

M.Sc. FABRIC AND APPAREL SCIENCE

**SEMESTER SYSTEM
CURRICULUM**

**DEPARTMENT OF HOME SCIENCE
(UNIVERSITY OF DELHI)**

FEBURARY 2010

M.Sc. FABRIC AND APPAREL SCIENCE
SCHEME OF EXAMINATION

SEMESTER -1

PAPER NO.	TITLE	CREDITS	Max Marks	Periods per week	Duration of exam (Hrs)
	THEORY				
1101	STATISTICS & COMPUTER APPLICATIONS	4	100	4	3
1142	ADVANCE FABRIC SCIENCE	4	100	4	3
1143	APPAREL PRODUCTION	4	100	4	3
1144	HISTORIC TEXTILES & COSTUMES	4	100	4	3
	PRACTICAL				
1145	PATTERN MAKING AND CONSTRUCTION-I	4	100	9	6 hours on 2 days
	TOTAL	20	500	25	

TOTAL MARKS: 500

SEMESTER -2

PAPER NO.	TITLE	CREDITS	Max Marks	Periods /week	Duration of exam (Hrs)
	THEORY				
1241	RESEARCH METHODS AND SEMINAR	4	100	3	3
1242	TEXTILE FINISHING & EVALUATION	4	100	3	3
1243	WORLD TEXTILES: TECHNIQUE & MASTER PIECES	4	100	3	3
	PRACTICAL				
1244	PATTERN MAKING AND CONSTRUCTION-II	4	100	8	6 hrs on 2 days
1245	TEXTILE FINISHING & EVALUATION	4	100	9	6 hrs on 2 days
	TOTAL	20	500	26	

TOTAL MARKS: 500

SEMESTER -3

PAPER NO.	TITLE	CREDITS	Max Marks	Periods /week	Duration of exam (Hrs)
	THEORY				
1341	DYEING, PRINTING AND COLOUR MEASUREMENT	4	100	3	3
1342	FASHION WORLD	4	100	3	3
	PRACTICAL				
1343	DYEING PRINTING & COLOUR MEASUREMENT	4	100	9	6 hrs
1344	FASHION ILLUSTRATION	4	100	9	6 hrs
1345 (a)	INTERNSHIP	2	50	2	
1345 (b)	DISSERTATION	2	-	2	
	TOTAL	20	450	28	200

TOTAL MARKS: 450

SEMESTER -4

PAPER NO.	TITLE	CREDITS	Max Marks	Periods /week	Duration of exam (Hrs)
	THEORY				
1441	QUALITY ASSURANCE IN TEXTILES & APPAREL	4	100	3	3
1442	ELECTIVES (<u>Any two</u> of the following): a) TEXTILE CONSERVATION AND DOCUMENTATION b) EXTENSION PROGRAMME DESIGNS c) TEXTILES FOR HOME AND HOSPITALITY d) FASHION MERCHANDISE RETAIL	4 each	100 each	3	3
1443	PRACTICAL				
	a) TEXTILE DESIGN DEVELOPMENT b) CAD FOR FABRICS AND APPAREL	4	100	9	6 hrs on 2 Days
1444	DISSERTATION	4	150	4	
	TOTAL	20	500	22	

TOTAL MARKS: 550

GRAND TOTAL = 2000

NOTE:

- **Pass Percentages:** Minimum marks required to pass the examination is 40% in each course, in theory and practical separately. However, the candidate must secure an overall aggregate of 50%.
- The concerned Institute will have the discretion to offer one or more elective subjects in a particular academic session (subject to the availability of logistic support).
- As per the University directive 25% of the maximum marks of each theory course will be assigned for internal assessment.
- The Practical Examinations shall be conducted over 2 days, 6 hours each day. 40 % of the marks for the practical examination shall be reserved for fieldwork and/or laboratory records of the candidates and will be awarded by the teacher responsible for the course.
- Seminar, placement reports and projects of individual papers will be evaluated by a panel of teachers internally and the marks will be sent to the University through the Head of the Department.
- The Dissertation work in III and IV Semester will be marked at the end of IV Semester for 150.
- Each Theory paper will have 1 period Tutorial per week.

DETAILED COURSES

SEMESTER I

STATISTICS AND COMPUTER APPLICATIONS

THEORY

Paper No.: 1101
Maximum Marks: 100
Teaching periods: 4/ week
Teaching load: 50

OBJECTIVES

- To learn basic statistical procedures for research
- To understand applications of statistical techniques for analysis and interpretation
- To use selective software for qualitative and quantitative data analysis

CONTENTS

PERIODS

PART I – Statistics

UNIT 1: Introduction to statistics	5
<ul style="list-style-type: none">• Orientation to qualitative and quantitative analyses• Introduction to quantitative procedures• Basic principles and concepts in statistics	
UNIT 11: Measurement and computation	5
<ul style="list-style-type: none">• Fundamentals of measurement: quantity and quality• Scales of measurement: Nominal, ordinal, interval and ratio• Reliability, validity and standardisation of measurement	
UNIT 111: Organisation and presentation of data	5
<ul style="list-style-type: none">• Data reduction strategies• Coding and tabulation• Grouping of data: Frequency distributions• Graphic representation: Graphs, diagrams and charts• Descriptive statistics and its applications• Applications of descriptive statistics• Characteristics of distributions: Skewness, kurtosis• Percentage, percentile ranking and frequencies	
UNIT IV – Probability and normal distribution	5
<ul style="list-style-type: none">• Basic principles and applications of probability	

- Testing hypotheses: Levels of significance and estimation
- Errors in hypothesis testing: Type I, Type II
- Sampling theory and method
- Z scores, calculation and application

UNIT V – Statistical tests **10**

- Parametric tests of difference: T test, ANOVA and post hoc analysis of significance
- Parametric tests of association: Pearson’s product moment r
- Non-parametric tests of difference: Mann-Whitney, Sign, Median, and Kruskal-Wallis
- Non-parametric tests of association: Spearman’s r
- Chi-square test

UNIT VI – Regression and prediction **4**

- Regression equation
- Applications of regression

UNIT VII – Analysis and interpretation **6**

- Guidelines for selecting an appropriate test
- From scores to conclusions

UNIT VIII – Computer Applications Software **10**

- EXCEL
- SPSS
- Atlas.ti

RECOMMENDED READINGS

- Anastasi, A. and Urbina, S. (1997). *Psychological Testing (7th edition)*. Indian Reprint. Delhi: Pearson Education.
- Argyrous, G. (2000). *Statistics for Social and Health Research*. London: Sage.
- Bell, J. (1999). *Doing Your Research Project: Guide for First Time Researchers in Social Sciences*. New Delhi: Viva Books.
- Bernard, H.R. (2000). *Social Research Methods: Qualitative and Quantitative Approaches*. Thousand Oaks, Ca: Sage.
- Black, J.A. and Champion, D.J. (1976). *Methods and Issues in Social Research*. New York: John Wiley and Sons.
- Blaxter, L., Hughes, C, and Tight, K. (1999). *How to Research*. New Delhi: Viva books.
- Denscombe, M. (1999). *The Good Research Guide for Small-Scale Social Research Projects*. New Delhi: Viva Publications.
- Elmes, D.G., Kanowitz, B.H. and Roediger, H.L. (1989). *Research Methods in Psychology (Third Edition)*. New York: West Publishing Company.
- Festinger, L. and Katz, D. (1953). *Research in Behavioral Sciences*. New York: Dryden Press.

- Fowler, F.J. (1984/88). *Survey Research Methods*. Applied Social Research Methods Series, Vol. 1. Newbury Park, Ca: Sage.
- Greene, S. and Hogan, D. (Eds.). (2005). *Researching Children's Experiences: Methods and Approaches*. London: Sage.
- Holstein, J.A., and Gubrium, J.F. (1995). *The Active Interview*. Qualitative Research Methods, Vol.37. Thousand Oaks, Ca: Sage.
- Kin, R.Y. (1984). *Case Study Research: Design and Methods*. Applied Research Methods Series, 5. Beverly Hills, Ca: Sage.
- Minium, E. W., King, B. M., & Bear, G. (1995/2004). *Statistical Reasoning for Psychology and Education*. New York: Wiley and Sons.
- Muijs, D. (2004). *Doing Quantitative Research in Education with SPSS*. London: Sage.
- Phillips, N. and Hardy, C. (2002). *Discourse Analysis: Investigating Processes of Social Construction*. Qualitative Research Methods Series, 50. Thousand Oaks, Ca: Sage.
- Salkind, N. (2000). *Statistics for People Who (think they) Hate Statistics*. London: Sage

REFERENCES

- Nadalman, L. (2004). *Research Manual in Child Development*. Mahwah, N. J.: Lawrence Erlbaum.
- Neale, J.M. and Liebert, R.M. (1986). *Science and Behavior: An Introduction to Methods of Research*. London: Sage.
- Reissman, C.K. (1993). *Narrative Analysis*. Qualitative Research Methods Series, 30. Newbury Park, Ca: sage.
- Tuckett, D. (1998). *Thinking, Feeling and Being: Clinical Reflection on Fundamental Antimony of Human Beings and the World*. London: Routledge.

SEMESTER 1

ADVANCED FABRIC SCIENCE

Paper No.	:	1142	THEORY
Maximum Marks	:	100	
Credits	:	4	
Teaching Periods	:	4/week	
Teaching Load	:	45-50 periods/ semester	

OBJECTIVES

1. To understand the morphology of textile fibers and their relationship to physical properties
2. To become familiar with the types of yarns, their properties and usage
3. To understand various types of fabrics and their applications
4. To enhance awareness of innovations in fabrics for specific end uses

CONTENTS

PERIODS

UNIT I: Fiber structure and properties

10

- Molecular structure of textile fibers
- Morphology of fibers, crystalline and amorphous regions.
- Inter and intra-molecular forces in polymers.
- Structure investigation through X-ray diffraction, FTIR, NMR
- Fiber properties
- Physical properties of fibers and their effect on fabric performance- tensile properties, frictional properties, moisture absorption properties, thermal properties, optical properties, electrical properties
- Innovation in fibers – Micro fibers, hollow fibers, nano fibers

UNIT II: Spinning

12

- Processing of natural fibers- cotton, wool, jute, silk, and linen
- Processing of man made fibers
- Conventional spinning methods- ring spinning, rotor spinning
- Innovations in spinning techniques and yarns
- Textured yarns- properties and usages
- Yarn properties and their relation to fabric properties- yarn numbering systems, twist, crimp, hairiness, evenness.
- Strength, Elongation, Friction (yarn to yarn, Yarn to metal)

UNIT III: Fabric Construction

17

- Weaving
- Weaving cycle- relationship of the primary and secondary motions to each other and to other auxiliary motions
- Yarn requirements and preparation for weaving
- Types of looms

- Design interpretation and representation- draft and peg plan
- Properties of woven fabrics and their usage
- Knitting
- Classification of knits- warp and weft.
- Types of knitting machines
 - Principle, machine elements and working principles, design setting elements, methodology of setting of flat-bed and circular-bed machines
 - Special knitting machines
- Yarn preparation and requirement for knitting.
- Knitted fabric properties and evaluation- gauge, stitch length, GSM, dimensional stability, stretch properties, spirality
- Designing knitted fabrics
- Techniques for knitwear production- fully-cut, fully-fashioned and integral.

- Non-wovens and other manufacturing processes
- Production of non-woven
- Types of non-wovens
 - Application in various sectors- apparel and industrial
 - Properties and evaluation of non-wovens
- Nets and Laces
- Carpets

UNIT IV: Special textiles - properties and use

6

- Technical textiles
 - Industrial textiles
 - Medical textiles
 - Geo textiles
 - Sports
- Smart/ intelligent textiles
 - Phase change materials
 - Thermochromic / photochromic textiles
 - Electronic textiles
- Fabric composites

RECOMMENDED READINGS

- Brackenbury Terry (2005) *Knitting Clothing Technology*, Blackwell Science Publishers
- Horrock & Anand (2000) *Handbook of Technical Textiles*, Woodhead Publishers
- Spencer, David J, (2005) *Knitting Technology: A Comprehensive Handbook an Practical Guide*, 4th ed. Woodhead, Cambridge.
- Eric, Oxtoby (1975) *Spun Yarn Technology*, Butterworth Publication.
- Schworts Peter (*Fabric Forming Systems*,

APPAREL PRODUCTION

Paper No.	:	1143	THEORY
Maximum Marks	:	100	
Credits	:	4	
Teaching Periods	:	4/week	
Teaching Load	:	45-50 periods/ semester	

OBJECTIVES

1. To familiarize students with the functioning of the garment industry.
2. To understand various processes and technical parameters of garment production.
3. To enhance awareness of sewn product, machinery and equipment.

CONTENTS

PERIODS

UNIT I- Garment Industry

10

- Overview of the garment industry
- Main sectors of the garment industry
- Standards and specifications :parts, types and preparation of specification sheet
- Assembling a garment in the industry:4 P's- parts, panels, pieces and products
- Production capacity

UNIT II: Pre-production

12

- Markers- planning, production, efficiency, methods of making
- Spreading of fabric- requirements, methods, nature of fabric packages
- Cutting – objectives, methods
- Preparation before cutting-Fusing, ticketing and bundling- purposes and types
- Fusing- advantages, requirements, processes, equipment, methods and quality control
- Alternative methods of joining material: welding and moulding technology

UNIT III: Production

16

A) Sewing

- Stitch types- suitability and usage
- Seam types- suitability and usage
- Feed systems
- Feed dogs
- Types of sewing Needles
- Types of sewing Threads

B) Machinery and Equipment

- Types of sewing machines-Basic lock stitch, chain stitch and over lock machines- (Parts, function and Sewing Defects)

- Other machines- blind stitch, bar tack, button sewing and buttonholing

C) Sewing machine work Aids

- Machine beds
- Machine tables
- Work chairs
- Bundle clamps
- Stackers
- Various machine attachments

UNIT IV: - Post production

10

- **Garment finishing-** stain removal, cleaning, dry cleaning, pressing
- **Warehousing** - handling equipment, storage equipment, packaging equipment, transportation issues

RECOMMENDED READINGS

- Brown, Patty and Rice Janett (1998) Ready to Wear Apparel Analysis (2nd Edition), Prentice Hall
- Carr H. &, Latham, B. (1984) The Technology of Clothing Manufacture, Blockwell Scientific Publication
- Cooklin. G. (2000) Introduction to Clothing Manufacture, Blockwell Scientific Publication
- Glock and Kuntz. (1995) Apparel Manufacturing- Sewn Products Analysis
- NITRA TABLETS, (2006) NITRA

HISTORIC TEXTILES AND COSTUMES

Paper No.	:	1144	THEORY
Maximum Marks	:	100	
Credits	:	4	
Teaching Periods	:	4/ week	
Teaching Load	:	45-50 periods/ semester	

OBJECTIVES

1. To study the textiles and costumes in the ancient world
2. To trace the development of western costume through the ages
3. To become familiar with the styles and special features in costume from ancient world till 19th century

CONTENTS

PERIODS

UNIT I: Importance of world textiles and costumes in historical perspectives

8

- Sources of Information
 - Archeological Discoveries
 - Ancient literature, chronicles and archival records
 - Museums, art galleries, inventories of churches and palaces
- The origin of dress
- Relationship between textile production and its use in dress

UNIT II: Material and Costumes in Early Civilizations 15

- Textile fibers-origin, processing and spread
(Linen and other bast fibers, wool and hair fibers cotton and silk with respect to different civilizations and nations)
- Dyes and colorants
- Other materials-skin/hide
 - Metal fibers
 - Beads, mirrors, shells and coins
- Costumes in the ancient world (300 B.C.-300A.D.)
 - Mesopotamia, Egypt, Crete, Greece, Rome

UNIT III: The Middle Ages (300A.D.0-1500A.D.) 8

- Byzantium, Coptic
- The Feudal ages ((900A.D.-1300 A.D.)
- The late middle ages (1300 a.D.-1500A.D.)

UNIT IV: The Renaissance (15th -16th century) 5

- Italy
- France
- England

UNIT V: Costumes in 17th to 19th century 14

- Baroque and Rococo periods (1600A.D.-1900A.D.)
 - France and England
- The French revolution and thereafter (1790 A.D.-1900 A.D.)
 - The Directoire and Empire period (1790 A.D.-1820A.D.)
 - The Romantic period (1820A.D.-1850 A.D.)
 - The Crinoline period (1850 A.D.-1869A.D.)
 - The Bustle period (1870 A.D.-1900A.D.)

RECOMMENDED READINGS

- Black, J.A and Garland M :(1978) *A History of Fashion*, London, Orbis Publishing, Ltd.
- Bradley, C (1970) *History of World Costume*, London, Peter Owen Ltd
- Cumming, Valerie (2004) *Understanding Fashion History*, London, Batsford
- Hecht, A. (1989) *Art of the Loom*, London, British Museum Publications.

- Lester, K. M. (1956) *Historic Costume*, Chas A Bennett Co. Inc. Illinois

PATTERN MAKING AND CONSTRUCTION-I

Paper No.	:	1145	PRACTICAL
Maximum Marks	:	100	
Credits	:	4	
Practicals	:	3 practicals/week (9 periods/week)	
Practical Load	:	36 practicals/semester	

OBJECTIVES

1. To develop skills in different techniques of pattern development and construction for upper garments
2. To understand the principles of grading standardized bodice and sleeve slopers to various sizes

CONTENTS

PRACTICALS

UNIT I: Pattern development through draping	12
<ul style="list-style-type: none"> • Basic principles and techniques of draping- basic bodice and its variations- symmetrical and asymmetrical 	
UNIT II: Pattern development through flat pattern	12
<ul style="list-style-type: none"> • Principles of flat pattern making- dart manipulation, contouring, additional fullness • Garment components –sleeves and cuffs, necklines, collars, plackets and yokes • Developing industrial patterns with complete set of markings in fitted and semi fitted upper garments • Preparation of muslin mock up for the pattern 	
UNIT III: Grading standard size bodice blocks	4
<ul style="list-style-type: none"> • Bodice and sleeve slopers to various sizes 	
UNIT IV: Construction of garment components	8
<ul style="list-style-type: none"> • Construction of upper garment components- necklines, collars, plackets, sleeve and cuffs, pockets and yokes 	

RECOMMENDED READINGS

- Armstrong, Helen Joseph. (2000) *Pattern Making for Fashion Design*, 4th ed. Pearson
- Crawford Connie Amaden. (1989) *The Art of Fashion draping*, 2nd ed. New York, Education Ptc. Ltd. Fairchild Publications.
- Jaffe Hilde and Nuric Relic. (1993) *Draping for Fashion Design*, New Jersey, Fashion Institute of Technology.

SEMSTER 2

RESEARCH METHODS AND SEMINAR

Paper No.	: 1241	THEORY
Maximum Marks	: 100	
Credits	: 4	
Teaching Periods	: 4/week	
Teaching Load	: 45-50 periods/semester	

OBJECTIVES

1. To orient, equip and impart knowledge on the significance of research methodology in Home Science education, with specific reference to Fabric and Apparel Science
2. To understand the types, tools and methods of research
3. To enhance the ability and to acquire skills to construct data gathering instruments appropriate to the research design
4. To develop competency in the preparation and conduct of participatory and innovative research strategies, programmes and reports for dissemination of the vital information in the subject area
5. To gain experience in conducting literature search from various sources independently and to make an academic presentation using current technology.

CONTENTS

PERIODS

UNIT I: Scope of research methods

3

- Science, scientific methods and Scientific approach to research
- Role of research methods in Home Science with specific reference to Fabric and Apparel Science
- Objectives of research

UNIT II: Types of research

9

- Fundamental, applied and action research
- Qualitative and quantitative research
- Historical, survey, ex post facto, field study, intervention study, experimental, case study, social research, longitudinal and cross sectional studies etc.
- Interviews, Informal individual and group discussions, home visits, observation
- Research design- basic principles, purpose, scheme and components

UNIT III: Definition and identification of research problems

- Literature review **4**

- Selection of area of research
- Rationale / justification
- Formulation of hypothesis and objectives
- Limitations and de-limitations of the problem
- Types of variables, concepts and constructs

UNIT IV: Sampling and data collection **8**

- Sampling
 - Population and sample
 - Probability sampling : random, two-stages and multi-stages and cluster sampling
 - Non- probability sampling : purposive, quota, and volunteer / snowball sampling

- Tools and techniques of data collection

- Informal and focused group discussion
- Interview
- Questionnaire
- Observation
- Home visits
- Scaling methods
- Social mapping
- Projective techniques

- Reliability and validity of measuring tools

UNIT V: Data analysis and presentation **8**

- Research reporting : contents and components
- Data analysis and presentation : Statistical, Graphical, Content analysis
- Summary, conclusions and recommendations

UNIT VI: Scientific writing and communication **4**

- Writing articles in journals, magazines and newspapers
- Preparation of abstract, research reports, dissertations etc.
- Listing of references / bibliography and appendices
- Critical appraisal of select research works

UNIT VII: Seminar

12

The students are expected to research and find suitable topics for the seminar. These will be presented to and approved by the department faculty. Only token guidance will be provided to the students to ensure that it remains primarily each student's own piece of work. The selection of topics must be guided by current trends in theory, research and application of appropriate design and technology. The student will be expected to collect the material, analyze and organize the information and present a critical review of the topic before the faculty for evaluation. The presentations will be followed by discussions. Subsequent to this, the student is expected to submit a final report on the seminar topic along with references.

RECOMMENDED READINGS

- Bandarkar, P.L. and Wilkinson, T.S. (2000) : *Methodology and Techniques of Social Research*, Himalaya Publishing House, Mumbai.
- Bernard, H.R. (2000) *Social Research Methods: Qualitative and Quantitative Approaches*, Thousand Oaks California, Sage Publications.
- Black, J. A. & Champion, D.J (1976) *Methods and Issues in Social Research*, New York, John Wiley and Sons.
- Denscombe, M (1999) *The Good Research Guide for Small Scale Social Research Projects*, New Delhi, Viva Publications..
- Joseph, M.L., Joseph, W.D. (1986) *Research Fundamentals in Home Economics*, Plycon Press P.O.Box 220, Redondo Beach, C A 90277

TEXTILE FINISHING AND EVALUATION

Paper No.	:	1242	THEORY
Maximum Marks	:	100	
Credits	:	4	
Teaching Periods	:	4/week	
Teaching Load	:	45-50 periods/ semester	

OBJECTIVES

1. To understand the inter-relation of fiber structure and its properties
2. To study the application and mechanism of textile finishes
3. To enhance awareness in future trends in textile finishing

CONTENTS	PERIODS
UNIT I: Relationship of fiber structure to the chemical properties (Cotton, Linen, Silk, Wool, Polyester, Nylon, Modacrylic, Spandex)	5
<ul style="list-style-type: none">• Effect of acids, alkalis, oxidizing and reducing agents• Sensitivity to micro-organisms and insects, effect of sun light and air	
UNIT II: Application of finishes	4
<ul style="list-style-type: none">• Requirement for different substrates• Methods of application- practices and suitability	
UNIT III: Finishes - Preparatory processes	10
<ul style="list-style-type: none">• Cellulosics- desizing, scouring, bleaching, mercerization• Protein- degumming, weighting, dewaxing, scouring, bleaching, carbonising, milling• Man-mades- scouring, bleaching, heat setting	
UNIT IV: Finishes - Handle and Appearance	7
Chemistry, method of application and evaluation of	
<ul style="list-style-type: none">• Softening and Stiffening finishes• Optical brightening agents• Peach finish• Enzymatic finishes- bio-polishing, stone wash, sand wash etc.• Special calendering	
UNIT V: Finishes – Functional	14
Chemistry, method of application and evaluation of	
<ul style="list-style-type: none">• Water repellent finishes• Soil and stain repellent finishes• Setting finishes (cellulosics, wool and man-mades)• Anti-crease/ durable press finishes• Heat setting• Anti-static finishes• Softeners• Flame retardant finishes• Anti microbial finishes• Moth proofing• UV protective finishes• Coating and lamination	
UNIT VI: Innovations in textile finishing	6

- Ecological concerns and eco friendly processing of textiles
- Microencapsulation
- Special effect finishes
- Nanotechnology in field of textile finishing

RECOMMENDED READINGS

- Marsh, J.T. (1979) *An Introduction to Textile Finishing*, Bombay, B.I. Publications
- Rouette, H.K. (2001) *Encyclopedia of Textile Finishing, Volumes 1 to 3*, Berlin, Springer
- Schindler, W.D. and Hauser, P.J. (2004) *Chemical Finishing of Textiles*, The Textile Institute, England, Woodhead Publishing Ltd.
- Trotman, E. R. (1984) *Dyeing and Chemical Technology of Fibers*, Sixth Edition, England, Charles Griffin and Company Ltd.
- Vigo, Tyrone L. (1994) *Textile Processing and Properties, Preparation, Dyeing, Finishing and Performance*, Amsterdam, Elsevier Science B.V.

WORLD TEXTILES: TECHNIQUES AND MASTERPIECES

Paper No.	:	1243	THEORY
Maximum Marks	:	100	
Credits	:	4	
Teaching Periods	:	4/week	
Teaching Load	:	45-50 periods/ semester	

OBJECTIVES

1. To study the textile traditions of the world
2. To study the important textile arts in their historical perspective
3. To appraise the role of Indian textiles vis-à-vis developments in the world textiles
4. To create awareness and foster appreciation of textile masterpieces of the world

CONTENTS

PERIODS

UNIT I: Development of tools and techniques of production with respect to different civilizations and nations	10
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- Felt and bark cloth
- Plaiting and basketry
- Spinning
- Weaving
- Tapestry and rug weaving
- Knitting
- Netting, knotting and crochet
- Embroidery
- Dyeing and Printing

- UNIT II: Design and ornamentation in textiles** **5**
- Symbolism and significance of designs incorporated
 - Impact of nature and geographical location, mythology and religion, trade, invasions and conquests and political patronage

- UNIT III: Beginnings of the textile industry in ancient civilizations** **5**
- Mesopotamia
 - Egypt
 - Persia
 - Greece
 - Rome
 - China
 - India

- UNIT IV: Study of masterpieces of world textiles Part I: Structural Designs** **15**
(With respect to history, construction techniques, styles colors, motifs and centers of production)

- Brocades (China, India, Persia, Byzantium, Spain, Italy and France)
- Tapestries (Greece, Coptic, Europe, Peru)
- Carpets and Floor coverings (Middle and Far East)
- Shawls (India, England, France)
- Laces (Europe)
- Linen damasks (Ireland and Belgium)

- UNIT V: Study of masterpieces of world textiles Part I: Applied Designs** **15**
(With respect to history, construction techniques, styles colors, motifs and centers of production)

- Resist dyed fabrics (India, Indonesia and Japan)
- Printed textiles (India , France and England)
- Embroideries (China, Persia and England)
- Textiles of-
 1. Pre-Hispanic, Latin and South America
 2. Colonial North America

RECOMMENDED READINGS

- Annemarie Seiler-Baldinger (1979) *Classification of Textile Techniques* Ahmedabad, India, Calico Museum of India
- Gillow John and Sentance Bryan (1999) *World Textiles*, London, Thames and Hudson
- Ginsburg, Madeleine (Ed), (1993), *Illustrated History of Textiles*, London, Studio Edition.
- Harris, Jennifer (Ed), (1993) *Textiles - 5000 Years*, London, British Museum Press.

- Lewis, E. (1953) *Romance of Textiles*, New York, The McMillan Company.

PATTERN MAKING AND CONSTRUCTION- II

Paper No.	: 1244	PRACTICAL
Maximum Marks	: 100	
Credits	: 2 practicals/week(4 periods practical)	
Practical load	: 24 practicals/ semester	

OBJECTIVES

1. To develop skills in different techniques of pattern development and construction for lower garments
2. To understand the principles of grading standardized skirt blocks to various sizes

CONTENTS

PRACTICALS

UNIT I: Pattern development through draping	8
<ul style="list-style-type: none"> • Basic principles and techniques of draping slim skirt and its variations 	
UNIT II: Pattern development through flat pattern	6
<ul style="list-style-type: none"> • Styles of skirts and its components • Pockets and yokes • Waist bands • Developing industrial patterns with complete set of markings in fitted and semi-fitted lower garments • Preparation of muslin mock up for the patterns 	
UNIT III: Grading standard size skirt blocks	2
<ul style="list-style-type: none"> • Skirt block to various sizes 	
UNIT IV: Construction of garment components	8
<ul style="list-style-type: none"> • Construction of lower garment components- yokes, pockets, waist bands, hemlines 	

RECOMMENDED READINGS

- Armstrong, Helen Joseph. (2000) *Pattern Making for Fashion Design, 4th ed.* Pearson
- Crawford Connie Amaden. (1989) *The Art of Fashion draping, 2nd ed.* New York, Education Ptc. Ltd. Fairchild Publications.
- Jaffe Hilde and Nuric Relic. (1993) *Draping for Fashion Design*, New Jersey, Fashion Institute of Technology

TEXTILE FINISHING AND EVALUATION

Paper No.	:	1245	PRACTICAL
Maximum Marks	:	100	
Credits	:	4	
Practicals	:	3 practicals/week (3 periods practical)	
Practical Load	:	36 practicals/ semester	

OBJECTIVES

1. To apply and evaluate various textile finishes
2. To assess the effect of different finishes on fabric properties

CONTENTS

Section A: Textile Finishing	PRACTICALS
1. Evaluation of various Fabrics desized and Scoured with agents in terms of Absorption time and wettability	2
2. Application of various bleaching agents on different fibers and their evaluation in terms of whiteness index and strength	2
3. Mercerisation of cellulosic fabrics with and without tension and their evaluation in terms of strength, luster and dyeability	3
4. Application of various flame retarding agents and their evaluation in terms of LOI, flaming time, char length.	2
5. Application of suitable water repellent and oil repellent finishes on different fibers and their evaluation in terms of wettability, water repellency.	2
6. Application of anti-creasing finishes and evaluation of their efficacy in terms of crease recovery angle, tensile strength and tear strength	3
7. Chlorination of wool and its effect on dimensional stability and dyeability.	2
Section B: Textile Testing	
1. Fiber Testing- Fiber Length	2
2. Yarn Testing- Yarn count, yarn Length, Crimp, tpi	5
3. Fabric Testing- Tensile strength, tear strength, Bursting Strength, fabric drape, Bending length, Crease recovery, Abrasion resistance	8

RECOMMENDED READINGS

- Marsh, J.T. (1979) *An Introduction to Textile Finishing*, Bombay, B.I. Publications.
- Schindler, W. D. and Hauser, P.J. (2004) *Chemical Finishing of Textiles*, The Textile Institute, England, Woodhead Publishing Ltd.
- Trotman, E. R. (1984) *Dyeing and Chemical Technology of fibers*, Sixth edition, England, Charles Griffin and Company Ltd.
- Vigo, Tyrone L. (1994) *Textile Processing and Properties, Preparation, Dyeing, Finishing and Performance*, Amsterdam, Elsevier Science B.V.

SEMSTER 3

DYEING, PRINTING AND COLOUR MEASUREMENT

Paper No.	:	1341	THEORY
Maximum Marks	:	100	
Credits	:	4	
Teaching Periods	:	4/week	
Teaching Load	:	45-50 periods/ semester	

OBJECTIVES

1. To understand the concept of color and its measurement
2. To study the theories, mechanism and use of various dyes and auxiliaries
3. To understand the concept of dyeing and printing of various substrates
4. with different classes of dyes

CONTENTS

PERIODS

UNIT I: Color specification and measurement

4

Color theory, color strength, optical density, K/S, L a*b*, L c*h* values, metamerism

- Computer color matching system
- Commercial formulation of dyes

UNIT II: Dyeing**16**

- Dye fiber interaction
- Role of fiber structure in dyeing
- Theories of dyeing - kinetics and thermodynamics
- Application of dyes on various substrates
 - Mechanism of dyeing for various dye-fiber systems
 - Effect of dyeing parameters and auxiliaries
 - Dyeing of blends
 - Dyeing with natural dyes
- Mass coloration of manmade fibers
- Dyeing defects

UNIT III: Dyeing machines**5**

- Machines used for dyeing at the cottage and industrial level for fiber, yarn and fabric

UNIT IV: Chemistry and use of dyeing and printing auxiliaries**4**

- Water, wetting agents, electrolytes, solvents, dispersing agents, oxidizing and reducing agents, cationic fixing agents, sequestering agents, retarding agents, carriers, hygroscopic agents, stabilizers, discharging agents etc.
- Thickening agents- natural, modified and synthetic
- Suitability to the dyestuff and procedure of application

UNIT V: Printing**16**

- Methods of printing
 - Printing with block, roller, screen (flat bed, rotary), transfer, digital, flock, laser
 - New developments in printing machines
- Styles of printing
 - Direct style, dyed style, resist or reserve style, discharge style
 - Application of various classes of dyes on different fibers
 - Printing with natural dyes
- Finishing and after treatment of printed goods
- Printing defects

UNIT VI: Color fastness of dyed and printed goods**3**

- Effect of washing, perspiration, crocking, light, dry-cleaning and bleaches

RECOMMENDED READINGS

- Clarke, W (1977) *An Introduction to Textile Printing*, London, Butterworth and Co. Ltd.
- Miles, L.W.C. (1994) *Textile Printing, 2nd ed.*, West Yorkshire, England, Society of Dyers and Colorists
- Shenai, V.A. (1987) *Chemistry of Dyes and Principles of Dyeing, Vol II*, Bombay, India, Sevak Publications

- Shore, John (Ed) (1990) *Colorants and Auxiliaries: Organic Chemistry and Application Properties, Vol. 1 & 2*, West Yorkshire, England, Society of Dyers and Colorists
- Trotman, E. R. (1984) *Dyeing and Chemical Technology of fibers*, Sixth edition, England, Charles Griffin and Company Ltd.

FASHION WORLD

Paper No.	:	1342	THEORY
Maximum Marks	:	100	
Credits	:	4	
Teaching Periods	:	4/week	
Teaching Load	:	45-50 periods/ semester	

OBJECTIVES

- To understand the dynamics of fashion in relation to its retail
- To analyze the process of origin and merchandising of fashion in the fashion industry
- To study the functions of different components of fashion
- To review various forms of fashion promotion for fashion labels and brands
- To comprehend the cost and price mechanisms as exists in the fashion industry

CONTENTS

PERIODS

UNIT I: Review of contemporary fashion	8
<ul style="list-style-type: none"> • Development of costume in the 20th century fashion • Couture • Ready –to –wear 	
UNIT II: Creation of fashion	12
<ul style="list-style-type: none"> • Fashion forecasting, seasons, cycles • Interpreting themes • Line development & organization of a line • Range planning, unusual designs • Assortment planning 	
UNIT III: Segmentation of fashion	12
<ul style="list-style-type: none"> • Role of a designer • Role of a producer / manufacturer, contractor, jobber and merchandiser • Sourcing (market levels) • Retailers • Consumers • Fashion centers 	
UNIT IV: Fashion Promotion & Branding	9

- Visual merchandising (Shows, events, displays)
- Brand name and trade mark
- Packaging
- Product life cycle of certain brands

UNIT V: Costing and Pricing

7

- Factors affecting price determination
- Methods of accounting (cost and retail method)
- Cost sheet
- Retail pricing strategy

REFERENCES

- Aspelund Karl (2009), *Fashioning Society*, Fairchild Publication
- Dickerson K.G., (2003), *Inside the Fashion Business*, 7th Edition , Pearson Education
- Kieser S.J. and Garner M.B., (2008), *Beyond Design*, 2nd Edition , Fairchild Publication
- Marion Frances Wolbers, (2009), *Uncovering Fashion*, Fairchild Books
- Sengupta .H. (2005) *Indian Fashion*, Pearson Education

DYEING, PRINTING AND COLOUR MEASUREMENT

Paper No.	:	1343	PRACTICAL
Maximum Marks	:	100	
Credits	:	4	
Practical	:	3 practicals /week (3 periods practical)	
Practical Load	:	36 practicals/semester	

OBJECTIVES

1. To measure and interpret color values of dyed and printed goods
2. To study the effect of various dyes and auxiliaries on color yield and dyeing quality
3. To dye and print natural and manmade fibers with different classes of dyes and its evaluation

CONTENTS

PRACTICALS

UNIT I: Color measurement and its interpretation using computer color matching system	2
UNIT II: Dyeing of yarns/ fabrics of different fibers and fiber blends:	16
<ul style="list-style-type: none"> • Application of various dyes • Dyeing with natural dyes and mordents • Effect of dyeing parameters and their evaluation using spectrophotometer 	
UNIT III: Preparation of screens for printing	2

UNIT IV: Printing in different styles using suitable dyes**15**

- Direct style: direct, reactive, azoic, vat, acid, printing with pigments
- Discharge style
- Reserve style
- Dyed style
- Transfer printing.

RECOMMENDED READINGS

- Clarke, W (1977) *An Introduction to Textile Printing*, London, Butterworth and Co. Ltd.
- Miles, L.W.C. (1994) *Textile Printing, 2nd ed.*, West Yorkshire, England, Society of Dyers and Colorists.
- Park, J. (1993) *Instrumental Color Formulation: A Practical Guide*, West Yorkshire, England, Society of Dyers and Colorists.
- Storey, Joyce (1974) *Textile Printing*, London, Thames & Hudson.
- Shore, John (Ed) (1990) *Colourants and Auxiliaries: Organic Chemistry and Application Properties, Vol. 1&2*, West Yorkshire, England, Society of Dyers and Colorists.

	FASHION ILLUSTRATION	PRACTICAL
Paper No.	: 1344	
Maximum Marks	: 100	
Credits	: 4	
Practical	: 2 practicals/week (4 periods practical)	
Practical Load	: 24 practicals/semester	

OBJECTIVES

- Explore a range of materials and processes used in illustrating techniques
- To develop creative skills in illustrating styles and formats
- To produce a portfolio of design techniques and their ideas

CONTENTS	PRACTICALS
Section A- Design- Materials, techniques and processes	
UNIT I: Concept of form and shape:-dot –to – form	1
UNIT II: Design Collection	1
– Nature	
– Architecture	
– Religion	
UNIT III: Media & Rendering	2
– color mixing & color ways	

- various textures – fabric simulation

UNIT IV: Classification of design/motif **2**

- big & small
- enlargement & reduction
- according to growth of the motif

UNIT V: Concept of design repeat **2**

- motif / all over pattern
- placement of motif

Section B- Illustrating Fashion

UNIT I: Sketching **4**

- Basic anatomy-male, female, kids
- Fashion Figure proportions
- Live model drawing
 - heads
 - hands
 - feet
- Drawing from photographs

UNIT II: Basic garment shapes **2**

- Illustrating garment details and accessories in various media
- Drawing the fashion images as per themes
- Imaginative approach to fashion figures

UNIT III: Commercial application **4**

- Free hand figure drawing techniques
- Analyzing stylization- Exaggeration
- Developing own style with line drawing and color

UNIT IV: Presentation Techniques **6**

- Layout techniques
- Story board techniques

RECOMMENDED READINGS

- Allen A. and Seaman J. (1996) *Fashion Drawing -The Basic Principles*, London, B. T. Batsford Ltd..
- Drudi E. and Paci T.(2001) *Figure drawing for fashion design*, Amsterdam, The Pepin Press
- Grosicki, Z. J. (1989) *Advanced Textile Design (4th ed)* – Watson’s, London, Newnes- Butterworths.

- Ireland J. I. (2007) *New Fashion Figure Templates*, Singapore, Page one publishing Pvt Ltd

INTERNSHIP

Paper No.	:	1345 (a)
Maximum Marks	:	50
Credits	:	2
Teaching Periods	:	2/week
Teaching Load	:	24 periods/ semester

OBJECTIVES

- To gain hands on experience of working in the areas related to Fabric and Apparel Sciences like textile testing, apparel manufacturing and marketing, textile processing, textile conservation, etc.

The students could work with Government agencies, international agencies, NGO's and private organizations associated with production, testing and marketing textile products. The students must participate in the ongoing activities of the organization as advised by the faculty, collect the required information and prepare a written report to be presented in the department.

DISSERTATION

Paper No.	:	1345 (a)
Maximum Marks	:	To be marked at the end of 4th semester
Credits	:	2
Teaching Periods	:	2/week
Teaching Load	:	24 periods/semester

OBJECTIVES

- To undertake an independent piece of research in the area of Fabric and Apparel science related to the historical or contemporary issues that contribute to the advancement of knowledge.

The topic chosen should show originality in conceptualization/selection, exhibit systematic habits and regularity of work, thoroughness in methodology and statistical analysis, overall research competence and ability to put research findings in context.

The research work should contribute to the advancement of knowledge in the field. The student must be guided and supervised by a member of the teaching faculty of the department. The research culminated must reflect the student's independent work.

SEMSTER 4

QUALITY ASSURANCE IN TEXTILES AND APPAREL

Paper No.	:	1441	THEORY
Maximum Marks	:	100	
Credits	:	4	
Teaching Periods	:	4/week	
Teaching Load	:	45-50 periods/ semester	

OBJECTIVES

1. To impart awareness about the need and scope of quality assurance
2. To be informed about the standards existing all over the world and certifying bodies.

CONTENTS	PERIODS
UNIT I: Concept and scope of quality in fabrics and apparel	8
<ul style="list-style-type: none">• Quality and consistency among textile products- TQM, Target markets, Product attributes.• Quality and consumer safety.	
UNIT II: Quality Control organizations, standards and regulations	8
<ul style="list-style-type: none">• AATCC, ASTM, ISO, BIS, INDA, GINETEX, etc.• Eco-labels, silk mark, wool mark, other international labels• Regulations on Apparel Labeling- Care labels, Fibre ID labels.• Regulations on Apparel Industry Practices.	
UNIT III: Assurance of quality	16
<ul style="list-style-type: none">• Fiber<ul style="list-style-type: none">– Identification and testing	

- Fibre length, evenness, fineness, tensile strength, crimp, moisture regain and their implications on quality
- Yarn
 - Appearance and grading
 - Yarn count, tensile strength, elongation and elastic recovery
 - Twist, crimp, fineness, uniformity- standards available and their implications on quality
- Fabric
 - Compactness of fabric structure
 - Strength properties- Tensile, bursting, tear
 - Color fastness properties
 - Dimensional stability
 - Performance properties- resistance to abrasion, pilling, wrinkling, burning.
 - Quality parameters for fabrics suitable for various end uses-apparel, household textiles, industrial textiles.

UNIT IV: Inspection and managing quality **10**

- Fabric Inspection procedure and fabric defects.
- Tools for managing quality
- Evaluating Garment quality
 - Critical control points
 - Components of garments

UNIT V: Quality control in Wet Processing **6**

- Toxicology of synthetic colorants and finishing chemicals
- Harmful effects of dyes and chemicals
- Ecological concerns and eco-friendly processing of textiles
 - Effluent treatment plants
 - Carbon footprint assessment

RECOMMENDED READINGS

- Bhardwaj, S.K. and Mehta, P.V. (1998) *Managing Quality in the Apparel Industry*, New Delhi, New Age International.
- Kothari, V.K., Behera, B.K., (1996) *Quality Control in Textiles and Apparel Industry- A& B*, Delhi, Department of Textile Technology, IIT – Proceedings of Workshop- 3-5 October.
- Kudolph Sara J., (1998) *Quality Assurance of Textiles and Apparel*, Fairchild publication.
- Saville, B.P., (2000) *Physical Testing of Textiles*, Textiles Institute.
- Stamper, Anita A., (2005) Linda B Donnell, *Evaluating Apparel Quality* (2nd ed.), Fairchild Publication.

TEXTILE CONSERVATION AND DOCUMENTATION

Paper No.	:	1442 (a)	THEORY
Maximum Marks	:	100	
Credits	:	4	
Teaching Periods	:	4/ week	
Teaching Load	:	45-50 periods/ semester	

OBJECTIVES

1. To understand textile documentation methods and their collection
2. To appraise the role of museum in conservation and exhibition
3. To develop technical and analytical skills for textile conservation

CONTENTS

PERIODS

UNIT I: Museums

- Importance, History, Types, Textile Museums in India, Role of conservator
- 2**

UNIT II: Basic Textile Technology

- Fibers and their properties
 - Fabric Construction
 - Finishes
 - Dyeing and printing
- 6**

UNIT III: Basics of Conservation

- Principles
 - Materials
 - Types-Preventive and Curative
 - Factors deteriorating textiles- light, temperature, humidity, pests and pollution and micro organisms
 - Damages that can occur
 - Restoration
- 8**

UNIT IV: Collection Maintenance

- Workspace and Equipment
 - Housekeeping
 - Checking and monitoring
 - Materials and supplies
 - Handling
 - Packing Unpacking
- 8**

- Moving
- Rolling
- Labeling
- Cleaning
- Dealing special problems

UNIT V: Storage and Display

8

- General requirements for storage
- Types- Flat, rolled, framed or mounted for textiles
- Garments- boxes, hanged
- General requirements for display
 - Showcases and galleries
 - Frames
 - Mannequins
 - Hangers and other supports
 - Accessories

UNIT VI: Project Work

15

- Museum study
- Examination of textiles- fibers, weave, type of textile based on technique of manufacture
- Collection of conservation quality materials
- Analysis of documentation procedures of collection in college, sample documentation
- Analysis of environmental conditions in work area
- Survey of external and internal environmental factors of any selected museum
- Cleaning methods- stain removal
- Restoration methods- darning, patching, lining samples
- Hands on- flat, rolled and framed storage for textiles
- Hands on- box and hanging storage for costumes
- Special techniques for special items
- Textile and Costume display techniques

RECOMMENDED READINGS

- King, Rosalie Rasso (1985) *Textile Identification- Conservation and Preservation*, New Jersey, Noyes Publications
- Landi, Sheila (1985) *The Textile Conservator's Manual*, London, Butterworths and Co.
- Mc Lean Catherine C. and Cannel, Patricia, (Eds) (1986) *Textile Conservation*, The Conservation Center, Los Angeles Country Museum of Art

- Schweppe Helmut (1987) *Practical Information for Identification of Early Synthetic Dyes*, Washington DC, Conservation Analytical Laboratory, Smithsonian Institute
- Science for conservators, Crafts Council Conservation Teaching Series,---An Introduction to materials, 1983- Cleaning, 1984- Adhesives and coatings

EXTENSION PROGRAMME DESIGNS

Paper No.	:	1442 (b)	THEORY
Maximum Marks	:	100	
Credits	:	4	
Teaching Periods	:	4/ week	
Teaching Load	:	45-50 periods/ semester	

OBJECTIVES

1. To extend outreach activities among identified target groups
2. To inculcate a sound understanding of the applicability and relevance of various teaching aids for usage in the above mentioned extension areas
3. To enhance their effectiveness in the usage of teaching aids for identified socio-economic target groups

CONTENTS

PERIODS

UNIT I: Facilitators in extension programme (methods and materials)	15
<ul style="list-style-type: none"> • Non-verbal Communication-types (proxemics and kinesics)and significance • Verbal Communication-acquiring language skills for speaking, writing, improving language competencies etc. • Development of A/V aids for various target groups • Selection of various A/V aids based on factors like-suitability, impact, frequency, cost etc. • Learning theories • Developing public speaking skills 	
UNIT II: Programme planning	8
<ul style="list-style-type: none"> • Identification of problem • Decision making about problem • Establishing recommendations for future economic and social development of the target group 	
UNIT III: Programme implementation	10
<ul style="list-style-type: none"> • Situation and need analysis • Determining programme objectives • Determining a plan of work <ul style="list-style-type: none"> - Identifying target groups - Drawing out a plan of action - Audio-visual aids to be used - Collaborating partners 	

- Learning experiences sought
- Participation of the people
 - Need for involvement of people
 - Planning with/for people
 - Case study
- Role of specialist
- Persuasion method

UNIT IV: Programme evaluation

6

- Types
- Purpose
- Contribution to programme planning
- Process and monitoring
- Feedback
- Case studies of NGO's and extension programmes

RECOMMENDED READINGS

- Kumar, B. and Hansra (2000) *Extension Education for Human Resource Development*
- Lynton, R and Pareek, U. (1990) *Training for Development*, New Delhi, Sage Publication, New Delhi, Concept Publishers
- Ray, G.L. (1999) *Extension Communication and Management, 4th edition*, Calcutta, Naya Prakash.
- Supe S. V., (1989), *An Introduction to Extension Education*, oxford IBH Publishing Co. Pvt. Ltd., New Delhi, US Department of Agriculture, New Delhi
- Waghmare S. K., (1989), *Teaching Extension Education*, Federal Extension Service

TEXTILES FOR HOME AND HOSPITALITY

Paper No. : 1442 (c)
Maximum Marks : 100

THEORY

Credits : 4
Teaching Periods : 4/ week
Teaching Load : 45-50 periods/ semester

OBJECTIVES

1. To acquire knowledge of history and contemporary concepts of textiles in home and hospitality sector.
2. To understand the nature and potential of these Indian textiles in the global scenario
3. To study the fabrics, finishes, detailed design and selection criteria for textiles used in home and hospitality.
4. To gain knowledge regarding the use, care and maintenance of various classes of textiles used in home and hospitality.

CONTENTS

PERIODS

UNIT I: Home Textiles

14

- Classification of home textiles _ Bedding and bed furnishings, kitchen and table linen, bathroom furnishings, floor coverings, window treatments and upholstery fabrics
- Cultural and historical perspectives
- Period styles in home furnishings
- Contemporary trends and forecast for the future
- Innovations in home textiles including high performance materials and use of finishes to enhance functionality.

UNIT II: Textiles for hospitality

10

- Sectors(hospitals, travel and tourism, modes of travelling, restaurant and hotels)
- Influence of the fashion, economy and technology on textiles for hospitality.

UNIT III: Selection, use, care, storage and maintenance

14

- Various parameters of selecting textiles for home, hospitals, travel and tourism.
- Quality testing of materials
- Care labels
- Maintenance at domestic and commercial levels.

UNIT IV: Manufacturing and production capacity of textiles for home and hospitality

10

- Product and market positioning, supply and distribution structure of major centers (mill and decentralized sectors)

RECOMMENDED READINGS

- Howes, Karen (1997) *Making the Most of Bedrooms*, London, Conran Octopus

- Lebeau, Caroline (2004) *Fabrics- the Decorative Art of Textiles*, London, Thames and Hudson
- Nieswand, Nonie (1998) *Bedrooms and Bathrooms*, London, Conran Octopus
- Ranall, Charles T. (2002) *Encyclopedia of Window Fashions*, California, Randall International
- Wingate, Isabel B. (1949) *Textile Fabrics and Their Selection*, New York, Prentice Hall

FASHION MERCHANDISE RETAIL

Paper No.	:	1442 (d)	THEORY
Max. Marks	:	100	
Credits	:	4	
Teaching Periods	:	4/week	
Teaching Load	:	45-50 periods/semester	

OBJECTIVES

1. To understand the concepts of merchandising and retailing
2. To study the principles of merchandise management and financial planning
3. To study in detail various components of a retail store

	PERIODS
CONTENTS	
UNIT I: Introduction to fashion retailing	3
<ul style="list-style-type: none"> • Economic significance • Trends in retail industry • Classification of retail institutions on the basis of ownership, retail strategy mix, non store sales. 	
UNIT II: Retail location	4
<ul style="list-style-type: none"> • Importance of location to retailer • Trading area analysis • Site selection 	
UNIT III: Retail organization	5
<ul style="list-style-type: none"> • Setting up of retail organization • Organisational patterns • Personnel management 	
UNIT IV: Merchandise planning and management	8
<ul style="list-style-type: none"> • Assortment planning • Buying plan, buying techniques, placing an order • Market logistics 	
UNIT V: Financial planning	8
<ul style="list-style-type: none"> • Methods of accounting- cost and retail method 	

- Forecasting and budgeting- dollar control and unit control
- Financial inventory control

UNIT VI: Visual merchandising **7**

- Components of a store image
- Atmosphere- interior and exterior
- Store layout and traffic flow
- Interior displays
- Customer services

UNITVII: Retail promotion **5**

- Advertising
- Sales promotion and personal selling
- Planning a retail strategy mix
- Customer relationship management

UNITVIII: Pricing in retail **4**

- Factors affecting retail price strategy
- Development of retail price strategy

UNIT IX: Retail control **2**

RECOMMENDED READINGS

- Constantino. M. (1998) *Fashion Marketing and P.R.I*, London, BT Batsford
- Grace E. (1978) *Introduction to Fashion Merchandising Management*, New Jersey, Prentice Hall
- Sidney, Packard, Winters A., Aneirod, Natha (1983) *Fashion Buying and Merchandising*, New York, Fairchild publications
- Stone Elaine (1985) *Fashion Buying*, McGraw Hill Inc.

TEXTILE DESIGN DEVELOPMENT AND COMPUTER APPLICATION

Paper No.	:	1443	PRACTICAL
Maximum Marks	:	100	
Credits	:	4	
Practicals	:	3 practicals/week (3 periods practical)	
Practical Load	:	36 practicals /semester	

OBJECTIVES

- To conceptualize design and its implementation
- To develop creative and technical skills in designing
- To design and develop structural and applied design for product development

CONTENTS

PRACTICALS

Section –A: Textile Design Development

UNIT I: Design development

4

- Conceptualizing theme board/ mood board
- Interpreting theme board in line with elements of design

UNIT II: Grammar of Design

7

- Families of design
- Classification of design/motif
- Concept of design repeat

UNIT III: Design Application

9

- Structural designs
 - Woven designs – concept of design repeat, translation in the form of peg plans and drafts, understanding basic and decorative weaves, color ways, calculation of yarn requirement, sample development of woven fabrics
 - Knitted designs – concept of design repeat, patterning in knits, sample development of knitted fabrics creating new textures
- Applied design
 - Concept of design repeat, factors affecting design application
 - Design and development of blocks, stencils and screens

UNIT IV: Product development

4

- Using select themes to make product line of yardage fabric for apparels and household textiles.

Section –B: Computer Aided Design

UNIT I: Introduction to CORELDRAW

2

- Introduction about the Toolbox
- Development of Prints

UNIT II: Drawing the details of the following in Corel draw and applying various texture and effects –

6

- Fashion details/Silhouette
 - Collar
 - Sleeves
 - Pockets
 - Skirts
 - Trousers

- Silhouette
- Accessories
- Illusion effects – created by fashion details, elements of design, color, textures.
 - Draping the above created details on fashion figures

UNIT III: Introduction to PHOTOSHOP 2

- Selection of a theme.
- Creating Mood board, Color palette (Color ways 3 in each)

UNIT IV: Product Collection based on theme 2

- Garment collection/ home furnishing collection

RECOMMENDED READINGS

- Duggal , V. *A General Guide to Computer Aided Design and Drafting* , Mailmax Publications, New York
- Grosicki, Z.J. (1989) *Advanced Textile Design (4th Ed)* - Watson's, London, Newness Butterworths.
- Meller S and Eiffer. J (1991) *Textile Design*, London, Thames and Hudson
- Wilson Eva (1994) *8000 Years of Ornament*, London, the British Museum Press

DISSERTATION

Paper No.	: 1444
Maximum Marks	: 150 (both for III and IV semester)
Credits	: 4
Teaching Periods	: 4/week
Teaching Load	: 45-50 periods/semester

OBJECTIVES

- To understand an independent piece of research in the area of Fabric and Apparel science related to the historical or contemporary issues that contribute to the advancement of knowledge.

The topic chosen should show originality in conceptualization/selection, exhibit systematic habits and regularity of work, thoroughness in methodology and statistical

analysis, overall research competence and ability to put research findings in context. The research work should contribute to the advancement of knowledge in the field. The student must be guided and supervised by a member of the teaching faculty of the department. The research culminated must reflect the student's independent work