

B.TECH FASHION TECHNOLOGY

SEMESTER - VII

19H701 RETAIL MANAGEMENT

3 0 0 3

RETAILING AND ITS ORGANISATION : Characteristics and functions, trends, types, retailing channels, international fashion retailer strategy, challenges in retail business. Organisation structures of fashion retailing - single unit specialty store, small department store, large department store, human resource management in retailing. (9)

CONSUMER BEHAVIOUR : Types and levels of consumer decision making. Factors affecting consumer decision making- consumer demographics, lifestyle, shopping attitude, perception, learning and behaviour. Consumer profiling and 'Retailment', customer relationship management. (9)

RETAIL LOCATION, DESIGN : Location — types, choice, location and site evaluation. Store layout— type, feature areas. Space planning – location of departments and merchandise, planograms, retail performance measures. Experiential retailing. (9)

MERCHANDISE MANAGEMENT AND ANALYTICS : Components of merchandise management — Merchandise planning - Inventory turnover. Sales forecasting - Collaborative planning forecasting replenishment (CPFR), merchandise mix, merchandise budget plan for fashion merchandise. Retail analytics — scope, ways for optimising marketing, operation and merchandising decision. Analysing merchandise performance – ABC analysis, sell-through analysis, multi attribute method. (9)

RETAIL PRICING AND LATEST TRENDS IN RETAILING : Retail pricing- Pricing strategies, pricing on internet. Consumer responsiveness to prices. Latest trends - ethics and social responsibility, consumerism, subscription retailing, omnichannel retailing. E-Tailing - Scope, online retail categories, pitfalls, successful business models, security problems and solutions. (9)

Total L: 45

TEXT BOOKS:

1. Chetan Bajaj, Rajnish Tuli, Nidhi V Srivastava , "Retail Management", 3rd Edition, Oxford University press, New Delhi, 2016.
2. Michael Levy, Barton A Weitx, Dhruv Grewal , "Retailing Management", 9th Edition, McGraw Hill education, India, 2013.

REFERENCES:

1. Ellen Diamond , "Fashion Retailing: A Multi-Channel Approach", Pearson education, India, 2007.
2. John Fernie, Suzanne Fernie, Christopher Moore , "Principles of Retailing", Reed Elsevier India, New Delhi, 2007.
3. Margaret Bruce, Christopher M Moore, Grete Birtwistle , "International Retail Marketing - A Case Study Approach", Reed Elsevier India, New Delhi, 2006.
4. Bernadette Tieman , "E-Tailing", Dearborn Financial publishing, Chicago, 2000.

19H702 SCIENCE OF CLOTHING COMFORT

3 0 0 3

FUNDAMENTALS OF CLOTHING SCIENCE AND COMFORT : Clothing science - importance and prospects. Clothing performance characteristics — comfort, durability, handle and tailorability. Clothing comfort - introduction, components, wearers attitude, internal and external factors. Comfort properties of textile fibres (9)

THERMAL COMFORT : Human thermal comfort; physics and physical phenomena. Heat transfer- effect of fabric properties. Moisture vapour permeability, liquid moisture permeability; absorbency, wettability, waterproof breathable fabrics, contact angle, moisture management. Air permeability; influencing factors, thermal degradation, thermal conductivity. (9)

HANDLE AND TAILORABILITY : Ideal fabric concept, fabric properties related to tailoring performance. Fabric buckling and formability. Tactile comfort - fabric handle attributes, influencing fabric parameters. Effects of fibre, yarn and fabric properties, dyeing and finishing treatments on handle and tailorability. (9)

PHYSIOLOGICAL AND PSYCHOLOGICAL COMFORT : Concepts of physiological clothing comfort- Factors affecting garment fit and comfort; air gap thickness, garment ventilation, fluctuating microclimate in loose-fit garment, garment fit and pressure sensation. Psychological comfort - introduction, influencing factors. Effects of colour, surface texture, garment design, sizing and fit. (9)

DIMENSIONAL STABILITY : Introduction. Hygral expansion, relaxation shrinkage, swelling shrinkage and felting shrinkage. Shrinkage in knitted fabrics, stretch and recovery properties of fabrics. (9)

Total L: 45

TEXT BOOKS:

1. Das A and Alagirusamy R , "Science in clothing comfort", Wood head publishing Limited,, England, 2010.
2. Fan J, Yu W, and Hunter L , "Engineering apparel fabrics and garments", Wood head Publishing Limited, Cambridge, 2009.

REFERENCES:

1. Fan J, Yu W, and Hunter L , "Clothing appearance and fit: Science and technology", Wood head Publishing Limited, Cambridge, England,2004.
2. Saville B.P , "Physical Testing of Textiles", The Textile Institute, Wood head Publishing Ltd, Cambridge, 1999.
3. Li.Y and Wong A S W , "Clothing biosensory engineering", Wood head publishing Limited, Cambridge, England, 2006.
4. Guowen song , "Improving comfort in clothing", Wood head Publishing Limited, Cambridge, 2011.

19H710 VIRTUAL GARMENTING LABORATORY**0 0 4 2****PERFORMING THE FOLLOWING EXPERIMENTS USING 3D SIMULATION SOFTWARE :**

1. Introduction to Software used for 3D simulation.
2. Creating an avatar using body measurement for men, women and children.
3. Development of specification sheet from the parametric mannequin
4. 3D Simulation of leotards
5. 3D Simulation of women's shirt and fit analysis using created avatar.
6. 3D Simulation of trouser, fit analysis and pattern alteration using 2D modification tools.
7. 3D Simulation of women's blouse with darts, fit analysis and pattern alteration using 2D modification tools.
8. 3D Simulation of circular skirt with pleats and pencil fitted skirt with slit, fit analysis and pattern alteration using 2D modification tools
9. Visual effects simulation , fabric and texture.
10. Visual effects simulation , seams and derived elements.
11. Visual effects simulation , logos, print and embroidery
12. Analyzing the influence of fabric low stress mechanical properties on fit of the garment

Total P: 60**REFERENCE:**

1. Department of Fashion Technology , "Virtual Garmenting Laboratory Manual", Coimbatore, 2019.

19H711 APPAREL PRODUCT DEVELOPMENT LABORATORY**0 0 4 2****RE-ENGINEERING AND PRODUCT DEVELOPMENT :**

1. Analysis of given sample and interpretation of technical specifications.
2. Analysis of fabric and construction parameters and sourcing/production of similar fabric.
3. Evaluation of fabric finishes / surface embellishments/ prints/ wash details/ and development of similar fabric.
4. Re-engineer the sample and preparation of operation bulletin, standard minute values, machine layout.
5. Development /sourcing of accessories and trims.
6. Pattern development and grading.
7. Reproduction of sample.
8. Analysis and reproduction/sourcing of packing materials/methods.
9. Costing of the garment.
10. Development of technical specification sheet.

Total P: 60**REFERENCE:**

1. Department of Fashion Technology , "Product development Laboratory manual", Coimbatore, 2019.

19H712 IN - PLANT TRAINING AND PRESENTATION**0 0 2 1****REPORT PRESENTATION :**

Reports are to be presented based on the observations of the students after the industry visits with their personal comments / suggestions.

Total P: 60

19H720 PROJECT WORK I

0 0 4 2

1. Identification of a real life problem in thrust areas
2. Finalisation of system requirements and specification
3. Proposing different solutions for the problem based on literature survey
4. Future trends in providing alternate solutions
5. Consolidated report preparation

Total P: 60

SEMESTER - VII

19H820 PROJECT WORK II

0 0 8 4

PREPARING A PROJECT - BRIEF PROPOSAL INCLUDING

- Problem Identification.
- A statement of system / process specifications proposed to be developed (Block Diagram / Concept tree)
- List of possible solutions including alternatives and constraints.
- Cost benefit analysis
- Time Line of activities.

A REPORT HIGHLIGHTING THE DESIGN FINALIZATION [BASED ON FUNCTIONAL REQUIREMENTS & STANDARDS (IF ANY)]

A PRESENTATION INCLUDING THE FOLLOWING:

- Implementation phase - (Product / Process / both) Testing & Validation of the developed product Learning in the Project

CONSOLIDATED REPORT PREPARATION

Total P: 120

PROFESSIONAL ELECTIVES

19H001 FUNCTIONAL APPARELS AND CLOTHING

3 0 0 3

SMART APPARELS : Functional design of textiles, Properties — structural, aesthetic, functional and their advantages, comfort and fit, Smart manufactured fibres: properties, production techniques, application, phase change materials, shape memory polymers. Body sensor: moisture management, heat and moisture transfer properties, heat and pressure receptors. Smart clothing: design requirements for therapeutic, bio-sensing, emergency care and rehabilitation activities. (9)

PROTECTIVE WEAR : Protection against rain, heat, hazardous chemicals, cold, snow, wind and insect: material selection, finishing treatments. Clothing requirements for soldiers, fire service personnel. Protection against knives and other weapons, Clothing requirements for ballistic protection. Design requirements, factors and norms influencing protective gloves, masks, helmet, respiratory devices, eye glasses and shoes. Garment construction parameters; accessories used and ergonomic considerations. (9)

MEDICAL WEAR : Classification of medical textiles and their functions, characteristics of fibre/ yarn / fabrics for implants and non-implants, design and development of healthcare and hygiene products. Specific requirements and application of bio compatible materials, composites, non-woven hygienic products. Application: compression garments, surgical gowns, sutures, surgical dressing, tissue engineering. Specialty finishes for various medical garments. (9)

SPORTS WEAR : Current sportswear market, sustainable key features in sportswear design, clothing requirements, functional fibers, yarns and fabrics used, properties, application, principle of aero-dynamics and body movements, design requirements: yoga wear, gym suits, trekking and running wears. Biomechanical engineering of sports bra & compression stockings. (9)

FUNCTIONAL DESIGN OF SPORTS WEAR : Comfort and fit requirements for sportswear, design of moisture management fabrics, heat and moisture vapour transmission characteristics, specialty fabrics, use of accessories, clothing requirements, functional design of sport footwear, application of composites, quality standards and evaluation methods. (9)

Total L: 45

TEXT BOOKS:

1. Xiaoming Tao , "Smart fibres, Fabrics and Clothing", CRC, UK,2005.
2. Anand S.C., Kennedy J.F. Miraftab M. and Rajendran S. , "Medical Textiles and Biomaterials for Health care", CRC, UK, 2006.

REFERENCES:

1. Adanur S , "Wellington Sears Handbook of Industrial Textiles", Technomic Publishing Inc, 1995.
2. Sanjay Gupta , "Smart Textiles — Their Production and Marketing Strategies", Bhumica Printers, NewDelhi, 2000.
3. Tao X , "Smart Fibers, Fabric and Clothing", Textile Institute, 2001.
4. Richard A Scott , "Textiles for protection", The Textile Institute, England,2005.

19H002 HOME TEXTILES**3 0 0 3**

TEXTILE FURNISHINGS : Market potential. Furnishings materials: types - woven, non-woven, knit. Manufacturing concepts — damask, brocade, organdy, chiffon, oxford, tapestry. Textile surface design- basic techniques. Finishes types, applications. (9)

FLOOR COVERINGS : Types - soft floor coverings: selection factors, carpet — types, properties, laying procedure; rugs: types - accent rug, scatter rug; maintenance and care. Manufacturing concepts: machine made carpet — cut pile, wilton; handmade rug –turkish, persian. (9)

WINDOW DRESSINGS : Types — doors, windows. Window treatment — selection factors, types: draperies - fabric selection, material requirement; curtains — types, design, fabric selection; valence, swag. Drapery finishing — tucks, pleats. (9)

KITCHEN AND DINING ROOM FURNISHINGS : Kitchen furnishings- types, quality requirements. Fabric selection - dishcloth, hand towels, aprons, mittens. Dining furnishings - types, fabric selection and design concept –table cloth, skirt, fabric basket, runners, napkins. (9)

BED, BATH AND LIVING ROOM FURNISHINGS : Bed linens- types, fabric selection & design concept — sheets; blankets — cover; comforts — covers; duvets; mattress — covers; pillows — covers; bed spreads, bed skirts. Bath linens- types, quality requirements; fabric selection - towels, robes, bath rugs, maintenance and care. Living room furnishings - types, fabric selection & design concept- wall hangers; cushion- covers; upholsteries- cover; bolster- covers. (9)

Total L: 45**TEXT BOOKS:**

1. Brian. D Coleman , "Luxurious Home Interiors", Gibbs Smith Publication, Hong Kong, 2004.
2. Premavathy Seetharaman and Parveen Pannu , "Interior Design and Decoration", CBS Publishers and Distributors, New Delhi, India,2005.

REFERENCES:

1. Jay Diamond and Ellen Diamond , "Fashion Apparel, Accessories and Home Furnishings", Prentice Hall, New Delhi, 2007.
2. Katrin Cargill , "Simple Curtains", Ryland Peters and Small, London, 2002.
3. Wendy Baker , "Curtain and Fabric Selector", Collins and Brown, London,2000.

19H003 ERGONOMICS FOR CLOTHING INDUSTRY**3 0 0 3**

ERGONOMICS : Definition, history, standards, categories, types, micro-ergonomics and macro - ergonomics. Ergonomic conditions of work - Physiological, psycho-sociological, anthropometric and ecological conditions. (9)

ERGONOMIC PRINCIPLES : Ergonomic principles in designing : Workplace, handling material and tools, environment and determining working time. (9)

WORKPLACE DESIGN : Definition, human technological system, multidisciplinary engineering approach, human– machine system, manual, mechanical, automated system, human system reliability, conceptual design, advanced development, detailed design and development. (9)

ERGONOMICS IN WORKPLACE DESIGN : Applied anthropometry, workspace design and seating, arrangement of components within a physical space, interpersonal aspects of work place design and design of repetitive task, design of manual handling task, work capacity, stress and fatigue. (9)

ERGONOMIC DESIGN OF WORKPLACE IN GARMENT INDUSTRY : Ergonomics work place in garment manufacture - Storage of textile materials, preparation, cutting room, sewing room, finishing room, garment warehouse and distribution, clothing store and maintenance workplaces. (9)

Total L: 45

TEXT BOOKS:

1. Gordona Colovic , "Ergonomics in the garment industry", Wood head publishing India Ltd, New Delhi, 2014.
2. Bridger R S , "Introduction to Ergonomics", Taylor and Francis, London,2003.

REFERENCES:

1. Parker S, Wal T , "Job and Work Design, Organizing Work to Promote Well-Being and Effectiveness", Sage Publications, California, 1998.
2. Mark S Sanders , "Human Factors in Engineering and Design", McGraw Hil, New York, 1993.
3. Stefan Trzcielinski, WaldemarKarwowski , "Advances in Ergonomics in Manufacturing", Taylor & Francis, US, 2012.
4. Campion M.A, Medsker G J , "Job design, Handbook of Industrial Engineering", John Wiley and sons Inc, Newyork, 2001.

19H004 LEATHER APPAREL TECHNOLOGY

3 0 0 3

LEATHER TANNAGES : Leather, hide, skin, types, components and structure. preservation techniques, pre tanning processes: soaking, liming, deliming, bating, and pickling. Types of tannages: vegetable, synthetic. Post tanning operations: neutralisation, fatliquoring, bleaching, dyeing and drying of leathers, combination tanned leather (9)

TYPES OF LEATHER : Special features and applications of different types of leather - E.I tanned leather, sole leather, wet blue leather, full chrome upper leathers, upholstery leathers, chamois leather, fashion garment leathers, utility glove leathers, picking band leathers, light, heavy and Industrial leathers, lining leathers, harness, belting and saddlery leathers, football, hockey ball, cricket ball and other sports goods leathers (9)

MACHINERIES, TOOLS AND EQUIPMENTS : Machineries used in leather processing: drum, sammying machine, shaving machine, splitting machine, setting machine, spray dyeing machine, embossing, ironing and measuring machines, Tools and equipments used in leather garment preparatory and manufacturing processes : gimping scissors, wooden & iron hammer, stone slabs, skiving and spitting machines, cloth cutting machines, industrial sewing machines, button hole & button stitching machines, ironing process, types of sewing needles and sewing threads. (9)

DESIGNING AND CONSTRUCTION OF LEATHER GARMENTS : Special care during pattern making, cutting and construction of leather garments. Fabrication of leather garments- principle of cutting components, type of stitching and attachment, sequence of operation for assembly of components, accessories used. Preparation of sectional patterns, pattern sets, arrangements of patterns to minimize wastage of leathers. Types of leather garments, Leather jackets –pattern and construction sequence, Shoe: parts, selection of leather, designing and fabrication of shoes, machineries. (9)

CHARACTERISTICS AND QUALITY CONTROL OF LEATHER GARMENTS : General properties of leather such as feel, texture, strength, elongation, comfort, rub resistance, uniformity of shades, defects in skin. Types of tests carried out, testing instruments and methods. In process and final process control of leather garments. Impact of leather processing on environment and remedial measures (9)

Total L: 45

TEXT BOOKS:

1. Dutta.S S , "An Introduction to the Principles of Leather Manufacture", Indian Leather Technologists Association, Calcutta, 2002.
2. Thomas C, and Thorstensen , "Practical Leather Technology", Krieger Publishing Company, USA, 2001.

REFERENCES:

1. Sandy Scrivano , "Sewing with Leather & Suede", Lark Books, New York, 2002.
2. Sarkar.K.T , "Theory and practice of leather manufacture", Macmillan India Press, Madras, 1997.
3. Somenath Ganguly , "Comprehensive Footwear Technology", Indian Leather Technologists' Association, India, 2005.
4. Dutta.S.S , "An Introduction to the Principles of Physical Testing of Leather", Indian Leather Technologists' Association, India, 1991.

19H005 DENIM GARMENT MANUFACTURING

3 0 0 3

YARNS AND FABRICS FOR DENIM : Overview of denim production, market potential, product varieties and ranges, manufacturers & brands, Yam: characteristics, pre-requisites, quality requirements and trouble-shooting. spinning, yarn dyeing and sizing. Lycra: properties, yarn parameters influencing denim manufacturing. Fabric: characteristics, types, fabric parameters, factors influencing denim manufacturing, fabric faults, manufacture of lycra denim, knit denims. (9)

DENIM PROCESSING : Dyes: properties and characteristics, conditions, requirements & chemistry of dyeing. Machineries: types, process variables and parameters, factors to be considered. Precautions & developments, assessment of dyed fabrics, Finishing: permanent press, preshrinking, integrated finishing and shrinking range, sanforizing, pre-drying, ammoniation & skewing, speciality finishes and novel effects, sustainable routes for denim processing. (9)

DENIM GARMENTING : Men's wear, women's wear, children's wear, style variations, construction sequence, sewing parameters, machineries used, special attachments, sewing thread specifications, factors influencing thread cost, seam & stitch parameters, trims, accessories, size & fit requirements, care labeling, fastening, pressing and inspection. (9)

DENIM WASHING : Process conditions, machineries, chemicals used for special effects: pumice stones, acid and enzyme wash, denim bleaching, biopolishing & biostoning, sand blasting, PP spray, grinding, whiskering, ozone and laser fading, Tinted denim, over dyed denim, reverse denim, pseudo denim, stretch denim, peach skin effect, quick wash denim, vintage wash, enzyme- soda wash, dextrose- caustic wash, sueding wash, golf ball wash, tie 'n' wash, marble wash and crush finish. Inspection. (9)

ADVANCES IN DENIMS : Future scope and challenges, novel denims, sustainable practices adopted by leading denim brands in their supply chain; use of circular economy in denim manufacturing; energy conservation techniques used in denim manufacturing, coating and embossing techniques applied on denims, 3D effects using resins, staining effects, patch and repair. (9)

Total L: 45

TEXT BOOKS:

1. Satsangi S S & Jai Prakash, Parmar M S , "Denim — A fabric for all", NITRA, Ahmedabad, 1996.
2. Li Y, "Denim Apparel Design, Manufacture and Finishing", CRC, UK, 2005.

REFERENCES:

1. Michael Harris , "Jeans of the Old West- A History", SCHIFFER, 2010.
2. Paul Trynka & June Marsh, Graham Marsh , "Denim: From Cowboys to Catwalks: A History of the World's Most Legendary Fabric", SAMURAI, 2005.
3. Emily Current & Meritt Elliott , "A Denim Story- Inspirations from bellbottoms to boyfriends", Fairchild, 2014.

19H006 SPECIALTY FABRICS AND TECHNOLOGY

3 0 0 3

SPECIALITY TEXTILES : Scope, fibres, yarns and fabric selection for manufacturing of speciality textiles. Fancy yarns: manufacturing concept, properties & applications - spun, spiral, diamond, gimp, chenille, cloud, knop, loop, snarl, spiral stripe. coloured yarns: solid shades, mixture shades, mixing in drawing. (9)

NARROW WIDTH FABRICS : Narrow width fabrics: material used, process of manufacture of narrow width fabrics using crochet machines, needle loom and double needle bed warp knitting machines- narrow width products: different types of tapes, laces, elastic, ribbons, labels and its properties. speciality colored yarns: twist shades, single marl, half marl and double marl. (9)

KNITTED & BRAIDED FABRICS : Weft knits: fleecy fabrics, plush structures and high pile fabrics. Warp knits: directionally oriented structures — weft insertion, co-we-knit. String vests, waffle fabrics. Braided Fabrics: classification – circular and flat braids – production techniques, properties and applications. (9)

INTERLININGS : Woven, knitted and non-woven interlinings-Interlinings for shape and support, stabilizing/stiffening, providing bulk. Requirements of fusing interlinings to garments, factors determining the properties of the fused laminate; the base fabric of the interlining, the type of fusible resin, method of applying resin to base cloth, the means of fusing (time, temperature and pressure), fusing equipment, methods of fusing, quality control in fusing. (9)

COATING TECHNOLOGY : Coating by direct method - foam finishing - foamed and crushed foam coating - transfer coating - coagulated polyurethane coating - ball licking roller technique - hot melt extrusion coating - calendar coating - rotary screen coating - fabric impregnation method. (9)

Total L: 45

TEXT BOOKS:

1. Russel.S , "Handbook of Nonwovens", 1st Edition, The Textile Institute Publication, Manchester, 2004.
2. McKenn H A, Hearle J W S, Hear NO , "Handbook of fibre rope technology", 1st Edition, Wood head publishing, Cambridge, 2004.

REFERENCES:

1. Walter Fung , "Coated and Laminated Textiles", 1st Edition, Wood head publishing Limited, Cambridge, 2000.
2. Harold Carr, Barbara Latham , "The Technology of Clothing Manufacture", 1st Edition, Blackwell Science, Oxford, 2002.

19H007 LEAN MANUFACTURING OF APPARELS

3 0 0 3

LEAN MANUFACTURE : Objectives, key principles and implications, traditional manufacturing Vs lean manufacturing, benefits. Concepts - Value creation and elimination of waste, pull production, continuous improvement , standard work.

Group Technology: Production flow analysis, cellular manufacturing system. (9)

TOOLS & METHODOLOGIES : Visual controls, 5S principles, total quality management (TQM), total productive maintenance (TPM), preventive maintenance, overall equipment effectiveness (OEE), mistake proofing, root cause analysis — fishbone diagram, takt time, 5 M's and 5 whys techniques, quick changeover/set-up time reduction, line balancing, kanban, lean six sigma. Case studies. (9)

VALUE STREAM MAPPING : Definition, purpose, symbols, current state map, and the future state map, steps involved in implementation process — goal setting, team formation, selection of process, data collection and current state map, analysis of current state map, mapping future state, creation of action plan and deployment, measurement of benefits. Case studies. (9)

JUST IN TIME MANUFACTURING : Concept, history and philosophy, main elements, characteristics, JIT-Demand pull logic, traditional systems vs JIT, benefits, steps involved in implementation process — top management commitment, steering committee, education programme, pilot project planning, employee training, pilot implementation, evaluation of the results, feedback to steering committee. Case studies. (9)

IMPLEMENTATION : Road map, senior management involvement, barriers, challenges, strategies, lean implementation process—cultural change, evaluation of the present state, educational evaluation, documentation of current conditions, redesign to reduce wastes, determination of goals, kaizen implementation and evaluation, best practices in apparel industry -case studies. (9)

Total L: 45

TEXT BOOKS:

1. Askin R G and Goldberg J B , "Design and Analysis of Lean Production Systems", John Wiley and Sons Inc, US, 2003.
2. Micheal Wader , "Lean Tools: A Pocket guide to Implementing Lean Practices", Productivity and Quality Publishing Pvt Ltd, Chennai, 2002.

REFERENCES:

1. Joseph A De Feo, William W Bearnard , "Juran Institute's Six Sigma Break Through and Beyond", Tata McGraw- Hill, New Delhi, 2004.
2. Colovic.G , "Management of technology systems in garment industry", Woodhead Publishing, India, Pvt Ltd, New Delhi, 2010.
3. John.W.Davis , "Lean manufacturing: implementation strategies that work: a roadmap to quick and lasting success", Industrial Press Inc, New York, 2009.
4. Bill Carreira , "Lean Manufacturing That Works: Power Tools For Dramatically Reducing Waste and Maximizing Profits", Prentice Hall of India, New Delhi, 2007.

19H008 APPAREL SIZE AND FIT ANALYSIS

3 0 0 3

HUMAN ANTHROPOMETRICS : Ergonomics in design of clothing. Anthropometry - selection of anthropometric data for clothing design, errors and variability in anthropometric data, selection of anthropometric design approach. Anthropometric methods - traditional and 3 dimensional methods, International standards, land marking, body measurement devices and techniques. Bodyscanning—operations, applications. (9)

ANALYSIS OF SIZING AND SHAPE REQUIREMENTS : Body shape analysis - classification of body shapes, characteristic figure differences, posture types, figure types- vertical and horizontal. Sizing and shape requirements children, male, female, old age, pregnant, footwear and intimate wears. (9)

SIZING SYSTEMS AND SIZE STANDARDISATION : Existing sizing systems- strength and weakness. Size categories - men's, women's and children's wear. Sizing system development- importance, size and shape surveys, anthropometric analysis, size analysis, key or control measurements, developing and validating sizing system, statistics used in sizing system development, apparel size designation and labeling. (9)

TESTING AND EVALUATION OF FIT : Fit -Definition, importance, standards, influences of clothing fit. Methods of testing fit- fit models, fitting futures, measured methods, pinned pattern / tissue methods, trial garment, guide to fitting problems. Evaluating fit - subjective, objective, rating scales, subjective fitting guide. Objective method- moiré optics, algebraic evaluation of clothing fit, clothing waveform, pressure evaluation of clothing fit , 3D modeling of pressure fit. Alternative methods for evaluating fit- using structural line, grain line, wrinkles, pinch test, inside measurement. (9)

INFLUENCE OF MATERIAL AND MOVEMENT ON FIT : Human performance in clothing system, wearing comfort — interaction between body motion and clothing as a shell, fit and allowance for comfort and wearability, thermal aspects of fit, effect of materials on fit and sizing, non stretch materials, stretch materials, fit assessment. (9)

Total L: 45

TEXT BOOKS:

1. Deepti gupta, Norsaadah Zakaria , "Anthropometry, sizing and design", Wood head Publishing Limited, England, 2019.
2. FanJ, YuW, Hunter L , "Clothing Appearance and Fit", Wood head Publishing Limited, England, 2004.

REFERENCES:

1. Lynn Macintyre, Mary Tilton, "Easy Guide to sewing", Taunton press, USA, 2009.
2. Sandra Betzina, "Fast Fit-Easy pattern alterations for every figure", The Taunton Press, Singapore, 2003.
3. Ashdown S P, "Sizing in clothing-Developing effective sizing system for ready to wear", Wood head Publishing Limited, England, 2007.
4. Elizabeth Liechty, Judith Rasband, Della Pottberg-Steineckert, "Fitting & pattern alteration - a multi method approach to the art of style selection, fitting and alteration", II, Fairchild books, New York, 2010.

19H009 ADVANCED WEFT KNIT DESIGN TECHNOLOGY**3 0 0 3**

JACQUARD KNITTING : Weft knit patterning — objective, techniques. Jacquard- classification, weft knit pattern — needle selection devices, variable butt length needle, circular knitting machine - multi cam track; design selection for repeat - arrangement of selection area; pattern wheel — distribution of design. Electronic jacquard — pattern preparation systems. (9)

JACQUARD STRUCTURES : Single jersey — hopsack inlay, patterned structures — single jersey - one cam track structures, two cam track structures, three cam track structures, four cam track designs. Double jersey — tunnel inlay. Jacquard fabrics — two colour - hounds tooth; three colour motif creation. Rib jacquard - color jacquard; stripped backing — horizontal and vertical - two colour, three colour. Bird's eye backing - two and three colour. (9)

SPECIAL WEFT KNIT STRUCTURES : Single jersey: fleecy—three thread fleecy— knitting action, 1:1, 3:1, 2:2, double fleecy; single jersey plush - knitting action, terry - single side and double side plush. Drop stitches — one needle, two needle. Double jersey: double jersey fleecy. Rib fabrics- pleated fabrics, blister fabric. Racking- striped design, checked design. Cable stitch — design creation, aran stitch- design creation. (9)

KNITWEAR TECHNIQUE : Knitwear production - classification, stitch shaped cut, fully fashioned; integral knitting - techniques: shape generation - widening and narrowing — types. Loop transfer — objectives - techniques. Welt — types. Fully fashioned blank production in flat knitting — cardigan, slip over - knitting plan. 3D shape production techniques. (9)

ADVANCED KNITTING: Seamless knitting - applications. Intarsia stitch. Plaited fabrics - requirements, weft laying- in, 3D spacer fabrics - production principle — circular, flat knitting. Digital patterning: CAD, basic stitches –plain stitch, float stitch, tuck stitch, transfer stitch. Basic structure — plain jersey, rib, interlock and purl. (9)

Total L: 45**TEXT BOOKS:**

1. David J. Spencer, "Knitting Technology - A comprehensive handbook and practical guide", Third edition, Pergamon Bros., Oxford, 2001..
2. Sadhan Chandra Ray, "Fundamentals and Advances in Knitting Technology", Second Edition, Woodhead Publishing India Pvt. Ltd, New Delhi, India, 2012.

REFERENCES:

1. Ajgaonkar D B, "Knitting Technology", Universal publishing corporation, Mumbai, 1998.
2. Anbumani N, "Knitting—Fundamentals, Machines Structures and Developments", New age International publishers, India, 2006.

19H010 APPAREL WORK STUDY**3 0 0 3**

WORK STUDY : Definition, procedure, techniques, data needed: raw material data, equipment data, job condition and working condition. Importance of work study application in apparel manufacture. (9)

PROCESS ANALYSIS : Purpose, procedure, various types of process charts and diagrams-application areas in apparel manufacture, development of standard operating procedure (SOP), case studies. Operation analysis: Objectives, procedure, operation chart, check sheet, case studies. (9)

MOTION ANALYSIS : Purpose, principles of motion economy — application areas in apparel manufacture, two handed process chart- procedure, examples from sewing operations. Micro motion analysis: Therbligs, equipments, procedure, development of SIMO chart for sewing operations. Evaluation of motion study data, principles for improving operation method — cutting, sewing, pressing and packing. Scientific method of training, learning curve. (9)

WORK MEASUREMENT : Definition, procedure, techniques - time study, work sampling, predetermined time standards, standard data—general sewing data (GSD). Comparison between work measurement techniques. (9)

STANDARD TIME ESTABLISHMENT& APPLICATIONS : Calculation of standard allowed minute (SAM) in apparel manufacture : Time study technique— cutting, sewing, pressing and packing operations; PMTS technique - sewing operations; Work sampling- sewing operations and Standard data - general sewing data (GSD). Applications of work measurement in

apparel manufacture.

(9)

Total L: 45

TEXT BOOKS:

1. Ralph M. Barnes , "Motion and Time Study Design and Measurement of work", John Wiley & Sons, Inc, New York, 2002.
2. Jacob Solinger , "Apparel Manufacturing Handbook, Analysis, Principles and Practice", Boblin Media Corp, Columbia, 2000.

REFERENCES:

1. George Kanawaty, ILO , "Introduction to Work study", Universal Publishing Corporation, Mumbai, 2005..
2. Chuter A J , "Introduction to Clothing Production Management", Blackwell Publishing, Oxford, UK, 2007.
3. V.Ramesh babu , "Industrial engineering in apparel production", Woodhead publishing India Pvt Ltd, New Delhi, 2011.
4. Kiell. B.Zandin , "Maynard's "Industrial Engineering Hand Book", Mc Graw Hill, Inc, New York, 2001.

19H011 DRY PROCESSES FOR TEXTILE AND APPAREL INDUSTRY

3 0 0 3

DRY PROCESSES: Need and significance, problems in conventional wet processing, importance in current scenario, Dry technologies: Classification, application, outcomes and challenges, techno-economic benefits, availability of commercial scale of dry technologies in processing, merits and limitations. (9)

WATER-FREE DYEING: Need and scope of supercritical carbon-di-oxide dyeing, microwave and foam dyeing techniques. Supercritical carbon-di-oxide dyeing: Working principle, process parameters, salient features, influencing factors, energy saving techniques, techno economic benefits. Concepts related to foam dyeing techniques, micro-wave and ultrasonic assisted dyeing processes. (9)

DRY FINISHES FOR DENIMS: Scrapping, Use of laser in denim: Design development by laser fading, laser cutting and torn effect. Whiskering: Thigh, knee and hip, Tacking & grinding, patch and repairs along with bleach parts, 3D effects using laser techniques and light PP spray. (9)

NANO TECHNOLOGIES: Significance, various methods of manufacturing nano materials and their characterization, Nano-finishes - Super hydrophobicity and lotus effect, self cleaning, UV protection, Antimicrobial finishing, modern application of nano-technology in textile and apparel industry, economic and environmental benefits of nano-technology in textile processing. (9)

PLASMA TECHNOLOGIES: Types of plasma and their generation, Plasma treatment of textile for water and oil repellency, plasma dyeing techniques: Principle, merits and application. Interfacial engineering of functional textiles for biomedical applications, plasma modification of wool, plasma modification of natural cellulosic fibers, characterization of plasma treated textiles, Effect of plasma treatment on different fabric surface, plasma treatments for synthetics. (9)

Total L: 45

TEXT BOOKS:

1. Panda H, "Modern Technology of textile dyes and pigments", NIIR Project Consultancy Services, 2016.
2. Clark M, "Handbook of textile and industrial dyeing –Principles, Processes and Types of Dyes", Woodhead Publishing Ltd, UK, 2011.

REFERENCES:

1. Parthiban M., Srikrishnan M.R. & Kandhavadi P., "Sustainability in Fashion and Apparels- Challenges and Solutions", WoodHead Publishing India (P) Ltd, 2017.
2. Tobler –Rohr M I, "Handbook of Sustainable Textile Production", Woodhead Publishing Ltd, UK, 2011.
3. Padma S Vankar, "Handbook on Natural Dyes for Industrial Applications", NIIR Project Consultancy Services, 2011.
4. Subramaniam Senthilkannan Muthu, "Handbook of Sustainable Apparel Production", Woodhead Publishing Ltd, UK, 2015.

19H012 ARTIFICIAL INTELLIGENCE & INTERNET OF THINGS IN TEXTILES AND FASHION

3 0 0 3

INTERNET OF THINGS & ARTIFICIAL INTELLIGENCE: IoT – Introduction, Components and protocols, Difference between AI and IoT, Need and scope of AI & IoT in textile and apparel industry. Building blocks of Internet of Things: IoT devices, interfacing tools, sensing, actuation and communication, networking components, internet protocols, Data capturing systems, IoT application layers. Artificial Intelligence: Definition of AI, Blocks and Architecture of AI, Types of AI, Importance of AI in textile and fashion industry, Prediction analysis, Textile and Apparel Industries using AI and Ethics in AI. *Self study-Types of Sensors and actuators* (9)

ROLE OF INTERNET OF THINGS IN TEXTILES: Internet of Things for spinning, weaving and processing. Manufacturing execution systems for Textiles. Scope of IoT innovations: E-Textiles, Automated monitoring and streamlined operations using

IoT for textile factories, Equipment maintenance, Weaving and embroidery machines efficiency and exiting loading of products, Challenges and future scope. (9)

ROLE OF INTERNET OF THINGS IN APPARELS: Virtual sampling tools for apparel product development, Digital and 3D printing, E-commerce, Virtual Reality, Challenges and opportunities in context of open manufacturing and industrial internet of things in apparel industry, Sustainable and flexible industrial human machine interfaces to support adaptable applications in the industry 4.0 paradigm, IoT based smart wearable garments. (9)

Self Study: Application of Garment IO's cloud based software training and assessment

ARTIFICIAL INTELLIGENCE(AI) FOR TEXTILE MANUFACTURING: 3D fibre-yarn models, AI based fabric pattern inspection systems, Defect identification systems for yarns and fabrics: weaving, knitting, braiding, finishing and printing, AI tolerance for fabric color matching, AI P/F procedure for dyed samples, novel method of fabric wrinkle measurement based on image processing, future trends. (9)

Self Study: Mini projects using AI systems

ARTIFICIAL INTELLIGENCE FOR APPAREL INDUSTRY: AI algorithms for analyzing design, patterns based on styles, AI in fashion designing, AI for fashion forecasting, Automation in garment production: Process control and online monitoring: spreading, cutting, sewing and material handling, ANN for conceptualization, design development, PPC, spreading, cutting, bundling, sewing, pressing, and packaging. AI in fashion manufacturing, supply chain & fashion Store, AI in fashion retailing, AI in fast fashion, AI Fashion Stylist, Visual search model and AI for customized applications (9)

Self Study: Mini projects using AI systems

Total L: 45

TEXT BOOKS:

1. Amita Kapoor, "Hands-On Artificial Intelligence for IoT", Paperback Publications, Jan 2019.
2. Rajkishore Nayak and Rajiv Padhye, "Automation in Garment Manufacturing", Elsevier Publications, Kindle Edition, 2017.

REFERENCES

1. Artificial Intelligence on fashion and Textiles, "Proceedings of the Artificial Intelligence on Fashion and Textiles (AIFT) Conference 2018", Hong Kong, July 2018
2. Bruce Sinclair, "How to Use IoT to win in the Outcome Economy", IoT Incorporation, May 2017.
3. David Hanes, Gonzalo Salgueiro, Patrick Grossetete, Rob Barton and Jerome Henry, "IoT Fundamentals: Networking Technologies, Protocols and Use Cases for Internet of Things", Cisco Press, 2017.
4. ArshdeepBahga, Vijay Madiseti, "Internet of Things – A hands-on approach", Universities Press, 2015.
5. Jan Holler, Vlasios Tsiatsis, Catherine Mulligan, Stamatis Karnouskos, Stefan Avesand. David Boyle, "From Machine-to-Machine to the Internet of Things – Introduction to a New Age of Intelligence", Elsevier, 2014.

19H021 FASHION PHOTOGRAPHY

3 0 0 3

PHOTOGRAPHY : Camera - history, parts and types. Photography tools - lens, filters, monopods, tripods, light meter, flash, power packs, camera bag, digital storage and accessories. Camera modes: manual settings - aperture, shutter speed and ISO; rule of thirds, compositions in photography, angle of view, shooting modes, white balance, depth of the field, Panning techniques (9)

LIGHTING: Lighting- direction and behaviours — front, side, back and top lights. Lighting — types of sources, type of lights - Key light, fill light, rim light, hair light, back light. Light direction and control techniques- direct light, diffused light, reflected lights. Tools in lighting —diffuser, umbrellas, soft boxes, snoots, barn doors, grids, flags, beauty dish, cobos and gels. Hard and soft lights, lighting ratio and its effects. Lighting styles — split light, catch light, loop light, rembrandt lighting, butterfly, broad, short, high and low key lighting. (9)

INDOOR & OUTDOOR PHOTOGRAPHY : Techniques and equipments, light set ups - single light, two, three, four and five point setups. Studio fashion shoots with models. Outdoor fashion shoot - technical issues. Outdoor photography: techniques and equipments, types and uses of sun lights- natural light, available light, methods of light modification on location. Shooting in direct sunlight, open shade, deep shade, use of flash and technical issues. (9)

PHOTO MANIPULATION TECHNIQUES : Technical retouching. Photo editing software - tools and their applications. Removal of skin blemishes, wrinkles, skin smoothening, eye colour change, hair colour change, teeth whitening, object colour change, background change. Creative retouching – methods, applications. (9)

PHOTOGRAPHIC STYLES : Importance of face shapes, body shapes. Posing and styling, body language — women, men, taking up space, standing poses, sitting poses, lying poses. Styling for fashion photography, difficult features and lighting. Photographic styles - High dynamic range, time laps, macro, multiple exposure, abstract, vintage, tilt- shift. (9)

Total L: 45

TEXT BOOKS:

1. Michael Langford , "Starting Photography", Focal Press, India, 2007.
2. Jeff Rojas , "Photographing Women - posing, lighting, and shooting techniques for portrait and fashion photograph", Rocky Nook Inc, CA, USA, 2016.

REFERENCES:

1. Eugénie Shinkle , ""Fashion as photograph: viewing and reviewing images of fashion", Palgrave Macmillan, England, 2008.
2. Olivier Gerval Richmond Hill , "Fashion: concept to catwalk", Firefly Books, USA, 2010.

19H022 GARMENT TRIMS AND ACCESSORIES

3 0 0 3

DECORATIVE TRIMS : Importance, classification, factors affecting choice of trims and accessories. Decorative trims: types, functions, material, cost, manufacturers and suppliers- appliques, laces, ribbons, tapes, webbings, cords, garment labels. (9)

CLOSURE TRIMS : Types, functions, material, cost, manufacturers and suppliers- buttons, buckles, clips, elastics, grommets, hook and eye, hook and loop, eyelets, frogs, rivets, snaps, velcro and zippers. Manufacturing techniques- synthetic buttons, zipper, velcro. (9)

SUPPORT TRIMS : Types, functions, material, cost, manufacturers and suppliers- collar stays, corsets, interfacing, interlining, linings, shoulder pads, sleeve heads, suspenders, underwire and waistbands (9)

CASUAL WEAR ACCESSORIES : Footwear, Belt, Handbag — types, materials, component parts, concept to construction, judging the fit, care instruction, brand and cost analysis. Jewellery — types, stone settings, production techniques. (9)

FUNCTIONAL ACCESSORIES : Eyewear – types and materials of frames and lens, cost. Scarves – material, types, cost. Gloves - component parts, construction, types. Hat — types, material, basic hat construction. Hosiery — material, types, application (9)

Total L: 45

TEXT BOOKS:

1. Jay Diamond and Ellen Diamond , "Fashion Apparel, Accessories and Home Furnishings", Pearson Prentice Hall, New Jersey, 2007.
2. Elaine Stone , "The Dynamics of Fashion", Fairchild Publications, New York, 2001.

REFERENCES:

1. Jennette A. Jarnow , "Inside the Fashion Business", Macmillan publishing, New York, 1999.
2. Gini Stephen Frings , "Fashion Concept to Consumer", Prentice Hall, New Jersey, 2004.
3. Harrold Carr and Barbara Latham , "Technology of Clothing Manufacture", Blackwell Scientific Publications, UK, 2000.

19H023 FASHION PORTFOLIO DEVELOPMENT

3 0 0 3

INSPIRATION, IDENTIFICATION AND CONCEPTUALISATION : Research, choosing a theme or concept, sources of inspiration, compiling the research - sketchbook, drawing, collage, juxtaposition, deconstruction, cross- referencing, analysis of research, conceptualizing the collection - mood board, story board and concept boards, the layout and composition, target market, trend analysis, silhouette, colour and texture. (9)

EXPLORATION : Researching textiles, designing textiles, textiles into production, materials - fibres and yarns, fabric construction — weave, knit and other forms of construction, non-fabric textiles, future fabrics, dyeing, finishing methods, surface treatments — print, embroidery and fabric manipulation, embellishments, colour and trend prediction, creating own fabric, designing custom textiles, tradeshow. (9)

DEFINITION/MODELING : Developing a collection –genre, line planning and range building, collections and their influences, types of collection, sketching and design drawing, drawing media for fashion, layout and composition, understanding the fashion figure, technical drawings, fashion rendering, CAD for fashion. (9)

CONCEPT TO PROTOTYPE : Sizing and measurements, pattern making, draping, construction — tools, equipments and techniques, toile, fittings and finishing, prototype sample, costing and pricing, fashion studio. (9)

COMMUNICATION : Fashion portfolio - introduction to portfolio building, idea storage bank, focused portfolios, specialized portfolios, digital and web-based portfolio, professional practice and presentation techniques. (9)

Total L: 45

TEXT BOOKS:

1. Karl Aspelund , "The Design Process", 3rd Edition, Fairchild Books, 2015.
2. Erin Cadigan , "Sourcing and Selecting Textiles for Fashion," , Fairchild books, 2013.

REFERENCES:

1. Simon Seivewright , "Basics Fashion Design 01: Research and Design", Fairchild Books, 2007.
2. John Hopkins , "Fashion Design: The Complete Guide", Fairchild Books, 2012.
3. Suzanne G Marshall, Hazel O Jackson , "Individuality in Clothing and Personal Appearance", Prentice Hall, New Jersey, 2000.
4. Harold Carr, John Pomeroy , "Fashion Design and Product Development", John Wiley and Sons Inc., New York, 1992.

19H024 FASHION DRAPING**3 0 0 3**

GARMENT DRAPING : Preparation of dummies and muslin for draping, padding, taping, balanced draping, COWLS: Deep cowl with bustier, pleated cowls, draped cowls from style lines, arm hole cowls. SKIRTS: Circular skirt with off set circle, wrapped skirt with asymmetric drape, side cowl skirt. PANTS: Baggy pant, jump suit, leotard. SLEEVES: Basic kimono, basic raglon sleeve, drop shoulder sleeve, yoke in one with sleeve, princess in one with the sleeve (9)

DRESS FOUNDATION AND DESIGNS : Draping and construction of basic shift and empire line dresses, princess dress, princess slip dress, panel dress, Basic tent foundation, tent with added flare. Bias cut dresses: Slip dress, bias dress with a twist top, knot — tie bias dress, criss cross bias dress, Halter style lines- halter with V neck line, torso halter, surplice, off shoulder designs (9)

STRAPLESS DRESS FOUNDATIONS : Draping and construction of princess dresses, bustier designs, gathered overlays, Strapless princess bodice, empire bra top torso, under garment construction, bustier/corset / waspie foundations, Gown with radiating drapery, Contour draping. (9)

TAILORED GARMENTS : Preparation of dress form, draping and construction of basic shirt, basic jacket, princess jacket, classic notched lapel jacket, double breasted jacket, Jacket with shawl collar. DRAPING OF KNITS: Draping and construction of Basic knit bodice, knit halter, knit leotard, Knit body suit, knit panties (9)

DRAPED STYLES : Twists, Bias cut dresses , peplum styles, cascade styles, Styles developed from extension beyond outer edges, slashing and lowering the grain, slashing and gathering, tying extensions into knots and bows, draping using geometric shapes. Vionnet, faux, draped tops, wrap and drape styles, draped party wears (9)

Total L: 45**TEXT BOOKS:**

1. Joseph-Armstrong, Helen , "Draping for Fashion Design", Fairchild Publications, New York,,2000.
2. Janice Mee and Michael Purdy , "Modeling on the dress stand", BSP Professional Books, Oxford University Press, 1999..

REFERENCES:

1. Connie Amaden Crawford , "The Art of Fashion Draping", Fairchild Publications, New York, 2005.
2. Shaeffer, Claire , "Sewing for the Apparel Industry", Prentice-Hall Inc, New Jersey, 2001.
3. Dawn Cloake , "Cutting and Draping Special Occasion Clothes,Bath Press", BT Bats ford Ltd, London, 1998.

19H025 TRADITIONAL INDIAN TEXTILES**3 0 0 3**

TRADITIONAL SARIS : Historical significance, colour, motif and manufacturing techniques - Kota sari, Banaras brocades , Baluchari saris , Jamdani saris , Paithani saris ,Kanjeevaram saris ,Chanderi saris , Maheshwari saris. (9)

TRADITIONAL EMBROIDERIES : Traditional influence, techniques, types of stitches, fabrics, threads, motif and colour combination of traditional embroideries : Embroideries of Gujarat — kutch, sindhi & kathiawar, phulkari of Punjab, kantha of Bengal, kasuti of Karnataka, kashida of Kashmir, chamba rumal of Himachala Pradesh, chikankari of Uttar Pradesh. (9)

TRADITIONAL DYEING & PRINTING TECHNIQUES : Historical significance, styles, colour, motif and dyeing process : resist dyeing of yarn- patola of Gujarat, bandhas of Odissa and Pochampalli, resist dyeing of fabric - tie & dye techniques : bandhani of Gujarat and lehariya of Rajasthan. Printed textiles: batik printing, block printing -sanganer and bagru prints. (9)

TRADITIONAL PAINTING TECHNIQUES & SHAWLS : Historical significance, styles, colour, motif and process of traditional fabric painting –kalamkari, madhubani. Traditional shawls: Kashmir Shawls - pashmina, do-salla, nammda and gubba, kullu shawls of Himachal Pradesh. (9)

TRADITIONAL COSTUMES OF INDIA : Traditional clothing, draping styles, color and accessories: Punjab, Rajasthan, Gujarat, Madhya Pradesh, Uttar Pradesh, North-East, Maharashtra, West Bengal, Kerala, Tamilnadu, Goa, Andhra Pradesh,

Total L: 45**TEXT BOOKS:**

1. Lynton Linda , "The Sari", Thames & Hadson, 2002.
2. John Gillow and Nicholas Barnard , "Traditional Indian Textiles", Thames and Hudson Ltd, 1993.

REFERENCES:

1. Parul Bhatnagar , "Traditional Indian Costumes and Textiles", Abhishek Publications, Chandigarh, 2004.
2. Shailaja D. Naik , "Traditional Embroideries of India", A.P.H Publishing Corporation, New Delhi, 1996.

19H026 INTIMATE APPARELS**3 0 0 3**

INTIMATE APPAREL : Types- whole body, upper body and lower body. Classification of kid's, women's and men's intimates. Quality requirements- fibers, fabrics, designs. Physical and physiological health effects of intimate apparel, comfort in intimate apparel. Fit issues in intimate apparel. (9)

MEN'S WEAR : Design and development, measurements , drafting procedure and construction sequence — long Johns, tank top, tanga, boy shorts, knickers, bikini underwear, thong, boxer briefs, boxer shorts and jockstrap. (9)

WOMEN'S LINGERIE : Design and development, measurements, drafting procedure and construction sequence - petticoats, panties, camisoles, spaghetti top, tube top, bikini. Brassiere - technology, innovations, bio-mechanical engineering of bra, basic block of bra pattern. Intimate apparel with special functions - sports bra, panty hose, swimwear, mastectomy bra and maternity underwear. (9)

INNOVATIONS OF GIRDLES & NIGHT WEAR : Introduction, historical development of girdles, classification of modern girdles, innovations of shape-up girdles, inventions of health promoting girdles, materials for girdles, fabric properties in girdle design. Design and development, measurements, drafting procedure and construction sequence - night gown, pajamas, negligee, peignoir and baby doll. (9)

INTIMATE APPAREL PRODUCTION & EVALUATION PROCESS : Principles, methods, technical aspects, controls of lamination, production-molding and welding . Accessories: Bra wire, hook & eye tape, ring & slider, buckle, plastic bone, elastics and threads. Performance evaluation of knitted underwear (9)

Total L: 45**TEXT BOOKS:**

1. W Yu, J Fan, S-P Ng, S Harlock , "Innovation and Technology of Women's Intimate Apparel", Woodhead Publishing Limited, England, 2006.
2. Ann Haggard , "Pattern Cutting For Lingerie, Beach Wear And Leisure Wear", Black Well Science Limited, France, 2001.

REFERENCES:

1. Lynn Nottage , "Intimate Apparel / Fabulation", Theatre Communications Group, USA, 2006.
2. Stokes Terry , "Intimate Apparel", Brooklyn: Release Press, USA, 1980..
3. Singer , "Sewing Lingerie", CyDecosse Incorporated, Mexico, 1991.

19H027 DESIGN OF SPORTS WEAR**3 0 0 3**

SPORTS WEAR : Current sportswear market, key trends in sportswear design, design considerations in sportswear and footwear, sportswear and comfort, injury protection, fibres and fabrics performance requirements for sports wear, sports footwear industry. Sports wear manufacturers and brands, styles of sports wear. (9)

TYPES OF SPORTS WEAR : Types, design feature, fibre selection, fabric structure, fabric parameters, types of seams, stitches, sewing thread selection, accessories used in design and construction of sports wear, knitted sports garments, seamless technologies in sports wear design, joining techniques for sports wear, cold weather sports clothing, sportswear for snow sports. Developments in fibres, textile materials and manufacturing techniques for sports wear. (9)

PERFORMANCE SPORTSWEAR : Key trends in performance sports wear design, material requirements, layering, evolution of layering, external influences, innovative fibres and fabrics in sport - high performance and high- functional textiles, smart and intelligent textiles, coated and laminated textiles, designing sportswear for comfort - physiological comfort, aspects of wear comfort, measurement of physiological comfort. (9)

FUNCTIONAL SPORT FOOTWEAR : Human foot, foot wear, foot and footwear interface. Sports footwear - functional design, functional fit, functional materials and components. Sports bra - designing and material selection. Design of compression stockings - elastic textiles, freedom of movement, enhanced performance, recovery and wellbeing. (9)

PROTECTION : Types of protective devices, protection against impact using clothing and personal equipment, impact

protection through protective clothing and equipment, quality standards and evaluation techniques. Design of sportswear for impact protection, effects of protective clothing and equipment on human performance. (9)

Total L: 45

TEXT BOOKS:

1. Shishoo.R, "Textiles in Sports", Wood head publishing Limited, England, 2005.
2. Y.Li, A S W Wong , "Clothing biosensory engineering", Wood head publishing Limited, England, 2006.

REFERENCES:

1. Richard A Scott , "Textiles for protection", Wood Head Publishing Limited, England, 2005.
2. Somenath Ganguly , "Comprehensive Footwear Technology", Indian Leather Technologists' Association, India, 2005.
3. John Peacock , "Shoes: The Complete Sourcebook", Thames & Hudson, UK, 2005.
4. Tim Skyrme , "Bespoke Shoemaking, A Comprehensive Guide to Handmade Footwear", Artzand Publications, UK, 2006.

19H028 COLOUR AND FASHION

3 0 0 3

COLOUR KNOWLEDGE, PSYCHOLOGY AND LANGUAGE : Colour and light, organizing colours, colour and vision, colour illusions — colour constancy, simultaneous contrast, locality of contrast, assimilation, colour psychology and language, emotional effects of colour perception, colour preferences, colour and subjective feeling of warmth, sex differences in colour preference, age differences in the development of colour preferences, psychological effects of background and illumination colours - warm vs cool colours. (9)

COLOUR PHYSICS : Light, light sources and light interactions, nature of colours, types of colorants and observers, illuminants and sources, measurement of colour, systems of standardized tristimulus values, instrumental colour measuring system, digital imaging systems, computation of colour coordinates, colour order systems, colour difference. (9)

COLOUR IN DESIGN : Colour characteristics, context colour management, colour complexity, colour influence — contrasting colour characteristics, simultaneous contrast, scale and placement, colour and depth perception — colour strength, advancing and receding colours, applying colour to a surface — subtractive colour, additive colour, colour definition, alternative colour rendition. (9)

COLOUR TREND FORECASTING: Definition, factors influencing, trends and fads, colour trend research-life cycle of colour trends, identification and recognition of colour trends, colour research process — starting point and finishing line, research into colour trends, colour forecasting — definition, necessary tools, assimilation by different cultures, importance, life-cycle, colour associations. (9)

COLOUR APPLICATION : Colour in interior designing - colour concept creation, colour psychology, colour language, factors influencing. Colour in visual merchandising - colour in public and commercial space. Colour in websites - effective colours, colour harmony, colours for special users. Colour in art - art and collectables. Colour in cars, limitations in colour application. (9)

Total L: 45

TEXT BOOKS:

1. Jose M.Parramon , "Colour Theory", Watson Guptill, New York, 2012.
2. David Hornung , "Colour-Workshop for Artists and Designers", Laurence King Publishing, London, 2012.

REFERENCES:

1. Kate Scully, Debra Johnson Cobh , "Colour forecasting for fashion", Laurence King Publishing, London, 2010.
2. Tracy Diane, Tom Cassidy , "Colour Forecasting", Blackwell Publishing, US, 2005.
3. Evelyn L. Brannon , "Fashion Forecasting", Fairchild Books, UK, 2011.
4. M. L. Gulrajani (Editor) , "Colour Measurement: Principles, Advances and Industrial Applications", Wood head Publishing Limited, England, 2010.

19H029 VISUAL MERCHANDISING

3 0 0 3

FUNDAMENTALS OF VISUAL MERCHANDISING : Visual merchandising- Definition, purpose and evolution. Designing a customer experience, role of a merchandiser, visual merchandising - department store, multiple chain stores, retail outlets, Visual merchandising of different brands (9)

ELEMENTS AND PRINCIPLES OF DESIGN IN VISUAL MERCHANDISE: Design elements- line, color, texture, shape and form — concept and application in visual merchandising. Principles - balance, emphasis, proportion, rhythm, repetition — application in visual merchandising, virtual visual merchandising. (9)

STORE DESIGNS : Customer attraction - importance, factors influencing and making strategies. planning store layout

— counter store, forced path layout, grid layout, free form layout, boutique layout, star layout, arena layout. Merchandise placement — shelf zones; Store orientation — signage systems, colour coding, directional signs, in- store displays, trend areas, point of purchase, add-on sales, ; Store atmosphere; fixtures, wall fixtures, product handling, Mannequins – types, dressing and grouping. Lighting – types, impact and lighting chart. (9)

WINDOW SETTINGS : Planning window display, themes and schemes, budgeting, props. Designing a window display — types, colour, window prepping, lighting, signage, window calendar, window standards and maintenance. Types of window in store front - the angled front, the arcade front, the corner, display, closed back, open-back, island, shadow boxes, elevated, deep, tall. (9)

RESEARCH AND FUTURE OF VISUAL MERCHANDISING : Visual design development, model making and experimentation, concept development, presentation and communication of design development, Future of visual merchandising — shopping trends and innovations, technology and digital visual merchandising, sustainability, internationalization (9)

Total L: 45

TEXT BOOKS:

1. Sarah Bailey and Jonathan Baker , "1. Visual Merchandising for Fashion", Fairchild Books, London, 2014.
2. Tony Morgan, Laurence , "Visual Merchandising - Window and in-store displays for retail", King Publishing, 2011.

REFERENCES:

1. Diamond , "Contemporary visual merchandising and environmental design", Prentice Hall, New Jersey, 2006.
1. Gini Stephen Frings , "Fashion Concept to Consumer", Prentice Hall, New Jersey, 2004.
2. Laine stone, Jean Samples , "Fashion Merchandising — An Introduction", McGraw Hill Book Co, New york, 2001.
3. Diamond J , "Fashion Retailing - A Multi — Channel Approach", Prentice Hall, New Jersey, 2000.

19H030 FASHION STYLING

3 0 0 3

INTRODUCTION TO FASHION STYLIST : Qualities and roles of fashion stylist, Scope- fashion stylist, celebrity stylist, personal stylist. Career path of stylist: editorial styling, commercial styling, newspaper styling, freelance stylists. (7)

STYLING CONSULTANT : Technical skills- elements and principles of design, fabric selection, types of outfit, characteristics of colors-color combinations, colors in fashion, personal colours, becoming and non becoming colours. Steps of successful consultant-Consultation process, photographing, choosing appropriate silhouette, telling a story, defining the components of outfits, creating mood board/story board. (9)

FIGURE TYPES : Body and its features-rules of proportions, figure shape identification, Body shape variations - vertical figure type, horizontal figure type, dominant and subordinate shapes, becoming and non becoming design features. FACE SHAPES: Types — oval, oblong, rectangle, square, triangle, diamond, trapezoid, combination. Becoming and non becoming necklines, accessories, hairstyles. (10)

STYLES OF GARMENTS : Classic styles, trendy styles, basic classics, garment shapes, optical illusions of line and shape, becoming and non becoming design features — silhouettes, shapes, Women's styling- Body and face shape-selection of suitable outfit for different occasion and profession, hairstyle, make-up, accessories, female styling mistakes. Men's styling- Body and face shape-selection of suitable outfit for different occasion and profession, hairstyle, accessories, male styling mistakes. (10)

POWER OF APPEARANCE : Art and science of first impression. lifestyle evaluation, professional style scale- tailored design elements, soft design elements, Design elements and its influence on personality, figure direction instruction, defining figure direction, styling by situation, runway to real way, dressing 20's 30's 40's, mood styling, styling for shoot. (9)

Total L: 45

TEXT BOOKS:

1. Lisa Armstrong and Meenal Mistry , "Harper's Bazaar Fashion: Your Guide to Personal Style", Aurum Press Ltd, London, 2010.
2. Jo Dingemans , "Mastering Fashion Styling", Trans-Atlantic Publications, United Kingdom, 1999.

REFERENCES:

1. Marilyn Revell Delong , "The Way We Look: Dress and Aesthetics", Bloomsbury Academic, USA, 1998.
2. Kaiser and Susan B , "The Social and Psychology of Clothing; Symbolic Appearances in Context", Fairchild Books, USA, 1996.
3. Marian L Davis , "Visual Design and Dress", Prentice Hall, New Jersey, 1996.
4. Suzanne G Marshall and Hazel O Jackson , "Individuality in Clothing and Personal Appearance", Prentice Hall, New Jersey, 2000.

19H031 INTERIOR DESIGNING

3 0 0 3

BASICS OF INTERIOR DESIGN: Influencing factors. Elements of art –Line, form, texture, colour. Principles of design – proportion, balance, emphasis, harmony, rhythm: applications, Design – types – structural, decorative, importance in interiors. (9)

COLOUR AND LIGHT:Types, qualities of colour, advancing/cool & receding colours/warm colours, colour interactions, psychological impact of colour, effect on different interiors. **Light:** natural light-daylight factor, day light factors for interiors. Artificial light – types- lighting arrangement. (9)

INTERIOR ACCESSORIES AND DESIGN: Classification – functional, decorative, both: selection, collection. Accessories - fixtures – types, selection, mounting, framing, hanging; antiques – definition, procurement process; plants, flowers. Design:Parallel and perspective drawing- perspective basics – one point perspective, two-point perspective, three point perspective drawings. CAD application. (9)

FLORAL ARRANGEMENTS:Types- importance; basic principles - line, line mass, mass arrangement; basic shapes, styles. Ikebana- history, materials required, general rules, basic styles. Dry arrangement - preservation of plant materials, foliage, flowers. (9)

INTERIOR FURNISHINGS: Furnishings materials: types - woven, non-woven, knit; floor coverings – carpet and rugs; window dressings – curtain and drapery;wall covering;furniture – types and selection factors. Ergonomic principles in interiors. acoustics: Sound- properties of sound- sound in interiors. (9)

Total L: 45

TEXT BOOKS:

- 1.Simon Dodsworth, Stephen Anderson, "The Fundamentals of Interior Design", Bloomsbury Academic, London, 2019
- 2.Rowe T, "Interior Textiles: Design and Developments", Woodhead Publishing Series in Textiles, UK, 2009

REFERENCES:

1. Pratap rao M, "Interior Design", Standard Publishers distributors, India, 2010.
2. Dennis and Lorigreen "Interior Design" Allworth press, New York, USA, 2010.
3. Taschen and Angelika "Interiors Now" Taschen America llc, USA, 2010.
4. Maureen Mitton "Interior design visual presentation", John wiley& sons inc, New Jersey, 2004

19H041 DIGITAL FASHION MARKETING

3 0 0 3

INTRODUCTION TO E-MARKETING : E-marketing objectives, introduction to e-strategy, digital marketing platforms, approaches to marketing mix: 4Ps, 5Is, 4Cs and 7 Ps. Adding digital value to product, QR codes, new pricing approaches, pricing under pressure. (9)

E MODELS AND E CUSTOMERS : Introduction to e models, online revenue models, attribution, communication model, customer information processing model, customer buying model, social media models. Introduction to e customers, motivations, fears and phobias, online information processing, online buying process, online relationship and loyalty, researching online customers. (9)

SOCIAL MEDIA MARKETING : Importance, media platforms, review business goals for social media, strategy for managing social media, social media optimisation. Site design - Objectives , online value proposition, different aspects of aesthetic design- graphics , colour, style, layout and typography, navigation and structure, mobile site design. (9)

TRAFFIC BUILDING & E-CRM : Key aspects of traffic building, Search Engine Optimisation (SEO), pay per click search marketing, managing Pay Per Click (PPC), Online partnerships, interactive advertising, viral marketing. E- CRM: Introduction to relationship marketing, database marketing, profiling,- approaches to profiling, control issues in E CRM. (9)

MANAGING DIGITAL MARKETING : Budgeting for digital marketing, selecting the best communications mix, selecting the right suppliers for digital marketing, change management for digital transformation, measuring and optimizing digital marketing with digital analytics, E-business security. (9)

Total L: 45

TEXT BOOKS:

1. Dave Chaffey and PR Smith , "E marketing Excellence - Planning and optimizing your digital marketing", Taylor & Francis,, London, 2013..
2. Will Rowan , "Digital Marketing: Using New Technologies to Get Closer to Your Customers", Kogan Page Limited, UK,, 2002..

REFERENCES:

1. Damian Ryan and Calvin Jones , "The Best Digital Marketing Campaigns in the World", Kogan Page Limited,, UK, 2011..

2. Rick Mathieson , "The On-Demand Brand", American Management Association,, New York, USA,, 2010.

19H042 BRAND MANAGEMENT AND ADVERTISING

3 0 0 3

BRAND ELEMENTS AND BRAND BUILDING : Elements of branding — Brand identity, brand image, brand personality, brand communication, brand awareness, brand positioning and brand equity. Building brand - Product vs Brand, steps in building brands, consumer based brand equity pyramid, corporate brand building and retail brand building. Case studies on high profile Indian brands. (9)

BRAND STRATEGY AND CONCEPTS : Functional brands, symbolic brands, experiential brands, product branding, line branding and umbrella branding. Concepts - brand extension, brand revitalisation, brand repositioning, brand recall and brand elimination. Case studies on branding strategies. (9)

GLOBAL BRANDING AND LATEST TRENDS : Global Brands, sources of opportunities for global brand, consumers and globalisation, barriers to globalisation, global brand leadership, scope of globalization. Case studies on managing global brands. Fast fashion branding and luxury branding - Scope, Customer behaviour. Case studies on fast fashion and luxury branding. (9)

ADVERTISING BUSINESS : Nature and role of advertising in modern business world. Advertising and marketing mix - advertising objectives, benefits, economic aspects and ethics in advertising. Role of advertising manager, agency, advertising plan, organisation of advertising agency, basic principles, agency compensation and public relations. Case studies on advertising. (9)

ADVERTISING BUDGET, MEDIA AND APPEALS : Budget- methods of advertisement budgeting and administering the budget. Media overview — types of media, media selection and media scheduling. Appeals - Basis for appeals, buying motives, appeals and advertising message, types of appeals, essentials of an advertisement appeal. (9)

Total L: 45

TEXT BOOKS:

1. Mahim Sagar, Deepali Singh, DP Agrawal, Achintya Gupta , "Brand management", Ane books, New Delhi, 2009.
2. Gordon T Kendall , "Fashion Brand Merchandising", Fairchild publications, New York, 2009.

REFERENCES:

1. A Chunawalla, KC Sethia , "Foundations of Advertising - Theory and Practice", Himalaya publishing house, Mumbai, 2009.
2. Brad Van Auken , "Branding", Jaico publishing house, New Delhi, 2007.
3. Harsh V Verma , "Brand Management", Excel books, New Delhi, 2006.
4. George E Belch, Michael A Belch , "Introduction to Advertising and Promotion", Irwin publishers, Toronto, 1995.

19H043 APPAREL LOGISTICS AND SUPPLY CHAIN MANAGEMENT

3 0 0 3

LOGISTICS AND SUPPLY CHAIN MANAGEMENT : Logistics - Scope, elements, need, activities, role in the economy and organisation, logistics and competitive performance, interface of logistics with manufacturing and marketing. Supply chain management: Evolution, need, customer focus - customer service, supply chain management issues, efficient consumer response (ECR), quick and accurate consumer response. Inbound and outbound logistics. Pull, push and push-pull strategy. (9)

STRATEGIC SUPPLY CHAIN MANAGEMENT AND DISTRIBUTION PLANNING : Activities, decisions, supply alliances, supplier quality management, supply chain re-engineering. Organising for global markets: Globalisation - Stages to global SCM, global tendering and criticalities. Distribution planning - Factors influencing distribution network design, Location strategy — plant location, distribution problem, ware house location, retail facility location, Logistics planning, Vessel booking. (9)

COST AND PERFORMANCE MEASUREMENT IN SUPPLY CHAIN MANAGEMENT : Cost drivers, activity based costing, logistics cost, importance of accurate cost data, customer profitability analysis. Benchmarking — importance, role and methodology, challenges in implementation. Performance measurement systems. Demand management. Bull whip effect. (9)

INFORMATION SERVICES IN LOGISTICS AND SUPPLY CHAIN : Importance, applications, information requirements. Intelligence information system — materials requirement planning, manufacturing resource planning and enterprise resource planning, electronic data interchange, SCM software packages - tools for managing SCM. (9)

EMERGING TRENDS IN SUPPLY CHAIN MANAGEMENT : Collaborative strategies, vendor managed inventory (VMI), third and fourth party logistics, green supply chain, reverse logistics, proximity sourcing, IoT and Artificial intelligence. Case studies and discussion on leading apparel supply chains. Introduction to quantitative models — List of techniques and usage in SCM, Usage of supply chain analytics. (9)

Total L: 45

TEXT BOOKS:

1. Sunil Chopra, Peter Meindl , "Supply Chain Management - Strategy, Planning and Operations", Pearson Prentice Hall, New Jersey, 2007.
2. Douglas M Lambert, James R Stock, Lisa M Ellram , "Fundamentals of Logistics Management", McGraw Hill, Boston, 1998.

REFERENCES:

1. Benjamin S Blanchard , "Logistics Engineering and Management", Prentice Hall, New Delhi, 2005.
2. DK Agrawal , "Textbook of Logistics and Supply Chain Management", Macmillan publishers, Kolkata, 2010.
3. Janat Shah , "Supply Chain Management", Pearson education, India, 2009.

19H044 LUXURY BRAND MANAGEMENT

3 0 0 3

UNDERSTANDING LUXURY : History and the luxury goods industry, definition, premium vs luxury, types of luxury goods, major operators in the luxury industry, scope of luxury brands in Indian market, SWOT analysis of high profile Indian luxury brands, major luxury sectors, key to success of luxury goods. (9)

LUXURY BRANDING ANALYSIS : Luxury brand character and brand value, luxury brands and its signs, luxury brand lifecycle, identity, ethics and aesthetics, luxury brand stretching, building luxury brands using consumer based brand equity pyramid. (9)

LUXURY CLIENTS AND CUSTOMER BEHAVIOUR : Market size, client profiling, types of luxury clients, customer behaviour of luxury clients, luxury clients vs mass market shoppers, risk study, luxury and India. luxury and world, luxury goods vs consumer behaviour. (9)

DISTRIBUTION STRATEGY : Distribution systems, international distribution, luxury and digital distribution, luxury brand distribution strategy, distribution strategies of leading luxury brands. (9)

ADVERTISING AND RETAILING : Advertising in luxury — strategies, concepts, advertising mix, licensing procedures, duty free operations. Retailing in luxury, retail vs wholesale in luxury, entry and exit in luxury sector, communication in luxury, depth of communication, communication tools in luxury, E-tailing, internet and luxury. (9)

Total L: 45

TEXT BOOKS:

1. M Chevalier, G Mazzalovo , "Luxury brand management: A world of privilege", John Wiley and sons, London, 2012.
2. Gordon T Kendall , "Fashion Brand Merchandising", Fairchild publications, New York, 2006.

REFERENCES:

1. J Kapferer, V Bastien , "The luxury strategy: Break the rules of Marketing to build luxury brands", Kogan, Philadelphia, 2012.
2. Brad Van Auken , "Branding", Jaico publishing house, New Delhi, 2007.
3. Harsh V Verma , "Brand management", Excel books, New Delhi, 2006.

19H045 ENTERPRISE RESOURCE PLANNING IN APPAREL INDUSTRY

3 0 0 3

INTRODUCTION TO ENTERPRISE RESOURCE PLANNING : Evolution, basics, needs, benefits, vendors — classification based on functional expertise, industry expertise, tier classification, market share. Growth and lifecycle of enterprise resource planning. Case studies on the benefits and needs for ERP. (9)

TECHNOLOGY AND ERP FUNCTIONING : Technology — components of the ERP system — client, server, user interface, back-end, cloud computing, system security. Desktop based vs web based vs cloud based ERP. Functioning — MTR concept, login procedure. Workflow and notifications. (9)

MODULES IN ERP : Modules classification — technical, commercial, working options in ERP, module functions — functions, related masters, transactions and reports. (9)

ERP FOR APPAREL INDUSTRY : Role and process flow in ERP for apparel vertical, apparel specific masters, transactions, reports— types, usage and role in decision making. (9)

IMPLEMENTING ERP AND ITS BENEFITS : Evaluating and selecting the right ERP, business process study, implementation — process, implementer capabilities, challenges, pitfalls, post implementation process. Benefits of ERP. Workflow and notification usage for apparel vertical. Latest developments. Case studies on success and failures of ERP usage. Careers in ERP. (9)

Total L: 45

TEXT BOOKS:

1. R Surjit, R Rathinamoorthy, KJ Vishnu Vardhini , "ERP for Textiles and Apparel Industry", Woodhead publishing, New Delhi, 2016.
2. Alexis Leon , "Enterprise Resource Planning", Tata Mcgraw Hill publishing, India, 2007.

REFERENCES:

1. Parag Diwan, Sunil Sharma , "Enterprise Resource Planning", Pentagon Press, India, 2001.
2. Jagan Nathan Vaman , "ERP in Practice", Tata Mcgraw Hill publishing, India, 2006.

19H046 APPAREL ENTREPRENEURSHIP**3 0 0 3**

ENTREPRENEURSHIP - CONCEPT AND FUNCTION: : Entrepreneurship - concepts, functions, need and importance, myths about entrepreneurship, entrepreneurial competencies, process of entrepreneurship, types of entrepreneurs, intrapreneur — importance. Ethics, values and social responsibility — ethics and business decisions (9)

ENTREPRENEURIAL JOURNEY : Self assessment of qualities, skills, resources and dreams, generation of ideas , feasibility study, opportunity assessment in fashion and related fields, business plan preparation for starting a boutique /garment manufacturing unit , role of society and family in the growth of an entrepreneur, challenges faced by women in entrepreneurship (9)

CONCEPT OF MARKET : Market - traditional and e-commerce, concept and role. Types of business: manufacturing, trading and services. Industry Analysis — competitor analysis. Marketing Research for the new venture, defining the purpose or objectives, gathering data from secondary and primary sources , result analysis and interpretation. Managing growth of new ventures: Challenges of growth , strategies for firm growth - internal and external growth strategies. (9)

BUSINESS FINANCE: Record keeping, unit of sale, unit price and unit cost — for single product or service, types of costs — start up, variable and fixed, financial statements — P&L, balance sheet, fund flow. break even analysis — for single product or service, ratio analysis, taxes. (9)

INNOVATION AND PROBLEM SOLVING : Approach to problem solving, social entrepreneurship-concept and importance, risk taking -concept ; types of business risks, barriers to entrepreneurship, support structure for promoting entrepreneurship. IPR: Types of copyright, ownership and duration of copyright, design right, registered designs, topography rights, patenting process (9)

Total L: 45**TEXT BOOKS:**

1. Robert D Hisrich, Michael P Peters and Dean Shepherd , "Entrepreneurship", Tata McGraw Hill,, Noida., 2007..
2. Prasanna Chandra , "Fundamental Financial Management", Tata McGRaw Hill Publications, India, 2005.

REFERENCES:

1. Vasant Desai , "Dynamics of Entrepreneurial Development and Management", Himalaya Publication House, 2001.
2. Bruee R Barringer and Duane Ireland , "Entrepreneurship — Successfully Launching New Ventures", Pearson—Prentice Hall, India, 2006.

19H047 GLOBAL TRADE MANAGEMENT**3 0 0 3**

INTRODUCTION TO INTERNATIONAL TRADE : Need, basis of international trade, apparel exports, WTO, trade blocks — EU, ASEAN and NAFTA regional economic groups. International trade statistics on textiles and apparel, trends in India's foreign trade, prospects for Indian apparel exports, SWOT analysis. (9)

EXPORT BUSINESS : Setting up of export business, export marketing organisation, product planning for export markets, identifying foreign markets, export pricing and costing, INCO terms 2020, export correspondence, negotiations for export business. (9)

GOVERNMENT SUPPORT AND INITIATIVES : High lights of 2015-2020 EXIM policy, various schemes — duty drawback, duty exemption , duty remission, EOU , free trade zones, SEZ, market access initiative, market development assistance, TUFs, TMTT. Focus of 12th five year plan on apparel and textile sector, trading house, export houses, warehousing zones, foreign exchange management act. Outward and inward FDI regulations. (9)

EXPORT FINANCE : Nature of export finance, terms of credit in export — payment by documentary credit, advance payment, cash against document, document on acceptance, consignment basis, packing credit and its formalities, post shipment finance — short, medium and long terms financing. export-import bank of India, forfeiting, ECGC — purpose, policies and financial guarantees. (9)

EXPORT AND IMPORT PROCEDURE, DOCUMENTATION : Export procedure — receipt of confirmed order, production and clearance of products for exports, shipment negotiation of documents and realisation of export proceeds, incentives. pre-import procedure — steps in import procedure — customs formalities for imports — warehousing of imported

goods. Export documentation — commercial documents, regulatory documents and import documents. (9)

Total L: 45

TEXT BOOKS:

1. S Subramaniam, TAS Balagopal , "Export Marketing", Himalayan publishing house, Mumbai, 2010.
2. RL Varshney, B Bhattacharya , "International Marketing Management - An Indian Perspective", Sultan Chand and sons, New Delhi, 2009.

REFERENCES:

1. Palle Krishna Rao , "WTO-Text and Cases", Excel books, New Delhi, 2005.
2. JWS Hearle, T Hines, M Suh , "Global Marketing of Textiles", Journal of Textile Institute, Manchester, 1997.
3. MI Mahajan , "Import-Do It Yourself", Snow White publications, New Delhi, 2015.

19H048 FASHION FORECASTING

3 0 0 3

FASHION FORECASTING: Importance and steps in fashion forecasting. Fashion cycle, Fashion theories. Long term and short term forecasting. Analysis of trends in leading apparel and accessory brands. (9)

TREND FORECASTING PROCESS: Objectives, strategy and tools, resources for environmental scanning – news, forecasting services, shopping the market and observing street fashion. Positioning in the process calendar. (9)

COLOUR FORECASTING: Consumers and the psychology of colour. Forecasting with colour cycles – colour matrix and seasonal barometer. Colour research – sources for colour ideas and palettes. (9)

MATERIAL FORECASTING: Material direction for men, women, kids, sports, intimates/swim, footwear/accessories and denim. Sources of innovation in textile development. Fabric fairs and trade shows. Trends in prints, design detail and silhouettes. (9)

LINE DEVELOPMENT: Introduction to line development and mood/trend board. Understanding past trends, Prediction of future trends. Translation of findings to apparel collections targeting varied customer markets. Customer preferences with ethnicity, gender and income. Fashion shows – advantages and types. (9)

Total L:45

TEXT BOOKS:

1. Lorynn Divita, "Fashion Forecasting", Fairchild Publications, Canada, 2019.
2. Gwyneth Holland, Rae Jones, "Fashion Trend Forecasting", Laurence King Publishing, UK, 2017

REFERENCES:

1. Eundeok Kim, Ann Marie Fiore, Hyejeong Kim, "Fashion Trends – Analysis and Forecasting", Berg Publishers, UK, 2013.
2. Elinor Renfrew and Colin Renfrew, "Basics Fashion Design: Developing a Collection", AVA Publishings SA, UK, 2009.
3. Marks and Andrea, "Writing for Visual Thinkers: A Guide for Artists and Designers, Peachpit Press, Berkeley 2009.

ONE-CREDIT COURSES

19HF01 EFFLUENT TREATMENT IN TEXTILE PROCESSING

1 0 0 1

EFFLUENT TREATMENT : Introduction, sources of effluents and their characteristics. Waste water treatment: objectives, methods and implementation considerations. (3)

EFFLUENT TREATMENT TECHNOLOGIES : Wastewater treatment by wet air oxidation, adsorption. Membrane filtration techniques: micro-filtration, ultra-filtration, nano-filtration and reverse osmosis. Photo chemical process, ion exchange process, advanced oxidation processes. Recycling of effluents. (8)

ANALYSIS OF EFFLUENTS : Determination of color, BOD, COD, pH, odor, TDS, TSS, total alkalinity, chlorides and metal contents, tolerance limits for effluents. (4)

Total L: 15

REFERENCES:

1. Adel Al-Kadsi, Azni Idris, Katayon Saed , "Treatment of Textile Wastewater by Advanced Oxidation Processes — A Review", Global Nest: The Int. J, 2004.
2. Vandevivere P C, Bianchi R, Verstraete W , "Treatment and Reuse of Wastewater from the Textile Wet Processing Industry: Review of Emerging Technology", J Chem Technol Biotechnol, 1998.

19HF02 COMPUTERIZED MACHINE EMBROIDERY

0 0 2 1

EXPERIMENTS ON MACHINE EMBROIDERY :

1. Computerized embroidery machine –parts, functions, threading, and fabric preparation
2. Computerized embroidery machine-Mechanism and settings
3. Practise on Wilcom embroidery software
4. Practise on design punching
5. Embroidery fabric sample development

Total P: 30

REFERENCES:

1. Doreen Curran , "Magic of free machine embroidery", Search Press, Ltd, UK, 2003.
2. Maggie Gery , "Raising the Surface with Machine Embroidery", BT.Batsford Ltd, London, 2003.

19HF03 FASHION RENDERING

1 0 0 1

MATERIALS USED IN DESIGNING : Types and its application - Drawing papers, brushes, mediums – graphite pencils, pastels, water soluble coloured pencils, felt-tip pens, markers, inks, gouache, acrylics. (5)

DEPICTING COLOUR AND TEXTURE OF FABRIC : Mixing of colour, simplification of texture, depicting embroidery, lace, knits, wool, silk and shiny fabrics, leather, fur, transparent, denim, and corduroy fabrics. Developing patterns repetition of a design, shading the pattern, stripes, contrast and harmony of colour in pattern. (5)

STUDYING THE CLOTHED FIGURE : Silhouettes, Dressing the body — from flat to three-dimensional clothes, relation between fabric and body, the hang of the garment, fit of garment. Folds and drapes — drawing darts, gathers, pleats, drapes; fabric characteristics and creases, draping on a table, stiffness or softening of the folds, drawing folds, falls and creases. (5)

Total L: 15

REFERENCES:

1. Karl Aspelund , "The Design Process", 3rd Edition, Fairchild Books, USA, 2015.
2. Simon Seivewright , "Basics Fashion Design 01: Research and Design", Fairchild Books, USA, 2007.
3. John Hopkins , "Fashion Design: The Complete Guide", Fairchild Books, USA, 2012.
4. Ranjana Singhal , "Fashion Rendering", Om books International, New Delhi, 2011.

19HF04 DIGITAL FASHION DESIGNING & E - PORTFOLIO DEVELOPMENT

0 0 2 1

FLAT GARMENT(SILHOUETTES) DEVELOPMENT :

Using raster / vector / Physical reference garment by corel draw/Illustrator (6)

GRAPHIC DESIGN DEVELOPMENT :

Editing vector image & tracing bitmap image using coral draw/illustrator/photoshop (6)

COLOUR COMBINATION :

Matching or merging base colour with graphic & All over print based on colour forecast. (6)

TEXTURE MAPPING TECHNIQUES :

All over print / checks design development & fabric texture mapping. (6)

RASTER & VECTOR IMAGES :

Image resolution, size & formats. (6)

Total P: 30

REFERENCE:

1. Marianne Center Frances Vereker , "Fashion Designer's Handbook for Adobe Illustrator", Blackwell Scientific Publications, London, 2007.

19HF05 FASHION SHOW PRODUCTION

1 0 0 1

FASHION SHOW : History, Business — advertising, branding, promotion, fashion shows and community, technology, production and location. (3)

CATEGORIES OF FASHION SHOWS : Types, categories — production shows, formal runway shows and informal shows, role of the producer/coordinator, production team. (4)

FASHION SHOW PREPARATION : Production services — technical, clothing, merchandising, backstage, model, talents and agencies, creating the show concept - storyboards, pitching the theme or concept and preview, show planning. (4)

FASHION SHOW PROMOTION AND FRAMEWORK : Promotion - PR and marketing, press release. Framework — the front of the house and the backroom (2)

FASHION SHOW EVENT : Day of event timeline, Scripts and contingency plan — show length, choreography, opening, closing and cancelling shows. (2)

Total L: 15

REFERENCES:

1. C Reed , "The Fashion Shows", Artists International Media, North Carolina, 2012.
2. JC Everett, KK Swanson , "Guide to Producing a Fashion Show", 2nd Edition, Fairchild books, New York, 2004.

19HF06 SEAMLESS GARMENTS

1 0 0 1

KNITTING AND KNIT CAD : Analysis of important knitted structures, knit CAD, seamless and 3D knitting technology. (5)

SEAMLESS KNITTING: Basic concept— mechanism in seamless knitting, advantages & limitations. (3)

SEAMLESS KNITTING MACHINERY : Seamless knitting machines: single jersey, double jersey and warp seamless (sock machine / hosiery machinery /panty hose /seamless machinery) for the production of underwear, outerwear, nightwear, swimwear, beach wear, sanitary garment, and sportswear - electronic circular knitting machines for seamless wear. (7)

Total L: 15

REFERENCES:

1. Ajgaonkar D B , "Knitting Technology", Universal publishing corporation, Mumbai, 1998.
2. David J. Spencer , "Knitting Technology - A comprehensive handbook and practical guide Third edition", Oxford: Pergamon Bros., 2001.

19HF07 MARKET RESEARCH AND ANALYSIS

1 0 0 1

INTRODUCTION TO MARKET RESEARCH: : Purpose of market research and the research process. (3)

RESEARCH DESIGN FORMULATION : Exploratory design - Secondary data, Interviews, focus groups, projective techniques
Descriptive Design - Survey design, sampling considerations, observation. Explanatory design - Experimental and statistical designs. (3)

MEASUREMENT AND SCALING: : Types: Comparative and non comparative, levels of scaling — Nominal, ordinal, interval and ratio. (3)

QUESTIONNAIRE DESIGN : Dos and Don'ts. Pilot survey. (3)

IT TOOLS IN MARKET RESEARCH : : Report Preparation And Presentation. Softwares for data analysis. (3)

Total L: 15

REFERENCES:

1. Naresh Malhotra , "Marketing Research: an Applied Orientation", Sixth Edition,, Pearson Prentice Hall,, 2012..
2. Chisnall P M , "Marketing Research:Analysis And Measurement", Mcgraw-Hill, Inc,2010.

19HF08 PLANT LAYOUT AND FACILITY PLANNING

1 0 0 1

PLANT LAYOUT : Objectives , Principles, types of plant layout used in apparel industry - merits and demerits, flow patterns. (2)

FACILITY PLANNING : Steps in facility design — Nature of apparel manufacturing business, product analysis, manufacturing system used in apparel manufacture, level of technology, location. (2)

SPACE DETERMINATION AND AREA ALLOCATION : Factors for consideration in space planning, receiving, storage, production- spreading, cutting, bundling, sewing ,pressing, packing; shipping, other auxiliary service actions. Establishing total space requirement, area allocation factors to be considered, expansion, flexibility, aisles column and area allocation procedure. (6)

COMPUTER AIDED LAYOUT PLANNING : Computer aided layout planning — AutoCAD software tools and their application . Method of constructing the layout using AutoCAD for apparel industry. Evaluation of layout, implementing layout. (5)

Total L: 15

REFERENCES:

1. Thompkins. J A and White, J. A , "Facilities Planning", John Wiley & Sons Inc, US, 2010.
2. Francis, R.L., Leon F.McGinnis, Jr, White, J.A , "Facility layout and Location –An analytical approach", Phi learning, New Delhi, 2006.
3. Sunderesh Heragu , "Facilities Design", PWS Publishing Company, Boston, 1997.
4. James M Apple , "Plant Layout and Material handling", John, Wiely and Sons, Newyork, 1977.
5. James M Moore , "Plant Layout Design", Mac Millon Co, New York, 1962.

19HF09 SOURCING FOR APPAREL MANUFACTURING

1 0 0 1

SOURCING : Apparel manufacturing design to retail flow. sourcing flow process. significance of time & action plan (TNA) in apparel manufacturing. various fabric selections as per seasons and categories. commercial fabrics quality and specifications, yarn dyed, piece dyed and printed. fabric, accessories and trims sourcing hubs. international and domestic sourcing zones. (5)

FABRIC SOURCING : Denim and non-denim fabric quality and its specifications for various end uses, shirting, suiting's and wool fabric qualities for apparel, various fabric manufacturing hubs and its commercial price. market study, fabric development, lab dips, sample docket preparation, trims development, sample development, proto sample, pre-cost closure, final costing, risk analysis & caveat, order confirmation, fabric dispatch to garment vendor (5)

SOURCING APPROVALS : Vendor planning, analysis of samples and approvals. fabric and garment package testing, follow up activities in bulk production and validation of test reports, merchandise retail flow. (5)

Total L: 15

REFERENCES:

1. Vijayan , "Fabric sourcing and selection In: Garment Manufacturing Technology", 1st Edition, Woodhead Publishing, England, 2015.
2. Jeremy A Rosenau , "Apparel Merchandising – The line starts here", 1st Edition, Fairchild publications, New York, 2007.

19HF10 TECH PACK DEVELOPMENT AND INTERPRETATION

1 0 0 1

INTRODUCTION TO MERCHANDISING : Department activities, roles and responsibilities. Technical specification sheet: introduction, steps in order receiving, order sheet interpretation, development of TNA plan - individual order, multiple order. (3)

GARMENT TO TECH PACK : Garment analysis, analysis of buyer sample, tech pack development. (3)

TECH PACK DEVELOPMENT : GSM calculation, fabric and thread consumption, size wise, colour wise quantity estimation, quality instruction, garment sketch, fabric, trims and accessory boards, finishing, packing details development (6)

INDUSTRIAL TECH PACK : Introduction, steps in interpretation, communications - buyer, factory. Case studies and discussion. (3)

Total L: 15

REFERENCES:

1. Jeremy A. Rosenau, David L. Wilson , "Apparel Merchandising — The line starts here", Fairchild publications, New York, 2007.
2. Grace Kunz , "Merchandising theory, principles and practice", Fair Child Books, New York, 2005.
3. R.Rathinamoorthy, R.Surjit. , "Apparel Merchandising ,", Woodhead Publication India Pvt Ltd, New Delhi, 2018.

19HF11 COMPUTER AIDED DESIGNING FOR HOME TEXTILES

0 0 2 1

COMPUTER AIDED HOME TEXTILES DESIGNING : Software and tools used in computer aided designing for home textile products. (3)

DEVELOPMENT OF HOME TEXTILE DESIGNS : Trend forecast analysis of home textiles for seasons. Development of woven fabric designs: Engineered stripe and checked effects, motif selection and pattern development, spot figuring, dobby designs, jacquard designs. Print designs for home textile products. (12)

DEVELOPMENT OF SURFACE ORNAMENTATION EFFECTS : Embroidery designs — Procedure for the development of computer aided embroidery design effects in home textiles. (6)

TEXTURE MAPPING & LAYOUT PLANNING : Concept of texture mapping, texture mapping of home textile products. Computer aided layout planning for home Interiors with home textile products. Tech pack development. (9)

Total L: 30

REFERENCES:

1. Grosicki Z.J , "Watson's Textile Design and colour", Newness- Butterworth and Co, London, 2005.
2. Grosicki Z.J , "Watson's Advanced Textile Design", Newness- Butterworth and Co, London, 2005.
3. Brian, D Coleman , "Luxurious Home Interiors", Gibbs Smith Publication, Hong Kong, 2004.
4. Premavathy Seetharaman and Parveen Pannu , "Interior Design and Decoration", CBS Publishers, New Delhi, 2005.
5. Jan Beaney and Jean Little John , "Complete Guide to Creative Embroidery: Design, Textures, Stitches", Bt Batsford, London, 2005.

19HF12 RETAIL ANALYTICS IN APPAREL BUSINESS

1 0 0 1

RETAIL ANALYTICS : Scope, trade area modelling, site selection modelling, competitor threat analytics, market basket analysis. (4)

RETAIL ANALYTICS IN APPAREL : Merchandise mix modelling, affinity merchandising, merchandise placement and presentation, retail data collection, ways for optimising marketing, operation and merchandising decision. (6)

ANALYTICS IN STORE OPERATIONS : Strategic use of data, labour forecasting, merchandise placement, pricing strategy. (5)

Total L: 15

REFERENCES:

1. Emmett Cox , "Retail Analytics: The Secret Weapon", John Wiley and sons, New Jersey, 2011.
2. Chetan Bajaj, Rajnish Tuli, Nidhi V Srivastava , "Retail Management", 3rd Edition, Oxford University Press, New Delhi, 2005.
3. Michael Levy, Barton A Weitx, Dhruv Grewal , "Retailing Management", 9th Edition, McGraw Hill education, India, 2013.
4. Bernadette Tieman , "E-Tailing", Dearborn financial publishing, Chicago, 2000.

19HF13 PRODUCT LIFECYCLE MANAGEMENT (PLM) IN FASHION INDUSTRY

1 0 0 1

PLM IN FASHION INDUSTRY : Definition, scope and benefits of PLM, evolution of PLM, PLM platform Vs traditional product development approach. Analysis of PLM market in the fashion industry. Business case for PLM adoption. Business processes in PLM environment. (3)

PLM INITIATIVE : Introduction to the PLM platform and its modules - Material management, sourcing, product specification, calendar management, merchandising management, quality management. Mobile apps and connectivity to other enterprise solutions. (8)

PLM CASE STUDIES : Analysis of PLM implementation in the fashion industry. (4)

Total L: 15

REFERENCE:

1. John Stark , "Product Lifecycle Management (Volume 1) 21st Century Paradigm for Product Realisation",", Springer, 2015.

ENGLISH

19GF01 INTERPERSONAL AND ORGANIZATIONAL COMMUNICATION

1 0 0 1

INTRA ORGANIZATIONAL COMMUNICATION : Communication Networks in an Organization; Intra- organizational communication (2)

INTER ORGANIZATIONAL COMMUNICATION : Flow Nomenclature; Workplace diversity and intercultural aspects of communication (2)

COMMUNICATION FUNCTIONS IN ORGANIZATIONS : Teamwork and team dynamics; Conflict resolution strategies and styles; Leading and influencing others-facilitation skills (3)

WRITTEN COMMUNICATION : Email Writing, Professional Reports, and Memos (4)

INTERPERSONAL SKILLS : Nature and Dimensions of Interpersonal Communication; Personality and Communication styles; Active listening and intentional responding; Working with emotional intelligence (4)

Total L: 15

REFERENCES:

1. Bagchi Subroto , "The Professional", Penguin Publications, UK, 2011.
2. PMBOK guide , "A Guide to the Project Management Body of Knowledge", Project Management Institute Inc, USA, 2013.

19GF02 HUMAN VALUES THROUGH LITERATURE

1 0 0 1

PROSE : Kalam's vision of college education in Wings of fire - Emerson's advocacy of independence of Human will in Self-reliance - Harmony in Education-views of Betrand Russel (4)

POETRY : Maintaining Human relations in Robert Frost's Mending Wall - Quest for identity and freedom in Kamala Das's An Introduction (2)

DRAMA : Statesmanship and friendship in Girish Karnad's Tughlaq (3)

ONE-ACT PLAY : The theme of love in Chekhov's The Bear (3)

SHORT STORY : Empathy in Somerset maugham's Mr. Know-all - Family bond in Anita Desai's Devoted son (3)

Total L: 15

TEXT BOOKS:

1. Faculty - Department of English , "Course materials", PSG College of Technology, Coimbatore, 2019.

REFERENCES:

1. Abrams M .H, Harpham , "A Glossary of Literary Terms", Cengage, Boston, 2015.
2. Scholes R, et.al. , "Elements of Literature", IV, Indian Rpt. OUP, New Delhi, 2013.

HUMANITIES

19OFA1 EXPORT – IMPORT PRACTICES

1 0 0 1

INTRODUCTION : Export – Import Business – Preliminaries for starting Export – Import Business Registration. (3)

EXPORT PROCEDURES : : Obtaining an Export License – Export Credit Insurance – Procedures and Documentation (4)

FOREIGN EXCHANGE : Finance for Exports – Pricing - Understanding Foreign Exchange Rates. (3)

IMPORT PROCEDURES : Import Policy – License - Procedure and Documentation. (3)

EXPORT INCENTIVES : Incentives - Institutional support (2)

Total L: 15

REFERENCES:

1. Ramagopal C , "Export Import Procedures - Documentation and Logistics", New Age International, 2014.
2. Cherian and Parab , "Export Marketing", Himalaya Publishing House, New Delhi, 2008.
3. Parul Gupta , "Export Import Management", MC-Graw Hill, 2017.
4. Justin Paul, Rajiv Aserkar , "Export Import Management", Oxford, 2013.

190FA2 INSURANCE - CONCEPTS AND PRACTICES

1 0 0 1

INTRODUCTION TO INSURANCE AND RISK MANAGEMENT : Origin, History, Nature and Scope of insurance – Meaning, types and significance of risk. (3)

INSURANCE LAWS AND REGULATIONS : Insurance Act, IRDA Act, Consumer Protection Act, Ombudsman Scheme. (2)

INSURANCE UNDERWRITING AND RISK MANAGEMENT : Meaning of underwriting and underwriter, guidelines and steps in the process of underwriting – characteristics, significance and principles of risk management. (4)

FINANCIAL ASPECTS OF INSURANCE MANAGEMENT : Role and functions of financial institutions, determination of premium for various insurance products. (3)

SETTLEMENT OF INSURANCE CLAIMS : Documents needed during various claims, Factors affecting insurance claims (3)

Total L: 15

REFERENCES:

1. Scott Harrington, Gregory Niehaus , "Risk Management and Insurance", McGraw Hill Education, 2017.
2. George E Rejda , "Principles of Risk Management & Insurance", Pearson Education, 2017.
3. John Hull , "Risk Management & Financial Institution", John Wiley and Sons, 2018.
4. Arjun Mittal, D D Chaturvedi , "Insurance and Risk Management", Scholar Tech Press, 2017.

190FA3 PUBLIC FINANCE

1 0 0 1

INTRODUCTION: Nature and Scope of public finance – Principles of taxation. (2)

PUBLIC REVENUE AND TAXATION: Sources of Revenue – Tax and non-tax revenue – Classification of Taxes, GST. (4)

PUBLIC EXPENDITURE: Importance – Types – Causes of increase in public expenditure – Effects of public expenditure in India. (3)

DEFICIT FINANCING AND BUDGET: Sources of public debt – Debt redemption – Budget – Types – Preparation of Budget in India. (3)

FEDERAL FINANCE: Centre-State financial relations – Finance commissions. (3)

TOTAL: 15

REFERENCE BOOKS:

1. Richard A Musgrave and Peggy B Musgrave, "Public Finance in Theory and Practice" – Tata McGraw Hill Education, New Delhi, 2004.
2. Bhatia H.L, "Public Finance" – Vikas Publishing House, 29th Edition, New Delhi, 2012.
3. David N Hyman, "Public Finance: A contemporary application of theory and policy", Cengage Publication, 11th Edition, Noida, 2014.
4. Santhosh Dalvi and Krishnan Venkatasubramanian, "An introduction to Goods and Service Tax: The biggest tax reform in India", CCH Publisher, New Delhi, 2015.

190FA4 SECURITY ANALYSIS AND PORTFOLIO MANAGEMENT

1 0 0 1

INVESTMENT ENVIRONMENT : Financial Markets - Classification - Financial Instruments – Security Trading. (2)

TYPES OF SECURITIES : Trading – Orders, Margin Trading – Clearing and Settlement Procedures. (5)

SECURITY ANALYSIS I : Industry Analysis – Estimation of Rates of Return. (2)

SECURITY ANALYSIS II : Company Analysis — Estimation of Rates of Return. (2)

PORTFOLIO MANAGEMENT : Measuring Risk and Returns and Treatment in Portfolio Management.

(4)

Total L: 15

REFERENCES:

1. William F Sharpe, Gordon J. Alexander, Jeffery V Bailey , "Investments", Prentice Hall, 2012.
2. Prasanna Chandra , "Investment Analysis and Portfolio Management", TATA McGraw Hill Publishing, 2011.
3. Ranganathan , "Investment Analysis and Portfolio Management", Pearson, 2004.
4. Bhalla V K , "Investment Management", TATA McGraw Hill Publishing, 2011