and methodology	25
Total	100

Sem. - IV

Syllabus
M.Sc. (Textile and Fashion Technology)
(Sem. - IV)

Course Code	Course Title	Theory/ Practical	Credits	No. of Hours
TFT01C1A	GARMENT PRODUCTION TECHNOLOGY	Theory	2	30

Course Objectives:

The course will enable the students to:

- understand the structure and organization of the garment production industry
- learn about the types of equipment used in industrial garment production.
- gain knowledge of the processes carried out in garment production industry

Course Outcomes:

After successful completion of the course, a student will be able to:	
CO1	Understand the structure, organization and functions of the various departments in the garment production industry
CO2	Describe the various equipment used in garment production.
CO3	Understand the processes used in the garment industry
CO4	Analyze the need and use the equipment and implement the processes in an effective manner in the industry

Syllabus Content:

Unit No.	Course Content	Hours
Unit I	Introduction to the apparel industry: Structure, departments and their functions Production Planning and Control: Need, functions and processes involved in production planning and control. SAM and performance measurement parameters in the apparel industry Garment Production Systems: Make through System, Whole Garment Production System, Assembly Line System, Modular Production System	15
Unit II	Fabric Spreading and Cutting: Process flow, effective marker planning, types of spreads, methods and equipment used for spreading, objectives and equipment used in cutting. Apparel sewing: Types of industrial sewing machines, sewing threads, machine needles, seams and stitches, feeder systems, special attachments to sewing machines Apparel finishing: Equipment and processes used in fusing, pressing and packaging	15

References:

- [Gokarneshan, N.](#) (2021). *Garment Manufacturing Technology*. Abhishek Publications
- *Hand Book of Garments Manufacturing Technology*. (2007). Engineers India Research Institute
- Karthik, T, et al. (2016). *Apparel Manufacturing Technology*. CRC Press
- Padhye, R., & Nayak, R. (2015). *Garment Manufacturing Technology*. Elsevier Science
- Sarkar, P. (2015). *Garment Manufacturing: Processes, Practices and Technology*. Online Clothing Study

Evaluation:

2 CREDITS COURSE FOR TOTAL MARKS OF 50	
CONTINUOUS INTERNAL EVALUATION:	Marks
Quiz, Review of literature and guided discussions, Q&A sessions	10
Class tests	05
PPT Presentations: Project on trend forecast and creative presentation	10
Total Marks for Internal Assessment	25
SEMESTER-END THEORY EXAMINATION	
All questions are compulsory with internal options	
Question 1 - Unit 1	10
Question 2 - Unit 2	10
Question 3 – Multiple units	05
Total Marks for Semester End Examination	50
TOTAL MARKS FOR THE COURSE	100

Syllabus
M.Sc. (Textile and Fashion Technology)
(Sem. - IV)

Course Code	Course Title	Theory/ Practical	Credits	No. of Hours
TFT04C1B	SEMINAR-TRENDS IN TEXTILE AND FASHION INDUSTRY	Theory	2	30

Course Objectives:

The course will enable the students to:

- learn the process of accessing information about the latest developments in the textile and fashion industry using different reference media.
- collect the information according to the topic that needs to be presented
- prepare and present the information effectively through the use of appropriate ICT

Course Outcomes:

After successful completion of the course, a student will be able to:	
CO1	Demonstrate skill in accessing information about the latest developments in the textile and fashion industry
CO2	Evaluate the collected information with reference to its relevance to the topic
CO3	Collate and organize the information in an orderly and scientific manner, keeping in mind research ethics
CO4	Use the organized information to create an effective presentation using ICT as well as publish a good review paper

Syllabus Content:

Unit No.	Course Content	Hours
Unit I	Identifying physical and online journals and other online resources for accessing latest information on developments in the textile and fashion industry Selecting any one topic based on personal interest and relevance to the industry in consultation with allocated mentor Developing skills in paraphrasing and avoiding plagiarism Attending seminars/webinars related to scientific writing	15
Unit II	Learning to write the review of literature in an orderly and scientific manner. Regular evaluation and correction of review of literature Presentation of the topic using suitable ICT Publishing a review paper on the selected topic	15

References

- Chaubey, V. (2018). *The little book of research writing: the structural challenge of communicating knowledge + a method to meet it*. CreateSpace Independent Publishing Platform
- Kothari, C. R (2004). *Research Methodology: Methods and techniques*. New Age International (P) Limited
- Kumar, R. (2018). *Research methodology: a step-by-step guide for beginners*. SAGE Publications
- Mundkur, S. (2021). *Zeroing in on a research topic: Resources and strategies in searching, selecting, & narrowing down*. Notion Press
- Panneerselvam, R. (2014). *Research methodology*. PHI Learning
- Parija, S, C. & Kate, V (Ed). (2017). *Writing and publishing a scientific research paper*. Springer Nature Singapore
- Srinivasan, R. (2023). *Research writing: a complete guide*. Highly Publishing LLP
- Ramadass, P. Aruni, W. (2019). *Research and writing across the disciplines*. MJP Publisher
- Srujan, M. J. (2021). *Academic research writing*. Srujan M J
- Wallwork, A. (2011). *English for writing research papers*. Springer International Publishing

Evaluation:

2 CREDIT COURSE FOR TOTAL MARKS OF 50	
CONTINUOUS INTERNAL EVALUATION:	Marks
Continuous evaluation of allocated work	20
Presentation of the review paper using ICT	15
Writing a review paper for publishing	15
Total Marks for Internal Assessment	50

Syllabus
M.Sc. (Textile and Fashion Technology)
(Sem. - IV)

Course Code	Course Title	Theory/Practical	Credit	No. of Hours
TFT04C2AP	Pattern Making & Garment Construction for Women'swear (Knits)	Practical	2	60

Course Objectives:

2. To teach students how to read elaborate styles and patterns in men's wear.
3. To equip students with the techniques of advanced pattern designing through flat pattern construction in men's wear.
4. To acquaint students with the techniques and skills of garment construction through flat pattern.
5. To make students competent to stitch garments with elaborate patterns in men's wear.

Course Outcome:

After successful completion of the course, a student should be able to:	
CO1	Interpret designs / sketches for men's wear systematically and make patterns
CO2	Explore the different techniques of pattern making for men's wear
CO3	To evaluate and identify knitted fabrics in local markets through fabric sourcing to create garments
CO4	To apply the special techniques of apparel making and achieve the desired design variations while creating garments
CO5	To be able to create theme relevant boards which are essential to the design process
CO6	To create professional portfolio for interviews and other job profile

Syllabus Content:

Unit No.	Course Content	Periods
Unit I	A. Basic Blocks: Adults bodice block and lower block for men B. Upperwear: One Indian Wear – Kurta (Advanced)	15
Unit II	A. Lowerwear: One Indian Wear (advanced) Jacket (one): Indian/Western	15

*Portfolio Presentation

References

- Pattern Making for Fashion design by Armstrong, Vikas Publishing House Pvt.Ltd. Delhi.
- Armstrong, H (2014) Ed. 5th, *Pattern Making for Fashion Design*. Delhi India: Dorling Kindersley Private Limited,
- Tailoring: The Classic Guide to Sewing the Perfect Jacket, Creative Publishing int'l (2011)
- McCall's. (1964). *Sewing in Colour*. London: The Hamlyn Publishing Group Ltd.
- Reader's Digest, (1993). *Step by Step Guide: Sewing and Knitting*, Auckland: Reader's Digest.

Evaluation:

2 CREDITS COURSE FOR TOTAL MARKS OF 50	
CONTINUOUS INTERNAL EVALUATION:	Marks
Internal Assessment during laboratory work	10
Stage-wise assessment of class work	05
Journal writing & Viva-Voce	10
Total Marks for Internal Assessment	25

SEMESTER-END PRACTICAL EXAMINATION	Marks
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All questions are compulsory with internal options	
Question 1 - Unit 1	10
Question 2 - Unit 2	10
Portfolio	03
Viva-Voce	02
Total Marks for Semester End Examination	25

Syllabus
M.Sc. (Textile and Fashion Technology)
(Sem. - IV)

Course Code	Course Title	Theory/Practical	Credit	No. of Hours
TFT04C2BP	Costume Styling	Practical	2	60

Course Objectives:

1. To introduce the discipline of costume design, including character/script analysis, research, rendering, and production values.
2. To become familiar with the fundamentals of costume design for TV / Film / Drama
3. To gain insight into the protocol and expectations required to succeed in this fast paced industry.
4. To touch on the multiple variations of production formats.

Course Outcome:

After successful completion of the course, a student should be able to:	
CO1	Familiarize themselves with discipline of costume design, including character/script analysis
CO2	Acquaint themselves with the protocols of the media industry
CO3	Analyse characters / scripts to create costumes / styles for TV / Film / Drama / Movies and various occasions
CO4	Present concepts creatively in a variety of formats

Syllabus Content:

Unit No.	Course Content	Periods
Unit I	<p>A. Create a plan for a character for TV Serial and Movie incorporating costume design, style, image and identity using visual and written presentation.</p> <ul style="list-style-type: none"> • List everything each wears and describing the shape (cut) and decoration of garments and accessories. • Use design elements to design costumes and ways to style it, which reflect characterization. • Lay out a well arranged costume plate with styling. <p>C. Use different combinations of promotional activities to promote your costumes [Print Ad/ Video Ad/VM/Ramp Show/Catalogue]</p>	15
Unit II	<p>B. Create a plan for a character for Stage & Drama incorporating costume design, style, image and identity using visual and written presentation.</p> <ul style="list-style-type: none"> • List everything each wears and describing the shape (cut) and decoration of garments and accessories. • Use design elements to design costumes and ways to style it, which reflect characterization. • Lay out a well arranged costume plate with styling. <p>Use different combinations of promotional activities to promote your costumes [Print Ad/ Video Ad/VM/Ramp Show/Catalogue]</p>	15

*Portfolio Presentation

References

- Swanson, K., and Everett, Judith (2007), *Promotion in the Merchandising Environment. (2nd)* New York; Fairchild Publications
- Rosemary Ingham, (1983) *Costume Designer's Handbook: A Complete Guide for Amateur and Professional Costume Designers, (2nded)*, Prentice Hall Inc.
- Deborah Nadoolman Landis, (2012) *Costume Design*, Focal Press
- Rosemary Ingham & Liz Covey, (1992) *The Costume Technician's Handbook*, Pearson Education
- Rosemary Ingham & Liz Covey, (1992) *The Costume Designer's Handbook: A Complete Guide for Amateur and Professional Costume Designers*, Greenwood Publishing Group, Incorporated

Evaluation:**2 CREDITS COURSE FOR TOTAL MARKS OF 50**

2 CREDITS COURSE FOR TOTAL MARKS OF 50	
CONTINUOUS INTERNAL EVALUATION:	Marks
Internal Assessment during laboratory work	10
Stage-wise assessment of class work	05
Journal writing & Viva-Voce	10
Total Marks for Internal Assessment	25

SEMESTER-END PRACTICAL EXAMINATION	Marks
All questions are compulsory with internal options	
Question 1 - Unit 1	10
Question 2 - Unit 2	10
Portfolio	03
Viva-Voce	02
Total Marks for Semester End Examination	25

Syllabus
M.Sc. (Textile and Fashion Technology)
(Sem. - IV)

Course Code	Course Title	Theory /Practical	Credits	No. of Hours
TFT04C3A	INTELLECTUAL PROPERTY RIGHTS IN THE TEXTILE AND APPAREL INDUSTRY	Theory	2	30

Course Objectives:

- know about the different types of Intellectual Property and the need for protecting IP
- understand the features of various IP such as patents, copyright, trademarks, geographical indication, industrial designs, unfair competition, etc.
- be aware about the importance and mechanism of protection and enforcement of IPR

Course Outcome:

After the completion of the course, the student should be able to:	
CO1	Understand the concept of intellectual property and the reasons for its protection
CO2	Comprehend and distinguish the various types of intellectual property
CO3	Analyze the most relevant right for a particular intellectual property
CO4	Understand the process of applying for various types of intellectual property rights

Syllabus Content:

Unit No.	Course content	Periods
Unit I	OVERVIEW OF INTELLECTUAL PROPERTY Introduction, rationale and the need for Intellectual Property Rights (IPR) Objectives of National IPR Policy Types of IP PATENTS Introduction to patents and three basic criteria of patentability Macro-economic impact of the patent system Rights/Advantages of a patent and grounds of opposition to patents Process of granting patents The different layers of the international patent system (national, regional and international options) Utility models: Differences between a utility model and a patent Trade secrets and know-how agreements COPYRIGHT Introduction to copyright Characteristics, rights and protection of copyright Process of granting copyright TRADEMARKS Introduction to trademark Characteristics, rights and protection of trademark Process of granting trademark	15
Unit II	GEOGRAPHICAL INDICATIONS Introduction to geographical indications Characteristics, rights and protection of geographical indications Process of granting geographical indications INDUSTRIAL DESIGNS Introduction to industrial designs	15

	Characteristics, rights and protection of industrial designs UNFAIR COMPETITION Introduction to unfair competition Types of unfair competition Protection against unfair competition BIOTECHNOLOGY Overview of Biotechnology and Intellectual Property Biotechnology Research and Intellectual Property Rights Management Licensing and Enforcing Intellectual Property Commercializing Biotechnology Invention • Case studies of Biotechnology	
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References:

- Narayanan, P. (2015.) *Intellectual Property Law*. Eastern Law House.
- Pandey, N. & Dharni, K. (2014). *Intellectual property rights*. PHI Learning.
- Radhakrishnan, R. (2008). *Intellectual Property Rights: Text and Cases*. Excel Books.
- Ramakrishna, B. & Anil Kumar, H.S. (2017). *Fundamentals of Intellectual Property Rights: For Students, Industrialist and Patent Lawyers*. Notion Press.
- Singh, K. K. (2014). *Biotechnology and Intellectual Property Rights: Legal and Social Implications*. Springer India.
- Wadehra, B. L. (2004). *Law Relating to Patents, Trade Marks, Copyright, Designs and Geographical Indications*. Universal Law Publishing Co Ltd.

Evaluation:

2 CREDITS COURSE FOR TOTAL MARKS OF 50	
CONTINUOUS INTERNAL EVALUATION:	Marks
Quiz, Review of literature and guided discussions, Q&A sessions	10
Class tests	05
PPT Presentations: Project on trend forecast and creative presentation	10
Total Marks for Internal Assessment	25
SEMESTER-END THEORY EXAMINATION	Marks
All questions are compulsory with internal choice.	
Question 1 from Unit 1	10
Question 2 from Unit 2	10
Question 3 from multiple units	05
Total Marks for Semester End Examination	25

Syllabus
M.Sc. (Textile and Fashion Technology)
(Sem. - IV)

Course Code	Course Title	Theory/ Practical	Credits	No. of Hours
TFT04C3BP	ALTERNATIVE HEALTH STRATEGIES AND INTERVENTIONS	Practical	2	60

Course Objectives:

The course will enable the students

- To have students learn about alternative health strategies and therapies through engagement in participatory workshops.

Course Outcome:

After successful completion of the course, a student will be able to:	
CO1	To explain the rationale behind the use of various alternative health strategies
CO2	Compare and contrast the effectiveness of different alternative therapies.
CO3	Describe how different therapies aim to promote holistic health and well-being.
CO4	To Apply knowledge of alternative health strategies

Syllabus Content:

Unit No.	Course Content	Hours
Unit I	Overview of alternative medicine vs. conventional medicine Organising and participating in workshops that teach Eastern alternative health strategies and therapies such as the following: <ul style="list-style-type: none"> Yoga Mindfulness and meditation Ayurveda Energy healing Laughter therapy Acupuncture / acupressure C. Any other	15
Unit II	Organising and participating in workshops that teach Western alternative health strategies and therapies such as the following: <ul style="list-style-type: none"> Music therapy Dance therapy Art-based therapy Nature therapy Hypnotherapy Neuro Linguistic Programming C. Any other	15

References:

- Jones, S., Lee, M., & Brown, R. (2012). *Integrative approaches to health and wellness*. Springer.
- Adams, B. (Ed.). (2018). *Complementary therapies in clinical practice*. Elsevier

Evaluation:

2 CREDITS COURSE FOR TOTAL MARKS OF 50	
CONTINUOUS INTERNAL EVALUATION:	Marks
Participation in workshops of alternative health strategies and therapies	10
Developing contact	05
Organisation of workshops of alternative health strategies and therapies	10
Total Marks for Internal Assessment	25
SEMESTER-END PRACTICAL EXAMINATION	Marks
All questions are compulsory with internal choice.	
Question 1 from Unit 1	10
Question 2 from Unit 2	10
Question 3 from multiple units	05
Total Marks for Semester End Examination	25
TOTAL MARKS FOR THE COURSE	50

Syllabus
M.Sc. (Textile and Fashion Technology)
(Sem. - IV)

Course Code	Course Title	Theory /Practical	Credits	No. of Hours
TFT04C4E1A P	APPRENTICESHIP -TEXTILE TESTING IN LABORATORIES	Practical	4	60

Course Objectives:

The course will enable the students to:

- Establish professional code of conduct in corporate setup.
- Learn technical skills by participating in technical preparations to ensure new the required specifications.

Course Outcome:

After successful completion of the course, a student will be able to:	
CO1	Assess the Strengths, Weaknesses, Opportunities and Threats (SWOT) for accomplishing the task
CO2	Determine the challenges and future potential for them in particular and the sector in general.
CO2	Apply various soft skills such as time management, positive attitude and communication skills during performance of the tasks assigned in organization.
CO4	Analyze the functioning of organization and recommend changes

Syllabus Content:

Unit No.	Course Content	Hours
Unit I	<p>Students are required to take up an apprenticeship training for a minimum of 60 hours in the following textile related industries.</p> <ul style="list-style-type: none"> • Government/ Private Textile Testing and Research Laboratories/organization <ul style="list-style-type: none"> • Basic Training for minimum 60 hrs. in a textile testing and research set-up. • Attendance and assessment records has to be maintained and authenticated by the organization where the candidate is doing apprenticeship. • Completion certificate will be issued by the concerned authorities on completion of required hours and performance. • At the end of apprenticeship students are required to submit a soft copy and hard-bound report to the department and have to make a presentation. 	

Syllabus
M.Sc. (Textile and Fashion Technology)
(Sem. - IV)

Course Code	Course Title	Theory /Practical	Credits	No. of Hours
TFT04C4E1AP	APPRENTICESHIP - SUSTAINABLE START-UPS AND ENTREPRENEURIAL VENTURES IN APPAREL/PRODUCT DEVELOPMENT WITH NGOS AND ARTISANS	Practical	4	120

Course Objectives:

The course will enable the students to:

- Understand the artisan and the NGOs and create a sustainable model for upliftment.
- To gain knowledge of sustainable community work through production and marketing of textile craft products.
- Create awareness of the different techniques in production and marketing.
- Be aware of sustainable products for the community and to inculcate social entrepreneurial attitude.
- Evaluate the various platform for marketing management.

Course Outcome:

After successful completion of the course, a student will be able to:	
CO1	Assess the Strengths, Weaknesses, Opportunities and Threats (SWOT) for accomplishing the task
CO2	Determine the challenges and future potential for them in particular and the sector in general.
CO3	Apply various soft skills such as time management, positive attitude and communication skills during performance of the tasks assigned in organization.
CO4	Analyze the functioning of organization and recommend changes

Syllabus Content:

Unit No.	Course Content	Hours
Unit I	<p>Students are required to take up an apprenticeship training for a minimum of 60 hours in the following textile related industries.</p> <ul style="list-style-type: none"> • NGO for Textile related activities <ul style="list-style-type: none"> • Design commercially viable products based on the market research • Training – development of prototype and mass production. • Train the beneficiaries for various marketing activities focusing on different platforms • Applying principles of marketing management for the sale of the products • Organize market/exhibition/online sale for the developed products. • Attendance and assessment records has to be maintained and authenticated by the organization where the candidate is doing apprenticeship. • Completion certificate will be issued by the concerned authorities on completion of required hours and performance. 	15

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| | <ul style="list-style-type: none">• At the end of apprenticeship students are required to submit a soft copy and hard-bound report to the college and have to make a presentation. | |
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Syllabus
M.Sc. (Textile and Fashion Technology)
(Sem. - IV)

Course Code	Course Title	Theory /Practical	Credits	No. of Hours
TFT04C5RP	RESEARCH PROJECT IN TEXTILE AND FASHION TECHNOLOGY	Theory	6	180

Course Objectives:

- To provide students with an opportunity to conduct independent research in the field of Textile and Fashion Technology under supervision.
- To encourage students to work in conjunction with relevant industries, institutes, hospitals, schools, etc.
- To assist students in developing general research skills as well as research skills specific to their specialization.
- To encourage students to adopt best practices in research.
- To facilitate students in completing data collection/data entry/data analysis, and writing the remaining three chapters of the dissertation (Results, Discussion, Summary).
- To support students to complete and submit the dissertation for the viva voce examination, integrate feedback, submit the final copy of the dissertation, and write a research paper using the findings of their research.

Course Outcome:

After successful completion of the course, a student will be able to:	
CO1	Understand the steps involved in conducting a research and report writing
CO2	Construct and utilise suitable methods of data collection for their research
CO3	Organise the data for data interpretation
CO4	Analyse the data and interpret the research findings
CO5	Compile results and discussion and write research report
CO6	Summarise the findings for drawing conclusion
CO7	Suggest recommendations for future research
CO8	Defend the dissertation orally and integrate feedback into the final document
CO9	Write research paper for publication or present their findings

Syllabus Content:

Unit No.	Course Content	Hours
Unit I	A. Completing Data Collection B. Completing Data Entry and Preliminary Analyses - Entering all data; checking for data entry errors; running preliminary analyses.	15
Unit II	Analyzing Data and Reporting Results Analyzing data; interpreting findings; reporting results in figures/tables and text using scientific protocol; writing the third chapter of the dissertation, namely, the <i>Results</i> , by research objectives/questions/hypotheses; orally presenting the results and integrating feedback.	15
Unit III	Discussing Findings Corroborating own findings with those in previous research and theory; explaining findings using relevant literature and communication with experts; discussing implications of findings for practice/industry/family/society; suggesting recommendations for future research; writing the fourth chapter of the dissertation, namely, the <i>Discussion</i> , using appropriate scientific protocol	15
Unit IV	Summarizing Findings and Completing the Writing of the Dissertation Writing the fifth chapter of the dissertation, namely, the <i>Summary</i> ; writing the abstract; revising previous chapters as necessary; completing all other relevant work for the dissertation (e.g., reference list, appendices, table of contents, and list of figures/tables); submitting the dissertation for the viva voce examination.	15
Unit V	Submission and Oral Defense Orally defending the dissertation; integrating feedback into the final document; submitting the completed dissertation (hard copy and soft copy).	15
Unit VI	Writing of the Research Paper <ul style="list-style-type: none">Using the dissertation to write a research paper; submitting the research paper (hard copy and softcopy) Using the dissertation to write a research paper; submitting the research paper (hard copy and soft copy)/ Present the findings at Avishkar/Indian Science Congress or any other Conference	15

References:

- Bhattacharyya, G.K. & Johnson, R. A. (1977). *Statistical concepts and methods*. NY: John Wiley.
- Bhattacharjee, A. (2012) *Social Science Research Principles, Methods, and Practices*. Anol Bhattacharjee
- Dwivedi, R. S. (1997). *Research methods in behavioral sciences*. Delhi: Macmillan India.

- Gravetter, F. J. & Waillnau, L. B. (2000). *Statistics for the behavioral sciences*. Belmont, CA: Wadsworth/Thomson Learning.
- Kerlinger, F. N. & Lee, H. B. (2000). *Foundations of behavioral research*. Orlando, Florida: Harcourt.
- Kothari, C.R. (2019) *Research Methodology: Methods and Techniques*. 4th Edition, New Age International Publishers.
- Leong, F.T.L. & Austin, J. T. (Eds.) (1996). *The psychology research handbook*. New Delhi: Sage.

Evaluation:

2 CREDITS COURSE FOR TOTAL MARKS OF 50	
CONTINUOUS INTERNAL EVALUATION:	Marks
Continuous evaluation of data collection and data analysis	25
Result writing	25
Completion of research report	25
Submission of dissertation	25
Viva-voce	25
Writing a review paper for publishing	25
Total	150

Letter Grades and Grade Points:

Semester GPA/ Programme CGPA Semester/ Programme	% of Marks	Alpha-Sign/ Letter Grade Result
9.00 - 10.00	90.0 - 100	O (Outstanding)
8.00 - < 9.00	80.0 - < 90.0	A+ (Excellent)
7.00 - < 8.00	70.0 - < 80.0	A (Very Good)
6.00 - < 7.00	60.0 - < 70.0	B+ (Good)
5.50 - < 6.00	55.0 - < 60.0	B (Above Average)
5.00 - < 5.50	50.0 - < 55.0	C (Average)
4.00 - < 5.00	40.0 - < 50.0	P (Pass)
Below 4.00	Below 40.0	F (Fail)
Ab (Absent)	-	Absent

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