

MAHARSHI DAYANAND UNIVERSITY, ROHTAK
SCHEME OF STUDIES AND EXAMINATION
B.TECH (FASHION & APPAREL ENGG) SEMESTER-V
'F' Scheme w.e.f 2011-12

Course No.	Course Title	Teaching Schedule				Marks of Classes	Examination		Total Marks	Duration of Exam
		L	T	P	Total		Theo	Practical		
FA-301-F	Knitting Technology	3	1	-	4	50	100	-	150	3
FA-303-F	Apparel Production-III	3	1	-	4	50	100	-	150	3
FA-305-F	Preparatory Wet processing	3	1	-	4	50	100	-	150	3
FA-307-F	Material Studies	3	1	-	4	50	100	-	150	3
FA-309-F	Apparel Production Planning & Scheduling	3	1	-	4	50	100	-	150	3
FA-311-F	Finance Material & Human Resource	3	1	-	4	50	100	-	150	3
	Practicals									
FA-313-F	Pattern Making	-	-	2	2	50	-	50	100	4
FA-315-F	Apparel Construction Lab-I	-	-	3	3	50	-	50	100	4
FA-317-F	Woven Knit Design and Development	-	-	2	2	50	-	50	100	4
FA-319-F	Preparatory Wet processing Lab	-	-	3	3	50	-	50	100	4
	Total	18	6	10	3	500	600	200	1300	

TT-301-F KNITTING TECHNOLOGY (COMMON WITH TT/TC)

L T P
3 1 -

Class work : 50
Examination : 100
Total : 150
Exam duration: 3 hrs

NOTE: Examiner will set 9 questions in total, with two questions from each unit and one question covering all sections which will be Q.1. This Q.1 is compulsory and of short answers type. Each question carries equal mark (20 marks). Students have to attempt 5 questions in total at least one question from each unit

Unit I

Definition of knitting, Type of Knitted fabrics and their characteristics, End-uses of knitted fabrics. Characteristics of knitting yarns. Major Knitted fabric faults and their remedies. Difference between woven and knitted fabric properties. Dyeing, Printing and Knit processing. Classification of knitting, Characteristics of warp knit and weft knit structure. Stitch types and classifications, General description of knitting machines (flat and circular).

Unit II

Fundamental Stitches : Knit, Tuck and float stitches and their uses. Stitch diagrams. Knitting cycles of Latch, Beard and Compound Needles. Basic weft knitted structures (Plain, Rib, Interlock and Purl) and their properties, description of machine for production of these. Design and timings of their cams.

Unit III

Patterning devices in weft knitting like multi-cam track, swing cam, pattern wheel jacquard and electronic jacquard, their mechanisms of operation. Development of knit structures on Circular and Flat Knitting Machine. Quality control of various knitting processes

Unit IV

Ornamentation of knitted fabrics. Derivatives of basic structures like Le-coste, Accordion, Half and Full Cardigan, Milano Rib, French Rib, Swiss Rib, Single Pique, Taxi Pique, Pin Tuck. Classification of warp and weft knitting machines. Classifications of warp knitting machines. Description of Raschal and tricot machines. Characteristics of Raschal and Tricot structures (Full, Tricot, Lock Knit, Reverse Lock knit, Satin, Sharkskin, Queen's cord) and their uses. Calculations for Tightness factor, fabric cover, stitch density, areal density and knitting machine production.

Reading List

Title	Author
Knitting Technology	Wignal
Knitting Technology	Azgaonkar
Knitting Technology	Spencer

FA-303-F APPAREL PRODUCTION -III

L T P
3 1 -

Class work : 50
Examination : 100
Total : 150
Exam duration: 3 hrs

NOTE: Examiner will set 9 questions in total, with two questions from each unit and one question covering all sections which will be Q.1. This Q.1 is compulsory and of short answers type. Each question carries equal mark (20 marks). Students have to attempt 5 questions in total at least one question from each unit

Unit I

Clothing terminology – descriptions of terms used in clothing manufacture, Methods of manufacture, Classes of basic garments, Parts of garments, Clothing details, Functional uses

Unit II

Type of Sewing Machines – Lock Stitch Sewing Machines, Its parts, function of each part, Machine defects and remedies, care and maintenance. Tools and equipment used in clothing construction

Unit III

Body measurement- different sizing techniques, different systems followed. Standard measurement tables for children, gents and ladies, teenagers, etc. Taking measurements on dress form. Preparation of Basic Block using standard size charts. Fabric manipulation, fabric selection and preparation. Introduction to grain line, fabric widths, Importance of pattern layouts in constructing garments

Unit IV

Use of components and trims: Labels and motifs, linings, interlinings, wadding, braid, elastic, hook and loop fastening, shoulder pads, eyelets and laces, zip fastener, buttons, metallic fasteners. Importance of Pressing techniques in Apparel Production. Different types of pressing methods. Alternative methods of joining fabrics. Importance of Fusing. Different kinds of fusing techniques

Reading list

Title	Author
Marketing Today's Fashion	Helena de Paola, Carl Stewart Mueller
Sewing for Fashion Design	Nuerie Relis, Gail Strauss
Basic Processes and Clothing Construction	Sherie Doongaji, Deshpane

TC-305-F PREPARATORY WET PROCESSING

L T P
3 1 -

Class work : 50
Examination : 100
Total : 150
Exam duration: 3 hrs

NOTE: Examiner will set 9 questions in total, with two questions from each unit and one question covering all sections which will be Q.1. This Q.1 is compulsory and of short answers type. Each question carries equal mark (20 marks). Students have to attempt 5 questions in total at least one question from each unit

Unit I

Greige Fabric checking, Preparation of process chart. Elementary knowledge of processing department, identification of impurities in greige, cotton, wool, silk and synthetics. Identification of size materials on fabric. Recipes, conditions and machinery use for removing impurities from greige fabric, yarn and fibres

Unit II

Introduction to different processes (Desizing, Scouring, bleaching, mercerising, milling, etc.) involved for the above and the machinery used

Unit III

Heat and steam setting of synthetic fibres / fabrics / yarns (polyester, nylon, acrylic, polypropylene, spandex fibre etc.). Physical principles involved in detergency, condition for efficient detergency. Commercial detergents. Dry cleaning, Stain removals

Unit IV

Modern developments in pre-treatments. Continuous processing machinery. Auxiliaries used in Desizing, scouring, bleaching and mercerizing.

Reading list

Title	Author
Textile Chemistry	RH Peters
Mercerising	JT Marsh
Textile Scouring and Bleaching	E R Trotman
Technology of Bleaching & Mercerising	VA Shenai
Chemical Processing of Silk	ML Gulrajni

FA-307-F MATERIAL STUDIES

L T P
3 1 -

Class work : 50
Examination : 100
Total : 150
Exam duration: 3 hrs

NOTE: Examiner will set 9 questions in total, with two questions from each unit and one question covering all sections which will be Q.1. This Q.1 is compulsory and of short answers type. Each question carries equal mark (20 marks). Students have to attempt 5 questions in total at least one question from each unit

Unit I

Important high performance fibres and their application in fashion design and speciality garments. Fancy Yarns: Type of fancy yarns and their applications in fashion design.

Unit II

Fabrics- Characteristics of Apparel fabrics; Properties and end uses of fabrics like poplin, Muslin, Madras Check, Seersucker, georgettes, crepe, voile, denim, drill, chino, satin, brocade, tussar, organdie, Bedford cord, pique, velvet/velveteen, gauge and leno, gabardine, organdie, oganza, jean, etc,

Unit III

Narrow Fabrics: Types of narrow fabrics, like Tapes, Ropes, Braids, Laces, Ribbons, elastics, Belts and their application in garments and fashion accessories. Lining & Inter lining fabrics : Different types, their structure and end uses.

Non-woven fabrics: Manufacturing techniques and applications in the apparel and accessories

Unit IV

Introduction to nature of miscellaneous materials like metals, glass, shells, plastic and their applications in fashion design. Leathers: Different types of leathers, their properties and end uses. Fur : Different types and their uses.

Reading list

Title	Author
Textile Ropes and Cordages	R Chattopadhyay
Textile Design	Watson
High performance fibre	Preston & Lewin
Non-woven fabrics	N.N.Banerjee
The Technology of Clothing	Carr & Latham
Know your Accessories	

FA-309-F APPAREL PRODUCTION, PLANNING AND SCHEDULING

L T P
3 1 -

Class work : 50
Examination : 100
Total : 150
Exam duration: 3 hrs

NOTE: Examiner will set 9 questions in total, with two questions from each unit and one question covering all sections which will be Q.1. This Q.1 is compulsory and of short answers type. Each question carries equal mark (20 marks). Students have to attempt 5 questions in total at least one question from each unit

Unit I

Introduction to production, operation concept of production, production as the conversion process, productivity component of production. Production Planning and Control, its objectives, function, organization of (PPC) department. Production planning – order preparation, material planning process planning, loading and scheduling. Production control of dispatching, progressing and follow-up

Unit II

Method study – basic procedure of method study. Work measurement – uses of work measurement, data, basic procedure of work measurement, definition and scope of motion and time study. Time study: Time study procedure, illustrative examples on computation of standard time.

Unit III

Motion and Time study: Data for sewing work study, improvement of production efficiency, improvement in thought pattern of an operator, Evolution of PMTS, General Sewing Data System, Method Engineering, Production analysis (Qualitative and Quantitative).

Unit IV

Co-ordination of activities. Layering and marker planning, Cutting room planning, Planning of Sewing room. Material management in clothing production. Quick response in apparel manufacturing, different production systems.

Reading List

Title	Author
Introduction to Clothing Production Management	AJ Chuter
Production Management in Apparel Industry	Rajesh Bheda
Managing Productivity in Apparel Industry	Rajesh Bheda

HUM-311-F FINANCE MATERIAL AND HUMAN RESOURCE MANAGEMENT

L T P
3 1 -

Class work : 50
Examination : 100
Total : 150
Exam duration: 3 hrs

NOTE: Examiner will set 9 questions in total, with two questions from each unit and one question covering all sections which will be Q.1. This Q.1 is compulsory and of short answers type. Each question carries equal mark (20 marks). Students have to attempt 5 questions in total at least one question from each unit

Unit I

Double Entry book keeping and financial statement Meaning and Importance of double entry book-keeping, Specimen and purpose of balance sheet, Trading and Profit and Loss Account.

Unit II

Management of Working Capital: Definition; Nature Classification of Working Capital – (i) Permanent working Capital and (ii) Variable Working Capital; Factors affecting requirement of working capital. Capital Structure: Meaning: Essentials of an ideal/optimum Capital Structure, Difference between capital, Capitalization and Capital Structure. Source of Finance: Introduction and listing of Internal and External Source of Finance.

Unit III

Formulation of a project, elements of project report. Personal Management and HRD. Job Analysis: Meaning and Importance; Processes of Job Analysis. Job Description and Job Specification. Materials Management: Definition and Objectives: Inventory Management.

Unit IV

Inventory Control: Techniques of Inventory control- ROL, FOR Value Analysis, ABC Analysis, VED Analysis; Factors affecting Inventory Control, Ordering Costs, Carrying Costs, Stock-out costs, Buffer Stock, Stock Turnover & Lead Time.

Reading List

Title

Author

Financial Management

Khan & Jain

Financial Management

IM Pandey

Personnel Management

CB Memmoria

FA-313-F PATTERN MAKING PRACTICAL

L	T	P
-	-	2

Class work	:	50
Examination	:	50
Total	:	100
Exam duration:		4 hrs

Introduction to the tools and material used for drafting. Drafting of child's basic and adults bodice blocks. Drafting of different commonly used sleeves as set-in, puff, raglan, flared, leg-'o'-mutton, etc. Drafting of different collars as peter-pan, sailor, mandarin and shirt collars etc.

FA-315-F APPAREL CONSTRUCTION LAB-I

L	T	P
-	-	3

Class work	:	50
Examination	:	50
Total	:	100
Exam duration:		4 hrs

Introduction to sewing machine & equipment. Practice of machine stitches on paper & final practice of machine on fabric. Basic hand stitches. Preparation of different types of seams. Designing & construction of different types of necklines & their finishing with piping or shaped facings.

Sampling of different types of plackets. Sampling of different types of pleats darts & tucks.

Construction of different types of pockets. Preparation of samples on special purpose machine such as over-edging, double needle, feed-of the arm, button attaching and button hole making machines.

TT-317-F WOVEN KNIT DESIGN AND DEVELOPMENT

L	T	P
-	-	2

Class work	:	50
Examination	:	50
Total	:	100
Exam duration:		4 hrs

Study of warp patterning through sectional warping. Study of weft patterning through drop box motion. Study of weft patterning through electronic dobby and jacquard.

To prepare fabric samples on desk looms/hand looms with basic weaves like plain, twill, satin, sateen, matt and some decorative weaves like honey comb, mock-leno, crepe, screw etc.

To study single jersey, rib, interlock circular weft knitting m/cs. Practice of fabric sample preparations on these m/cs.

To study flat bed weft knitting m/cs. Practice of fabric sample preparations on these m/cs.

To prepare different knitted fabric design by combination of knit tuck and float using pattern wheel jacquard in circular m/c.

Study of different types of fabrics and their specifications according to their end use.

TC-219-F PREPARATORY WET PROCESSING LAB (Common with TC)

L T P
- - 3

Class work : 50
Examination : 50
Total : 100
Exam duration: 4 hrs

De-sizing of cotton by enzymatic and oxidative method. Scouring by caustic soda boil, enzymatic and solvent scouring. Bleaching using Sodium hypochlorite and hydrogen peroxide and sodium chlorate. Estimation of available chlorine in hypochlorite bath and peroxide content in hydrogen peroxide bath. Scouring and bleaching of wool. De-gumming and bleaching of silk. Scouring and bleaching of polyester and blends. Mercerization of cotton and its evaluation.

Assessment of bleached goods. Whiteness and absorbency measurement, tests for differentiating various sizes like starch, CMC, PVA and PVC and use of Stain removal.

MAHARSHI DAYANAND UNIVERSITY, ROHTAK
SCHEME OF STUDIES AND EXAMINATION
B.TECH (FASHION & APPAREL ENGG) SEMESTER-VI
'F' Scheme w.e.f 2011-12

Course No.	Course Title	Teaching Schedule				Marks of Classes	Examination		Total Marks	Duration of Exam
		L	T	P	Total		Theo	Practical		
TC-302-F	Dyeing of Textiles	3	1	-	4	50	100	-	150	3
TT-304-F	Textile & Garment	3	1	-	4	50	100	-	150	3
FA-306-F	Garment Production Machines &	3	1	-	4	50	100	-	150	3
FA-308-F	Knitted Garment Technology	3	1	-	4	50	100	-	150	3
FA-310-F	Apparel Marketing & Merchandising	3	1	-	4	50	100	-	150	3
TT-312-F	Structure & Properties of Textiles	3	1	-	4	50	100	-	150	3
	Practicals									
TC-314-F	Dyeing & Computer Color	-	-	2	2	50	-	50	100	4
TT-316-F	Textile & Garment	-	-	3	3	50	-	50	100	4
FA-318-F	Apparel Design Lab	-	-	2	2	50	-	50	100	4
FA-320-F	Apparel Construction Lab-II	-	-	3	3	50	-	50	100	4
Total		18	6	10	3	500	600	200	1300	

TC-302-F DYEING OF TEXTILES (COMMON WITH TC)

L T P
3 1 -

Class work : 50
Examination : 100
Total : 150
Exam duration: 3 hrs

NOTE: Examiner will set 9 questions in total, with two questions from each unit and one question covering all sections which will be Q.1. This Q.1 is compulsory and of short answers type. Each question carries equal mark (20 marks). Students have to attempt 5 questions in total at least one question from each unit

Unit I

General methods of dyeing. Important classes of dyes. e.g. direct, acid, basic, vat, azoic, sulphur, reactive and disperse dyes etc., Application of dyes on natural, regenerated (Viscose, Polynosic, modal, Loycell) fibres

Unit II

Application of dyes on Man Made fibres (Polyester, Nylon, Acrylic and etc.), yarns, fabrics and garments.

Unit III

Chemical auxiliaries used in dyeing. Colour measurement and fastness (light, washing, perspiration, sublimation, chlorine, etc.) properties.

Unit IV

Dyeing of blends, P/C, P/W, P/V etc. Mass colouration. Pigment dyeing. Dyeing of denim using Indigo dye, Pigment dyeing technology, factors affecting dyes build-up on cellulosic material, continuous Indigo dyeing range, new Indigo vetting and dyeing techniques. Rectifying and Stripping of dyes from substrate,

Reading List

Title

Author

Technology of Dyeing

V A Shenai

Dyeing and Chemical Technology of Textile Fibres

E R Trotman

A glimpse of the Chemical Technology of Textile Fibres. R R Chakraverty

TT-304-F TEXTILE & GARMENT TESTING

L T P
3 1 -

Class work : 50
Examination : 100
Total : 150
Exam duration: 3 hrs

NOTE: Examiner will set 9 questions in total, with two questions from each unit and one question covering all sections which will be Q.1. This Q.1 is compulsory and of short answers type. Each question carries equal mark (20 marks). Students have to attempt 5 questions in total at least one question from each unit

Unit I

Introduction to testing and its importance, Standard atmospheric conditions for testing and its effect on test results. Testing of yarn strength, elongation, twist, evenness and hairiness. Fabric dimensions measurement – length, width, thickness, weight/area, thread/length, and crimp.

Unit II

Tensile strength and elongation: Definition of different units, tensile strength and elongation, work of rupture, tearing strength, bursting strength. Serviceability: Snagging test, Pilling test, Abrasion resistance.

Unit III

Comfort: Water vapor repellency, Wicking properties, Air permeability, Thermal insulation and wettability. Fabric handle: Bending length, Crease recovery, Drape, Low stress mechanical properties. FAST, Kawabatta Evaluation System.

Unit IV

Garment Testing: Dimensions, Seam strength, Seam slippage, Adhesion between interlining and fabric, shrinkage, zippers, buttons, snap fasteners and other general garment properties . Needle Cutting/Yarn severance.

Reading list

Title	Author
Principles of Textile testing	J.E Booth
Textile Testing	V.K. Kothari
Apparel quality Control	V.K. Mehta
Physical Testing of Textile	Saville

FA-306-F GARMENT PRODUCTION MACHINES & EQUIPMENT

L	T	P
3	1	-

Class work	:	50
Examination	:	100
Total	:	150
Exam duration:		3 hrs

NOTE: Examiner will set 9 questions in total, with two questions from each unit and one question covering all sections which will be Q.1. This Q.1 is compulsory and of short answers type. Each question carries equal mark (20 marks). Students have to attempt 5 questions in total at least one question from each unit

Unit I

Overview of the Garment Manufacturing processes, Introduction to the latest advancements in the Garment manufacturing processes.

Fabric cutting Process: Pre-requisites for the fabric cutting. Tools and equipment needed for the cutting process. Advancements in the fabric cutting technology.

Unit II

Garment assembly processes: Basics of sewing, Functional parts of sewing machines (SNLS): Feed mechanisms, Run-in-ratio, Effect of sewing process on the sewing thread strength.

Principle, mechanism and utility of following machines: Interlock machine, Overlock machine, Double needle Lock stitch and chain stitch sewing machines, Bar-tacking machine, Feed off the arm, Button attaching and buttonhole making machine and computerized embroidery machines.

Unit III

Study of sewing needle temperature: Factors affecting and remedial measures, Methods for the needle temperature measurement.. Study of the measurement of the sewing forces and pressure during sewing. Study of the measurement techniques of the sewing thread tension on the sewing machine: SNLS and overlock machines.

Applications of Programmable logic circuits (PLC) in the Garment manufacturing processes. Robotics: Basic analogy, its applications, scope and limitations in the Garment Industry.

Unit IV

Pressing and Fusing process and equipment. Handling of garments between different processes in the apparel industry. .

Reading list

Title	Author
Knitted Clothing Technology	Brackenburry
The Technology of Clothing Manufacture	Harold Carr, Barbara Latham
Introduction to Clothing Manufacture	Gerry Cooklin
Apparel Production	Jacob Solinger
Robotics & Automation in the Textile Industry	M.G.Mahadevan
Fashion Production Terms	Debbie Ann Gioclo & Berle

FA-308-F KNITTED GARMENT TECHNOLOGY

L T P
3 1 -

Class work : 50
Examination : 100
Total : 150
Exam duration: 3 hrs

NOTE: Examiner will set 9 questions in total, with two questions from each unit and one question covering all sections which will be Q.1. This Q.1 is compulsory and of short answers type. Each question carries equal mark (20 marks). Students have to attempt 5 questions in total at least one question from each unit

Unit I

Introduction to Knitted Garments- types and flowchart including the steps of production. Fully Cut garments – spreading – hand and machine spreading, types of lays. Marking – manual and computerized marking Cutting devices as die-cutter. Hand shears, laser cutting, etc. Cut stitch shaped – Fitting blocks as easy fitting and close fitting blocks. Consideration of visual stretch, stretch in action, etc. Shaping of various garments, e.g., in body sleeve angles, etc., Cutting in case of cut stitch shaped garments.

Unit II

Fully fashioned garments – Concepts of use of basic forms i.e., circle, bell, and balloon, triangle, overlays in the generation of a garment shape. Broader classification of integral garments. Fashioning for shaping, fashion frequency. Most commonly used fashion details- Necklines, sleeves, etc.

Unit III

Integral garments – Basic techniques as course shaping Wales shaping, tubular knitting, running-on, change of stitch type, casting -off, etc.

Machine knitted integral garments as berets,, half hose, upper and lower bodice garments as Jacket, Wagnall garment, Tubular garment, etc.

Unit IV

Different types of stitches, Commonly used stitch in knitted garment assembly as single, double, three thread, lock stitch and covering stitch. Run-in ratios and application of each in Linking and Mock Linking. Linking machine and Cup seamer. Quality control of knitted garments.

Reading list

Title

Author

Knitting Technology	Spencer
Knitting Clothing Technology	Brackenbury
Fabric form and flat cutting	Winfred Aldrich

FA-310-F APPAREL MARKETING & MERCHANDISING

L	T	P	Class work	:	50
3	1	-	Examination	:	100
			Total	:	150
			Exam duration:	:	3 hrs

NOTE: Examiner will set 9 questions in total, with two questions from each unit and one question covering all sections which will be Q.1. This Q.1 is compulsory and of short answers type. Each question carries equal mark (20 marks). Students have to attempt 5 questions in total at least one question from each unit

Unit I

Exploration of Fashion Industry, Marketing and Careers within the industry, Core components, Primary markets, Producers of material, Secondary markets, Design and Production, Present scenario of Textile and Apparel industry in India. Fashion Marketing concept, Marketing environment.

Unit II

Domestic Vs International Marketing, Challenges for International Marketing, International Marketing environment, Identifying foreign apparel markets, International marketing mix – PLC model, Pricing decision, Channels of distribution, Promotion mix in International context, Modes of entering foreign market for apparel exports, Merits and demerits of each method, Terms of payment

Unit III

Exports- Export procedure and documentation, Export assistance – various schemes, sources of information, export promotion council etc., export finance,

Unit IV

Export houses- working of export houses, categories- star trading export houses, etc. Outsourcing merchandising, visual merchandising, Business process off shoring/outsourcing. Concept of supply chain management. India's leading export houses, Trends in apparel industry, Foreign trade agreements related to the garment industry

Reading List

Title	Author
International Marketing Management	Varshney and Bhattacharya
Nabhi's publication on Export	Govt. Handbook
International Marketing	Onkvisit and Shaw
International Marketing	Cateora

TT-312-F STRUCTURE AND PROPERTIES OF FIBRES

L T P
3 1 -

Class work : 50
Examination : 100
Total : 150
Exam duration: 3 hrs

NOTE: Examiner will set 9 questions in total, with two questions from each unit and one question covering all sections which will be Q.1. This Q.1 is compulsory and of short answers type. Each question carries equal mark (20 marks). Students have to attempt 5 questions in total at least one question from each unit

Unit I

Structure and Properties of Ring, Rotor, DREF spun yarns, multifilament and textured yarns. Importance of Yarn structure in relation to different mechanical properties of Apparel Fabrics. Cloth setting theories: Ashenurst's, Armitage's, Law's, Brierley's and Peirce's theory: its basic seven equations and idea of jamming.

Unit II

Tensile property of fabrics: tensile curve for fabrics and geometrical changes during tensile deformation, factors affecting tensile strength of fabrics, Bending property of fabrics: Different bending stiffness parameters by cantilever testing, Bending hysteresis testing and different parameters measured by it, Bending hysteresis curve, Factors affecting bending stiffness of fabrics

Unit III

Shear stiffness of fabrics: problems during shear testing and their remedies. Shear hysteresis curve, Spring- friction block model of shear behaviour. Creasing of fabrics: Mechanism of creasing, different motions within fabric structure while creasing. Factor affecting crease resistance and crease recovery of fabrics.

Unit IV

Comfort of fabrics, different constituents of comfort. Flow of heat, moisture and air through textile material, Factors affecting thermal insulation, moisture propagation and air permeability of fabrics. Drapability of fabrics, Drape testing, drape parameters and factors affecting drape behaviour. Introduction to the term Tailorability and Formability for apparel fabrics. Handle of fabrics. Objective evaluation of fabric handle. Constituent properties of handle.

Reading List

Title	Author
Textile Yarns-Technology, Structure and Applications	Goswami etal
Structural Mechanics of Fibres, Yarns and Fabrics	Hearle etal

TC-314-F DYEING AND COMPUTER COLOUR MATCHING LAB

L	T	P
-	-	2

Class work	:	50
Examination	:	50
Total	:	100
Exam duration:		4 hrs

Dyeing of Cotton, Rayon, and Flax by direct, reactive, sulfur, vat, azoic dyes. Dyeing of Wool and Silk by acid, metal complex dyes, Nylon with acid dyes, Carrier, HTHP, Thermosoling dyeing of PET, Dyeing of Acrylic with basic dyes, Dyeing of Cotton/Polyester and Polyester/Viscose blend. After treatment of direct dyes, Rectification and Stripping of dyes. Tie-dyeing. Identification of dyes on substrate. Measurement of fastness properties, Perspiration, light, washing, rubbing, etc. Computer colour matching, Familiarization with the principles and working of computer color matching instrument, Making of database of dyes, shade matching, shade correction, colour difference, measurement, shade sorting.

TT-316-F TEXTILE AND GARMENT TESTING

L	T	P	Class work	:	50
-	-	3	Examination	:	50
			Total	:	100
			Exam duration:		4 hrs

Testing of single yarn strength, elongation, CSP, yarn twist and evenness

Testing of fabric tensile strength, elongation, air-permeability, bending stiffness, tear strength, crease recovery, abrasion resistance, pilling resistance, Drape.

Testing of seam strength, seam slippage and other general garment properties

FA-318-F APPAREL DESIGN LAB

L	T	P
-	-	2

Class work	:	50
Examination	:	50
Total	:	100
Exam duration:		4 hrs

Principle of dart manipulation by (i) Slash and spread method (ii) Pivotal transfer method
Style variations of dart manipulation – pleats, tucks, gathers, dart clusters, radiating darts, terminating darts

Commercial paper patterns- symbols used in commercial patterns, envelopes for commercial paper patterns, guide sheet and other relevant information

FA-320-F APPAREL CONSTRUCTION LAB -II

L	T	P
-	-	3

Class work	:	50
Examination	:	50
Total	:	100
Exam duration:		4 hrs

Flat pattern technique- drafting, developing pattern, designing and construction of garments of children, men and women using different construction and decorative features. Handling of different types of fabrics in the above garments.

Analysis of different garments- Men's wear, women's wear, kid's wear

Different parts of a garment , different operational stitch of a garment, Line balancing system, SAM calculation, Layout setting procedure.