BHARATHIDASAN UNIVERSITY
TIRUCHIRAPPALLI – 620 024

M. Phil. APPAREL AND FASHION TECHNOLOGY (FT / PT) PROGRAMME

(for the candidates admitted from the academic year 2007 - 2008 onwards)

Semester I

	Title of the Course	Marks			Credits
		IA	UE	Total	
Course -I	Technical Textiles	25	75	100	4
Course - II	Computer aided Apparel manufacture	25	75	100	4
Course- III	Apparel Performance characteristics	25	75	100	4
Semester II					
Course – IV	Elective (Any one)	25	75	100	4
	I. Textile Economics II. Textile Marketing III. Biotech Textiles				
	Dissertation and Viva-Voce Viva Voce 50 marks Dissertation 150 marks	200(150+50)			8

QUESTION PAPER PATTERN (Course I – IV)

Part A: One question "Either OR" from each unit. Each question carries 6 marks (5 x 6 = 30 marks)

Part B: One question from each unit. Each question carries 15 marks. The candidate has to answer three questions out of five questions (3 x 15 = 45 marks).

BHARATHIDASAN UNIVERSITY, TIRUCHIRAPPALLI - 24

M.Phil. Apparel and Fashion Technology

(for students admitted from the Academic year 2007 - 2008 onwards)

Eligibility: PG in Textiles and Clothing OR

PG in Textiles and Fashion Apparel OR

PG in Fashion Technology and Costume Designing OR

PG in Costume and Fashion Designing OR

PG in Bio-Textiles OR

Any other PG programme equivalent to the above discipline

SEMESTER - I
COURSE – I – TECHNICAL TEXTILES

Unit I

Introduction: definition and scope of technical textiles - Technical fabric structure - woven non-woven with special reference to different types of bonding.

Unit II

Geo Textiles: Geo Synthesis, Essential properties of Geo Textiles, Applications of Geo Textiles, Natural fibre Geo Textiles for soil strengthening, Frictional resistance of Geo Textiles, Standards for Geo Textiles.

Unit III

Medical and Survival textiles: Fibers used - Non implantable materials, Implantable materials, Heath care and hygience, Properties, Textiles for tents, helmets, gloves, Sleeping bag, Survival bags and Suits.

Unit IV

Textiles in transportation: Textiles in Cars, Textiles in other road vehicles, Rail application, Textiles in aircraft, Marine application, Future prospects.

Unit V

Textiles in defence: Textiles for environmental, Protection, Thermal insulation materials, Camouflage concealment and deception, Flame and Heat protective textiles, Ballistic protective materials, Protection, Intelligent textiles-use of Wearable electronics.

REFERENCES:

1. Horrocks, A.R. and Anand, S.C., Handbook of Technical Textiles, The Textiles Institute, Wood Head Publishing Ltd., England, 2000.
2. Rigby, A.J. and Anand, S.C., Non-wovens in Medical and Healthcare Products, Technical Textiles, Int., 1996.
3. Pandy, S.N., Potential for the use of Natural Fibres in Civil Engineering, Jute Technological Research Laboratory.
4. Ranganathan, S.R., Jute Geo Textiles in Soil Erosion Control, Jute Technological Research Laboratory.

SEMESTER – I

Course – II - COMPUTER AIDED APPAREL MANUFACTURE

Unit I

Fabric designing – Sketching, point paper preparation, card punching, lacing – weaving.

Unit II

Computer aided Pattern Design, Grading and Lay Planning System and Fashion Design System:

Introduction to graphic interface of the software – Different types – Tools and functions used for pattern making, grading and marker planning – Digitizing – Lay planning system – Manipulating techniques.

Unit III

Marker Making with Cam and Cutting:

Feature of a marker, lay planning, duplicating, fabric consumption, marker efficiency, plotters – Flat bed plotter, drum plotter, computerized bulk cloth spreaders, control and cutting.

Unit IV

Computerised Sewing:

Computer controlled sewing machines, Embroidery machines- Designing, transferring, controlling and working.

Unit V

Automatic Work Station:

Selection of line – Station control system – Centralized control system- Operation data base – Style data base - Operation efficiency. Automatic Material handling and storage system.

TEXT BOOKS:

1. Patrick Taylor, “Computer in the Fashion Industry”, Published by Heinernann Professional Pub, London, 1990.
2. Alison Beazley and Terry Bond, “Computer Aided Pattern Design and Product Development”, Blackwell Publishing, UK, 2004.

REFERENCES:

1. Sigmon.D.M and Grady.P.L, Winchester.S.C, "Computer Integrated Manufacturing & Total Quality Management", Textile Institute Publication, 1998.
2. "Computers in the world of Textiles", The Textile Institute, 1984.
3. Buchman. G.A., Grady. D.R., Latimer Trend P.L. "Automation in the Textile Industry from Fiber to Apparel", Berkstresser III., Textile Institute, 1995.

SEMESTER – I
COURSE - III
APPAREL PERFORMANCE CHARACTERISTICS

Unit I
Transmission Characteristics:
Air permeability, heat transmission - thermal resistance, warmth, Moisture transmission - water permeability, wicking. Radio activity transmission.

Unit II
Transformation Characteristics: Crease resistance / recovery, crock resistance, dimensional stability - hygral expansion, relaxation shrinkage swelling shrinkage and felting shrinkage.
Pilling, scorching, soiling, flame retardance, fusing, mildew resistance.

Unit III
Aesthetics: Colour, colour fastness, shade variation and measurement. Standards for testing.

Unit IV
Fabric Handle and Comfort: Bending, Drape, Compression, Tensile, Shear, Friction, Bias extension, Formability, Tailorability, objective evaluation of fabric hand by KES and FAST.

Unit V
Development of Apparels For Specific End uses: sports wear, casual wear, swim wear, winter wear, summer wear and inner wear, Protective wear – bullet and ballistic proof, fire and heat resistant, water resistance, biological resistance, UV protection and camouflage concealment and deception.

TEXT BOOKS:

1. Saville B.P, Physical Testing of Textiles, The Textile Institute, Wood head publishing limited, Cambridge, 1999.

REFERENCES:

1. Ed. Postle R., Kawabata.S and Niwa M., "Objective Evaluation of Fabrics", Textile Machinery Society, Japan, Osaka, 1983.
2. Miller.E "Textiles: Properties and Behaviour in Clothing use", Textile Institute, 1998
3. Ukponmwan.J.O, "The Thermal-Insulation Properties of Fabrics", Textile Institute, 1998.

SEMESTER – II
COURSE – IV - ELECTIVE – I
TEXTILE ECONOMICS

Unit I

The Textile Industries of India: Importance of the Textile industry, Textile industry of India-cotton, jute, silk, wool rayon and synthetic industries, exports and imports of textile fibres, yarns and fabrics, Problems.

Unit II

Garment Industry: Readymade garment industry - origin, development present status exports and imports of readymade garments.

Unit III

Hosiery Industry: Hosiery industry, origin - development and recent status - Export and import of Hosiery goods.

Unit IV

Allied Industries: Industries related to textile, Paper, Coir, Chemical Dye and Textile machinery, Organisation of the textile industry.

Unit V

Organisations and Associations related to Textiles Industry: Research Associations, Technological Institutions, Mills Associations, their role in promoting the growth of textile industries of India, cotton committee and its institutions, Export promotion councils.

REFERENCES:

1. Philip Kotter. Gray Armstrong, Principles of Marketing, Prentice State of India Pvt. Ltd., New De1hi, 2004.
2. Dr. Rustoms, S.Davat, Nustrs, R.Devar - Modern Marketing Management, 7th edition - Pub. Universal Book Stall, New Delhi, 1992.
3. Five year plants.

SEMESTER – II
COURSE – IV - ELECTIVE – II
TEXTILE MARKETING

Unit I

Apparel Marketing: Definition, Function of Marketing, Marketing concept, Marketing system, Marketing environment, Marketing tasks, Marketing mix.

Unit II

Apparel product planning and development: Product Planning And Development, Product innovation, Organisation for product innovation, New product, planning process, Manufacturer's criteria for new product, timing of new product, Product life cycle, product mix, Failure of new product, Product line policies and strategies, Factors influencing changes in product mix.

Unit III

Pricing for Apparels: Importance of price, Policies - Normal and market price - Functions of price, Pricing objectives, Price determination

Unit IV

Methods of setting price: Channels of distribution, Factors affecting the choice of distribution channels, Middle men, Wholesalers, Retailers, Retailing institutions.

Unit V

Marketing process survey: Study of marketing process, Regional Consumer behaviour, Advertising, Sales promotions, Distribution, Arrival of new products

REFERENCES:

1. George.E.Belch, Michael.B.Belch, Introduction to advertising and promotion - An Integrated Marketing Communication Perspective, 1995 Richard, Irwin, Inc.
2. Varma and Aggarwal, Advertising Management 1997, Kingsbood – Educational Publishers, Delhi.
3. Chuter. A.J, troduction to Clothing and Production Management, Om Books Services, New Delhi - 1995.
4. Darlie O'Koshy - 'Garment Exports' Winning strategies", Prentice Hall of India, 1997.
5. Darlie O'Koshy - Effective Export marketing of Apparels, Global Business Press - 1995.

SEMESTER – II
COURSE – IV - ELECTIVE – III
BIOTECH TEXTILES

Unit I: Introduction to biotechnology: Origin and history, development and application of biotechnology in Textiles.

Unit II: Introduction to enzymes, history of enzymes, Activity, Types and role of enzymes in Textile process.

Unit III: Bio finishes – Bio polishing – Bio desizing – Bio scouring, Bio bleaching, Bio degumming – anti microbial finish, anti fungal finish,

Unit IV: Testing of biotextile fabrics colourfastness test, effluent test, anti microbical tests, antifungical tets, standard for testing, Eco friendly tests and standards.

Unit V: Interactive Medical Technologies, arterial and capillary, contrast agent, blood cells, capillary circulation, pulmonary embolism, radio stope based bloodflow, design ultrasound, imaging, company, prefusion, microspeher, maxispehere, heart lung, Technology.

Reference:

1. Li. Y and Wong ASW, "Clothing biosensory Engineering", wood head publishing, Ltd., 2005
2. Van Langaenhove L. " Smart Textiles for medicine and Health care matearilas, Systems and applications", Woodhead Publishing ltd. 2005.