

RRBM UNIVERSITY, ALWAR

SYLLABUS

M.A./M.Sc. (HOME SCIENCE)

Annual Scheme

Eligibility for (boys and girls both) this course: (B.A(H.Sc) / B.A additional (H.Sc) / B.Sc (H.Sc)

Examination Scheme:

The question paper will have four sections/units. Paper setter will set a total of nine questions comprising one compulsory question 10 shore answer type) covering the whole syllabus and two questions from each section/unit. Students will attempt one question from each section/unit and one compulsory question. All questions will carry equal marks...

M.A/MSc.FINAL (Annual Scheme)

Clothing and Textile

THEORY: Max Marks:100

Min Marks:36

Paper V- Traditional Textile and Dyeing - Printing
Paper VI-Social and Psychological Aspects of Clothing
Paper VI- Garment Production Technology
Paper VIII- Testing and Quality Control

PRACTICALS: Max Marks: 100

Min Marks:36

Practical-1.Apparel Illustrations: 50 Marks
Practical-2. Textile dyeing and printing: 50 Marks

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Project work: Max Marks-50

Min Marks-18

Project work in any field/topic of Textile

Paper V- Traditional Textile and Dyeing - Printing

Teaching Hours 4 Periods/week

Max Marks 100

Unit I Traditional Textile

1. Knowledge of Hand-Woven Fabrics: Dacca Muslin, Jamdani, Chanderi, Brocade, Baluchchari, Kashmiri Shawls, Doriya, Kanjivaram.

2. Dyed Fabrics: Bandhej, Ikat, Patola

3. Printed Fabrics: Kalamkari, Madhubani

4. Traditional Embroideries of India :

- (a)** kasida of Kashmir
- (b)** Kasuti of Karnataka
- (c)** Manipuri
- (d)** Chamba Rumal
- (e)** Kantha of Bengal
- (f)** Phulkari of Punjab
- (g)** Chikankari of Lucknow

Unit-II Pre Treatments of Fabric

1. Impurities in raw cotton, wool, silk, and bast fiber.

2. Elementary knowledge of textile auxiliaries.

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3. Preparatory processes (objectives and machinery used in)

- (a) Scouring
- (b) Bleaching (1) bleaching of cotton, silk, nylon (ii) Optical bleaching agents
- (c) Desizing (i) Acid desizing (ii) Rot steeping (iii) Enzymatic desizing
- (d) Singeing (i) Gas singeing (ii) Plate singeing (iii) Roller singeing
- (e) Mercerization-Historical significance & introduction Action of Caustic Soda on Cotton fiber.

Nature of Change occurring in cotton fibers

4. Textile and environment - Textile effluents; characteristics, parameters, contamination, and effluent treatment process.

Unit III Dyes and Dyeing

1. Types of Dyes:

a) Natural Dyes:

Vegetable dyes: Pomegranate, Turmeric, kattha , onion, Heena, Indigo, Harsingar, Tesu, akhrot

Animal Dyes: Cochineal Insect, Kermes, Lac, TaiyianMolask

Mineral Dyes: Bengal Soil, Iron, Chrome Yellow, Manganese Brown

Advantages and Disadvantages of Natural Dyes

b) Synthetic Dyes :

Water Soluble: Direct dyes, Basic Dyes, Acid Dyes, Reactive Dyes

Water-insoluble: Vat Dyes, Disperse Dyes, Sulfur Dyes

In Setu Colour Formation: Azoic Colours

2. Fabric Finishes By Dyeing :

Process of Dyeing: Wetting of Fabric, Applying Dyes, Removal of Extra Particles
Of dyes, Fasteners of dyes

Stages of Dyeing :

i) Fiber Dyeing: Top dyeing, Stock dyeing, Dope dyeing, and Bale dyeing
ii) Yarn Dyeing: Package Dyeing, Skein Dyeing, kool-aid Dyeing, Striped Yarn,

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Speckled Yarn Dyeing, Tonal Yarn Dyeing, Warp beam Dyeing, Space Dyeing, Hank Printing, Dipstick, Process, Continuous Warp Dyeing, Knit-de Knit process

iii) Piece / Cloth Dyeing: Jig Dyeing, Jet Dyeing, Cross Dyeing, Pad Dyeing, Union Dyeing, Winch / Reel Dyeing, Beam / Metro Dyeing, Exhaust Dyeing.

iv) Garment Dyeing: Paddle Dyeing, High-Temperature Dyeing, Thermosol Dyeing, Soft metal Dyeing, Foam Dyeing

3. Measures of Fastness Properties: washing, Rubbing, Light, and Perspiration Factors affecting color fading, dye fastness

4. Banned Dyes: German Ban, Indian Ban, Red listed Chemicals as Per Eco-specifications, Recent developments in Dyeing and preparatory processes.

Unit IV Printing

1. **Fretreatments required for printing**, Essential ingredients (Thickening agent, Mordents, oxidizing and reducing agent, etc.) used in printing paste and their functions, Classification, properties, importance and uses of thickeners, Preparation of printing paste recipes.

2. **Styles of printing** - direct, dyed, resist discharge, and raised style of printing.

3 **Historical development of printing methods**-block, stencil, screen (flatbed and rotary) used at the cottage and industrial level.

4 **Novel printing procedures**- Polychromatic dyeing, Transfer, Inkjet blotch, watermark, roller, foam, bubble, airbrush, electrostatic, photo printing, marble, warp printing, differential, digitized, flexography, Carpet printing, Flock printing, Lazer printing, 3-D printing

5 **Special printing procedures** - Rubber, khadi, etc.

6 **Finishing and after treatment of printed goods at the cottage and industrial level** - Steaming, Curing, Ageing, Soaping, Washing, Reduction clearing, Thermo fixation, Carbonization.

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7 Recent developments in textiles and apparel- Nano Textiles, Technical Textiles. Occupational Clothing, Zero Waste Designing, Upcycling, and Recycling.

REFERENCES:

1. Shenai (1987), Chemistry of Dyes and Principles of Dyeing Sevak Prakashan, Mumbai.
2. H. A. Lubs, Robert E. The Chemistry of Synthetic Dyes and pigments, Krieger Publishing Company, New York.
3. V. A. Shenai (1999), Azo Dyes – Facts and Figures – Sevak Prakashan, Mumbai.
4. R. S. Prayag, Technology Textile Printing – Noyes Data Corporation.
5. V.A. Shenai(1977), Technology of Printing Technology of textile Processing, Vol. IV, Sevak Publication.
6. M.L. Gulrajani and Deepti Gupta (1990), Natural dyes and their Application to Textiles", ed. I.T.I. Delhi Publications.
7. वस्त्र एवं परिधान डॉ. रश्मि गुप्ता, डॉ. ऋतु गुप्ता
8. रंगाई एवं छपायी डॉ. अंजू शर्मा, डॉ. ए. के. शर्मा

Paper VI - Social and Psychological Aspects of Clothing

Teaching Hours 4 Periods/week
Max Marks 100

Unit I

1. Origin of Clothing
2. Theories of clothing – theory of modesty, immodesty, protections, adornment, combined need theory, other theories in fashion.
3. Relation between clothing and other disciplines.



(a) Physical Health (b) Mental Health Clothing and first impressions.

Unit II

1. Relation between clothing and the wearer

(i) Personality and self-concept.

(ii) Motivation in clothing choices. Individual values, interests, and attitudes related to clothing.

2. Behavior and clothing choices, practices and effects, and clothing on the individual.

3. Clothing and Sociological significance: social status, clothing signifying culture, reflection on image, lifestyle, customs, religious beliefs, values, Technology, Dressing and professional success, sports and activities, gender identification,

Unit III

1. Psychological significance of clothing: Self-esteem and clothing psychological, factors Influencing self-esteem of adolescents, the psychology behind a selection of attractive clothes, clothing selection for the mental development of children

2 Colour psychology of clothing

3 Body image and clothing interest among adolescents.

REFERENCES:

1. Avis, M. Dry (1961): *The Psychology of Jung*, Methuen & Co., London.

2. Horn, Marilyu J. (1968): *The Second Skin*, Houghton Mifflin Co., USA.

Brijendra

3. Flugel, J.C. (1950): The psychoanalytical study of the family, The Hogarth Press & the Institute of Psycho-Analysis, London.

4. Richard Wollheim (1985): Freud, Fontana Press, London.

5. Vincent Brome (1978): Jung, Granada Publishing, London, Toronto Sydney, New York.

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Paper VII Garment Production Technology

Teaching Hours 4 Periods/week
Max Marks 100

Unit I Merchandising Theory

1 Role of retailing in merchandising, fashion merchandising, scheduling, fashion buyer, merchandising evaluation

2. Visual merchandising: meaning, methods to make effective visual merchandising
Advantages

3. Visual merchandising techniques:

a) **Instore Display:** Elements, Factors affecting, Types - Grid, Freestanding, island sidekick display, display cases, glorifier display, mannequins, countertop, gondola display, the informational display, table display, digital display, dump bin, garment display, entryway display, end cap, header cards, shelf talkers, clip strips, shelf stopper, racks, shadow box, isolated display, open display, themed display, one item display, lifestyle display.

b) **Window Display:** Elements, Types-open, closed, semi-closed, elevated, corner, island, shadow box, open back, variety window display, line- a -good, tips for creating a good window display

c) **Online Display:** Methods, Elements, Advantages

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Unit II Manufacturing Technology

1. Career in the apparel industry:

- a) **Development related career:** Product Developer, Technical Designer, Quality assurance manager, Production manager
- b) **Sales related career:** Sales associate, Stylist, Fashion merchandiser, Public relations specialist, Inventory planner, account manager, Retail Buyer, Freelancer, Brand manager, modeling, Fashion Consultant, Visual merchandiser
- c) **Design related career:** Fashion designer, Jewelry designer, Graphic designer, Textile designer, Creative director

2 Product Development, Design Development, Developing a Sample Garment.

3 Apparel Production

- i) Costing a Garment
- ii) Purchasing Pattern Making
- iii) Production scheduling
- iv) Spreading and Cutting Procedure
- v) Garment assembly
- vi) Contracting

4. Introduction to Industrial Machine

- i) Cutting tools
- ii) fusing
- iii) industrial machine

Unit III Introduction to the Clothing Industry

1. The organization of Clothing Industry Design department - Marketing department, Finance department Purchase department, Production department, Operation department

2. SWOT analysis of the Indian fashion industry

3. Contemporary Home Textiles: Overview of current market performance, Global scenario, Impact of economic and other factors on home textiles: Styles, colors, and fabric.

4. Textile Consumer Protection Act, Branding and labeling of textiles and garments, Eco textiles.

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Unit IV Sales Promotion Techniques

1 Advertising

2 Publicity

3. Personal Selling Method of sales promotion

- i) Brand
- ii) Standard
- iii) Labeling
- iv) Fashion show
- v) Exhibition
- vi) Display

4. Planning and budgeting for a retail store.

5. Maintenance and ordering of stocks, preparation of sales reports.

6. Apparel brands

7. Advances in fashion marketing

REFERENCES:

1. Dhake. Spoons. (1992): Greenworld Retail Fashion Promotion and Advertising, Mac Millian Publication.
2. Joamow. J. A. Judelie, B. and Guerreiro, M. (1981): Inside the Fashion Business, John Wiley & Sons, NY, Toronto, Brisbane.
3. Frings G. S. (1982): Fashion from concept to consumer, Prentice Hall Inc., Englewood Cliffs, New Jersey.
4. Easey, M. (1995): Fashion Marketing, Prentice Hall of India, New Delhi.
5. Majare, S. (1995): The Essence of Marketing, Prentice Hall of India, New Delhi.
6. Chuter, A. J. (1995): Introduction of clothing Production Management, Blackwell Science Ltd.,
7. वस्त्र एवं परिधान डॉ. रशिम गुप्ता, डॉ. ऋतु गुप्ता

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Paper VIII- Testing and Quality Control

**Teaching Hours 4 Periods/week
Max Marks 100**

Unit I

1 Introduction

- i). Important of Textile Testing and analysis, objectives (reasons) of textile testing, Uses of Testing objectives (reasons) of textile testing, Uses of Testing information, Factors influencing Quality Control.
- ii) Statistical terms, use of statistics in handling data in the area of textile testing
- iii) Sampling, terms used in sampling, fiber sampling, yarn sampling, fabric sampling
- iv) Precision and accuracy of testing methods, atmospheric conditions for textile testing, temperature and humidity, measurement of humidity and moisture in textile.
- v) Textile properties that influence fabric performance – fiber structure, yarn structure

2 Fiber Dimensions

- i). Fiber Fineness, Methods of measuring fiber fineness
- ii) Fiber length, Methods of measuring fiber length
- iii) Fiber Strength – Single fiber method, Bundle strength method

Unit II

1 Standards: Importance of standards, different types of standards, Introduction to internal bodies such as ISI, ASTM, ISO Standards and series, BIS, etc

- i) Quality control of textile products.
- ii) Quality standards as applicable to various types of textiles (Garments yardage, knits, woven, carpets, processing, dyeing)

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2. Fiber Testing: Definition, objectives & method of testing staple length, mean length, short fiber percentage, fineness, evenness, maturity, tensile strength, elongation at break, interpretation of results.

3. Yarn Testing:

- i) Definition, Objective, and methods of the testing count, Denier diameter, tensile strength, elongation at break, stress-strain curve, elastic recovery, yarn appearance & evenness, cloth cover, interpretation of results.
- ii) Linear Density – Direct & Indirect system, folded yarns, methods of measuring the linear density of yarns from packages and skeins and from a fabric sample.
- iii) Yarn Twist – Level of twist and twist factor methods of measuring twist, yarn evenness and methods of assessing evenness, Yarn crimp
- iv) Yarn Strength – Single strand method skein method, count strength product (CSP)

Unit III

1 Fabric Testing :

Definition, objectives & methods of testing length, width, bow & skewness, thread count, ends & picks, weight, thickness, breaking strength, tear strength, bursting strength, abrasion, resistance, stiffness, drapability, pilling, crease recovery, handle, flammability & interpretations of results.

2. Thermal properties of textile fibers.

- i) Porosity and air & water permeability of fabrics, thermal conductivity.
- ii) Serviceability of fabrics-Service, wear abrasion, method of assessment.
- iii) Garment finishing – color fastness, shrinkage.
- iv) Concept of fabric faults as related to stages of manufacture & their remedies.

Reference

1. Principles of Textile Testing – J.E. Booth, Newness Butterworth, London

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2. Textile Testing and Analysis – Billie J. Collier and Helen E. Epps, Prentice-Hall, New Jersey.
3. Textile Testing – John H. Skinkle, Brooklyn, New York
4. Handbook of Textile Testing and Quality Control – Groover and Hamby
5. An Introduction to Quality Control for Apparel Industry – Pradip V. Mehta, Marcel Dekker, New York.
6. Textile Objective measurement Automation in Garment Manufacture – George Stylios – Ellis Horwood Ltd, England.
7. Knitted Clothing Technology – Brackenbury Terry, Blackwell Science Ltd.
8. Textile Testing & Quality Control Standards like – BIS, BS, ASTM, ISO, AATCC, etc.
9. Any other available book on Quality Control.

PRACTICAL 1

APPAREL ILLUSTRATION

Max. Marks:50

Duration of Exam: 3 Hrs.

I. Geometrical, naturalized, stylized, and traditional design development enlarging, reducing, and placement for allover and border pattern.

2. Collection of fabric samples showing different textile designing techniques: printing, dyeing, weaving, fancy yarns, trimmings (sequins, beads, etc.), embroidery, combinations (eg. printing + embroidery, etc), finishes (glazing, napping, crepe, parchmentising, etc.)
3. Dress designs for different figures, occasions, seasons, ages, occupation, activity
4. Market survey and collection of dress trimmings & collection trimming samples

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PRACTICAL II

TRADITIONAL TEXTILES AND DYEING -PRINTING PRACTICAL

Max. Marks:50

Duration of Exam: 3 Hrs.

1.]Making samples of traditional embroideries of different states
2. Preparing one article with anyone traditional embroidery
3. Simple dyeing of cotton fabric
 - i) Tie and Dye
 - ii) Batik printing
 - iii) Stencil printing
 - iv) Block printing
4. Visit local museums / haats /exhibitions of craft-based products
5. Field and Industrial visit
6. Project work :
 - i) preparation of a portfolio of designs of different textiles
 - ii) development of contemporary commercial innovative products/services with the use of traditional crafts.
 - iii) To study the marketability of these products/services (consumer survey)

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