

BHARATHIAR UNIVERSITY –COIMBATORE – 641046.
B.Sc FASHION APPAREL MANAGEMENT DEGREE COURSE WITH COMPULSORY
DIPLOMA IN MERCHANDISING MANAGEMENT
(For the students admitted during the academic year 2008-2009 Batch onwards)
Scheme of Examination

sPar t	Study Components	Course Title	Hours per week	Examination				Credits
				Dur.Hr	CIA	Marks	Total Marks	
Semester – I								
I	Language I		6	3	25	75	100	3
II	English I		6	3	25	75	100	3
III	Core I	Textile Science	4	3	20	55	75	4
	Core II	Introduction to Computers	4	3	20	55	75	4
	Core Practical I	Computer Applications	4	3	40	60	100	2
	Allied Paper I	Woven Fabrics and Designs	4	3	25	75	100	5
IV	Environmental Studies #		2	3	-	50	50	2
Semester – II								
I	Language II		6	3	25	75	100	3
II	English II		6	3	25	75	100	3
III	Core III	Garment Manufacturing Machines	4	3	20	55	75	4
	Core IV	Pattern Making & Grading	4	3	20	55	75	4
	Core Practical II	Pattern Making	4	3	40	60	100	2
	Allied Paper II	Basic Knitting Technology	4	3	25	75	100	5
IV	Value Education Human Rights #		2	3	-	50	50	2

	Semester III						
III	Core V - Engineering Economics	6	3	25	75	100	3
	Core VI - Textile Wet Processing	6	3	20	55	75	3
	Core Practical III - Textile Wet Processing Practical	4	3	20	30	50	4
	Core VII Fashion Communication and Retailing	4	3	25	75	100	4
	Allied : III Knitting Technology– Practical	5	3	40	60	100	5
	Skill based Subject 1 (Diploma Paper I) Principles of Management	3	3	25	75	100	3
	Tamil @ / Advanced Tamil# (OR) Non-major elective - I (Yoga for Human Excellence)# / Women's Rights#	2	3	75		75	2

Semester IV							
III	Core VIII Principles of Accounting	4	3	25	75	100	4
	Core IX Garment Construction	4	3	25	75	100	3
	Core X Fashion Design Elements and Concepts	6	3	20	55	75	3
	Core Practical IV Textile Testing & Standards - Practical	5	3	20	30	50	4
	Allied : IV Garment Construction - Practical	6	4	40	60	100	5
	Skill based Subject 2 (Diploma Paper) Fashion Merchandising and Retailing	3	3	25	75	100	3
	Tamil @ /Advanced Tamil # (OR) Non-major elective -II (General Awareness #)	2	3	75		75	2
Semester V							
III	Core Practical V Computer Aided Designing-Practical	6	3	40	60	100	3
	Core XI Business Statistics	6	3	25	75	100	3
	Core XII Apparel Production Management	5	3	25	75	100	3
	Core XIII Garment Costing & Programming	5	3	25	75	100	3
	Elective -I	5	3	25	75	100	5
IV	Skill based Subject 3 (Diploma) Total Quality Management	3	3	25	75	100	3
Semester VI							
III	Core XIV Apparel Marketing & Merchandising	6	3	25	75	100	4
	Core XV Entrepreneurship Development	6	3	20	55	75	4
	Core XVI Human Resource Management	5	3	20	55	75	4
	Elective -II	5	3	25	75	100	5
	Elective -III	5	3	25	75	100	5
IV	Skill based Subject 4 (Diploma) Export Sampling & Product Development- Practical	3	4	40	60	100	3
V	Extension Activities @	-	-	50	-	50	1
Total						3600	140

@ No University Examinations. Only Continuous Internal Assessment (CIA)

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List of Elective papers (Colleges can choose any one of the paper as electives)		
Elective - I	A	Inspection & Quality Control
	B	Visual Merchandising
	C	International Trade & Documentation
Elective - II	A	Fashion Accessories & Trims
	B	Apparel Retailing
	C	Industrial Psychology
Elective - III	A	Fabric Manufacturing Technology
	B	Design Collection
	C	Fashion Accessories

SEMESTER – I CORE PAPER I - TEXTILE SCIENCE

UNIT I

Textile fibres: Classification – General properties – Identification of textile fibres - Polymer – Terminologies – Polymerization types - Types of polymers – Methods of filament spinning - Drawing and effects.

Cotton: Producing countries – Botanical and commercial classification - Brief study on Indian hybrid and imported commercial cotton varieties – Fibre morphology – Chemical structure & composition - Properties - End uses. Brief study about organic cotton and it's cultivation.

Jute: Producing countries – Fibre morphology – Chemical composition - Properties - End uses.

Flax: Producing countries – Fibre morphology – Chemical composition - Properties - End uses.

UNIT II

Wool: Producing countries - Grading - Fibre morphology – Chemical structure & composition - Properties - End uses - Felting – Study of Woolen and Worsted Yarns - End uses - Brief study on specialty hair fibers and uses.

Silk: Producing countries – Sericulture – Stiffling & Reeling – Throwing – Degumming – Weighting. Fibre morphology – Chemical structure & composition – Properties - End uses. Meaning of spun silk – Comparison of spun & filature silk. Brief study on wild silk varieties.

UNIT III

Semi synthetic fibres: Rayon - Regenerated and modified cellulose -Viscose rayon process flow - HWM fibres - Comparison of properties between viscose and HWM rayons –End uses –Bamboo fibre- Process flow - Properties - End uses.

Synthetic fibres: Common steps for the production – Brief study about Polyamide, Polyester, Poly Acrylic, and Spandex – Process flow for the production of Nylon 6,6, Nylon 6, Polyester filaments and staple fibres. Individual fibre properties and trade names – End uses.
- Texturisation and it's effects, Types of textured yarns - Methods of texturisation – End uses of textured yarns.

UNIT IV

Classification of yarn types- Staple spinning system - Types – Cotton Yarn Production sequence and objectives – Principles of short staple spinning – Comparison of carded and combed yarn - Winding and it's objects – Waxing and it's significance – Properties required for export quality hosiery yarns. Study of yarn twist and it's importance – Types of yarn twist – Various yarn & package defects.

UNIT V

Blended textiles: Types of blending – Benefits of blending – Prominent blended yarns of fashion apparel market - Double yarn - Properties –Uses. Classification of Sewing threads & applications

– Thread prerequisites – Essential properties - Production process of spun Polyester sewing thread & core spun sewing thread – Advantages. Yarn numbering systems.

REFERENCES:

1. *Shenai. V.A.* Textile Fibers: Technology of Textile Processing, Vol.I, Sevak Publications, Mumbai (1996).
2. *Wynne, A.* The Motivate Series – Textiles, Macmillan Education Ltd., London (1997).
3. *Mishra, S.P.* A Text Book of Fibre Science and Technology, New Age International (P) Ltd Publishers, New Delhi (2000).
3. *Gordon Cook, J.* Hand Book of Textile Fibres – Vol. I & Vol. II. Wood Head Publishing Ltd., Cambridge, England (1984).
5. *Carr, C.M.* Chemistry of the Textile Industry.
6. *Phyllis G.Torton*, Understanding Textiles.
7. *Marjory L.Joseph*, Essentials of Textiles.
8. *Joseph J.Pizzuto*, Fabric Science.
9. *Goswami.J.C., Martindale.J.G, Scardino.K.L.*, Textile Yarns, Technology, Structure & Applications, Mahajan Book Distributors, Ahmedabad (1995).
- 10.*Moncrieff,W*, Man-made Fibres, Butterworth Scientific (1975).
11. Identification of Textile Materials, The Textile Institute, Manchester.
- 12.*Eric Oxtoby*, Spun Yarn Technology
- 13.*A.Venkatasubramaniam*, Spun Yarn Technology Vol. I – III, Saravana Publications, Madurai (1993).
- 14.*Sadov.F, Korchagin.M, Matesky.A*, Chemical Technology of Fibrous Material.
- 15.*K.P.Chellamni*, Yarns and Technical Textiles.
- 16.*Bernard P. Corbman*, Textiles – Fibre to Fabric.
- 17.*Debbie Ann Gioello*, Understanding Fabrics: From Fibre to Finished Cloth, Fairchild Publications, New York (2002).

SEMESTER – I CORE PAPER II - INTRODUCTION TO COMPUTERS

UNIT I

Introduction to computer - Definition of a computer - Computer generations - Classification of a computer - Areas of application - Concepts of data and information - Capabilities and limitations of a computer. Components of a computer system: Hardware – CPU, input devices, output devices, storage devices, motherboard, power supply unit. Memory: Primary memory, secondary memory. Software: System software, application software. Programming languages, packages. Introduction to numbering systems - Binary, octal, decimal and hexadecimal number systems.

UNIT II

Operating system: Functions of an Operating System - Classification of Operating Systems - Introduction to DOS - Graphical User Interface Systems - Basic components of a GUI system - Advantages of GUI over CUI - Introduction to Windows XP. Introduction to computer networking, network operating systems, network concept and classification, LAN, LAN topologies, WAN, Advantages of networking - Introduction to Windows 2000 server.

UNIT III

Introduction to MS Office: The Office Assistant, Working with multiple data, clip art, templates, wizards - Introduction to word processing - Word Processor, benefits and advantages, applications, mail merging, working with word processor - Spread sheet – An introduction - Advantages of using spread sheet software, applications of spreadsheet, Excel. Understanding workbooks and worksheets, charts & tables. Power point - An introduction - The concept of a presentation, creating a slide show, preparing hand-outs.

UNIT IV

Introduction to internet, History of internet, The World Wide Web. Internet browsers – Internet Explorer, Netscape Navigator. Internet Tools – E-Mail, advantages and disadvantages of E-Mail. Search engines and benefits. Introduction to E – commerce.

UNIT V

Virus, Types of viruses, How do virus spread, Symptoms of a virus attack, Prevention of virus attack, Detection of viruses, Removing viruses.

REFERENCES:

1. *R.Krishnamoorthi*, Computer Programming and Applications, J.J Publications.
2. *Greg Perry*, Teach Yourself Microsoft Office 2000 in 24 Hours, Tech media Publications.

SEMESTER – I PRACTICAL I - COMPUTER APPLICATIONS

LIST OF EXPERIMENTS

1. Do the following exercise using DOS commands.
 - Create a file and display it
 - Delete and rename a file
 - Display all files with the extension .exe or .bat
2. Create a batch file and macro using DOS commands.
3. Using Windows 98
 - Create a folder and sub folder
 - Edit and delete a folder
 - Rename the folder
 - Copy a folder in to floppy disc

4. Create a text file using Windows 98 and save it in a folder that is created and print the file using print command. Also create a shortcut of the file in the Desktop.
5. In Microsoft Word use the following utilities in your document
 - Find, replace, go to, header & footer, zoom
 - Insert a hyperlink and bookmark into your document
6. Create a document using the utilities of MS Word
 - Font, bullets and numbering, borders and shading, auto format
 - Auto correct, spell check
 - Create a table in MS Word
7. Create a letter and send to all the students who have different addresses using Mail merge facility. Also create a macro using same utility of MS Word.
8. Create a spread sheet which contains chart and pivot table.
9. Using MS Word, prepare the given report.
10. Using MS Excel, prepare the given balance sheet.
11. Using MS Excel get the output in the various graphs for the given data.
12. Using MS Excel do the given calculation and prepare the required statement.
13. Using MS Power point prepare the flow chart and presentation slides for given topic.
14. Design the given motif / design using Coral draw.
15. Create the given situation in Coral draw.
16. Work on Adobe photo shop for the given design card.
17. Design a web page for the given details using HTML / DHTML / Flash.

SEMESTER – I ALLIED PAPER I - WOVEN FABRICS AND DESIGNS

UNIT – I

Classification of fabric forming methods – Weaving preparatory processes - Objects of winding process – Winding types – Passage of material through conventional drum type slow speed non – automatic and modern drum type high speed automatic winding machine with machine elements – Passage of material of precision winding machine – Winding terminologies, open wind and close wind – Winding defects, causes & remedies. Pirn winding – Objects - Passage of material through an automatic high speed pirn winder.

UNIT – II

Objects of warping – Types of warping – Passage of material through slow speed conventional beam warping machine, high speed modern beam warping machine & sectional warping machine – Warping defects, Causes & remedies. Objects of sizing – Passage of material through

two cylinder, multi cylinder & hot air sizing machines – Sizing ingredients & their functions – Size paste preparation – Sizing defects, causes & remedies.

UNIT – III

Passage of material through a plain power loom – Basic mechanisms of a loom – Primary, secondary & auxiliary motions – Tappet shedding – Cone over pick & under pick mechanisms – Beat up mechanism – Types of let off & take up mechanisms – Fabric defects, causes & remedies.

UNIT – IV

Introduction to weaves – Weave diagram – Plain weave & derivatives – Twill weave & derivatives – Satin & sateen weaves – Honeycomb – Huck a back. Objects of dobby & jacquard mechanisms – Types of dobby & jacquard – Study of negative & positive dobbies – Study of single cylinder & double cylinder jacquard mechanisms.

UNIT – V

Salient features of automatic looms -Introduction to shuttleless looms - Advantages over shuttle looms - Types of shuttleless looms –Principles of shuttleless looms - Rapier – Projectile – Airjet – Waterjet – Introduction to non wovens – Production methods - Applications.

REFERENCES:

- 1.*R.Marks, A.T.C. Robinson*, Principles of Weaving, The Textile Institute, Manchester (1976).
- 2.*B.Hasmukhrai*, Fabric Forming, S.S.M Institute of Textile Technology Students Co operative stores Ltd, Komarapalayam (1996).
- 3.*Prof.N.N.Banerjee*, Weaving Mechanism, Vol. I & Vol. II, Published by Smt.Tandra Banerjee, West Bengal (1999).
- 4.*Prof.J.L.Chakravorty*, Mechanism of Weaving Machines, Smt.B.Chakravorty, Serampore, W.B. (1984).
- 5.*Sabit Adanur*, Handbook of Weaving, Technomic Publishing Company, Inc, USA (2001).
- 6.*Peter Sehwartz*, Trevor Rhodes, Mansour Mohamed, Fabric Forming Systems, Mahajan Book Distributors, Ahmedabad (1996).
- 7.*K.T.Aswani*, Fancy Weaving Mechanism, Mahajan Book Distributors, Ahmedabad (1990).
- 8.*N.Gokarneshan*, Fabric Structure and Design, New Age International Publishers, New Delhi (2004).
- 9.*Z.Grosicki*, Watson's Textile Design and Color and Advanced Textile Design and Color , Newnes – Butter Worth, Universal Publishing Corporation, Bombay (1988).
- 10.*Blinov.I, Belay.S*, Design of Woven Fabrics, MIR Publishers, Moscow (1988).

SEMESTER – II CORE PAPER III - GARMENT MANUFACTURING MACHINES

UNIT I

Introduction to garment industry – Detailed study of process sequence. Lay and marker planning – Study of methods of marker planning – Study of spreading methods.

UNIT II

Introduction to garment cutting machines – Types of cutting machines and applications – Detailed study on straight knife, band knife and round knife cutting machines. Brief study on notchers, drills & thread markers.

UNIT III

Classification of industrial sewing machines – Applications –Description and working of Single Needle Lock Stitch machine, Double Needle Lock Stitch machine, Over Lock machines, Flat Lock machine – Types and parts of sewing machine needles – Needle sizes.

UNIT IV

Sewing machine feed mechanisms: Drop feed – Differential feed – Variable top feed combined with drop feed - Variable top feed combined with differential feed – Compound feed – Unison feed. Machine bed types: Flat bed - Cylinder bed - Post bed – Feed – off arm – Applications. Types of work aid: Guides – Folders. Details of stand, table and motor for sewing machines.

UNIT V

Brief study on computer controlled cutting machine, Laser and Plasma cutting. Brief study on safety stitching, blind stitching, button stitching, button holing, placket making and bar tacking machines. Study on various garment finishing machines for fusing, sucking, ironing and packing.

REFERENCES:

1. *Harold Carr and Barbara Latham*, The Technology of Clothing Manufacture, Blackwell Science Ltd, England (1994).
2. *Gerry Cooklin*, Introduction to Clothing Manufacture, Blackwell Science Ltd, England (1991).
3. *Dora.S.Lewis, Mabel Goode Bowers and Marietta Kettunen*, Clothing Construction and Wardrobe Planning, The Macmillan Company : New York (1955).
4. *Terry Brackenbury*, Knitted Clothing Technology, Blackwell Science Ltd, England
5. *Ruth. E, Glock and Grace.I.Kunz*, Apparel Manufacturing, Pearson Education, New Delhi.
6. Brochures & Catalogues of various machinery manufacturers.

SEMESTER – II CORE PAPER IV - PATTERN MAKING AND GRADING

UNIT I

Introduction – Concept of basic pattern and grading – Methods of pattern making with special reference to pattern drafting - Pattern making tools – Various pattern production terms–Standard

body measurements for men's wear, women's wear and kids wear of different countries. Style wise component parts of a garment.

UNIT II

Pattern positioning and lay out – Concept of pattern layout - Rules and methods of pattern layout – Adjusting the patterns to fabric. Fitting: Definition – Principles for a good fit– Checking the fit of a garment – Solving fitting problems in various garments.

UNIT III

Draping – Importance of draping – Dress form and types – Draping steps for basic bodice, skirt, pants. Procedure to develop necklines: Jewel neck - Round neck - 'U' neck - Square neck - Pentagon neck - Star neck - Inside and outside scallop neck. Procedure to develop sleeves: Plain and puff sleeves.

UNIT IV

Procedure to draft the ¼th patterns for men's wear: Basic round neck T shirt, raglan sleeve T shirt with hood, full sleeve shirt, narrow bottom trouser.

Procedure to draft the ¼th patterns for kids wear: Jabla, knicker, pedal pusher, A-Line frock.

Procedure to draft the ¼th patterns for Ladies wear: Blouse, kameez, salwar, midi, midi top.

UNIT V

Basic principle of dart manipulation – Displacement of bust dart (waist – side seam, armhole – neck of front edge).

Grading – Definition – Principles of grading - Master grades – Basic back & front grades – Grading of basic sleeve, basic collar, basic facing. Selecting a grading system – Midi – Trace grading – Trouser grading – Jacket grading – Shirt grading.

REFERENCES:

1. *Helen Joseph Armstrong*, Pattern Making For Fashion Design, Harper Collins Publishers (1987).
2. *Winifred Aldrich*, Metric Pattern Cutting, , Blackwell Science Ltd, England (1994).
3. *Winifred Aldrich*, Metric Pattern Cutting for Men's Wear, Blackwell Science Ltd, England (1990).
4. *Winifred Aldrich*, Metric Pattern Cutting for Children's Wear (From 2 – 14 Years), Blackwell Science Ltd, England (1991).
5. *Gerry Cooklin*, Pattern Cutting for Women's Outerwear, Blackwell Science Ltd, England (1992).
6. *Gerry Cooklin*, Pattern Grading for Women's Clothes, Blackwell Science Ltd, England (1990).
7. *Gerry Cooklin*, Pattern Grading for Men's Clothes, Blackwell Science Ltd, England (1992).

8. *Gerry Cooklin*, Pattern Grading for Children's Clothes, Blackwell Science Ltd, England (1991).
9. *Gerry Cooklin*, Master Patterns and Grading for Women's Outsizes, Blackwell Science Ltd, England
10. *Natalie Bray*, Dress Pattern Designing, Blackwell Science Ltd, England (1986).
11. *Natalie Bray*, More Dress Pattern Designing, Blackwell Science Ltd, England
12. *Natalie Bray*, Dress Fitting, Blackwell Science Ltd, England (1978).
13. *Maccam, Dinald H*, How to Make Sensible Pattern.
14. *Gollian Holman*, Pattern Making Made Easy.
15. *Inju Kim*, Apparel Making in Fashion Design, Fairchild Publications Inc. New York (2002).
16. *Winifred Aldrich*, Fabric, Form and Flat Pattern Cutting, Om Book Service, New Delhi (1996).

SEMESTER – II CORE PRACTICAL II - PATTERN MAKING

LIST OF EXPERIMENTS

Draft and construct the pattern of given style / sample as per the specification given with and also grade the same for required sizes.

1. Men's basic T shirt
2. Men's raglan with pocket
3. Men's polo T shirt
4. Men's high neck shirt
5. Men's boxer short
6. Men's bermudas short
7. Men's trouser
8. Men's kimono sleeve
9. Men's V – neck shirt
10. Men's hood shirt
11. Men's inner garment – vests RN / RNS
12. Men's under garment: briefs with inner waist band or outer waist band of various models - Trunk type.
13. Ladies skirt
14. Ladies blouse
15. Ladies basic bodice
16. Women's nighties
17. Kid's wear of various styles
18. Children's suits and pyjama

SEMESTER – II ALLIED PAPER II - BASIC KNITTING TECHNOLOGY

UNIT I

Different fabric forming methods- Comparison of weaving and knitting-principles of weft and warp knitting – Comparison of weft and warp knitting – Classification of knitting machines.

UNIT II

Yarn passage diagram of a circular knitting machine – Study of knitting elements – Needle types, sinker, cylinder, dial and cam. Comparison of needle types - Knitting cycle of latch needle with sinker.

UNIT III

Knitting terms and definitions - Basic weft knit structures and their characteristics- Needle gating - Principal weft knit stitches - Formation and properties - Representation of weft knit stitches. Effects of loop length on knitted fabric properties.

UNIT IV

Yarn passage diagram of flat knitting machine - Needle bed assembly – Racking, carriage and cam box arrangement - Yarn feeding arrangement - Carriage driving mechanism - Fabric take down mechanism.

UNIT V

Knitted fabric faults – Causes and remedies. Calculations: Estimation of course density, wale density and loop length – GSM calculations – Count and gauge relationship - Knitting production calculation.

REFERENCES:

1. *D.B.Ajgoankar*, Knitting Technology, Universal Publishing Corporation, Mumbai (1998).
2. *David.J.Spencer*, Knitting Technology, Wood Head Publishing Ltd. – Second Edition, England (1989).
3. *Samuel Raz*, Flat Knitting, Meisenbach Bamberg (1993).
4. *J.E.Booth*, Textile Mathematics, The Textile Institute Manchester – I Edition(1997).
5. *Peter Schwartz, Trevor Rhodes and Mansour Mohamed*, Fabric Forming Systems, Mahajan Publishers, Ahmedabad (1996).
6. *Chandrasekara Iyer, Bernd Mammel and Wolfgang Schach*, Circular Knitting, Meisenbach Bamberg (1992).
7. *Wynne, A*, The Motivate Series – Textiles, Macmillan Education Ltd., London (1997).
8. *Bernard P. Corbman*, Textiles, Fibre to Fabric

SEMESTER III CORE-V ENGINEERING ECONOMICS

UNIT - I

FUNDAMENTALS OF ECONOMICS: Scarcity definition of Economics – Micro and Macro Economics – Engineering Economics and its definition – Utility – Law of Diminishing Marginal Utility – Demand – Law of Demand – Factors affecting the Elasticity of Demand – Demand Forecasting.

UNIT – II

PRODUCTION AND COST ANALYSIS: Factors of Production – Production problem – Law of Variable Proportions – Production Function – Isoquants – Law of Returns to Scale – Ridge Lines – Empirical Estimation of Cobb – Douglas Production Function – Supply – Meaning – Supply Curve – Law of Supply – Factors affecting the Supply – Cost Concepts – Cost-Output Relationship – Short-run and Long-run Cost Curves.

UNIT – III

PRICING AND OUTPUT DETERMINATION: Pricing Decisions under different market conditions – Perfect Competition – Monopoly – Oligopoly – Pricing Methods – Break – Even Analysis.

UNIT – IV

DEMAND FOR MONEY AND SUPPLY OF MONEY: Demand for Money – Keynes Liquidity Preference Theory – Importance of Money Supply – Concepts and its Measurement – Functions of RBI – Methods of Credit Control – Bank Rate Policy – Changing the Cash Reserve Ratio (CRR) – Inflation – Meaning – Types of Inflation – Causes of Inflation in Developing Countries.

UNIT – V

INTERNATIONAL TRADE AND FOREIGN EXCHANGE: Difference between Internal Trade and International Trade – Balance of Payments and Balance of Trade – Methods of Correcting Adverse Balance of Payments – Foreign Exchange Rate and Foreign Exchange Market – Fixed and Flexible Exchange Rate – Appreciation and Depreciation of Currencies.

REFERENCES:

1. Business Economics – H.L. Ahuja , S. Chand & Co. Ltd.
2. Contemporary Engineering Economics – Chan S. Park, Prentice Hall of India.
3. Engineering Economics and Finance Accounting – A. Ramachendra Aryasri and V.V. Ramana Murthy.
4. Industrial Organisation and Engineering Economics – S.C. Sharma and T.R. Banga
5. Macro Economics for Business and Management – H.L. Ahuja, S. Chand & Co. Ltd.
6. International Business – Francis Cherunilam, Himalaya Publishing House
7. International Marketing - Francis Cherunilam, Himalaya Publishing House

SEMESTER III CORE-VI TEXTILE WET PROCESSING

Unit – I. Water

Water & Quality Required For Wet Processing Industries - Softening Process: Ion Exchange - Sequestering Agent Methods - Terminology & Terms Related To Textile Industries (Ph, Acid, Base, Oxidation, Reduction) – Role Of Textile Auxiliaries.

Unit – II. Preparatory Process

Desizing – Objects And Methods – Process Of Desizing – Scouring – Objects, Methods And Process – Bleaching – Objects And Types Of Bleaching Agents – Bleaching Process – Optical Whiteners.

Unit – III. Dyeing

Dyes & Dyeing – Classification – Principles Of Different Dyeing - Direct, Reactive, Vat, & Disperse Dyes – Principles Of Dyeing Of Synthetic & Blended Textile Materials - After Treatments – Types & Principles Of Different Dyeing Machines - Winch – Soft Flow – Cabinet - Cheese And Hthp Machines – Merits & Demerits.

Unit – IV. Printing

Principles Of Printing – Screen Preparation-Styles And Methods – Resist, Discharge, Transfer Etc., -- Recipes Of Print Paste –After Treatments – Principles Of Various Printing Machines – Pigment Printing.

Unit – V. Finishing

Objects Of Finishing – Temporary And Permanent Finishes – Chemical Finish - Wrinkle Free – Silicone Wash – Pigment Padding – Enzyme Washing – Stone & Sand Washing – Mechanical Finish - Calendaring – Shrinkage Control – Raising – Shearing – Tumble Dry. Mercerisation – Objects & Process – Knit Mercerisation – Quality Test.

References:

- 1. Technology Of Textile Processing (Vol 1-9) – By V.A.Shenai**
 - 2. Dyeing And Chemical Technology Of Textile Fibres – E.R.Trotman**
- Textile Science – Gohl

SEMESTER III CORE PRACTICAL

TEXTILE WET PROCESSING PRACTICAL

1. Estimation of water harness by EDTA method.
2. Scouring of grey cotton woven / knitted fabrics and estimate the scouring loss percentage.
3. Bleaching the given cotton knitted fabrics using hydrogen peroxide.
4. Dye the given cotton sample with natural dyes.

5. Dye the given cotton sample with cold brand reactive dyes.
6. Dye the given cotton sample with hot brand reactive dyes.
7. Dye the given cotton sample with vinyl sulphone dyes.
8. Dye the given cotton sample with reactive H-E dyes.
9. Dye the given silk material with acid / basic dyes.
10. Dye the given wool material with acid / basic dyes.
11. Dye the given polyester sample using carriers.
12. Dye the given fabric for the given pattern using Tie & Dye Technique.
13. Develop a batik motif and print on the given sample.
14. Prepare the print paste with pigment colour and print on the given fabric.
15. Print the given fabric with reactive dyes by Resist Style.
16. Prepare the print paste with reactive dyes and print on the given fabric by discharge style.

SEMESTER III CORE-VII FASHION COMMUNICATION AND RETAILING

Unit – I

Retailing - Fashion Retailing - Scope of Retailing – Classifications - Retail Store Functions - Retail Marketing Channels - Retail Strategy Development - Retail Adaptation

Unit - II

Retail Environment - Retailing and Economy - Political and Social Influences - Retailing Structures - Department Stores, Specialty stores and Discount Retailers - General Merchandise Chains - Classic Shopping Malls

Unit - III

Visual Merchandising – Introduction – Visual Merchandising Environment – Elements - Store Design – Store Image - Global Retailing – Retail Competition – E – Retailing – Criteria for Global Success in Global Retailing – Factors.

Unit - IV

Online Marketing Communication – Strategies of Fashion Communication – Individual and Group Influences on Consumer Behaviors – Impact of Technology on Fashion Communication

Unit - V

Objectives of Fashion Retail Promotion - Promotion – Mix – Retail Sales Promotion – Publicity – Public Relation – Personal Selling – Advertising – Advertising Agencies – Fashion Shows and its types.

References:

1. Fashion Advertising and Promotion, *Jay and Ellen Diamond*, Fair Child Publishers, New York, 1999.
2. Retailing Principles, *Lynda Gamans Poloian*, Fair Child Publishers Inc., New York, 2003.

SEMESTER III ALLIED: III KNITTING TECHNOLOGY- PRACTICAL

Part A:

1. Calculate The Speed Of Single Jersey Knitting Machine Through Gearing Diagram.
2. Calculate The Speed Of Rib Knitting Machine Through Gearing Diagram.
3. Trace The Diagram Of Different Cams In The Conventional/Modern Knitting Machine With Measurements. Also Mention The Importance Of Each Cam.
4. Trace The Take Down Mechanism And Set The Mechanism For Maximum And Minimum Tension.
5. Trace The Positive Feeder Mechanism Available In The Modern Knitting Machine And Set The Mechanism For Two Different Feed Lengths.
6. Develop A Pattern For Flat Knitting And Set The Machine Accordingly.
7. Develop A Pattern For Circular Knitting And Set The Machine Accordingly.

Part B: Development Of The Following Samples:

1. Pique
2. Double Pique
3. Lacoste
4. Pearl
5. Twill
6. Two Thread Fleece
7. Mini Jacquard Design
8. Auto Striper
9. Rib Waffle
10. Flat Back Rib
11. Rib drop needle
12. Interlock

and Analyse the Following Particulars:

- A) Course and Wale density
 - B) Loop length
 - C) Areal Density (GSM)
 - D) Tightness factor
 - E) Technical Graph
 - F) Cam Order
 - G) Needle Order
- (Any one of the above designs shall be given)

SEMESTER III DIPLOMA PAPER-I PRINCIPLES OF MANAGEMENT

UNIT I

Nature and scope of management – Management Science / Art – Development of management theory – Scientific management – Henry Foyal’s principles of management .

UNIT II

Planning - Meaning and purpose of planning – Steps in planning – Types of planning - Objectives and policies – Objectives, policies, procedures and methods, nature and types of policies - Decision making – Process of decision making – Types of decisions – Problems involved in decision making.

UNIT III

Organizing – Types of organization – Organizational structure – Span of control – Committees. Delegation and centralization line & staff relationship - Staffing – Sources of recruitment – Selection process - Training methods – Performance appraisal.

UNIT IV

Directing – Nature and purpose of directing – Motivation – Discipline – Leadership – Supervision – Communication – Requirements for effective controls – Critical control points and standards.

UNIT V

Controlling – Need for co-ordinating – Meaning and importance of control - Control process –Types of control.

REFERENCES:

- 1. O.P.Khanna, Industrial Engineering And Management, Dhanpat Rai Publications, New Delhi (2006).**
- 2. Patrick.J.Montana and Bruce.H.Charnov, Management, Barrows (2000).**
- 3. D.P.Jain ,Business Organisation and Management, Vrinda Publications (1999).**
- 4. Harold Koontz and Heinz Weihrich, Essentials of Management, Tata McGraw Hill (1998).**
- 5. James.A.F.Stoner, R.Edward Freeman and Danier.R.Gilbert.Jr., Management, Prentice Hall (1995).**
- 6. George.R.Terry and Stephen.G.Franklin, Principles of Management, A.I.T.B.S (2003).**
- 7. Dingar Pagore, Principles Of Management**
- 8. L.M.Prasath, Principles Of Management**
- 9. K.Balasundaram, Industrial Engineering & Management – IV Edition, Shree Ramalinga Sowdeswari Publications, Coimbatore (1986)**

SEMESTER – IV CORE-VIII PRINCIPLES OF ACCOUNTING

Unit – I

Introduction – Book Keeping - Meaning Of Accounting – Types Of Accounts – Personal – Real – Nominal – End Use Of Accounting – Financial Accounting – Management Accounting. Personal Accounts – Impersonal Accounts – Single Entry System – Double Entry System – Advantage – Difference

Unit – II

Journal Ledger – Trial Balance – How To Prepare A Trial Balance – Limitations Of Trial Balance – Rectification Of Errors – Suspension. Subsidiary Books – Invoice – Debit Note – Credit Note – Cash Receipts – Voucher – Simple Problems

Unit – III

Final Accounts – Nature – Matching Principles – Limitations – Distinctions Between Capital And Revenue Expenditure – Differed Revenue Expenditure – Capital And Revenue Receipts – Balance Sheet – Difference Between Trading And Profit And Loss Account – P/L Account And Balance Sheet – Adjustments In Final Accounts – Income Outstanding -

Unit – IV

Depreciation – Meaning – Types – Straight Line Methods Or Fixed Installments Or Equal Installment Method. Diminishing Balance Or Reducing Installment Method. Revaluation Method

Unit – V

Bill Of Exchange – Accounts Of Non Trading Concerns – Bank Reconciliation Statement – Single Entry Or Accounts From Incomplete Records – Meaning – Types – Pure Single Entry System – Simple Single Entry System – Quasi Single Entry System

Reference :

1. Principles Of Accountancy –N.Vinayagam, P.L.Mani, Kl.Nagarajan

SEMESTER IV CORE-IX GARMENT CONSTRUCTION

1. Elements And Functions Of Clothing

Garment Analysis And Its Classification - Measurement And Size Charts For Men, Women, And Children - Requirement And Breakdown Of Garments - Flow Process - Torso And Bifurcated Garments.

2. Stitches

Introduction –Definition -Basic Principles Of Stitch Formation – Classification Of Stitches Based on Federal Standards -- Formation Of Important Stitch Classes In

100,200,300,400,500 and 600 Series – Detailed Study Of Application Of All Stitches - Comparison Of Stitches .

3. Seams

Introduction –Definition – Properties –Detailed Study On Seams Classification As Per Federal Standards – Plain, Top Stitched Seam, Welt Seam, Lapped Seam, Slot Seam, Flat Fell Seam, Hemmed Flat Felt Seam, French Seam, Piped Seam ,Superimposed And Bound Seam. Seam Finishes – Devices For Introducing Fullness. Thread Consumption For Various Types Of Stitches And Garments

4. Defects & Remedies

Detailed Study On Various Stitching, Sewing And Assembly Defects - Causes & Remedies: Skip Stitch, Unbalanced, Puckering, Gathering, Needle Defects, Thread Problems – Quality Of Threads And Its Impact On Sewing Quality – Sewability And Influencing Factors – Needle Cutting Index.

5. Alternative Methods Of Joining Materials:

Fusing And Its Requirements – Fusing Process – Interlinings – Fusible Resin Types – Factors For Fusing Equipment . Introduction To Trims And Accessories Attachments - Label, Zips, Fasteners – Sewing Thread Types And Ticket Numbering.

References:

- 1.Apparel Manufacturing Hand Book – Jacob Solinger
- 2.Technology Of Clothing Manufacture – Harold Carr & B.Latham
- 3.Knitted Clothing Technology – T.Bracken Berry
- 4.Technology of Stitches & Seams –Coats Viyella Limited

SEMESTER IV CORE-X FASHION DESIGN ELEMENTS AND CONCEPTS

UNIT I

Introduction to fashion: Fashion terminologies - Factors influencing fashion – Line: (1) Path, (2) Curve, (3) Direction, (4) Illusion. Shapes: (1) Basic types, (2) Structural & visual shapes

UNIT II

Colour: Colour wheel, Colour theory, Colour value & intensity, Texture - Colour harmony - Colour scheme – Colour psychology – Introduction to colour psychology – Importance of colour psychology in apparel export market.

UNIT III

Principles of design - Proportion – Balance – Rhythm- Harmony.
Neck lines- Collar - Sleeves - Cuffs – Waistlines - Bows & ties – Plackets-Pockets.

UNIT IV

Ruffles, cowls, shirring, smoking, quilting, yokes, draping, gathers, pleats, frills & flounces.

UNIT V

Basic concept of variety of skirts – Methodology of designing of skirts.

Basic concept of Trousers – Methodology of designing of trousers.

Basic concept & types of silhouettes.

REFERENCES:

1. *Injoo Kim & Mykyung Uh*, Apparel Making in Fashion Design, Fairchild Publications, New York (2002).
2. *Bride M. Whelan*, Colour Harmony – A Guide To Creative Colour Combinations, Rockport Publishers, USA (1997).
3. *James Stockton*, Color, Chronicle Book Publishers, San Francisco (1984).
4. *Axel Venn*, Color Kaleidoscope, Mode... Information Group (1997).
5. *Sumathi.G.J*, Elements of Fashion and Apparel Design, New Age International (P) Ltd, New Delhi (2002).
6. *Patric John Ireland*, Fashion Design Drawing and Presentation, B.T.Batsfort Ltd, London (1982).
7. *Jenny Davis*, A Complete Guide to Fashion Designing, Bharat Bhushan Abhishek Publication (2006).
8. *Kathryn Mckelvey & Janine Munslow*, Fashion Source Book, Blackwell Publication (2006).
9. *Kathryn Mckelvey & Janine Munslow*, Fashion Design, Blackwell Publication (2003).
10. *Patric John Ireland*, Encyclopedia of Fashion Details, Prentice Hall, NJ (1987).

SEMESTER IV CORE PRACTICAL-IV TEXTILE TESTING AND STANDARDS- PRACTICAL

1. **Determination Of Count Of Yarn: Wrap Reel & Weighing Scale.**
2. **Determination Of Yarn Count: Electronic Yarn Count Balance.**
3. **Determination Of CSP: Lea Strength Tester –**
4. **Determination Of Yarn Count From Fabric Swatch: Beesley Balance.**
5. **Determination Of Twist /Single Yarn: Electronic Twist Tester.**
6. **Determination Of Twist / Double Yarn: Electronic Twist Tester.**
7. **Fabric Analysis For Determining GSM, CPI, WPI, SI, CI & Count Of Given Sample: Course Length Tester And Weighing Scale.**
8. **Fibre Identification: Microscope And Chemical Test**
9. **Blend Composition – Chemical Test**
10. **Determination Of Color Fastness Of Given Sample To Washing By Using Launderometer And Rating With Help Of Grey Scales**
11. **Determination Of Color Fastness Of Given Sample To Rubbing By Using Crockmeter And Rating With Help Of Grey Scales –**

- 12. Determination Of Color Fastness Of Given Sample To Perspiration By Using Perspirometer And Incubator & Rating With Help Of Grey Scales .**
- 13. Determination Of Dimensional Stability% (Shrinkage / Growth) Of A Given Fabric/Garment To Washing By Using Domestic Washing Machine As Per ISO Procedures.**

SEMESTER IV ALLIED: IV GARMENT CONSTRUCTION- PRACTICAL

1. Exercise On Single Needle Lock Stitch Machine For Given Paper / Fabric Exercise – Straight And Curves - Fabric Exercises – Straight Lines, Curves, Squares, Rectangles, Triangles And Any Other Unlimited Shapes
2. Get At Least Five Different Stitch And Seam Samples Stitched On Various Machines And Furnish The Machine Threading Diagram Along With Stitch Density And Thread Consumption Details, For Given Details
3. Developing Seams Of Various Types - Superimpose, Bound, Lap, Piping Etc.
4. Developing Samples Of Components Such As
 - a. Round Neck
 - b. Scallop Neck
 - c. Gents Placket
 - d. Ladies Placket
 - e. Cross Pocket
 - f. Band Collar
 - g. Henley Band, etc., (As Per Diagrams And Sketches Also May Be Given)

Draft The Pattern, Cut & Construct The Following Components For The Given Measurement:

1. Different Neck Lines (At Least 3Types)
2. Different Collars (At Least 3 Types)
3. Different Sleeves (At Least 3 Types)
4. Different Plackets (At Least 3 Types)
5. Different Pockets (At Least 3Types)
6. Slits

and develop and construct the following.

1. Men's Crew Neck / Henley Neck / Raglan Sleeve Shirt
2. Men's Vest RN / RNS
3. Ladies Skirt

SEMESTER IV DIPLOMA-II FASHION MERCHANDISING AND RETAILING

UNIT I

Fashion: Meaning, Definition & Terminologies – Components of fashion - Principles of fashion – Environment of fashion: Demographic & Psychographic, Economic, Sociological and psychological factors – Fashion cycle - Leaders of fashion: Designer's role, manufacturer's role and retailer's role – Theories of fashion adoption.

UNIT II

Scope of fashion business: Primary level, secondary level and retail level – Type of fashion designers - Fashion focus on Children Apparel: History, organization & operation, merchandising & marketing activities – Fashion focus on Ladies Apparel: History, organization & operation, merchandising & marketing activities

UNIT III

Fashion Focus on Men's apparel: History, organization & operation, merchandising & marketing activities – Fashion focus on Apparel accessories: History, organization & operation, merchandising & marketing activities – Fashion Forecasting – Forecasting techniques – Sources of forecasting

UNIT IV

Fashion merchandising: Store image, Target customer – Fashion direction - Design planning and selection – Merchandising plan – Buying – Receiving and Warehousing – Distribution – Retail selling and promotion – Sales evaluation – Retailing policies – Foreign Fashion Markets: France, Italy, America, Britain, German, Asian – Indian Fashion Industry

UNIT V

Fashion Shows –Types of Fashion Shows – Organising fashion shows – Check points for fashion shows – Foreign Fashion Designers: American, French, Italian, German, UK – Indian Fashion Designers – Fashion Association in India – Fashion Auxiliary services

Reference:

1. Strong Elian, Fashion Merchandising
2. Inside the Fashion Business.. Mc Millan Publishing Co.,
3. Apparel Merchandising
4. Fashion : Concepts to Consumers

SEMESTER V CORE PRACTICAL V

COMPUTER AIDED DESIGNING – PRACTICAL

Part – A

Develop The Patterns For The Following Styles Using Any Cad Software For The Given Measurements And Also Grade The Patterns To Various Sizes And Estimate The Lay Length And Marker Efficiency.

1. Men's Basic T Shirt
2. Raglan with Pocket
3. Men's Polo T Shirt
4. Men's High Neck Shirt
5. Men's Boxer Short
6. Men's Bermudas Short
7. Men's Trouser
8. Men's Kimono Sleeve
9. Men's V – Neck Shirt
10. Men's T-shirt with hood
11. Men's Inner Garment – Vests RN / RNS
12. Men's Under Garment: Briefs With Inner Waist Band Or Outer Waist Band Of Various Models - Trunk Type.
13. Ladies Skirt
14. Ladies Blouse
15. Ladies Basic Bodice
16. Women's Nighties
17. Kid's Wear Of Various Styles
18. Children's Suits And Pyjama

Part – B

Digitize The Given Patterns And Store Them As Style Files And Apply Grade Rules And Estimate The Lay Length And Marker Efficiency

SEMESTER V CORE-XI BUSINESS STATISTICS

UNIT – I

INTRODUCTION TO STATISTICS: Definition of Statistics – Importance and Scope of Statistics – Limitations of Statistics – Collection of Data – Primary and Secondary Data – Sampling – Census and Sample Methods.

UNIT – II

MEASURE OF CENTRAL TENDENCY: A Requisites of A Good Average – Arithmetic Mean – Weighted Arithmetic Mean – Geometric Mean – Median – Mode – Relationship between Mean, Median and Mode.

UNIT – III

MEASURE OF DISPERSION: Range – Quartile Deviation – Mean Deviation – Standard Deviation – Co-efficient of Variation.

UNIT – IV

CORRELATION AND REGRESSION ANALYSIS: Karl Pearson's Coefficient of Correlation – Spearman's Rank Correlation Coefficient – Simple Linear Regression Lines – Methods of Least Squares – Difference between Correlation and Regression Analysis.

UNIT – V

FORECASTING AND TIME SERIES ANALYSIS: Types of Forecasts – Methods of Forecasting – Time Series Analysis – Components of Time Series – Estimating the Trend Line – Methods of Least Squares – Measurement of Seasonal Variations – Link Relative Method.

REFERENCES:

1. Statistical Methods – S.P.Gupta, Sultan Chand & Sons, New Delhi
2. Business Statistics – J.K.Sharma, Pearson Education, Dorling Kindersley Pvt.Ltd., New Delhi.
3. Fundamentals of Applied Statistics – S.C.Gupta and V.K.Kapoor, Sultan Chan & Sons, New Delhi.
4. Elements of Mathematical Statistics – S.C.Gupta & V.K.Kapoor, Sultan Chand & Sons, New Delhi.

SEMESTER V CORE-XII APPAREL PRODUCTION MANAGEMENT

Unit – 1 Human Resource Development

Introduction To Structure And Sectors Of Clothing Industry - Job Analysis And Description – Job Specification – Recruitment And Selection – Kinds Of Interview - Purpose Of Appraisal – Criteria Of Appraisal – Methods Of Appraisal Methods – Limitations - Hrd Methods And Processes – Sewing Room Supervisor's Job And Training Needs - Hrd In Indian Apparel Industry.

Unit – 2. Plant Engineering & Line Balancing

Introduction To Garment Industry Plant Location – Location Economics – Plant Layout – Process Layout – Product Layout – Combination Layout – Introduction To Balancing Theory – Balance Control – Balancing Exercises For Garment Industry.

Unit – 3. Work Study

Concept And Need – Method Study And Work Measurement – Techniques – Process Chart Symbol – Process Flow Chart – Flow Diagrams – String Diagrams – Multiple Activity Chart – Principles Of Motion Economy – SIMO Chart – Time Study Methods – Standard Time Data – Ergonomics With Special Reference To Garment Industry.

Unit – 4. Production And Productivity

Methods Of Production Systems – Job, Mass & Batch – Section Systems, Progressive Bundle System & ‘Synchro’ System – Conveyor Systems – Unit Production System – Quick Response. Productivity Concepts – Measurement Of Productivity – “Man Machine Material” – Criteria For Increasing Productivity.

Unit – 5 Production Planning And Control

Function, Qualitative And Quantitative Analysis Of Production - Coordinating Departmental Activities - Basic Production Systems - Evaluating And Choosing The System - Flow Process And Charts For Garment - Scheduling Calculations - Assigning Operators Optimally - Setting Up Complete Balanced Production Lines To Produce Given Amount Of Garments

References:

1. **Technology Of Clothing Manufacture – Carr & Latham**
2. **Apparel Manufacturers Handbook – Jacob Solinger**
3. **Introduction To Clothing Manufacture – Gerry Cooklin**
4. **Introduction To Production Management – A. J. Chuter**
5. Personal Management And Industrial Relations – Tripathi
6. Industrial Engineering And Management – OP. Khanna

SEMESTER V CORE-XIII GARMENT COSTING AND PROGRAMMING

Unit – I

Principles Of Costing - Requirements Of Good Costing System - Cost Unit - Types Of Costs - Fixed Cost - Variable Cost - Semi Variable Cost - Conversion Cost- Replacement Cost - Differential Cost - Imputed Cost - Sunk Cost -Research Cost - Development Cost - Policy Cost - Shutdown Cost.

Unit – II

Elements Of Cost - Direct Material Cost - Direct Expenses - Direct Wages - Indirect Materials - Indirect Expenses - Indirect Labour - Overheads - Production Overhead - Administrative Overhead - Selling Overhead Distribution Overhead - Prime Cost - Work Cost - Cost Of Production - Total Cost

Unit - III

Cost Estimation Of Yarn, Knitted Fabric, Dyeing, Printing & Finishing. Cost Estimation For Cutting, Stitching, Checking, Packing, Forwarding, Shipping, Insurance Etc., - Inco Terms & Its Relationship With Costing.

Unit – IV

Estimation Of Factory Cost For Vest, Briefs , Shorts, T-Shirts, Pyjamas, Children’s Wear, Ladies Wear Etc.-

Unit – V

Various Factors To Be Considered In Costing For Domestic Products & International Products.

Books for Reference:

1. **S.P. Jain and KL. Narang** , “Cost Accounting”, Kalyani Publishers, New Delhi.Edn.2005
2. **R.S.N. Pillai and V. Bagavathi** , “Cost Accounting”,S. Chand and Company Ltd., New Delhi.Edn.2004.
- 3.**Fashion Marketing – Mike Easey(Ed), Blackwell Science**
- 4.**Marketing Management - Rajan Nair**
- 5.Strong Elian, Fashion Merchandising
- 6.. Apparel Merchanidising

SEMESTER V DIPLOMA-III TOTAL QUALITY MANAGEMENT

UNIT I

Quality – Evolution of Quality management – Quality Function and Quality Planning – Basic concepts of Total Quality Management (TQM) – Principles of TQM – Important Phases of TQM – Quality Trilogy – Four pillars of TQM – PDCA cycle & PDSA cycle – Kaizan concept – 5’S Philosophy – Quality Circles

UNIT II

Statistical Quality Control (SQC) : Definition – SQC techniques – Frequency distributions: Discrete and Continuous – Measures of Central tendency: Mean, Median & Mode – Measures of dispersion: Range, Mean Range, Mean Deviation, Percentage Mean Deviation, Standard Deviation, Coefficient of Variation – Normal distribution – Binomial distribution – Poisson distribution

UNIT III

Control charts: concepts and uses – Control limits – Control charts for Variables and Attributes: X Charts – R chart – P chart – NP chart – C chart – Acceptance sampling – Types of sampling plans: Single, Double and Multiple Sampling plans – OC curves – AQL and LTPD – Sampling errors and sampling risks – Producer’s risk and Consumer’s risk

UNIT IV

ISO 9000 Standards: Meaning & Definition – ISO 9000 family of standards – Elements of ISO – Benefits of ISO 9000 System – Study on ISO 9001:2000 Guidelines and Standard Clauses – Implementation Procedures and requirements for ISO 9001:2000 system – Quality Manual and its contents – Accreditation and Certification agencies – Quality audit – Types of quality audit – Audit procedure – Requirements and characteristic of a Quality auditor

UNIT V

Environmental Management System (EMS) – Meaning & Definition – Elements of EMS – Benefits of EMS – Environmental Policies – Implementation of ISO 14000 – Study on other management systems : OTN 100, SA 8000, OHSAS 18000, WRAP

REFERENCES:

1. Dr. S.P.Gupta, “Statistical Methods”
2. J.M. Juran, “Quality Control Handbook”
3. V.K.Kapoor, “Statistics”

SEMESTER VI CORE-XIV APPAREL MARKETING AND MERCHANDISING

Unit-I

Definition Of Marketing-Marketing Management-Marketing Concept-Meaning Importance Of Marketing In Developing Countries-Consumer Concept- Difference Between Agricultural Industrial And Consumer Goods – Function Of Marketing-Marketing Environment-Variou Environmental Factors Affecting Marketing Function - Marketing Of Fashion Products – Importance Of Fashion Marketing

Unit-II

Buyers Behavior-Buying Motive Explanation Of Motivation-Marketing Segmentation Of Different Basics. Marketing Strategy-Market Structure-Definition And Types Of Channels-Channel Policy- Selection Criteria-Whole Sellers Retailers And Middle Men And Their Functions - Buying Office, Buying Agency. Introduction-Definition Of Marketing Research-Nature & Scope –An Aid To Rational Decision-Market Research Methodology - Market Research Process – Implementation - Practical Case Studies In Fashion Marketing.

Unit –III

Sales Forecasting-Variou Method Of Sales Functioning-Product Policy-Product Life Cycle-Product Mix- Modification And Elimination-Brand Policy-Packing Promotions Strategy- Selling And Salesmen Ship-Steps In Selling - Brand – Branding – Meaning & Definition – Selecting A Brand Name – Characteristics Of A ‘Good Brand’ Types Of Brands. Brand – Positioning – Types Of Positioning – Variou Positioning Strategies – Need For “Made In India Label” (Common – Brand)

Unit-IV

Pricing-Meaning To Seller And Buyer-Price Policies-Objective Factors Influencing Price Decisions-Competitors Reaction To Price-Multi Product Pricing Distribution Cost Analysis-Management Of Physical Distribution Marketing Risks

Unit-V

Advertising-Purpose-Budget Selecting Copy And Media-Criteria For Advertisement-Appropriation Testing Effectiveness - Visual Merchandising, Visual Merchandising Techniques-Display - Types Of Displays - Trade Fair Participation-Conducting Fashion Show- Fashion Show Norms

Reference:

1. **Marketing Management - Philip Kotler**
2. **Marketing Management – Sharlekar**
3. **Fashion Marketing – Mike Easey(Ed), Blackwell Science**
4. **Marketing Management - Rajan Nair**

SEMESTER VI CORE-XV

ENTREPRENEURSHIP DEVELOPMENT

Unit – I

EDP – Meaning – Analysis – Types And Functions – Growth Of Entrepreneurs In India – Influence Of Environmental Factors – Helps In EDP – Training And Development Of Entrepreneur – Entrepreneur Development Ship Programme. Various Opportunities In The Apparel Industries – Manufacturing – Designing – Retailing : Buying A Business & Franchising A Business – Services – Wholesaling

Unit –II

Business Idea – Project Identification And Formulation – Classification Of Project – Feasibility Studies – Project Appraisal Method – Project Design – Network Analysis – Basic Concept Of Network Analysis – Financial Analysis

Unit – III

Financial Entrepreneur – Institutional Finance To Entrepreneur – Role Of IFCI , IDBI, ICICI, IRCI, SIDBI, LIC, SFC, TIC And Commercial Banks In Financial Entrepreneur – Appraisal By Bank For Loans – Approaching Financial Institutions For Loan. Promoting An Enterprise : Small Scale Industries – Regulation – Governing Small Scale Industries – Incentives And Concession For SSI Units – Sickness In Small Indus Tries – Causes And Remedies

Unit – IV

Institution And Development Of Entrepreneur – Role Of DIC – SIDO – SISI – SIDCO – NSIC – NAYE – KVIC – DCOS – ITCOT And Entrepreneurial Guidance Bureau – Incentives And Subsidies To Entrepreneur – Problems Of Entrepreneur.

Unit – V

Developing Women And Rural Entrepreneur - Special Incentives – Assistance To Educated Unemployed – Model Scheme – Export Promotion – Expectation Of Entrepreneurs

Reference:

1. C.E. Gupta & Mp Srinivasan – Entrepreneurship Development

SEMESTER VI CORE-XVI HUMAN RESOURCE MANAGEMENT

UNIT I

Human Resource Management: Definition - Objectives and functions - Role and structure of personnel function in organisations - Personnel principles and policies.

UNIT II

Human Resource Planning: Characteristics - Need for planning – HRP Process - Job analysis - Job design - Job description - Job specification. The Selection Process: Placement and induction - Training and development - Promotion - Demotions - Transfers - Separation.

UNIT III

Wage and Salary Administration - Factors - Principles – Compensation Plan - Individual - Group - Incentives - Bonus - Fringe benefits – Job evaluation systems - Wage and salary administration in relation to personal taxation.

UNIT IV

Employee maintenance and integration - Welfare and safety - Accident prevention - Administration of discipline - Employee motivation - Need and measures.

UNIT V

Personnel Records/ Reports - Personnel research and personnel audit - Objectives - Scope and importance.

REFERENCES:

1. Venkataraman C.S & Srivastava B.K, Personnel Management and Human Resources, Tata McGraw Hill, 1991.
2. Arun Monappa, Industrial Relations, Tata McGraw Hill, 1987.
3. Dale Yodder & Paul D Standohar, Personnel Management and Industrial Relations, Sterling Publishers, 1990.
4. Mamoria, C.B, Personnel Management.
5. Dessler, Personnel Management.
6. Rudra Basavaraj, M.N., Dynamics of Personnel Administration.

SEMESTER VI DIPLOMA-IV

EXPORT SAMPLING AND PRODUCT DEVELOPMENT -PRACTICAL

Students Will Be Given Export Order Or Export Enquiry And They Are Asked To Design The Samples As Per The Specification Given And Also Prepare A Report Containing The Following Details.

1. Yarn Details & Composition
2. Yarn Consumption Per Garment
3. Fabric Details – Design, GSM, Machine Etc.,
4. Size Details
5. Factory Cost Of Garment

(Totally 6 Export Orders & 6 Export Enquiries Related To Following Styles Shall Be Given)
(Men's Basic T Shirt / Men's Crew Neck Shirt / Men's Polo T Shirt / Men's High Neck Shirt / Men's Boxer Short / Men's Bermuda Short / Men's Trouser / Men's Full Arm Shirt / Men's V – Neck Shirt / Men's Collar Neck Shirt / Men's Inner Garment – Vests Rn / Rns / Men's Under Garment: Briefs With Inner Waist Band Or Outer Waist Band Of Various Models - Trunk Type. / Ladies Skirt With Pleats / Ladies Blouse / Ladies Basic Bodice / Women's Nighties / Kid's Wear Of Various Styles / Children's Suits And Pyjama)

ELECTIVE I – A : INSPECTION AND QUALITY CONTROL

Unit – I Introduction To Quality & Inspection

Quality – Meaning – Definition - Quality Vocabulary – Inspection – Definition - Types Of Inspections - Needle Quality - Sewing Thread Quality - Yarn Quality Parameters - Sewing Defects - Accessories Inspection

Unit – II Inspection

Inspection: Types – Benefits Of Inspection. Importance Of Sampling. Sampling Plan: Definition - Types Of Sampling Plans.

Unit – III AQL Concepts

AQL Concepts – AQL Levels - Application Concepts - In Process Inspection - Pre-Final Inspection - Final Inspection Procedures

Unit – IV Organizing For Quality

Requirements And Functions Of A Quality Controller - Organograms Of Various Departments - Functions & Characteristics Of Quality Controller - Functions Of IC - Functions Of Quality Assurance Department.

(12)

Unit – V. Quality Circles

Process Improvement – TQMAX – TQ Purchase - Record Maintenance In Expediting - Effective Expediting Procedures - Sample Order Expediting – Quality Circles And Its Functions.

(14)

References:

- 1. Hand Book Of Quality Control – Juran**
- 2. Performance Of Textiles- Dorothy. S. Lyle**
- 3. Managing The Quality – Mehta**
- 4. TQM Journals**
- 5. A Guide To ISO – 9000 – M. Nambiyar**
- 6. Bench Marking Journal**

ELECTIVE I – B : VISUAL MERCHANDISING

UNIT I

Introduction - Elements of Visual Merchandising - Needs - Psychology - Display.

UNIT II

Maslows Pyramid - Positive Negative Theory - Visual Signature

UNIT III

Application of Visual Merchandising - Exterior, Interior, Trade show & Fair, Product Package - POP(purchase of Product) - Importance of POP.

UNIT IV

Mission of Shopping - Meeting Shoppers Mission - Big shopping - Small shopping
"Store & Multi Brand store

UNIT V

Branded: stores 7. International and National Level

REFERENCE

1. Fashion Merchandising & Information, PRISCO
2. Fashion Merchandising, Elaini store
3. Fashion Merchandising Introduction - Stores & Shoppers
4. Visual Merchandising .
5. The businesses of fashion inside outside Kitty Dickerson

ELECTIVE I – C : INTERNATIONAL TRADE & DOCUMENTATION

Unit – I Firm Establishment

Introduction – Export Promotion Councils And Their Role – Registration Formalities - RCMC – IE Code – RBI Code – Garment Classification And Categories For Various Countries – Quota – Quota Distribution Methods – Quota Transfer

Unit – II Foreign Trade Documents

Need, Rationale And Types Of Documents Relating To Goods – Invoice – Packing Note And List – Certificate Of Origin – Certificate Relating To Shipments – Mate Receipt – Shipping Bill – Caret Ticket – Certificate Of Measurement – Bill Of Lading – Air Way Bill – Documents Relating To Payment – Letter Of Credit – Types Of L/C - Bill Of Exchange – Letter Of Hypothecation – Bank Certificate For Payment – Document Relating To Inspection – Certificate Of Inspection – GP And Other Forms.

Unit – III. Import Procedure

Import License – Procedure For Import License – Import Trade Control Regulation Procedure – Special Schemes – Replenishment License – Advance License – Split Up License – Spares For After Sales Service License – Code Number – Bill Of Entry.

Unit – IV. Shipment And Customs

Preshipment Inspection And Quality Control – Foreign Exchange Formalities – Preshipment Documents - Documentation Terms - Excise And Customs Clearance Of Export Cargo – Shipment Of Goods And Port Procedures – Customs Clearance Of Import Cargo. Post – Shipment Formalities And Procedures – Claiming Duty Drawback And Other Benefits.

Unit – V. Payment And Deliveries

Terms Of Delivery – INCO terms – EXW – FCA – FOB – CFR – CIF – CPT – DAF – DDP – DDU. Terms Of Payment – Open Account – Cheque – Cash Payment Against Documents – Bank Payment Against Documents (LC) – Security And Cost Of Various Payment Terms – Assessing The Risk In Payment – Role Of ECGC And Standard Policy

Text Book:

Paras Ram : Hand Book Of Import And Export Procedures.

References:

1. Govt. Of India : Hand Book Of Import And Export Procedures.
2. Bose. A. : Streamline Your Export Paper Work., International Trade Form, Oct – Dec 1965.
3. How To Start Export.
4. CBI Booklets – Netherland
5. ECGC Services And Guidelines
6. AEPC BOOKLETS

ELECTIVE II – A : FASHION ACCESSORIES AND TRIMS

1. Accessory And Its Importance – The Concept – The Difference Between Accessories And Trims – Specifications – Standards Pertaining To Accessory – Types Of Accessories And Trims Sourcing Of Accessory – Single Sourcing – Multiple Sourcing – Advantages And Disadvantages Of Sourcing – Vendor Evaluation – Rating – Vendor Based Rationalization

2. Sewing Threads And Its Applications – Quality Control In Sewing Thread – Types Of Thread Packages – Embroidery Threads – Quality Requirements – Appliqué Works – Sequence Works, Beads, Crystals & Stones

3. Functions And Application Of Accessories And Trims – Zippers – Quality Parameters And Testing Procedures – Buttons – Types – Testing Procedures – Lace – Elastic, Draw Strings – Velcro – Snap Fastness – Hooks Performance And Properties Of Components And Trims.

4. Labels And Its Types – Testing Procedures – Tags And Its Types – Quality Parameters And Testing Procedures – Lining – Interlining – Poly Bags - Master Poly Bags – Hangers – Cartons – Wrappers – Pouches For Inner Wear.

5. Trends In Accessory And Trims – Forecasting Procedure –Innovation In Accessory Industry – Costing Procedure In Accessory And Trims – Sample Collections – Presentation – Possible Defects And Remedies.

References:

- 1. Technology Of Clothing Manufacture – Carr & Latham**
- 2. Apparel Manufacturers Handbook – Jacob Solinger**
- 3. Introduction To Clothing Manufacture – Gerry Cooklin**

ELECTIVE II – B : APPAREL RETAILING

UNIT I

Retail & Retailing – Meaning & definition – Scope of apparel retailing – Retailing terminologies – Types of retailers and retail formats – Global retailing scenario – Retailing scenario in India – Functions of retailers

UNIT II

Retail strategies : Operational excellence , Product differentiation, Customer intimacy – Growth strategies – Market expansion strategies – Store planning – Location planning – Store design – Store design & retailing image mix – Space mix – Effective retail space management – Store layout – Floor space management

UNIT III

Retail merchandising – Merchandise planning – Merchandise hierarchy – Buying function – Category management – Mark up & Mark down – Shrinkage in merchandising management – Cross margin return on inventory – Supply chain management in apparel retailing – ERP in apparel industry

UNIT IV

Retail operations – Significant areas – Store operating parameters related to customers, stocks, space, employee, finance – Managing retail personnel – Manpower planning – Types of employees in retail – Remuneration structure – Visual Merchandising (VM): Definition & Meaning – VM Techniques – Elements of VM – Functions of a Visual Merchandiser

UNIT V

Retail Brands and Branding – Functions of brands – Types of brands – Branding strategies – Store brands or private labels – Store brands Vs National brands – Famous apparel retail brands – Packaging – Functions of packaging – Kinds of packaging – Requisites of good package – Customer service management in retail – Service management model

REFERENCES:

1. Jaico Books, “Retail Management – Functional Principles & Practices”, Gibson G. Vedamani
2. “Retail management “
3. Retail Merchandising – part I

ELECTIVE II – C : INDUSTRIAL PSYCHOLOGY

UNIT I

Organisational Behaviour: Definition & Meaning – Nature & Scope of OB – Understanding Human behaviour: Individual level, Interpersonal level, Group level, Inter-group level – Perception – Concept of perception – Perceptual process – Factors that influence perception

UNIT II

Personality – Contributing factors to personality – Attitude – Concept of attitude – Distinguish between Attitude, Opinion & Belief – Attitudinal influences on behaviour – Measurement of attitude: Bipolar scale, Thurstone’s scale, Likert’s scale – Motivation – Concept of motivation – Nature & Objective of motivation – Importance of motivation

UNIT III

Group – Concept & characteristics of group – Factors influencing group formation – Types of groups – Group dynamics – Concept & Importance of group dynamics – Advantages & disadvantages of group – Team building – Team building cycle – Leadership – Types of leadership – Traits of a good leader – Conflict: Definition & Meaning – Types of conflict – Managing conflicts

UNIT IV

HRM: Meaning and definition – Objectives of HRM – Functions of HRD - Job analysis and evaluation – Job description and Job specification – Labour welfare and Labour legislation – Payment of wages- Kinds of wages – Component of wages – Method of wage payment – Incentive plans

UNIT V

Trade unions: Definition, Nature & Objectives – Features of trade union – Functions of trade union – Merits & Demerits of trade union – Industrial relation : Definition , Nature & Objectives – Scope & Importance of Industrial relation – Collective bargaining – Steps involved in collective bargaining – Methods to settle disputes

REFERENCES:

1. Kieth Davis, “ Organisational Behaviour at work”
2. Kreintner, “ Organisational Behaviour”
3. Luthans and Fred, “ Organisational Behaviour”
4. Uma Sekaran , “ Organisational Behaviour

5. Industrial Psychology
6. Aswethappa. K. "Principles of Business Law"
7. Bulchandani. K.R, "Business Law"

ELECTIVE III – A : FABRIC MANUFACTURING TECHNOLOGY

Unit I Basic Knitting Technology

Different fabric forming methods – comparison of weaving and knitting – comparison of woven and knitted fabric. Knitting machine elements- needles types - Knitting Cycle of Latch Needle with Sinkers – Terms in Weft Knitting –Comparison Of Weft And Warp Knitting – Comparison of warp and weft knitted fabric

Unit II Single knit Structures

Principal Weft Knit Stitches - Knit, Tuck, Miss Stitch Formation And Properties - Representation Of Weft Knit Stitches - Basic Weft Knit Structures - Characteristics Of Single Jersey Fabrics.

Unit III Double knit and speciality Structures

Introduction To Double Knit - Needle Gating – Rib, Interlock & Purl Fabric Characteristics. Concept of Multi Cam Track. Brief study on Jacquard- Auto Stripes, Fleece, Terry – Rib & Interlock Structures.

Unit IV Weaving

Sequence Of Preparatory Processes For Weaving & It's Objectives - Passage Of Material Through Weaving Machine (Loom) - Important Motions of Weaving - Important Parts Of Loom.

Unit V Woven Fabrics & Designs

Introduction To Fabric Designing - Plain weave & its derivatives –Twill weave – Pointed twill – Herring bone twill - Satin and Sateen Weaves - Crepe Weaves –Honeycomb and Huck a back weaves. Jacquard designs

References

1. Knitting Technology – David J Spencer
2. Knitting Technology – Prof..D.B.Ajgoankar
3. **Weaving Mechanisms. Vol. I/II – N.N.Banerjee**
4. Yarn Preparations Vol I & II B. Senguptha
5. Mechanism Of Weaving Machines - .J.Chakrovarthy.
6. Principles Of Weaving – Marks And Robinson
7. Weaving Mechanism - T. Ashwani
8. Fabric Forming – B. Hasmukhrai..

ELECTIVE III – B : DESIGN COLLECTION

Students Are Asked To Visit Different Sectors Of Garment Manufacturing Industries During This Semester & Develop Six Garments With Their Own Creativity Using A Theme. A Team Consisting Internal & External Examiners Will Evaluate The Portfolio Submitted By The Candidate.

ELECTIVE III – C : FASHION ACCESSORIES

Unit - I

The concept of three-dimensional sketching and relation to accessories design- Concentrating on design detail, sketch the basic shapes of footwear, handbags, hats, gloves, personal leather goods, etc. Introduction to accessory design. Various types of shoes, handbags, hats and gloves.

Unit - II

Selection of Materials, Design, functional and aesthetic performance and their advantages - Ribbons, Braids, Laces, Appliqués, Buttons, Zippers, Snap fasteners, Hooks and Eyes, Hook and Loop tape (Vell-crow), Eyelets, Tie, Scarves, Stoles, Umbrella, Socks and Veils.

Unit - III

Selection of Materials, Design, functional and aesthetic performance and their advantages - and the various styles – footwear, belts, gloves, hand bags, hats and wallets. Concepts of patternmaking techniques, Basic machinery and equipment used for these accessories

Unit - IV

Selection of Materials, Design, functional and aesthetic performance and their advantages - and the various styles – Pendants, Waist Bands, Wrist Bands, Necklaces, Head Bands, Neck Ties and Bows.

Unit – V

Selection of Materials, Design, functional and aesthetic performance and their advantages - and the various styles– Key Chain, Sunglass, Wrist watches, Rings, Ear rings, Bangles, Bracelets, anklets, Pony Tail Holder and Pen.

Reference:

1. Fashion Sketch Book – Bina Abling, Fair Child Publications, New York Wardrobe
2. Strategies for Women – Judith Rasband, Delmar publishers London Fundamentals of
- 3..Inside the Fashion Business- Heannette A Jarnow et-al, macimilan Publishing Company, New York.
- 4..Art and Fashion in Clothing Selection – Mc Jimsey and Harriet, Iowa State University Press, Jowa.