

BHARATHIDASAN UNIVERSITY, TIRUCHIRAPPALLI – 620 024

DIPLOMA IN HOME TEXTILES

(For the candidates to be admitted from the academic year 2006-2007 onwards)

Seme ster	Title of the Paper	Marks
I	Paper I– Basic Textiles and Wet Processing	100
	Paper II – Fabric Production	100
	Paper III – Fiber Identification and Fabric Structure Practicals	100
II	Paper IV – Textile Testing	100
	Paper V – Home Textiles	100
	Paper VI – Care of Home Textiles	100
	TOTAL MARKS	600

PAPER I - BASIC TEXTILES AND WET PROCESSING

UNIT-I FIBRE SCIENCE

Definition of fibre – classification by nature and origin – essential and desirable properties – important physical and chemical properties of cotton, bast and animal fibres – production and properties of regenerated cellulose fibres – viscose – production and properties of synthetic fibres – polyester, polyamide, PAN fibres.

UNIT-II YARN MANUFACTURE

Principles of cotton spinning – sequence of processes involved in yarn manufacture – passage of material blow room, carding, draw frame, comber, simplex and ring frame – various types of yarns – ply and cable yarns.

UNIT-III PRE-TREATMENTS

Objects and Outlines of Desizing and Singeing Scouring, Bleaching, Mercerizing Processes - Gas singeing – kier boiling – continuous bleaching in J-Box.

UNIT – IV DYEING AND PRINTING

Dyes and its classifications – dyeing of cotton, viscose, polyester and nylon - Study of hank and package dyeing machines - Study of jigger and HTHP dyeing machines – principles of printing – styles and methods – screen printing machine – pigment printing - Dyed and Printed Fabric Defects

UNIT – V FINISHING

Objects of finishing – temporary and permanent finishes – mechanical and chemical finishes – calendaring, sanforizing and durable press finishes

Reference Books:

1. A. Wyne, “Motivate”
2. A.Venkatasubramaniam “Spun yarn manufacturing tech” – Vol - I, II, III
3. Shenai V.A, “Technology of Textile processing” Shevak publications 2000
4. Gopalakrishnan “Fibre science” 1998

PAPER II - FABRIC PRODUCTION

UNIT-I PREPARATORY PROCESS

Objects of warp winding – passage of material through winding machine – objects of warping – passage of material through warper – sectional warping – objects of pirn winding and sizing – sizing ingredients – multi cylinder slasher sizing machine – drawing-in and denting-in.

UNIT-II WEAVING MECHANISMS

Motions of weaving – principles of shedding, picking and beating up - tappet shedding - over pick and under pick – loom timings – warp and weft protecting motions

UNIT – III DOBBY AND JACQUARDS

Objects and principles of dobby – working of cam dobby – principles of jacquards – single lift and double lift jacquards – working of double lift double cylinder jacquard

UNIT – IV AUTOMATIC AND SHUTTLELESS LOOMS

Salient features of automatic looms – shuttleless looms – advantages – principles of weft insertion in projectile, rapier airjet looms

UNIT – V FABRIC STRUCTURES

Principles of design, draft and peg-plan – plain weave and its derivatives – ornamentation of plain weave – twill and its derivatives – sateen and satin weaves – honey comb and huck-a-back weaves – cloth specifications

Reference Books:

1. Prof.N.N.Banerjee, “Weaving Mechanism” – vol I & II
2. J.J.Vincent, “Shuttleless looms”
3. Grosicki Z.J, “Watsons elementary textile design and color”

PAPER III

FIBER IDENTIFICATION AND FABRIC STRUCTURE PRACTICALS

1. Fiber identification : Identification of fibers in common use:

❖ Cotton	}	Burning Tests Microscopic analysis and Solubility Test
❖ Jute		
❖ Silk		
❖ Wool		
❖ Rayon		
❖ Nylon		
❖ Polyester		

2. Analyse, Design, Draft, Peg Plan, Ends per inch, Picks per inch, Warp count, Weft count for the following weaves.

- ❖ Plain weave
- ❖ Rib weave
- ❖ Mat weave
- ❖ Twill weave
- ❖ Pointed twill
- ❖ Herring bone twill
- ❖ Satin
- ❖ Sateen
- ❖ Honey comb
- ❖ Huck-a-back
- ❖ Jacquard

PAPER IV – TEXTILE TESTING

UNIT-I YARN TESTING

Yarn numbering systems – Beesley balance, Yarn strength – lea strength, single yarn strength testing, electronic twist testing.

UNIT – II FABRIC TESTING

Thickness, Weight, Strength, abrasion resistance, pilling, Drape.

UNIT-III COLOUR FASTNESS

Fastness to Sunlight, Washing, Pressing, Crocking.

UNIT-IV STATISTICAL QUALITY CONTROL

Classification and tabulation of data – mean, median, mode – Standard deviation and co-efficient of variation.

UNIT V FABRIC INSPECTION

Types – raw material, in-process, final inspection.

Reference Books:

1. J.E. Booth, “Principles of Textile Testing”. C.B.S. Publishers, New Delhi.
2. P.Angappan and R.Gopalakrishnan “Textile Testing” S.S.M., Institute, Tiruchengodu.
3. Pradeep V.Metha. “Managing Quality in Apparel Industry”, ASQC Quality Press, New York.

PAPER V – HOME TEXTILES

UNIT I HOME TEXTILES

Definition, different types of home textiles – woven and Non-woven, factors affecting selection of home textiles.

Floor covering: Floor coverings – hard floor coverings, resilient floor coverings, soft floor coverings, Rugs, cushions and pads, use and care.

UNIT II WALL COVERINGS

Wall coverings, use and care. Diaperies and curtains: choices of fabrics, calculating the amount of material needed, hints on making curtains, hang well. Methods of furnishing draperies at the top with tucks or pleats. Use of drapery rods, hooks, tapes, rings and pins.

UNIT III LIVING ROOM FURNISHING

Sofa covers, wall hangers, cushion, cushion covers, upholsteries, Bolster and Bolster covers.

UNIT IV BED LINES

Definitions, different types of Bed Linens, Sheets, Blankets and blankets covers, comforts and comfort covers, bed spreads, mattress, Mattress covers and pads, pillows and pillows covers, their use and care.

UNIT V KITCHEN LINENS

Definition, types of kitchen linens, Dish cloth, Hand towels, Fridge cover, Fridge Handle covers, Mixi cover, Grinder covers their use and care.

Table linens: Definitions, Different types of table linens, table mats, table cloth and hand towels, types, selection, use and care.

Reference:

1. Soft furnishing book by Kartin Cargill, Reed consumer books Limited, London.
2. Soft furnishing by Saarah Campbell and Hilary More, Mac Donald Books, QED Publishers Limited, London.
3. Simplicity's (1993). Simply the best home decoration book, A fire side book as published by Simon and Schulster (New York), London. The simplicity Pattern company inc.

PAPER VI - CARE OF HOME TEXTILES

UNIT I WATER

Sources of water, Types of Hardness. Methods of softening water at Home and in the industry.

UNIT II SOAPS AND DETERGENTS

Manufacture of soaps and Detergents, Assessing washing efficiency of soaps and detergents.

UNIT III STAIN REMOVAL

Identification of stain, general procedure for stain Removal, Bleaches for stain removal, optical brighteners and blues.

UNIT IV CARE OF HOME TEXTILES

Vaccum cleaning of Rugs and carpets, Washing of curtains, draperies, bed linens and kitchen linen. Drying and pressing. Care labelling.

UNIT V WASHING METHODS

Kneading and squeezing, suction washing, Use of washing Machine.

Reference:

1. Fundamentals of Textiles and their care, Susheela Dantiyagi. Orient Longman Ltd., New Delhi.
2. Household Textiles and Laundry work, Durga Duelkar, Athma Ram and Sons., New Delhi.
