

**DEPARTMENT OF TEXTILE AND CLOTHING**  
**RASHTRASANT TUKADOJI MAHARAJ NAGPUR UNIVERSITY,**  
**NAGPUR**

**Eligibility for M.Sc Textile and Clothing (Semester I)**

For admission to the M.Sc. Textile and Clothing Semester – I, a candidate shall have offered B.Sc. (Home Science), B.F.D. .(Bachelor of Fashion Design), B.T.S (Bachelor of Textile Science), B.T.D.(Bachelor of Textile Design), and any other Fashion Technology and Textile Degree Course of the University or of any statutory University recognized equivalent there to.

**PROGRAMME OUTCOMES:**

1. Students will be able to understand the Weaving process required in textile industry.
2. Student will learn about the printing and dyeing process and methods. Student will understand about corporate social responsibility in textile industry.
3. Knowledge of Textile Processing Techniques: Students will learn about different textile processing techniques, such as weaving, knitting, nonwoven manufacturing, dyeing, finishing, and coating, and their significance in producing functional and high-performance textiles.
4. Advanced knowledge of textile materials: Understanding the properties, characteristics, and behavior of various natural and synthetic fibers used in textiles and clothing.
5. Clothing technology: Gaining expertise in different aspects of garment manufacturing, including pattern-making, cutting, sewing, and finishing techniques.
6. Textile and apparel design: Developing skills in textile and clothing design, pattern development, and fashion illustration.
7. Textile chemistry: Understanding the chemical processes involved in dyeing, printing, and finishing textiles.
8. Textile testing and quality control: Learning methods for testing the quality, performance, and durability of textiles and garments.
9. Fashion marketing and merchandising: Acquiring knowledge of marketing strategies, retail management, and merchandising in the fashion industry.
10. Apparel production management: Understanding the production processes, supply chain management, and logistics related to the textile and clothing industry.

11. Sustainable textiles: Exploring eco-friendly and sustainable practices in the textile and fashion industry, including recycling and up cycling.
12. Textile and clothing research: Developing research skills to explore innovative techniques, trends, and materials in the field.
13. Professional development: Enhancing communication skills, leadership abilities, and teamwork through various projects and presentations.
14. Entrepreneurship in textiles and clothing: Understanding the requirements and challenges of starting and managing a business in the textile and clothing sector.
15. Textile and clothing regulations: Learning about safety standards, regulations, and compliance in the textile and fashion industry.
16. Student will learn about the printing and dyeing process and methods as well as Student will understand about corporate social responsibility in textile industry.
17. Students will be able to evaluate the performance and quality of technical textiles, considering factors such as strength, durability, flexibility, thermal resistance, chemical resistance, and other relevant properties.
18. Understanding the relevant industry standards and regulations pertaining to technical textiles will be a part of the course, ensuring compliance with safety, environmental, and performance requirements.

**Scheme of teaching and examination for M. Sc. TEXTILE AND CLOTHING (CBCS) As per NEP 2020**

**Structure and Credit Distribution of PG Degree Program for Two years**

**Choice Based Credit System (Semester Pattern)**

**With Effect from 2023-2024**

M. Sc. TEXTILE AND CLOTHING Semester I												
Course Category	Code	Theory / Practical	Teaching scheme (Hours / Week)			Credits	Examination Scheme					
			Theory	Practical	Total		Duration in hrs.	Max. Marks		Total Marks	Minimum Passing Marks	
								SEE	CIE		Theory	Practical
DSC	MTC1T01	Paper 1: Advance Textile Science	4	-	4	4	3	80	20	100	40	-
DSC	MTC1T02	Paper 2: Advanced Pattern Making and Grading	4	-	4	4	3	80	20	100	40	-
DSE	MTC1T03	Paper 3: Electives (Choose any one) (a) Technical Textile and Processing (b)Textile Chemistry (c) Equivalent MOOC course	4	-	4	4	3	80	20	100	40	-
RM	MTC1T04	Paper 4: Research Methods and Statistics	4	-	4	4	3	80	20	100	40	-
DSC	MTC1P01	Practical 1 Advance Textile Science	-	4	4	2	4	50	25	75	-	38
DSC	MTC1P02	Practical 2: Advanced Pattern Making and Grading	-	4	4	2	4	50	25	75	-	38
DSC	MTC1P03	Practical 3: Computer Aided Design		4	4	2	4	-	50	50	-	25
		TOTAL	16	12	28	22	--	420	180	600		

CIE = Continuous Internal Evaluation and SEE = Semester End Examination

1. From Elective group, students will opt for only one paper.
2. There should be minimum Ten (10) students for Elective offered for this specialization.

M. Sc. TEXTILE AND CLOTHING Semester II												
Course Category	Code	Theory / Practical	Teaching scheme (Hours / Week)			Credits	Examination Scheme					
			Theory	Practical	Total		Duration in hrs.	Max. Marks		Total Marks	Minimum Passing Marks	
								SEE	CIE		Theory	Practical
DSC	MTC2T05	Paper 5: Textile Testing and Quality Control	4	-	4	4	3	80	20	100	40	-
DSC	MTC2T06	Paper 6: Fashion Designing and Advance Draping	4	-	4	4	3	80	20	100	40	-
DSE	MTC2T07	Paper 7: Electives (Choose any one) (a) Statistical Analysis in Textile and Clothing (b) Data Analysis and Computer Application (c) Equivalent MOOC course	4	-	4	4	3	80	20	100	40	-
OJT	MTC2P04	Practical 4: On Job Training / Field Project (Internship)	-	8	8	4		80	20	100	-	50
DSC	MTC2P05	Practical 5: Textile Testing and Quality Control	-	4	4	2	4	50	25	75	-	38
DSC	MTC2P06	Practical 6: Fashion Designing and Advance Draping	-	4	4	2	4	50	25	75	-	38
DSC	MTC2P07	Practical 7: Introduction to E-Marketing		4	4	2	4		50	50		25
		TOTAL	12	20	32	22	-	420	180	600		

CIE = Continuous Internal Evaluation and SEE = Semester End Examination

1. From Elective group, students will opt for only one paper.
2. There should be minimum Ten (10) students for Elective offered for this specialization.

M. Sc. TEXTILE AND CLOTHING Semester III												
Course Category	Code	Theory / Practical	Teaching scheme (Hours / Week)			Credits	Examination Scheme					
			Theory	Practical	Total		Duration in hrs.	Max. Marks		Total Marks	Minimum Passing Marks	
								SEE	CIE		Theory	Practical
DSC	MTC3T08	Paper 8: Garment Manufacturing and Quality Control	4	-	4	4	3	80	20	100	40	-
DSC	MTC3T09	Paper 9: Entrepreneurship Development in Textile and Clothing	4	-	4	4	3	80	20	100	40	-
DSE	MTC3T10	Paper 10: Elective (Choose any one) (a) Organizational Behavior (b) Sustainability in Textile and Fashion (c) Equivalent MOOC course	4	-	4	4	3	80	20	100	40	-
DSE	MTC3P08	Practical 8: Garment Manufacturing and Quality Control	-	4	4	2	4	50	25	75		38
DSE	MTC3P09	Practical 9: Portfolio Making	-	4	4	2	4	50	25	75		38
DSE	MTC3P10	Practical 10: Entrepreneurship Development in Textile and Clothing	-	4	4	2	4	--	50	50	-	25
RP	MTC3RP11	Practical 11: Research Project (Design) Review of Literature & Presentation	-	8	8	4	3	80	20	100		50
		TOTAL	16	12	28	22	-	420	180	600		

CIE = Continuous Internal Evaluation and SEE = Semester End Examination

1. From Elective group, students will opt for only one paper.
2. There should be minimum Ten (10) students for Elective offered for this specialization.

M. Sc. TEXTILE AND CLOTHING Semester IV												
Course Category	Code	Theory / Practical	Teaching scheme (Hours / Week)			Credits	Examination Scheme					
			Theory	Practical	Total		Duration in hrs.	Max. Marks		Total Marks	Minimum Passing Marks	
								SEE	CIE		Theory	Practical
DSC	MTC 4T11	Paper 11: Fashion Business Management	4	-	4	4	3	80	20	100	40	-
DSC	MTC 4T12	Paper 12: Advanced Inorganic Chemistry	4	-	4	4	3	80	20	100	40	-
DSE	MTC 4T13	Paper 13: Elective (Choose any one) (a) Fashion Communication (b) Fashion Forecasting & Product Development (c) Equivalent MOOC course	4	-	4	4	3	80	20	100	40	-
DSE	MTC4P12	Practical 12: Current Trends and Issues in Textile and Clothing	--	4	4	2	2	50	25	75		38
DSE	MTC4P13	Practical 13: Fashion Business Management	-	2	2	1	1	-	25	25		13
DSE	MTC4P14	Practical 14: Seminar	-	2	2	1	1	-	25	25		13
RP	MTC4RP 15	Practical 15: Research Project (RP)	-	12	12	6	6	100	75	175	-	88
		TOTAL	12	20	32	22	-	390	210	600		

CIE = Continuous Internal Evaluation and SEE = Semester End Examination

1. From Elective group, students will opt for only one paper.
2. There should be minimum Ten (10) students for Elective offered for this specialization.

## **SEMESTER - I**

### **Paper 1:**

## **ADVANCE TEXTILE SCIENCE**

**Subject Code: MTC1T01**

**Maximum Marks:100**

**Theory: 80**

**Internal Assessment: 20**

### **COURSE OUTCOMES**

1. To enable students to study the essential and desirable properties of textile fiber.
2. To acquire the knowledge of different types of fibers and yarns.
3. To gain knowledge of weaving
4. To develop skills in textile design.
5. To train students in printing and dyeing methods.

### **UNIT I**

1. Introduction to Textiles- Classification, essential and desirable-properties of textile fibers.
2. Natural fibers- Cultivation, Manufacturing process, Physical & Chemical properties.
3. Man-made fibers- Cultivation, Manufacturing process, Physical & Chemical properties.
4. Classification of different types of yarn. Types of yarns, simple yarn, ply yarn-novelty and fancy yarns, types of textured yarns.

### **UNIT II**

1. Weaving Introduction – Passage of material through power loom- primary, secondary, and auxiliary motions.
2. Knitting Introduction- weft knitting & warp knitting- basic principles and operations.
3. Basic weaves like Plain, twill & sateen. Derivatives of basic weaves. Methods of weave representation, repeat of weave, relation between weave, draft and peg plan. Prepare a peg plan for basic weave & its variation.
4. Dobby Jacquard Weaves. Comparison between Dobby & Jacquard

### **UNIT III**

1. Basic Concept of Dye and Pigment. Classification of dyes. Influence of pre-treatment on dyeing preparation.

2. Classification of direct dye, principles, and method of application of direct dye. Faults and remedies in direct dyeing.
3. Important steps involved in reactive, vat and Sulphur dyes, faults and remedies.
4. Dyeing of wool and silk with basic and acid dye. Dyeing of blends, cross dyeing & union dyeing.

#### **UNIT IV**

1. Preparation of cloth for printing, ingredients used and their functions,
2. Different types of thickeners used in printing, preparation of printing paste, general principles of printing.
3. Study of machinery used for printing such as table, roller stencil, flat bed screen, rotary screen faults and remedies in printing.
4. Styles of printing and their fixation methods.

**Internal Assessment - Will be based on assignments related to four units**

#### **REFERENCES-**

1. Fiber to fabric, Begnard P. Corbman, McGrawHillInternatinaleditins.
2. Principles of weaving-R.Marks& A. T. C. Robinson.
3. Knitting technology-D.B. Ajronkar
4. Clarke W. :An Introduction to Textile Printing.
5. Shenai V. A. History of Textile Design.
6. Shenai V. A. Principles and practice of dyeing.
7. Watson : Textile design and color, universal publishing corporation.
8. Storey J. Manual of dyes and fabric.
9. Russ S. S. Fabric printing by hand studio visata Ltd., London 1964.



## **SEMESTER - I**

### **Paper 2:**

## **ADVANCED PATTERN MAKING AND GRADING**

**Subject Code: MTC1T02**

**Maximum Marks:100**

**Theory: 80**

**Internal Assessment: 20**

### **COURSE OUTCOMES**

1. To enable students to select design and draft patterns for various garments based on body measurements.
2. To gain experience in handling different fabrics and advanced construction techniques.
3. To teach students in detail the principles of grading for patterns.
4. To develop an understanding of the terminology and techniques of pattern grading.
5. To apply computerized grading with the help of software.

### **UNIT –I**

1. The Basic Principles of Pattern Production. Introduction to pattern making, tools and equipment used for pattern making. Importance of body measurements and standard body measurement charts. Taking and comparing measurements. Problems causes and remedies.
2. Different types of sewing machines, selection of fabrics for clothing construction, preparation of fabric of cutting, types of layout, layouts of different types of garment, working with different fabrics.

### **UNIT – II**

1. Working with patterns: Pattern making – principles and terminology used in methods of making patterns, Drafting, Flat pattern technique. Use of commercial patterns. Reading pattern envelope, Commercial paper pattern – preparation details. Designing envelope front and back. Importance of Guide Sheet.
2. Fitting problems, principles of a good fit, Pattern alteration, lengthening and shortening patterns, making bust, shoulder, crotch length alteration, increasing and decreasing waistline and hipline, neckline and sleeve alteration.

### **UNIT-III**

1. Concept and Principles of Grading. Basic Size Charts – studying size charts, identifying growth areas, size increments and their application for grading.
2. Terminology of grading. Types of grading. Techniques of pattern grading-: The draft grade or Nested grade, the track single size grade.
3. Advantages and disadvantages of these techniques, instructions for grading.

### **UNIT – IV**

1. Application of grading techniques for basic drafts.
  - Children's Basic Blocks – Bodice, sleeve.
  - Women's Basic Blocks – Bodice sleeve, skirt, Grading of collars, lapels and yokes.
  - Men's Basic Blocks – Bodice, sleeve, trousers, collar grading of collars.
  - Pattern manipulation for different style lines and its grading. Princess line, empire line, low waist line, strapless bodice.
2. Introduction to computer grading. Standard size grading. Grade rule libraries. Digitizing patterns and grading. Grading techniques included in program

**Internal Assessment - Will be based on assignments related to four units**

#### **References:**

1. Patricytaylor J.,martyshobenM,||Grading for the fashion industry|| Stanley Thomas (Publishers) Ltd.1990
2. HandrodJack.,||Professional pattern grading for women's,Men's and Children's apparell||,redendo bench
3. StruinPamela,||Pattern Drafting for Dressmaking||Augustan Delhi 1995
4. Martin M.Shoben and JenetP.Ward,||Pattern Cutting and Make for Outer wear||Butter worth heinmannLtd,Oxford 1987
5. Aldrich Winifrd,||Metric Pattern cutting||Blackwell science, London,1995
6. Designing Patterns – A Fresh Approach to Pattern Cutting,Hilary C Cambell
7. Principals of Flat Pattern Design(3rd edition) Nora M MacDonald, USA 2001
8. Metric Pattern Cutting for Children wear /women's wear /men's wear – Winifred Aldrich,Blackwell Science ,Om Book Services,New Delhi

**SEMESTER-I**  
**PAPER 3: ELECTIVE-I**  
**TECHNICAL TEXTILE AND PROCESSING**

**Subject Code: MTC1T03-I**

**Maximum Marks:100**  
**Theory: 80**  
**Internal Assessment: 20**

**COURSE OUTCOMES:**

1. To develop understanding of non-apparel application of textiles
2. To understand different segments of technical textiles.
3. Differentiate between conventional and technical textiles and processing details

**UNIT I**

1. Introduction: Definition and scope of technical textiles and its classification, Market Size and Future Trends of Technical Textiles,
2. Technical Textiles Fibers, Yarn and Fabrics comparison with conventional textiles  
i.e.fabric, yarn or fiber, Technologies used in manufacturing Technical Textiles.

**UNIT II**

1. Geotextiles: Geosynthesis, Properties, Evaluation, and Application.
2. Classification of Medical Textiles, Description of different medical textiles.
3. Brief idea about different types of protective clothing.
4. Functional requirements of textiles in defense.

**UNIT III**

1. Functional requirement of different types of product and their construction in sports and recreation textiles.
2. Application of textiles in automobiles, requirement and design for different tires, airbags and belts.
3. Methods of production and applications of sewing threads, cords and ropes.

**UNIT IV**

1. Filtration textiles- Definition of filtration parameters, theory of dust collection and solid liquid separation.

2. Functional requirements and types of textiles used for paper making, agriculture, electronics, canvas covers and tarpaulins.
3. Advanced processing technologies for technical textiles.
4. Textile Structure and Surfaces, Finishing and Coating in technical textile production.

**Internal Assessment - Will be based on assignments related to four units.**

**References :**

1. Handbook of Technical Textiles (Woodhead Publishing Series in Textiles) : Horrocks, A R, Anand, Subhash C
2. Wellington Sears Handbook of Industrial Textiles by S. Adanur,
3. Performance of Textiles by Lyle.
4. Industrial Textiles – Horrocks

**SEMESTER-I**  
**PAPER 3: ELECTIVE-II**  
**TEXTILE CHEMISTRY**  
**Subject Code: MTC1T03-II**

**Maximum Marks:100**  
**Theory: 80**  
**Internal Assessment: 20**

**COURSE OUTCOMES:**

1. To acquire the advanced knowledge of different kinds of natural and man made fiber.
2. To increase awareness of the students regarding the chemistry of cellulose, protein and synthetic fiber.
3. To gain knowledge about different textile dyes & its dyeing process.

**UNIT – I**

1. Classification of textile fibers. Textile fiber identification by chemical method. Chemical properties of textile fiber.
2. Polymer Chemistry - Polymerization process, Functionality: Linear and cross linked polymer. Condensation and addition polymers. Polymerization techniques.
3. Characteristics of Fiber, Forming Polymers, Melt, Dry & Wet Spinning method. Fiber Structure, Formation and arrangement of Crystalline and Amorphous region in fiber and their influence on various properties of fibers -.

**UNIT –II**

- 1 Chemistry of cellulose fibers-Molecular structure of cellulose L.S. and C.S. of cotton. Capillary Structure of cellulose, swelling, reaction of cellulose, oxy cellulose and hydro cellulose.
- 2 Chemical properties and reaction of cellulose. Mercerization, Esterfication and Etherification. Process, treatment with liquid ammonia.
- 3 Properties and uses of regenerated cellulose fibers, viscose rayon and cupramonium rayon, highwets modulus rayon, Polynosic fibers, cellulose acetates rayon's.

### **UNIT-III**

- 1 Protein fiber - Molecular structure of protein. Microscopic view of wool and silk. Physical chemical and thermal properties of wool and silk. Degumming and weighting of silk.
- 2 Felting of wool, shrink proofing of wool.
- 3 Synthetic fibers: Nylon, Polyester, Acetate, acrylic, their molecular structure, microscopic view. Blends – properties, uses and analysis.

### **UNIT – IV**

- 1 Dye Stuff Chemistry. Color theory difference between a coloured compound and a dye Suitable for textiles.
- 2 Classification of dyes. Azoic, Aniline black. Acid, Basic, Mordant, Disperse, Vat, Reactive, direct, pigment. Brief, introduction about chemical constitution, properties methods of application and suitability of various dyes to different fibers and their blends.

**Internal Assessment - Will be based on assignments related to four units.**

#### **References :**

1. Cookett, S. R. & Hilton K.A. Basic Chemistry of Textile
2. Hatsuch Bruce, E. Textile Chemistry in Laboratory.
3. Hatsuch Bruce B. Introduction to Textile Chemistry
4. Howard L. Meedles, Textile Fibers, Dyes, Finishes and Processess.
5. Moncrieff R. W. Man made fibers.
6. M.D. Pottemand Corbman, B.P. Fiber to Fabric.
7. Peter R.H. Textile Chemistry Vol. I
8. The Chemistry of fibers. R.Mishra S. P.
9. A text book of Fabric science and technology .New Age International.

**SEMESTER-I**  
**PAPER 4:**  
**RESEARCH METHODS AND STATISTICS**  
**Subject Code: MTC1T04**

**Maximum Marks:100**  
**Theory: 80**  
**Internal Assessment: 20**

**COURSE OUTCOMES :**

1. To understand the significance and research methodology in Home Science research.
2. To understand the types, tools and methods of research and develop the ability to construct data gathering instruments appropriate to the research design.
3. To understand and apply the appropriate technique for the measurement scale and design.

**UNIT I**

- Definition of research
- Objectives of research
- Scope of research in home science
- Types of research
- Anthropological and epidemiological research
- Research process
- Defining the research problem
- Formulation of research hypotheses
- Research design
  - Meaning
  - Important concepts relating to research design
  - Different research designs
  - Important experimental designs

**UNIT II**

- Measurement and scaling
  - Classification of measurement scales
  - Goodness of measurement scales
  - Scaling techniques
- Questionnaire designing
  - Criteria for questionnaire designing
  - Questionnaire design procedure
- Data collection
  - Collection of primary data
  - Collection of secondary data

### **UNIT III**

- Sampling considerations
  - Sampling concepts
  - Sampling vs non-sampling error
  - Probability sampling design
  - Non-probability sampling design
  - Determination of sample size

### **UNIT IV**

- Hypothesis testing
  - Rationale for hypothesis testing
  - A general procedure for hypothesis testing
  - One-tailed and two-tailed tests
  - Errors in hypothesis testing

**Internal Assessment - Will be based on assignments related to four units**

#### **References:**

1. Best J. W. (1983) : Research Education, Prentice Hall, New Delhi..
2. Business statistics by J. K. Sharma, Pearson Education
3. C.R. Kothari : Research Methodology (Methods & Techniques)
4. Garrett, H. : Statistics In Education And Psychology.
5. Good, Carter, Scales and Douglas: Methods of Research.
6. M.H.Gopal : Introduction to Research Methodology for Social Sciences.
7. Philips, B.S.( 1977): Social Research Strategy And Tactics, Mae Millan.
8. Research Methodology – Concepts and Cases, by Chawla, Deepak & Sondhi Neena



**SEMESTER-I**  
**PRACTICAL-I**  
**ADVANCE TEXTILE SCIENCE**  
**Subject Code: MTC1P01**

**Total Marks: 75**  
**Practical Examination: 50**  
**Internal Assessment: 25**

**COURSE OUTCOMES:**

1. To enable students to identify different fiber & fabrics material.
2. To get the knowledge of how to determine fabric specification.
3. To enable students to dye & print in the lab.
4. To get an idea about the industrial dyeing & printing process.

**Practicals:**

1. Identification of fibers by microscope, Burning & chemical method.
2. Application of dyes and variation of shade. Direct dye for cotton, dyeing of viscose rayon, silk and wool, manmade fibers, vat dye for cotton.
3. Analysis of fabric- identification of different weave, fabric count.
4. Construction of sample of basic weave and figure weave on loom.
5. Preparation of samples of different types of printing block, screen, batik stencil, tie and dye.
6. Drawing and painting of different types of design for saree, dress material, bed cover, curtain etc.

**REFERENCES-**

1. Fiber to fabric, Begnard P. Corbman, McGrawHillInternatinaleditins.
2. Principles of weaving-R.Marks& A. T. C. Robinson.
3. Knitting technology-D.B. Ajronkar
4. Clarke W. :An Introduction to Textile Printing.
5. Shenai V. A. History of Textile Design.
6. Shenai V. A. Principles and practice of dyeing.
7. Watson : Textile design and colour, universal publishing corporation.
8. Storey J. Mannual of dyes and fabric.
9. Russ S. S. Fabric printing by hand studio visata Ltd., London 1964.

**SEMESTER-I**  
**PRACTICAL-II**  
**ADVANCED PATTERN MAKING AND GRADING**  
**Subject Code: MTC1P02**

**Total Marks: 75**  
**Practical Examination: 50**  
**Internal Assessment: 25**

**Practical:**

**1. Designing cutting and stitching of following garments**

- a. Party wear (Any one garment)
- b. House coat / night suit with shawl collar.
- c. Skirt with jacket & top
- d. Trousers

**2. Computer Grading**

- a. Preparation of basic patterns and their grading using software.
- b. Application of grading on any two fashion garments of the following :
- c. Children's wear
- d. Women's wear
- e. Men's wear
- f. Commercial pattern envelope
- g. Envelope front – illustration front and profile view of garments, pattern name, pattern number, type of size.
- h. Envelope back – illustration of back view of garments, suggested fabric, yardage charts, size charts, notions and trimmings.
- i. Inside the envelope – construction, guide sheet ,graded pattern sheets(tissue pattern).
- j. Calculation of material required.

**3. Preparation of a resource book on high fashion fabric.**

## References:

1. Patriciataylor J.,martyshobenM,||Grading for the fashion industry|| Stanley Thomas (Publishers) Ltd.1990
2. HandrodJack.,||Professional pattern grading for women's,Men's and Children's apparel||,redendo bench
3. StruinPamela,||Pattern Drafting for Dress Making||Augustan Delhi 1995
4. Martin M.Shoben and JenetP. Ward,||Pattern Cutting and Make for Outer wear||Butter worth heinmannLtd,Oxford 1987
5. Aldrich Winifrd,||Metric Pattern cutting||Blackwell science, London,1995
6. Designing Patterns – A Fresh Approach to Pattern Cutting,Hilary C Cambell
7. Principals of Flat Pattern Design(3rd edition) Nora M MacDonald, USA 2001
8. Metric Pattern Cutting for Children wear /women's wear /men's wear – Winifred Aldrich,Blackwell Science ,Om Book Services,New Delhi.

**SEMESTER-I**  
**PRACTICAL-III**  
**COMPUTER AIDED DESIGN**  
**Subject Code: MTC1P03**

**Internal Assessment: 50**

**Practical:**

1. Presentation using Microsoft PowerPoint (Choose relevant topic).
2. Making of Cost Sheets and Specification Sheet on Microsoft Excel.
3. Basic understanding of Corel Draw :
  - Developing Croqui figures for men, women and children using Photoshop/ Corel Draw.
  - Designing of Brand Logo
  - Textile different weaves and Textile Prints
4. Photoshop- Working with layer styles, image editing and special effects, file format.
5. Learn tools and designing in Canva: Brand Creative's and Boards.
6. Design presentations sheets -Mood Board, Theme Board, Client Board, Swatch Board, Illustration sheet, Measurement sheet, Fabric and color sheet.

**SEMESTER II**

**TEXTILE AND CLOTHING (Home Science)**

## **SEMESTER-II**

### **PAPER 5:**

### **TEXTILE TESTING AND QUALITY CONTROL**

**Subject Code: MTC2T05**

**Maximum Marks:100**

**Theory: 80**

**Internal Assessment: 20**

### **COURSE OUTCOMES:**

1. To acquire knowledge of various physical properties of textiles.
2. To develop an understanding of utility of different physical testing equipment.
3. To develop an understanding of the principals involved in different testing methods of textiles.

### **UNIT –I**

- 1 Introduction, objectives, importance of standards, different types of standard based on established science.
- 2 Introduction to international bodies such as I.S.O 9001, A.S.T.M., AATCC, OEKOTEX, SA8000, GOTS & ISI.
- 3 Selection of textile material for research based on textile testing methods.
- 4 Random Sampling procedure for determination of properties of fibers, yarn and fabric.

### **UNIT –II**

- 1 **Fiber Testing-** Definition, objective and methods of testing. Staple length, mean length. Short fiber percentage. Fineness, maturity, tensile strength and elongation at break interpretation of results.
- 2 **Yarn Testing-** Definition, objective method of testing, to test-count denier twist, diameter, tensile strength, elongation at break, stress strain curves, elastic recovery, yarn appearance, evenness, interpretation of results.

### **UNIT –III**

- 1 Fabric dimensions and properties Fabric thickness - measurement of thickness of fabrics. Fabric weight per unit area and per unit length.

- 2 Crimp of yarn, fabric crimp and fabric properties faults in fabric measurements of crimp percentage.
- 3 Measurement of air permeability, air permeability of fabrics, fabric drape. Drape meter,
- 4 Crease resistance and Crease recovery, Abrasion testing of abrasion resistance.
- 5 Different Color fastness tests.

#### **UNIT – IV**

- 1 **Fabric Testing:** Fabric Pilling measurement by pilling tester, Assessment of pilling.
- 2 Flammability some definitions and terms used relating to flammability, flame proof material, factors affecting flame resistance.
- 3 **Water and fabric relationship:** Water repellent wetting of fabric in rain method of testing spray and shrinkage test.

#### **References :**

- 1 J. E. Booth- Principle of Textile Testing – Meanness Butterworths London.
- 2 Grower & Hamley – Handbook of Textile Testing and quality control wileg.
- 3 John H. Skihle – Textile Testing – Chemical Publishing Co. Inc. Brooklyn, New york.  
ISI Specifications. A.S.T.M. Standards.
- 4 Here J.W.S. and Paters P.H. The Physical Testing of Textile Fibres. The Textile Institute  
Heinmann 1975

**SEMESTER-II**  
**PAPER 6:**  
**FASHION DESIGNING AND ADVANCE DRAPING**  
**Subject Code: MTC2T06**

**Maximum Marks:100**  
**Theory: 80**  
**Internal Assessment: 20**

**COURSE OUTCOMES:**

1. To help the students to know and develop innovative designs.
2. To draw signature fashion stylization and to explore mediums and novelty techniques.
3. To teach students in detail the principles of draping fabric on the dress form for pattern making.

**UNIT –I**

- 1 Introduction to Fashion Designing, History and evolution of fashion design, Changes and development in fashion,
- 2 Design research and sources of ideas - film T. V., painting, historic costume etc., Types of silhouette.
- 3 Study of shaping devices such as -gathers, pleats, darts, yokes, pockets, cowls, princess line, sleeves, collars etc.
- 4 Study of fashion accessories. **Color-** Definition, Color theories -Prang color chart, and Munsel system. Color harmonies - Design principles applied to color in dress design.

**UNIT –II**

- 1 **Fashion Illustration:** Fashion figure drawing and proportions, sketching of different fashion figures.
- 2 Application of Principles and elements of design, planning wardrobes for different age groups.
- 3 **Design:** Definition, types - structural and decorative design and their requirements.
- 4 High -end fabric rendering techniques for different fabrics and textures, Exploring different design styles and aesthetics



### **NIT –III**

- 1 **Advanced Draping Techniques:** Principles of draping, Preparation of adhesive dress form Equipment needed, and preparation of fabric for draping, preparation of dress form.
- 2 Making basic bodice and skirt block front & back Dart manipulation, pleats, trucks and gathers, Neckline variation, armhole variation, waistline variation , yokes , collars and cowls.

### **UNIT – IV**

- 1 Draping methods for various garment types, Draping of bodies - Two dart bodice, princess bodice, double breasted, basic cowls and variation.
- 2 Draping of skirts - Flared skirt, pleated skirt, hip yoke skirt.
- 3 Draping of collars - Mandarin collar, Peter Pan collar, band collar, shawl collar, Chinese collar.
- 4 Draping of sleeves - basic sleeve, Raglan sleeve, kimono sleeve, dolman sleeve.

### **References:**

1. Fashion Sketch Book Written & Illustrated by Bina Abbing, Fair child publications, New York.
2. "Inside the Fashion Business" 4th edition by Jeanette A. Jaranow, Mirianr. Guerreiro and Beatrice Judelle, Macmillan publishing company, New York.
3. Mary Mathews, "Practical clothing construction". Part II Cosmic press, Madras.
4. Mr. Jimsoy and Harriet "Art and Fashion in clothing solution", Iowa state, University Press, Iowa.
5. Drake Micholas, Fashion Illustration today.
6. Koijiro Kamagai Children Fashion Illustration Dec. 1990.
7. Koijiro Kamagai, Fashion Illustration @ L. Expressing Texture 1988
8. Hillhouse M.S. and Mansfield E.A. Dress Design- Draping and Flat Pattern London, U.S.A. Haughton Meffin Co.

**SEMESTER-II**  
**PAPER 7: ELECTIVES-I**  
**STATISTICAL ANALYSIS IN TEXTILE AND CLOTHING**

**Subject Code: MTC2T07-I**

**Maximum Marks:100**  
**Theory: 80**  
**Internal Assessment: 20**

**COURSE OUTCOMES:**

1. To understand the significance and research methodology in Home Science research.
2. To understand the types, tools and methods of research and develop the ability to construct data gathering instruments appropriate to the research design.
3. To understand and apply the appropriate technique for the measurement scale and design.

**UNIT I**

- Concept of statistics
- Scope of statistics
- Classification and tabulation of data
  - Introduction, meaning and objectives of classification
  - Types of classification
  - Formation of discrete frequency distribution
  - Formation of continuous frequency distribution
  - Tabulation of data
  - Parts of a table
  - General rules for tabulation
  - Types of tables
- Diagrammatic and graphical presentation
  - Significance of diagrams and graphs
  - General rules for constructing diagrams and graphs
  - Types of diagrams
  - Graphs
  - Graphs of frequency distributions
- Measure of central tendency
  - Mean
  - Median
  - Mode

**UNIT II**

- Measures of dispersion
  - Range

- o Quartile deviation
  - o Mean deviation
  - o Standard deviation
- Concept of normal distribution curve and probability
- The meaning and importance of normal distribution
- Measurement of normal probability distribution
- Skewness
- Kurtosis
- Correlation analysis
- Significance of the study of correlation
- Types of correlation
- Methods of studying correlation
  - Scatter diagram method
  - Graphic method
  - Karl Pearson's coefficient of correlation
  - Rank method
    - Regression analysis
      - o Types of regression models
      - o Assumptions for a simple linear regression model
      - o Parameters of simple linear regression model
      - o Methods to determine regression coefficients
        - Method of normal equations
        - Deviations method
      - o Assumptions in multiple linear regression
        - Estimating parameters of multiple regression model
        - Least squares method

### UNIT III

- Student's t test for small samples for
  - o Testing differences in proportions
  - o Testing differences in means
- Large sample test (C. R. Test) for testing significance of difference between mean of two groups
- Analysis of variance
  - o One way ANOVA
  - o Two-way ANOVA

### UNIT IV

- Chi-square test
  - o Chi-square distribution
  - o Chi-square test statistic
  - o Application of chi-square test

- Equal probability type
- Normal distribution type
- 2 X 2 contingency tables type
- Chi-square test of independence
- Computer applications in data analysis
  - o Use of MS-Office for research
  - o Graphic representation
  - o Use of SPSS for data analysis

**Internal Assessment - Will be based on assignments related to four units**

### **References:**

1. Business statistics by J. K. Sharma, Pearson Education.
2. C.R. Kothari : Research Methodology (Methods & Techniques)
3. Daryab Singh Principles of Statistics, Atlantic Publishers & Distributors.
4. Garrett, H. : Statistics In Education And Psychology.
5. Gupta S.P. (1970): Statistical Methods, S. Chand Company, New Delhi.
6. Shukla, M.C. And Gulshan S.S. (1970): Statistics Theory And Practice, S. Chand New Delhi.
7. Sinha S.L. L Statistics In Psychology And Education, Anmol Publications Pvt. Ltd., New Delhi.
8. Statistics by Andy Field, SAGE Publication.

**SEMESTER-II**  
**PAPER 7: ELECTIVE-II**  
**DATA ANALYSIS AND COMPUTER APPLICATIONS**  
**Subject Code: MTC2T07-II**

**Maximum Marks:100**  
**Theory: 80**  
**Internal Assessment: 20**

**COURSE OUTCOMES:**

1. To understand the significance and research methodology in Home Science research.
2. To understand the types, tools and methods of research and develop the ability to construct data gathering instruments appropriate to the research design.
3. To understand and apply the appropriate technique for the measurement scale and design.

**UNIT I**

Conceptual understanding of statistical measures. Classification and tabulation of data. Measurement of central tendency, measures of variation.

**UNIT II**

Frequency distribution, histogram, frequency, polygons, oliver.

- a. Binomial distribution
- b. Normal distribution - use of normal probability tables
- c. Parametric and non-parametric tests.

**UNIT III**

Testing of hypotheses. Type I and Type II errors. Levels of significance

- a. Chi-square test. Goodness of fit. Independence of attributes 2x2 and  $r \times c$  contingency tables.
- b. Application of student t' test for small samples. Difference in proportion for means and difference in means.

Correlation, coefficient of correlation, rank correlation.

**UNIT IV**

Regression and prediction. Analysis of variance - one way and two-way classification.

**References:**

- 1 Edwards: Experimental Design in Psychological Research.
- 2 Garrett, Henry E. (1971): Statistics in Psychology and Education, David Haley & Co.
- 3 Kerlinger: Foundation of Educational Research.
- 4 SPSS/PC for the IBM PC / XT, SPSS Inc.
- 5 Bandarkar, P.L. and Wilkinson T.S. (2000): Methodology and Techniques of Social Research, Himalaya Publishing House, Mumbai.

**SEMESTER-II**  
**PRACTICAL - IV**  
**ON JOB TRAINING /INTERNSHIP / FIELD PROJECT**

**Subject Code: MTC2P04**

**Maximum Marks:100**  
**Practical: 80**  
**Internal Assessment: 20**

Students will have to do internships in the Textile and Clothing Industry and submit reports.

**SEMESTER-II**  
**PRACTICAL-V**  
**TEXTILE TESTING AND QUALITY CONTROL**  
**Subject Code: MTC2P05**

**Maximum Marks: 75**  
**Theory: 50**  
**Internal Assessment: 25**

**Practical:**

1. Identification of textile fibers by microscope, burning and chemical test.
2. Quantitative estimation of mixtures of blends.
3. Besley's Yarn Count Balance.
4. Crease Recovery Tester.
5. Twist Tester.
6. Abrasion Resistance Tester.
7. Pilling Tester.
8. Stiffness Tester.
9. Bursting Strength Tester.
10. Determination of shrinkage
11. Different color fastness tests.
12. Moisture Content
13. Water Absorbency

**References:**

- 5 J. E. Booth- Principle of Textile Testing – Meanness Butterworths London.
- 6 Grower & Hamley – Handbook of Textile Testing and quality control wileg.
- 7 John H. Skihle – Textile Testing – Chemical Publishing Co. Inc. Brooklyn, New york.  
ISI Specifications. A.S.T.M. Standards.
- 8 Here J.W.S. and Paters P.H. The Physical Testing of Textile Fibres. The Textile Institute  
Heinmann 1975



**SEMESTER-II**  
**PRACTICAL-VI**  
**FASHION DESIGNING AND ADVANCE DRAPING**

**Subject Code: MTC2P06**

**Maximum Marks: 75**  
**Theory: 50**  
**Internal Assessment: 25**

**Practical:**

1. Application of principles of design in dress designing.
2. Sketches with various patterns and styles in garment on basic croquis for men, women and children such as - casual wear, Formal wear, Ethnic wear, Party wear, Sportswear, Maternity wear, physically challenged.
3. Application of principles of design in dress designing.
4. Planning wardrobe for different age groups.
5. Manipulating fabric and creating innovative drapes and incorporating draping in design development
6. Creating and constructing new styles in the following garment by draping method.  
1) Skirt -Top/Blouse, 2) Frock, 3) Evening dress, 4) Party wear dress, 5) Bias cut dress.

**References :**

1. Fashion Sketch Book Written & Illustrated by BinaAbling, Fair child publications, New York.
2. "Inside the Fashion Business" 4th edition by Jeanette A. Jaranow, Mirianr. Guerreiro and Beatrice Judelle, Macmillan publishing company, New York.
3. Mary Mathews, "Practical clothing construction". Part II Cosmic press, Madras.
4. Mr. Jimsoy and Harriet "Art and Fashion in clothing solution", Iowa state, University Press, Iowa.
5. Drake Micholas, Fashion Illustration today.
6. Koijiro Kamagai Children Fashion Illustration Dec. 1990.
7. Koijiro Kamagai, Fashion Illustration @ L. Expressing Texture 1988
8. Hillhouse M.S. and Mansfield E.A. Dress Design- Draping and Flat Pattern London, U.S.A. Houghton Mifflin Co.

**SEMESTER-II**  
**PRACTICAL-VII**  
**INTRODUCTION TO E-MARKETING**

**Subject Code: MTC2P07**

**Internal Assessment: 50**

**COURSE OUTCOMES:**

- 1 On studying this unit, the students will be able to understand the concept of e-marketing.
- 2 Students will develop the concept of e- marketing research.
- 3 The Students will be able to build an understanding of search engines and their utility in the digital marketing area.

**Contents**

1. Website Development on Google My Business.
2. Creating and managing social media accounts (e.g., Facebook, Twitter, Instagram)
3. Developing a social media content strategy
4. Monitoring social media metrics and analytics
5. Email automation: setting up autoresponders and drip campaigns

**Internal Assessment**

1. Development of the website.
2. Running Social Media Campaigns
3. Analytics of the Website and social media Pages

**References**

1. Internet Marketing: Start to Finish, Catherine Joun, Dunlie Greiling, Pearson, 2012.
2. Facebook Marketing: Designing Your Next Marketing Campaign, Justin Levy, Pearson, 2011.
3. Advertising, Promotion and other Aspects of Marketing, Terence Shimp, Craig Andrews, Cengage Learning, 2016.
4. Online Retailing: A New Paradigm, The ICFAI University Press, 2008.

**SEMESTER -III**

**M.Sc. Home Science (Textile and Clothing)**

## **SEMESTER - III**

### **Paper 8:**

#### **GARMENT MANUFACTURING AND QUALITY CONTROL**

**SUBJECT CODE: MTC3T08**

**Maximum Marks: 100**

**Theory: 80**

**Internal Assessment: 20**

#### **COURSE OUTCOMES:**

1. To enhance hand-on experience in garment construction and quality assessment.
2. To develop students understanding of various quality control techniques and standards.

#### **UNIT –I**

##### **1 Introduction to Garment manufacturing technology**

- Structure of Garment Manufacturing Unit.
- Process Departments: Sampling department- importance of sampling department, objectives, types of sample prototype, fit sample, pp sample, size set, production sample, shipment sample. Introduction to Spec sheet and its importance, Technical design reading, Tech pack analysis & objective, creating tech pack.
- Cutting department: Machineries, fabric spreading, pattern laying, marker preparation, sorting, numbering & bundling, fusing department- methods of fusing, fusing machines.
- Production department: selection of production system- progressive bundle system, unit production system, modular manufacturing, piece work. Production planning, Linear manufacturing process.
- Finishing & pressing department, trimming department, packing department
- Apparel accessories & components - fasteners, labels, support materials, decorative trims, tapes & packing materials

#### **UNIT –II**

##### **2. Garment Construction Techniques**

- Study of different garment types and their construction methods (e.g., tops, bottoms, dresses, outerwear)
- Introduction to advanced construction for various body types.
- Exploring finishing techniques and embellishments

## **UNIT –III**

### **3. Introduction to Quality Control in Garment Construction**

- Importance and benefits of quality control in the fashion industry
- Quality Standards in Garment Construction
- Defect Analysis -Common defects in garment construction
- Identifying and categorizing defects
- Root cause analysis and defect prevention strategies

## **UNIT – IV**

### **4. Inspection Techniques**

- Quality inspection at different stages of production.
- Pre-production inspection and sampling. In process quality inspection, objectives methods, advantages, inspection methodology, final inspection, random inspection, general inspection method for shirts, trouser and kids garments.
- In-process inspection and quality control checkpoints
- Final inspection and shipment audit. Introduction to export documentation, objectives, terminologies, principle documents, auxiliary documents, risk cover, insurance, ECGC, quality control and pre-shipment inspection, export credit, short, medium, long term credit, packing credit, negotiation of bills, payment procedures in export trade.

## **References:**

1. Introduction to clothing prod. Mgmt. by A J Chuter (Blackwell series)
2. Garment technology for Fashion designers by Gerry (Cooklin Blackwell)
3. Herold Carr & B.Latham -Technology Of Clothing Manufacture – Blackwell Publishing Ltd – Second Edition
4. A.J. Chuter., " Introduction to Clothing Production Management ", Blackwell Scientific Publications
5. David J. Tyler., " Materials Management in Clothing Production ", Blackwell Scientific Publications
6. Jacob Solinger., " Apparel Manufacturing Handbook Company (1980).
7. Peyton B .Carr,H, Latham. B., " The Technology of Clothing Manufacture ", Blackwell Scientific Publications 1988).

## **SEMESTER - III**

### **Paper 9:**

### **ENTREPRENEURSHIP DEVELOPMENT IN TEXTILE AND CLOTHING**

**Subject Code: MTC3T09**

**Maximum Marks: 100**

**Theory: 80**

**Internal Assessment: 20**

#### **COURSE OUTCOMES:**

- 1 The student will be able to understand the basics of Entrepreneurship Development and study various challenges faced by entrepreneur.
- 2 The student will be able to analyses the functions of entrepreneurs, and learn about entrepreneurial behavior and various factors influencing individual behavior
- 3 The student will know initiative taken by governments to encourage entrepreneurship development

#### **UNIT –I**

##### **Entrepreneurship Development**

Concept of Entrepreneurs, Characteristics of an Entrepreneur, functions of an entrepreneur, types of entrepreneurs, Role of entrepreneurs in economic development, Concept of Entrepreneurship Development. Factors affecting Entrepreneurship Development

#### **UNIT II**

##### **Textile Industries and Principles of Marketing**

History of textile Industry, Importance of textile industries in Indian Economy, problems faced by textile industries, prospects of textile industries National textile policy. Principles of marketing and merchandising for domestic and export market.

#### **UNIT III**

##### **Small Scale Industry and Project Selection**

Small Enterprises meaning and definition ,problems of SSIs ,Project Identification and Selection (PIS) - Meaning of project, project identification, project selection, contents of project reports, formulation of project reports.

## **UNIT IV**

### **Institutional & Financial Support**

Need for institutional support, various institutions supporting entrepreneurship in India – MIDC, MSME, MCED, DIC and Financial support to entrepreneurs: Commercial banks etc.

#### **References:**

- 1) Entrepreneurship in Textiles and Apparel: The Ultimate Handbook for Clothing Startups" by Archana Dhawan Bajaj.
- 2) Fashion for Profit: A Professional's Guide to the Fashion and Textile Business" by Frances Harder
- 3). Kuratko- Entrepreneurship – A Contemporary Approach, (Thomson Learning Books)
- 4) Small-Scale Industries and Entrepreneurship. Desai, Vasant (2003).
- 5) Himalaya Publishing House, Delhi. 4. S.S. Khanka – Entrepreneurial Development (S. Chand & Co.)

**SEMESTER-III**  
**PAPER 10:**  
**ELECTIVE-I**  
**ORGANIZATIONAL BEHAVIOR**  
**Subject Code: MTC3T10-I**

**Maximum Marks: 100**  
**Theory: 80**  
**Internal Assessment: 20**

**COURSE OUTCOMES:**

1. Students will be able to **explain** the concept of Organisation Design and **determine** the factors that affect Organisation Design.
2. Students will be able to **identify** the components of Individual Behavior and **apply** the concept of Learning, Perception, Attitudes and values.
3. The student will be able to **distinguish** between the various theories of motivation and their application in organizations and also be able to **apply** these theories to practical problems in organizations.
4. The students will be able to **justify** how organizational change and conflict affect working relationships within organizations and **demonstrate** how to apply relevant theories to solve problems of change and conflict within organizations

**UNIT 1**

**Organization Design**

Definition, need and importance of organizational behavior – Nature and scope – Frame work, Understanding Organizations-Basics of an organizational design-Organization and stakeholders- Organizations and environmental influences-Organizational strategy-Organizational design - Alternative Structures-**Management process** - Authority and Responsibility Relationship; organizational control mechanisms; Organizational decision-making, Challenges and Opportunities for Organizational Behavior, OB and Emotional Intelligence

**UNIT 2**

**Organizational Behavior**

Introduction, Nature, Process, Importance, Foundations of individual behavior-Ability, Attitudes, Job Satisfaction, Personality, Values, **Perception** Factors Influencing Perception, Attribution Theory of Perception, Issues Involved in Perception, Halo Effect, Attitude, and Values: Beliefs and



Attitudes with Managerial Implications

### **UNIT 3**

**Motivation**– Stress Management, Concept of stress, Sources & Effects of stress on humans, Management of Stress; Concept and Functions, Early theories, contemporary theories, Concept, types of motivation and Theories-Maslow, Herzberg, Mc Gregor.

**Leadership**- Concept, Leadership styles and Theories- Trait Theory, Path Goal Theory, Blake Mouton-Managerial Grid, Communication: Concept of two-way & Open Communication

### **UNIT 4**

#### **Group and Team Behavior**

**Foundations of Group behavior**-Group development; Group properties: Roles, norms, status, size and cohesiveness, Group decision making, Techniques.

**Teams**-Type and Team Dynamics Conflict and Change-Understanding organizations- Managing organizational culture, Managing organizational conflict, power & politics; Organizational life cycle and Organizational change

#### **References**

1. Organisational Behavior – Stephen Robbins; Timothy Judge, Seema Sanghi; Pearson Prentice Hall Publication, 13<sup>th</sup> Edition, ISBN 978-81-317-2121-6, Chapter 16 Principles of Management, T. Ramaswamy,
2. 1st Edition, Himalaya Publishing House pvt Ltd. Chapter No. 7,8,11
3. Organisational Behavior – Stephen Robbins; Timothy Judge, Seema Sanghi; Pearson Prentice Hall Publication, 13<sup>th</sup> Edition, ISBN 978-81-317-2121-6, Chapter 2,3,4&5
4. Organisational Behavior – Stephen Robbins; Timothy Judge, Seema Sanghi; Pearson Prentice Hall Publication, 13<sup>th</sup> Edition, ISBN 978-81-317-2121-6, Chapter 6,7,12&13
5. Organisational Behavior – Stephen Robbins; Timothy Judge, Seema Sanghi; Pearson Prentice Hall Publication, 13<sup>th</sup> Edition, ISBN 978-81-317-2121-6, Chapter 9&10

**SEMESTER-III**

**PAPER 10:**

**ELECTIVE-II**

**SUSTAINABILITY IN TEXTILE AND FASHION**

**Subject Code: MTC3T10-II**

**Maximum Marks: 100**

**Theory: 80**

**Internal Assessment: 20**

**COURSE OUTCOMES:**

- 1 Learn the emerging trends in the field of textile and allied area to resolve the environmental issues of textile industry
- 2 To understand different sustainable textile materials.
- 3 To explore and investigate the possibilities in sustainable and ethical fashion

**Unit I**

1. Introduction to Sustainable Textile Materials and Production: Concept, Definition, Need and requirements of sustainable textile materials.
2. Ecological Aspects in Fiber production: Eco-Fiber and their production with reference to organic cotton and its comparison. With conventional cotton, Ecological aspects in the production of bamboo, hemp and other allied fibers, the genetic modification of cotton and its impact on environment and naturally colored cotton production and its benefits.

**Unit II**

1. Ecological Consideration in Spinning and Weaving Area:
2. Fluff and noise generation and its impact, Plant design considerations to minimize the noise, Role of humidification for minimizing fluff generation and maintain the heat balance. Design aspects for controlling the noise, Comparison of old and modern plants with respect to noise and fluff generation
3. Ecological Aspects in Wet Processing:
4. Comparison between old and modern pre and post wet processing techniques, Banned dyes, Banned Auxiliaries, Substitute chemicals and their norms.

### **Unit III**

1. Innovations in sustainable materials and technologies associated to the fashion design industries: Bamboo/pineapple/other innovative materials, Recycled and up-cycled materials
2. Renovation and restoration: Up-cycling and recycling within the fashion design industries.
3. Ethical issues within the fashion design industries associated to: Labor, Conditions, Health & Safety, Remuneration, Waste management.

### **Unit IV**

1.Environmental Legislations in Textile Production : Environmental protection, International and National policy regarding environmental protection, Protective applications, Legislation, Pollution measurement problems, Environmental auditing, eco-labeling-Oeko Tex Standards, Concept of COTP etc.

### **References :**

1. Environmental impact of textiles, Keith Slater, Woodhead Publishers, June 2003.
2. Shastree N.K., „Environmental resource management, noise pollution: standards and control“, Anmol Publication Pvt. Ltd., New Delhi.(1997)
3. M.P. Poonia& S.C. Sharma, Environmental Studies, Khanna Publishing House, 2018.
4. O.P. Gupta, Energy Technology, Khanna Publishing House, 2018.

**SEMESTER-III**  
**PRACTICAL-8**  
**GARMENT MANUFACTURING AND QUALITY CONTROL**  
**Subject Code: MTC3P08**

**Maximum Marks: 75**  
**Theory: 50**  
**Internal Assessment: 25**

**COURSE OUTCOMES:**

1. To develop skill in transforming designs to drafting.
2. To develop skill in evaluating design, fitting and quality defects in garment.
3. To know about specific garments that society needs from apparel manufacturer.
4. To impart skills in apparel production in an Industrial set-up.

1. Children's Garment

- 1) A- line Frock
- 2) Fancy frock
- 3) Skirt-top
- 4) Boy shirt /Night suit

2. Women's Garment

- 1) Skirt - Top
- 2) Maxi dress
- 3) Evening gown
- 4) Salwar - kameez
- 5) Palazzo - top

3. Men's Garment

- 1) Shirt
- 2) Kurta
- 3) Dhoti

#### 4. Special Purpose Garment

- 1) Physically challenged
- 2) Maternity / Lactation Period.

#### References :

1. [https://style2designer.com/apparel/adaptive-clothing-best-for-physically-disabled fashion-lovers/](https://style2designer.com/apparel/adaptive-clothing-best-for-physically-disabled-fashion-lovers/)
2. Clothing and textiles for disabled and elderly people Harriet Meinander & Minna Varheenmaa VTT Processes
3. James R.Evans & William M.Lidsay, The Management and Control of Quality, (Edition), South-Western (Thomson Learning), 2002
4. Feigenbaum.A.V. "Total Quality Management, McGraw-Hill, 1991.
5. Oakland.J.S. "Total Quality Management Butterworth – Hcinemann Ltd., Oxford. 1989.

**SEMESTER-III**  
**PRACTICAL-9**  
**PORTFOLIO MAKING**  
**Subject Code: MTC3P09**

**Maximum Marks: 75**  
**Theory: 50**  
**Internal Assessment: 25**

**COURSE OUTCOMES:**

- To make students understand the importance and significance of portfolios and presentations
- To impart practical skills for portfolio presentations
- Students will learn a variety of ways to depict the work in the portfolio
- Students will learn a comprehensive process of creating a design portfolio
- Working towards a final portfolio with various creative projects done during the past semesters.
- Learn Design research on current trends and forecasts and chosen inspiration
- Learn to create mood boards/ look boards.

**INTRODUCTION:** A portfolio is a lifelong asset of a designer. This module is dedicated to help the students build a design portfolio that will enable them to showcase their creativity in the industry. Through Design Collection the students will be able to express their point of view as a designer for the first time through a full cohesive collection of garments.

Subject: Portfolio Development in Fashion

**UNIT: I**

1) Introduction to Fashion Portfolio Development:

Understanding the importance of a fashion portfolio in the industry.

Identifying the purpose and target audience of a fashion portfolio.

2) Research and Concept Development:

Conducting fashion research to gather inspiration and relevant information.

**UNIT: II**

1. Developing creative concepts based on research findings.
2. Fashion Sketching and Illustration Techniques:
3. Learning fundamental drawing techniques for fashion sketches.

**UNIT: III**

- 1) Exploring various illustration styles and their applications in portfolio development.

Technical Drawing and CAD Skills:

2) Acquiring knowledge of technical drawing principles for garment construction.

Utilizing computer-aided design (CAD) software for creating technical fashion drawings.

3) Mood Boards and Visual Storytelling:

Creating compelling mood boards to communicate design concepts and aesthetics.

Developing visual narratives through the arrangement of images, textures, and colors.

#### **UNIT: IV**

1) Garment and Accessories Presentation:

Demonstrating the ability to showcase fashion designs through mock-ups, prototypes, and samples.

Understanding the importance of proper garment and accessory presentation techniques.

2) Photography and Styling for Portfolio:

Learning basic photography skills to capture high-quality images of fashion designs.

Understanding how to style and present garments effectively for portfolio purposes.

3) Portfolio Organization and Presentation:

Structuring and organizing the fashion portfolio to create a cohesive and visually appealing layout.

#### **FINAL PRESENTATION:**

Presenting the portfolio professionally, both in print and digital formats.

How students will go about it:

- Students will actively participate in lectures, discussions, and practical sessions to gain a comprehensive understanding of fashion portfolio development.
- They will engage in research activities to explore fashion trends, designers, and relevant concepts.
- Through hands-on exercises, they will practice fashion sketching, technical drawing, and CAD skills.
- Students will curate mood boards and experiment with visual storytelling techniques. They will work on garment and accessory presentations, focusing on quality and attention to detail.
- Photography and styling sessions will allow students to capture and present their designs effectively.

Towards the end of the course, students will organize their portfolio in a professional and visually appealing manner, both in print and digital formats.

Note: The syllabus may vary depending on the specific curriculum and course duration.

**References-**

1. Drake/ Spoone/Greenwald —Retail fashion Promotion and Advertising||
2. Gini Stephens Frings — Fashion- from concept to consumer|| Pearson Education
3. Jarnow, J and KG Dickenson, —Inside the Fashion Business|| Prentice Hall, 1997
4. JerliganEasterling —Fashion Merchandising And Marketing' Pearson Education
5. Polly Guerin — Creative fashion Presentations|| Fairchild Publications



**SEMESTER-III**  
**Practical 10**  
**Entrepreneurship Development in Textile and Clothing**  
**Subject Code:MTC3P10**

**Internal Assessment: 50**

**Practicals:-**

**(1) Related Experience:-**

- I) Visit to small scale industry.
- II) Visit Agencies that finance SSI

**(2)Project:-Survey of local market to know needs of consumer**

- (I) Formation of project proposal. Report on visits.
- (II) Report on visits

**(3) Practical: Preparation of Articles based on following-**

- (I)Dyeing, printing, embroidery. Garment manufacturing, soaps, detergents, stain removers.
- (II)Minimum two articles from the above are to be prepared and organize exhibition-cum-sale of the prepared products.

**Reference book**

- 1) Entrepreneurship in Textiles and Apparel: The Ultimate Handbook for Clothing Startups" by Archana Dhawan Bajaj.
- 2)Fashion for Profit: A Professional's Guide to the Fashion and Textile Business" by Frances Harder
- 3). Kuratko- Entrepreneurship – A Contemporary Approach, (Thomson Learning Books)
- 4) Small-Scale Industries and Entrepreneurship. Desai, Vasant (2003).
- 5) Himalaya Publishing House, Delhi. 4. S.S. Khanka – Entrepreneurial Development (S. Chand & Co.)

**SEMESTER - III**  
**PRACTICAL 11:**  
**Research Project (Design)**  
**Review of Literature & Presentation**  
**SUBJECT CODE: PGTC3RP1**

**Maximum Marks: 100**  
**Practical: 80**  
**Internal Assessment: 20**

**COURSE OUTCOMES:**

1. Students should get an idea about research work.
  2. Students should have an idea about how to write research project work.
  3. Students should develop project presentation skill.
- 
- The student will have to carry out the research-based project work instead of practical from third semester in the department. The student will be attached to any of the national/ regional/ private research institute/organization, if required. The student in consultation with supervisor will finalize the topic of the project work at the beginning of the third semester.
  - Students must prepare Synopsis of the project work in which detail plan of work is mentioned. Below mentioned points should be covered compulsorily in Synopsis.
    - Introduction
    - Purpose/scope of study/project work
    - Objectives of study /project work
    - Limitation of the Work
    - Hypothesis of Work/Study
    - Methodology
    - Bibliography
  - Prepare Synopsis report with content mentioned above in printed form & submit.
  - Prepare presentation based on synopsis in power point at the end of session & present in front of internal & external for assessment.

**SEMESTER IV**  
**M.Sc. Home Science (Textile and Clothing)**

**SEMESTER – IV**  
**PAPER - 11**  
**Fashion Business Management**  
**Subject Code-MTC4T11**

**Maximum Marks: 100**  
**Theory: 80**  
**Internal Assessment: 20**

**COURSE OUTCOMES:**

1. To introduce students to the fundamentals of the fashion industry and its various sectors.
2. To develop critical thinking and problem-solving skills within the context of fashion business management.
3. To understand the process of fashion merchandising, including product development and assortment planning

**Unit 1:**

Introduction to Business Management, Types of Business, Principles of business , Use of Business in Fashion Industry, Business Communication, Fundamentals of Management, Evolution of fashion business and management

**Unit 2:**

Fashion Marketing and Consumer Behavior, Principles of marketing applied to fashion, Consumer behavior and its impact on fashion marketing, Fashion Merchandising and Fashion brand management, Factors influencing consumer behavior , Assortment planning and buying strategies

**Unit 3:**

Retail Management in the Fashion Industry, Retail formats and store management, Visual merchandising and store layout, Fashion prediction and Trend Analysis, Techniques for fashion forecasting, Trend analysis and its application in the fashion industry

**Unit 4:**

Fashion Digital Marketing and E-Commerce, Digital marketing strategies for fashion brands, E-commerce platforms and online retailing in fashion, Managing sustainability and ethics in the luxury fashion sector, Social media marketing

**References:**

- By Mike Easey , Fashion marketing
- By Philips Kotler, Marketing management
- By Maria Constantino, Fashion Marketing and PR
- By Nicholas Alexander, international Retailing
- By V. D Dudeja, Professional Management of Fashion Industry
- By Lynda Gamans, Retailing Principles

## **SEMESTER – IV**

### **PAPER 12**

#### **Current Trends and Issues in Textile and Clothing**

**Subject Code : MTC4T12**

**Maximum Marks: 100**

**Theory: 80**

**Internal Assessment: 20**

#### **COURSE OUTCOMES:**

1. To create awareness regarding current trends, issues and researches related to Textile and Clothing.
2. To acquire the knowledge regarding the current trends in textile.
3. To gain knowledge regarding the trends, innovations in Textile & Clothing over the world.

#### **Unit I**

Current trends & issues in Textile & Clothing.

Current trends & issues in Apparel & Clothing designing

e.g. Trends with respect to colors, Print & patterns, Clothing Style, accessories etc.

#### **Unit 2**

Current trends & issues in Fashion Communication and Marketing. Different tools of fashion communication e.g. Advertisement, News paper, Television, Internet, Fashion show etc. Fashion communication tools in Retail store, MBO or COCO shops. Websites on Textile and Fashion Designing.

#### **Unit 3**

New addition & innovation in Garment production.

Current garment production industries in India and abroad.

#### **Unit 4**

National textile policy.

Foreign trade policy.

**References:-**

- National Textile Policy 1986, 2000.
- Mishra &Puri, Indian Economy, Himalaya Pub.Hosue.Journals – Cloth exclusive, Business India, Business today.
- News Papers – Economics Times, Financial Experts and Apparel online.
- Industry Published Journals / News letters from SASMIRA, WVEPC,HHEC.
- Economic Surveys, Govt. of India.

**SEMESTER – IV**  
**Paper 13: Electives**  
**Electives-I**  
**Fashion Communication**  
**Subject Code : MTC4T13-I**

**Maximum Marks: 100**  
**Theory: 80**  
**Internal Assessment: 20**

**COURSE OUTCOMES:**

1. This course is designed to provide students of fashion studies with a basic understanding of the principles and concepts of fashion communication. Through a combination of theoretical knowledge and practical examples.
1. Students will explore the various elements involved in effectively communicating fashion messages, including visual and verbal communication, media platforms, branding, and consumer engagement.

**Unit 1: Introduction to Fashion Communication**

- Definition and scope of fashion communication
- Importance of effective communication in the fashion industry
- Historical overview of fashion communication
- Role of fashion communication in building brand identity

**Unit 2: Visual Communication in Fashion**

- Understanding the power of visuals in fashion communication
- Elements of visual communication (color, composition, typography)
- Visual merchandising and its impact on consumer experience
- Fashion photography and its role in fashion communication

**Unit 3: Verbal Communication in Fashion**

- Importance of effective verbal communication in fashion
- Fashion journalism and its role in disseminating fashion information
- Fashion writing and its various forms (press releases, blog posts, social media)
- Public speaking and presentation skills for fashion professionals

**Unit 4: Media Platforms and Consumer Engagement**



- Overview of traditional and digital media platforms in fashion communication
- Social media and its influence on fashion branding and consumer engagement
- Fashion advertising and its strategies
- Fashion events and their role in creating buzz and engaging consumers

#### Assessment Methods:

Class participation and discussions

Individual or group presentations

Written assignments (essays, reports, reflections)

Practical projects (visual displays, social media campaigns)

#### References:

- "Fashion Communication: From Basics to Brilliance" by Aneta Genova
- **Principles of Marketing** by Philip T. Kotler (Author), Gary Armstrong (Author), Prafulla Agnihotri (Author)
- Fashion Advertising and Promotion by Jay and Ellen Diamond – Fairchild Publications.
- Fashion Advertising and Promotion by A. Winters and Stanley Goodman.
- Advertising Management – Concepts and Cases by Manendra Mohan.

**SEMESTER – IV**  
**Paper 13: Electives-II**  
**Fashion Forecasting & Product Development**  
**Subject Code : MTC4T13-II**

**Maximum Marks: 100**  
**Theory: 80**  
**Internal Assessment: 20**

**COURSE OUTCOMES:**

1. To develop understanding about the concept of Fashion forecasting.
2. To study Fashion forecasters are responsible for attracting consumers
3. To understand helping retail businesses and designers sell their brands
4. To Study and understand important points gathering data on fashion trends, how they operate, and how they affect business.

**Content - Theory**

**UNIT - I**

Introduction to Fashion forecasting: Importance of forecasting, Principles of forecasting, long term forecasting, short term forecasting, Fashion Trend Forecasting, Textile and Colour Forecasting, Factors Influencing Colour Forecast, Colour Forecasting, colour palette, Inspiration, Theme and Mood.

**Importance of Fashion Forecaster:** Role and responsibilities of a Fashion Forecaster, Fashion forecasting experts, Diffusion of Innovation Characteristics of Innovation and Novelty, The Consumer Adoption Process, Introduction to Style sight Fashion Forecaster, fashion colour forecasters, fashion trend forecasters.

**UNIT – II:**

Principle of fashion, Fashion Movement, Theories of Fashion Pendulum, Fashion Cycles & Wave Dynamics. Theories of Fashion Adoption, Fashion Eras, Subcultural Fashion, Fashion trends.

The Global Fashion Industry - trends, theories and eras. Fashion Statements

### **UNIT – III**

**Fashion Product Development Process in the Fashion Industry:** Product Development strategies, Consumer research Sales Forecasting, Brand marketing and retailing. Marketing vs Branding. Fashion Stylist. Merchandiser, fashion brands and agencies, runway shows, trade shows, newspapers & magazines information.

Product development -line planning line presentation. Fashion product development software.

### **UNIT – IV**

**Relationship with Selling and marketing:** Cultural Component: Macro trends in fashion. Strategic component: Market Research, Strategic Marketing, Product Strategy, Efficiency Analysis, Style Codes, Luxury. Technical Component: Online Fashion marketing & communication, Fast Fashion and Trends, Product Management, Purchasing, Logistics and Suppliers, Product Analysis and Guidelines, A Sustainable Product. Project Component: Mystery Product Shopping, Trend Analysis, Strategic Product Project.

### **References**

1. Assael, Henry. Consumer Behavior: A Strategic Approach. Boston: Houghton Mifflin, 2004
2. Brannon, Evelyn L. Fashion Forecasting, 2nd ed. NY: Fairchild Publications, 2005.
3. Crane, Diana. Fashion and Its Social Agendas: Class, Gender, and Identity in Clothing. Chicago: U of Chicago Press, 2000.
4. Fehrman, Kenneth. Color: The Secret Influence. Upper Saddle River, NJ: Prentice Hall, 2004.
5. Feisner, Edith Anderson. Color Studies. NY Fairchild Publications, 2006.
6. Keiser, Sandra J. Beyond Design: The Synergy of Apparel Product Development. NY: Fairchild Publications, 2003.
7. Lieberman, Stanley. Matter of Taste: How Names, Fashions, and Culture Change. New Haven: Yale University Press, 2000.
8. Stone, Elaine. The Dynamics of Fashion, 2nd ed. NY: Fairchild Publications, 2003

## **SEMESTER – IV**

### **Practical 12**

#### **Current Trends and Issues in Textile and Clothing**

**Subject Code – PMTC4P12**

**Maximum Marks: 75**

**Practical: 50**

**Internal Assessment: 25**

#### **COURSE OUTCOMES:**

- To acquire the knowledge about current trends in Textile, clothing & fashion.

#### **Practical :-**

1. Presentations on assigned topics covered under theory through various means of communication.
2. Presentation on current trends in color in winter & summer collection.
3. Presentation on current trends in Prints & patterns.
4. Presentation on current trends in clothing style
5. Presentation on interior decoration & designing of Clothing store to impact customer.
6. Presentation based on Current issue of Textile & clothing industry.

**SEMESTER – IV**  
**Practical 13:**  
**Fashion Business Management**  
**Subject Code-MTC4P13**

**Internal Assessment: 25**

1 Industry Visits: Organizing visits to fashion businesses, such as fashion retailers, showrooms, manufacturing facilities, or fashion trade shows. This allows students to observe and interact with professionals in the industry, understand the operations and processes.

(Write a report on Industrial visit)

2. Fashion Show or Exhibition Planning: Organizing and managing a fashion show or exhibition as a class project. This involves various aspects such as event planning, model casting, sourcing designers or brands, marketing the event, and executing the actual show or exhibition.

(Write a report on Industrial visit)

3. Market Research and Analysis: Conducting market research projects to understand consumer behavior, trends, and market demand. This may involve collecting and analyzing data, creating surveys, interviewing potential customers, and presenting findings and recommendations.

(Write a report on Industrial visit)

- By Mike Easey , Fashion marketing
- By Philips Kotler, Marketing management
- By Maria Constantino, Fashion Marketing and PR
- By Nicholas Alexander, international Retailing
- By V. D Dudeja, Professional Management of Fashion Industry
- By Lynda Gamans, Retailing Principles

**Practical 14**  
**SEMINAR**  
**Subject Code : MTC4P14**

**Internal Assessment: 25**

**COURSE OUTCOMES:**

- 1) To impart knowledge regarding the origin and development of textiles.
- 2) To make the students aware of the basic textile and clothing concepts.

The seminar includes scope and innovations in textile and clothing.

Prepare Seminar report and presentation related to Textiles and clothing that should be delivered to fulfill internal assessment criteria.

**TEXTILE AND CLOTHING**  
**SEMESTER – IV**  
**MTC4RP15**  
**RESEARCH PROJECT**  
**(MAJOR)**

**Maximum Marks: 175**  
**Practical: 100**  
**Internal Assessment: 75**







