

**TEXTILE DESIGN
DYEING
& PRINTING**

Elements of Textile Design (CBSE Textbook for Class XI)

Practical: 50Marks

Theory: 50 Marks

Objectives of Units

Class XI

Textile design involves a complete vision of development of new design aspects for novelty in fabric surface, textile products and various other textile materials. It includes designing of fabric used in clothing, house hold textiles, decorative textiles and others. It involves design intervention along with the development of the final product within the technical specification and right commercial value.

In order to create innovative surfaces and structures, “Elements of design” course is introduced as an elementary course. The course will provide an overview of Textile Design, Designer and Textile Industry. The overall objective of this course is to understand the basics of design in relation with textiles, textile design and related terminology and the overall work pattern of textile industry.

Unit - I

: 30 period- 20 Mark theory

Objectives:

- To understand the historical background of textiles.
- To get an overview of the textile industry and related industries.
- To get familiar with various textile materials and processes.
- To gain knowledge about textile design as a field.
- To understand the textile design as a profession and the role of Textile designers in Textile and Fashion Industry.
- To understand the work structure, timing and planning in Textile industry.
- To develop knowledge of forecast and market trends, its importance and need in Textile industry.

Learning Outcome:

After finishing the course students shall be able

- To understand the overview of Textile industry including history and current industry scenario.
- To learn about the terminology associated with textile design material, process etc.
- To understand the importance of market and trends and enhance observational skills.

- To understand the Textile industry functional aspects and roles and responsibilities of a designer.

Course content

1. An Overview of Textiles, history and industrial background
2. Textile designer role responsibilities
3. Textile material and process
4. Textile industry work structure, time and planning
5. Importance of market trend and forecast

Teaching Methodology:

- Class lectures and Practical demonstrations
- Class-room quiz
- Presentations and Discussions in class
- Review and Feedback on assignments
- Market visit, Survey and Field visits to relevant Textile Manufacturing unit, museums etc.

Evaluation Criteria:

- Written theory test: knowledge and understanding.
- Discussion and quiz: understanding.

Unit - II

: 80 period-Practical: 15 Mark

Objectives: The main objective of this unit is to develop an understanding of the primary components of textile design, and the related process. The basic of textile design knowledge is essential and useful for further application in various sectors of textile design.

- To develop an understanding for the components of textile design, and the related process.
- To introduce the students to the basic principle and elements of design
- To develop interesting compositions using forms and colour.
- To develop sensitivity among the students for better understanding of forms and its application for creating visual images of great value.

Learning Outcome:

After finishing the course students shall be able

- To understand the application of design elements and principles for textile designing.

- To get familiar with the design process and to make design ideas using innovative material and techniques.
- To enable students to work on various design compositions.

Course content

- 1.Elements of design
2. Principles of design

Teaching Methodology:

- Class lectures and practical demonstrations.
- Class-room assignments to create designs for specific textile product. Display, presentations and discussions in class.
- Review and feedback on assignments.
- Market visit, survey.
- Visits to design houses (if possible).
- Special lectures and presentations by textile professionals.

Evaluation Criteria:

- Written theory test: knowledge and understanding.
- Practical assignments: application and skills.
- Design assignments: innovation in design ideas, creativity and functionality.
- Display and presentation: neatness and visual impact.

Unit -III

: 80 period- 15 Mark Practical

Objectives: The main objective of this unit is to develop an understanding of the components of textile design through a complete process for creation of textile design patterns, repeats, various layouts, use of colors, creation of color ways for generating variety and the inspiration of design.

- To develop an understanding for the components of textile design, and the related process.
- To enable the students to utilize the principals and elements of design in application of textile design development.
- To develop interesting compositions using forms and colour.
- To develop sensitivity among the students for a wholesome understanding of the textile design process.
- Developing sensitivity to take various inspirations for development of design.

Learning Outcome:

After finishing the course students shall be able

- To understand the application of design elements and principles for textile designing.
- To get familiar with the design process and to make design ideas using innovative material and techniques.
- To enable students to work on various design compositions, repeats, layouts and color ways.

Course content

- 1.Elements of textile design such as repeats, layouts and color ways
2. Inspiration for design and design process

Teaching Methodology:

- Class lectures and practical demonstrations.
- Class-room assignments to create designs for specific textile product. Display, presentations and discussions in class.
- Review and feedback on assignments.
- Market visit, Survey and field visits to Textile stores.
- Visits to design houses (if possible).
- Special lectures and presentations by textile professionals.

Evaluation Criteria:

- Written theory test: understanding.
- Practical assignments: application and skills.
- Design assignments: innovation in design ideas, creativity and functionality.
- Display and presentation: neatness and visual impact.

Unit - IV : 50 period – 50 Marks(30 theory + 20 practical)

Objectives: The main objective of this unit is to get an overview of the various types of textiles available in industry. It includes study of knits, woven, printed, embellished and resist textiles. This unit diversifies textiles through explaining various techniques and technology in textiles. The aim is also to understand the professional aspects of the work standards and methods existing in textile industry at present.

- To develop an understanding for the variety available in textiles.

- To enable the students to gain the knowledge of various techniques and methods of creating various types of textiles.
- To develop understanding of textile terminology.
- To develop understanding of professional aspects of the work practices existing in textile industry in current scenario.
- Developing textile technique skills through practical application.
- Developing communication skills and ability too use right terminology for an effective Design presentation.

Learning Outcome:

After finishing the course students shall be able

- To understand the application of various techniques available in textile industry.
- To be able to differentiate among various textiles by looking at technique of making and design aspects.
- To enable students to realize professional aspects of the work standards in textile industry at present.
- To be able to make an effective design presentation.

Course content

1. Types of various available Textiles by techniques
2. Presentation of Design and Professional Practices

Teaching Methodology:

- Class lectures and practical demonstrations.
- Class-room assignments to create designs for specific textile product using specific techniques.
- Display, presentations and discussions in class.
- Review and feedback on assignments.
- Market visit, Survey and field visits to nearby Textile manufacturing units.
- Visits to design houses (if possible).
- Special lectures and presentations by textile professionals.

Evaluation Criteria:

- Written theory test: understanding.
- Practical assignments: application and skills.
- Design assignments: innovation in design ideas, creativity and functionality.
- Display and presentation: neatness and visual impact.

Textile Science Class - XI

Class XI

**Theory: 50
Marks
Practical: 50 Marks**

Preamble:

Since clothing and home furnishings make up a major portion of the family budget, knowledge of textiles is as appropriate for consumers who wish to purchase wisely as it is for those whose career interests lie in textiles. The marketers of textile fibers, fabrics, and finished goods must all be familiar with the manufacturing methods, construction, and finishing techniques which affect the performance of textile products.

The objective of this course is to understand the raw materials - fibers, fiber source and properties. The conversion of fiber into yarn, yarn spinning processes conversion of yarn for fabric developments (like woven, knit and other forms of fabrics). At the end of the course the students shall be able to understand integration of fiber, yarn and various forms of fabrics and will be able to integrate fabric properties, characteristics, performances and behavior according to various end uses for Apparel and Home furnishing products.

Unit 1: Overview of Textile Industries and Textile Fibers Theory: 10 Marks

Objectives

- To familiarize the background of Indian Textile Industries
- To learn and understand Textile terminology
- To understand the sources and properties of Textile fibers
- To predict the performances and characteristics of fabrics, according to fiber content for various end uses

Learning outcome

After finishing the course, the students shall be able

- To use appropriate terminology used in Textile Application
- To understand the interrelationships in Textile Business
- To get an overview of Textile Industries in India.

Course content

- The major Textile Production Segments in India.
- Sources of Fabrics
- Classification of Textile Fibers according to origin and chemical composition; Essential Properties and Performances of Textile Materials like Aesthetic, Durability, Comfort, Safety, Care and Maintenance Properties
- Properties of Cotton, Flax, Hemp and Jute

- Properties of Silk, Wool, Mohair and other Natural Fibers
- Properties of Viscose Rayon, Loyocel and Acetate
- Properties of Polyester, Nylon, Acrylic and Spandex

Unit 2: TEXTILE SPINNING AND YARN

Theory: 20 Marks Practical: 10 Marks

Objectives

- To familiarize Yarn Spinning Process
- To understand the properties and characteristics of various types of yarns

Learning outcome:

After finishing the course, the students shall be able

- To understand basics of Yarn Manufacturing
- To predict and select different types of yarn for fabric development according to various end uses

Course content:

- Classification of Yarns; Spun Yarn Production Process; Carded and Combed Yarns; Woollen and Worsted Yarns; Mono Filament and Multi Filament Yarns.
- Yarn Numbering Systems; Cotton Count, Metric Count, Denier, Tex and Deci-Tex. Single and Plied Yarns; Yarn Twist; Amount of Twist and Direction of Twist.
- Textured Yarns; Core Spun Yarn; Novelty and Fancy Yarns; Blended Yarns; Sewing Threads.

Unit 3: TEXTILE WEAVING AND WOVEN FABRICS

Theory: 10 Marks Practical: 20 Marks

Objectives

- To familiarize the weaving process involved in producing Woven Fabrics
- To understand the properties and characteristics of various types of Woven Fabrics

Learning outcome:

- To predict and select different types of woven fabrics according to various end uses
- To recognize and identify different types of woven fabrics

Course content:

- Preparatory to weaving, including Highspeed machines for Winding, Warping, Sizing, Beaming and Weft Winding.

- The Loom; types of Looms, classification and selvedge formations
- Basic motions of the loom, including the application of Dobby and Jacquards. Non-automatic loom, Automatic loom, Shuttle less weaving machines, Terry looms and Drop box loom
- Introduction to basic weaves; plain, basket, rib; twill, satin, sateen, dobby, jacquard, crepe, pique, seer sucker, terry, velvet and velveteen.

Practical

Identification of Yarn, Fiber, weave, count construction and weight

Unit 4: OTHER FORMS OF TEXTILES **20 Marks**

Theory: 10 Marks Practical:

Objectives:

- To familiarize the basics of different types of Knitting and properties of knitted fabrics, and other forms of Textiles like Non-woven, Felt, Lace and Braids

Learning outcome:

- To predict and select different types of Knitted, Non-woven, Felt, and Braid according to various end uses
- To recognize and identify different types : Knitted, Non-woven, Felt, and Braid fabrics

Course content:

- Difference between Woven and Knitted fabrics.
- General knitting terms : types of knitting machines; circular and flat machines
- Types of Knitting Stitches
- Properties of Weft Knitted Fabrics; Jersey, Rib, Purl and Interlock
- Comparison and properties of Warp Knitted Fabrics
- Non-Woven Fabrics; Methods and Materials to Manufacture Non-Woven Fabrics; Felt; Embroidery; Tufted Fabrics, Braids and other Narrow Fabrics

Methodology of teaching

- Illustrated lectures with slides and visuals along with fibers, yarns, woven, knitted non-woven, lace and braid fabric samples.
- A teacher would be expected to create a library of fabrics to explain and conduct the classes.
- Visit to textile mills & Industry

Reference books:

Textiles; Fiber to Fabric, - Corbman
Textiles by Sara Kadolph & Anna Langford

WOVEN TEXTILES

50 Marks – Theory

50 Marks–Practical

Class XI

Preamble

- To Introduce weaving and weaving terminologies
- To familiarize students to Weaving Technology, looms category and the preparatory processes
- To gain an overview of the various woven structures
- To introduce scope of Woven design industry.

Unit I–INTRODUCTION OF WOVEN TEXTILES Periods

20 Marks

10

(10 Marks – Theory
10 Marks–Assignment)

Objective

- To introduce students to the woven textiles industry.
- The unit deals with all the important definitions of woven textiles and various associated terminologies.
- To sensitize students towards fabric classification and different fiber types.
- Introduction of looms and its parts.

Course Content

1. Introduction to Textiles –
 - a. Introduction to textiles and various terminologies.
 - b. The classification of textiles in terms of Woven and Non-Woven on the basis of fiber / yarn types
2. Introduction to Weaving –
 - a. Understand weaving, its history in terms of traditional weaving and the impact of Industrial Revolution
 - b. Weaving terminologies
 - i. Ends /Warp
 - ii. Picks / Weft
 - iii. Selvedge
 - iv. Fabric Construction - Ends / Inch and Picks /Inch
 - v. Reed Count and warping calculations
3. Looms –
 - a. What is a loom
 - b. Its classifications on the basis of shuttle and shuttle less looms, power loom, handloom, tappet, jacquard and dobby

Learning outcome

At the end of the unit the student shall be able

- To differentiate types of woven fabrics
- To understand weaving technology

- To classify and identify various looms

Teaching methodology

- Illustrated lectures with power point presentations
- The teacher shall plan a visit to a weaving unit of a composite textile mill
- The teacher would be expected to create a library of fabrics to explain

Assignment

- **Preparation of Fabric swatch book** – 10 sourced fabric swatches (8"x8") of woven, knitted and fused fabrics. The swatches should be made of different fiber and yarns.
- **Group Assignment**– Presentation by a group of 5-6 students. The group shall make a presentation on one type of Loom.

Evaluation Criteria

- Selection of swatches , identification, classification and presentation as a swatch book
- Presentation – verbal presentation, visual presentation, understanding of the topic, group management
- Quality of work submitted
- Viva- voice for swatch book and presentation

Unit II- WEAVING TECHNOLOGY	20 Marks	30 Periods
	(10 Marks – Theory 10 Marks – Assignment)	

Objective

- The unit will introduce the students to various loom mechanisms,
- Looms classifications and loom parts.
- To introduce yarn preparatory - an important prerequisite for weaving.

Course Content

1. Weaving Mechanism –
 - a. Complete loom details – its parts, motions and other terminologies associated with weaving
2. Loom Preparatory –
 - a. Processes involved in preparation of loom for weaving – winding, warping, weft preparatory and denting
3. Introduction to Weave Design
 - a. Usage of Point Paper / Graph Paper / Design Paper
 - b. Methodology of Interlacement of Warp and Weft
 - c. Construction of Fabric
 - d. Design, draft and peg plan preparation
 - e. Different types of draft plan

Learning outcome

At the end of the unit the students shall know,

- Complete details about Looms and its parts.
- The preparatory procedures for weaving
- The process involved in preparing design, draft and peg plan

Teaching methodology

- Illustrated lectures with Power Point presentations
- Visit to a composite textile mill – Preparatory Unit

Assignment

- Setting up of loom – the student will individually set up a loom- three meters of warp, for eight inch wide swatches.

Evaluation Criteria

- Daily assessment on presentation of work
- Level of improvement if required
- Punctuality, regularity and sincerity
- Quality of loom setup

UNITIII –FABRIC STRUCTURE

30 marks 40 Periods
(15 Marks – Theory
15 Marks –Assignment)

Objective

- To introduce fabric structures and design development.
- To develop plain, twill and sateen weave structure using point paper.

Course Content

1. Introduction to Plain Weave
 - a. Characteristics of Plain Weave
 - b. Ornamentation of Plain Weave
 - c. Derivatives of Plain Weave
2. Introduction to Twill Weave
3. Characteristics of Twill Weave
 - a. Derivatives of Twill Weave
4. Introduction to Satin Weave
 - a. Characteristics of Sateen
 - b. Irregular Satin / Sateen

Learning outcome

At the end of the unit the students shall know,

- The three basic fabric structures
- How to draw the structures on design paper
- How to prepare design, draft and peg plan

Teaching methodology

- Illustrated lectures with Power Point Presentations
- The teacher would be expected to create a library of fabrics to explain and conduct the class.
- The swatches should be collected in terms of the different designs – stripes, checks, textures and other related designs which can be developed using these three weave structures.

Assignment

- Weaving practical – to weave 3 swatches of 8"x8" of plain, twill and sateen weave
- Preparation of document of the woven swatches

Evaluation Criterion

1. Quality of weaving
2. Quality of documentation
3. Regularity and sincerity

UNITIV – Woven Fabric and End Uses

30 marks 10 Periods
(15 Marks - Theory)
15 Marks – Assignment)

Objective

- To introduce the students to the commercial aspect of the woven textiles.
- This unit will introduce the students to woven structures and usage of computer for making the designs

Course Content

- Woven Structures and development of woven design on Computer
- Fabrics and its end uses
 - Commercial names of the fabric
 - Selection of fabric as per end use based on its quality
 - Clothing / Apparel
 - Home Fashion
 - Accessories
- Overview of the Textile industry

Learning outcome

At the end of the unit, the students shall be able,

- To identify Fabric types and product categories.
- To identify fabric as per end use
- To develop design on computer

Teaching methodology

- Illustrated lectures with Power Point Presentations

Assignment

- **Preparation of Fabric swatch book** – 10 fabrics swatches (8"x8") of plain, twill and sateen. The swatches should be of different types in terms of design patterns
- **Suggestive** – 1-2 swatches could be "NEW DESIGN" as identified by the students

Evaluation Criteria

- Selection of swatches ,
- Identification and classification of Fabrics
- Presentation as a swatch book

Reference Material

- Principles of Weaving - R. Marks, A. T. C. Robinson
- The Four-Shaft Table Loom - Anne Field, Dryad Press Ltd. London 1987
- Watson's Textile Design and Colour-I - Z. Grosiki, Universal Publishing, Bombay
- The Ashford Book of Weaving - Anne Field, B.T.Batsford, London, 1992
- Warp & Weft - A Dictionary of Textile Terms - Dorothy K. Burnham, Charles Seribner's Son, New York, 1981
- Textile Terms and Definitions- The Textile Institution, ManchesterU.K. The Textile Institution, ManchesterU.K. 1993
- International Textile Design - Mary Schoeser, John Wiley & Sons, Inc. 1995
- The New Textiles- Trends & Traditions - Chloe Colchester, Thames & Hudson 1997

Printed Textiles

Class XII

50 Marks: Theory and 50 Marks: Practical

Preamble

Textile printing or printed Textiles is as old as mankind. The earliest examples can be found as early as fifth century. Various records show that printed fabric did exist about 2500 B.C. It is believed that people of China and India were the first to make simple blocks for the printing of cotton cloth, and it is certain that Textile printing was a fairly established Industry in India during the earliest of the Christian era.

Textile prints have played an important role in developing various surfaces. Each region has its own intrinsic style, color and pattern. In India, printed textiles are very popular and are printed in various styles and methods depending on the geographical region.

The prints are now visible in various products like bags and lifestyle accessories.

The purpose of the course “Printed Textiles” is to inform students about the fundamentals of Textile prints. The course will give an overview of History of printed Textiles, Categories of Printed Textiles, Styles and Methods of Printing Textiles and Basic print Design Techniques.

Unit I: History of Printed Textiles

Marks: 15 30 periods

Objectives of the course

- To introduce and understand history of Printed Textiles
- To learn and understand the origin and evolution of Printed Textiles
- To gain Knowledge of evolution of Textiles, from origin.
- Trace the origin of Historical Textiles
- To understand the origin of techniques and design with reference to colours, motifs, layout of different pattern.

Learning outcome

After finishing the unit, the students shall be able to

- Understand the Historical background of traditional printed textiles
- Identify the influencing factors for old textiles
- List the historical printed textiles

- Identify the styles and methods of printed textiles
- Identify the influencing factors for development and evolution of a specific textiles

Course content

- Understanding the similarity and difference between design and art
- Various aspects of Textiles printing: Design, cultural references, methods of printing
- Introduction to Regional Textiles
- Styles and methods of Printed Textiles in important region.
- Tools and Techniques of Textile Printing
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Methodology of Teaching:

- Illustrated lectures
- Visit to Museum

Reference Books:

- Joyce Storey – 1972-1992, The Thames and Hudson manual of Textile printing
- Carol Joyce – Watson- Guptill publication – 1997, the complete Guide to Printed textile for apparel and Home Furnishing

Unit- II: Categories of Printed Textiles

Marks: 15 (Theory) 50 periods
Marks: 10 (Practical)

Objectives of the course:

- To develop an understanding for surface design development.
- To sensitize students towards various types of Prints
- To understand forms, shape and color combinations for various categories
- To sensitize students towards specific influencing forms, objects and shapes.
- To develop an ability to recognize the design in each type of print.

Learning outcome:

After completing the unit, the students shall be able to,

- Understand forms and colour combinations
- Develop an understanding for various categories of prints
- Identify the types of prints

Course content:

- Introduction to various types of Design and their categories
 - Toile prints
 - Pucci prints
 - Geometric prints
 - Graphic prints
 - Floral prints
 - Conversational prints
 - Liberty prints
 - Country inspired prints
 - Nautical prints
 - Victorian prints
 - Scenic prints
 - Animal prints
 - Ethnic prints
 - Folklore prints

Methodology of Teaching:

- Illustrated lectures
- Demonstration and Practical Assignments

Practical assignments:

- Collection of prints as per specified categories and preparation of swatch book.
- Development of one print in each categories 8"x8" block

Reference Books:

- S. Meller, J. Elfers Thames and Hudson Ltd. Textile designs – 200 years of patterns for Textiles
- Carol Joyce – Watson- Guptill publication – 1997, the complete Guide to Printed Textile for apparel and Home Furnishing

**Unit –III Basic Print Design Techniques
periods****Marks: 30(practical) 60****Objectives of the course:**

- To develop an Interest and confidence for creating Print designs
- To explore various art media for developing interesting design
- To develop the ability to choose the most appropriate technique for creating interesting designs

Learning outcome:

After completing the unit, the students shall be able to,

- Create interesting design by using various art media
- Appreciate the techniques involved in developing interesting textures
- Use art media more appropriately and confidently.
- Develop interesting colour combinations and designs.
- Understand the relation between forms and background.

Course content:

Use of following innovative techniques for development of interesting surfaces,

- Etching
- Stencil
- Collage
- Inter-cutting
- Resist (Bleach/Wax)
- Dry-brush
- Photocopy
- Sponge
- Stamping

Methodology of Teaching:

- Illustrated lectures
- Demonstration and Practical Assignments

Practical Assignments:

- Preparation of Textile designs using different techniques
- Development of thirty 8x8 swatches in different techniques and mix media

Reference Books:

- Carol Joyce – Watson- Guptill publication – 1997, The complete Guide to Printed Textile for apparel and Home Furnishing
- Angel Fernandez –A&C Black, 2009, Fashion print Design

Unit –IV: Style &Methods of Printing Textiles
periods
(Practical)

Marks: 20 (theory) 60
Marks: 10

Objectives of the course

- To introduce styles and Methods of Printed Textiles and its effect of design
- To learn the process involved in Printing Textiles
- To gain Knowledge of evolution of printing process.
- To understand the origin and history of styles and methods

Learning outcome:

After completing the unit, the students shall be able to,

- Understand the different styles and methods involved in printing Textiles.
- Identify the correct method and style for printing Textiles.
- Recognize the difference between different kinds of prints.
- To get an overview of printing methods.

Course content:

- Study of Styles and Methods involved in printing Textiles,
 - Direct, Resist and Discharge Methods
 - Block Printing Style
 - Screen Printing Style
 - Roller Printing Style
 - Digital Printing Style
 - Transfer Printing
 - Foil Printing
 - Hand Printing
 - Sublimation

Printing of designs using different methods and styles of printing

Methodology of Teaching:

- Illustrated lectures
- Demonstration and Practical Assignments

Practical Assignments:

- Preparation of Textile designs for developing screen and block printed swatches.

- Development of twenty 8x8 swatches in different styles of printing

Reference Books:

Joyce Storey – 1972-1992, The Thames and Hudson manual of Textile printing

Traditional Indian Textiles

Class XII

Theory 50 Practical 50

Preamble

India boasts of a rich textile and craft heritage. These traditions not only give meaning to the existence of India's people, but also provide domestic, social and religious framework. Hence textile crafts serve a dual role as they signify cultural values and at the same time is an important source of livelihoods for economically challenged marginalized sections of the society. Crafts including weaving are the second largest employer after agriculture in India and provide livelihood to over 200 million artisans.

The course on 'Traditional Indian Textiles' will initiate students to the world of textile crafts of India, through an appreciation of its unfolding through the ages in order to make them understand finer nuances of painted, printed & woven traditional textiles crafts.

Unit – I: Embroidered Textiles

Marks: 10 (th) 10 (pr)

Objectives of the Unit

- To introduce the technique of embroidery for value-addition.
- To create awareness about the different embroidered textiles of India.
- To initiate identification of regional embroideries developed by various communities.
- To understand the origin of technique and design with reference to colours, motifs, layouts of different embroidered textiles.
- To learn about the evolution of embroidered textiles over a period of time.

Learning Outcomes

After completing the unit, the students shall be able to

- Appreciate the finer nuances of embroideries.
- Classify the regional embroideries of India.
- Identify a specific embroidery style of India on the basis of colours, motifs and layout.

- Identify the influencing factors for development and evolution of a specific embroidered textile.

Course content

- Introduction to traditional embroidered textiles from different regions of India.
- Categorization of embroidery styles on the basis of region:
 - a) North India:
 - (i) Kashida from Kashmir
 - (ii) Phulkari from Punjab
 - (iii) ChambaRumal from Himachal Pradesh
 - b) Western India:
 - (i) Embroidery from Gujarat
 - (ii) Parsi embroidery
 - c) Central India:
 - (i) Chikankari from Uttar Pradesh
 - (ii) Patti kaKaam from Uttar Pradesh
 - (iii) Zardozi from Uttar Pradesh
 - d) Southern India:
 - (i) Kasuti from Karnataka
 - (ii) Lambadi embroidery from Andhra Pradesh
 - e) Eastern India:
 - (i) Kantha from West Bengal
 - (ii) Sujani from Bihar
 - (iii) Pipli appliqué from Orissa
- Study of the above mentioned regional embroideries with reference to origin, technique, raw material, colours, motifs and layout.
- Overview of the historic embroidered textiles and the contemporary scenario.

Methodology of Teaching:

- Illustrated lectures
- Visit to local museums/Haats/exhibitions of craft based products

References:

Barnard, Nicholas & Gillow, John (1991), *Traditional Indian Textiles* (Thames & Hudson Ltd.: London)

Naik, Shailaja D (1996), *Traditional Embroideries of India* (APH Publishing Corporation: New Delhi)

Unit – II: Resist Dyed Textiles

Marks: 15 (th) 15(pr)

Objectives of the Unit

- To introduce the technique of resist dyeing for value-addition.
- To create awareness about the different resist dyed textiles of India.
- To initiate differentiation between yarn resist dyed (Ikat) and cloth resist dyed textiles (Bandhej).
- To understand the origin of technique and design with reference to resist dyed textiles.
- To learn about the evolution of resist dyeing over a period of time.

Learning Outcomes

After completing the unit, the students shall be able to

- Understand the finer nuances of resist dyed textiles.
- Classify the regional tie-dyed textiles of India.
- Identify specific ikat textiles of India on the basis of technique, colours, patterns and layout.
- Identify specific tie-dyed textiles of India on the basis of technique, colours, patterns and layout.
- Identify the influencing factors for development and evolution of a specific resist-dyed textile.

Course content

- Introduction to traditional resist-dyed textiles from different regions of India.
- Categorisation of ikat styles on the basis of region:
 - (a) Patola from Gujarat
 - (b) Bandhas from Odisha
 - (c) Pochampalli&TeliaRumal from Andhra Pradesh
- Categorisation of tie-dyed textiles on the basis of region:
 - (a) Bandhani from Gujarat
 - (b) Bandhej&Leheriya from Rajasthan
- Study of the above mentioned resist-dyed textiles with reference to origin, technique, raw material, colours, patterns and layout.
- Overview of the historic resist-dyed textiles and the contemporary scenario.

Methodology of Teaching:

- Illustrated lectures
- Visit to local museums/haats/exhibitions of craft based products

References:

Barnard, Nicholas & Gillow, John (1991), *Traditional Indian Textiles* (Thames & Hudson Ltd.: London)

Dhamija, Jasleen & Sarabhai, Mrinalini (1988), *Patolas & Resist Dyed Fabrics of India*, (Mapin Publishers: Ahmedabad)

Unit – III: Printed Textiles

Marks: 15 (th) 15(pr)

Objectives of the Unit

- To introduce the technique of hand block printing for value-addition.
- To create awareness about the different printed textiles of India.
- To initiate differentiation between direct and resist style of printing.
- To understand the origin of technique and design with reference to block printed textiles.
- To learn about the evolution of block printing over a period of time.

Learning Outcomes

After completing the unit, the students shall be able to

- Understand the finer nuances of block printed textiles.
- Classify the regional block printed textiles of India.
- Identify specific block printed textiles of India on the basis of technique, colours, motifs and layout.
- Identify the influencing factors for development and evolution of a specific block printed textile.

Course content

- Introduction to traditional block printed textiles from different regions of India.
- Categorization of block printing styles on the basis of region:
 - (a) Bagru prints from Rajasthan
 - (b) Sanganer prints from Rajasthan
 - (c) Kalamkari from Andhra Pradesh
- Study of the above mentioned block printed textiles with reference to origin, technique, raw material, colours, motifs and layout.
- Overview of the historic block printed textiles and the contemporary scenario.

Methodology of Teaching:

- Illustrated lectures
- Visit to local museums/haats/exhibitions of craft based products

References:

Barnard, Nicholas & Gillow, John (1991), *Traditional Indian Textiles* (Thames & Hudson Ltd.: London)

Dhamija, Jasleen & Sarabhai, Mrinalini (1988), *Patolas & Resist Dyed Fabrics of India*, (Mapin Publishers: Ahmedabad)

Unit – IV: Hand-woven Textiles

Marks: 10(th) 10 (pr)

Objectives of the Unit

- To introduce the technique of handloom weaving in India.
- To create awareness about the different handlooms used for weaving.
- To initiate identification of regional variations practiced by various weaving communities.
- To understand the origin of technique and design with reference to colours, motifs, layouts of different hand-woven textiles.
- To learn about the evolution of hand-woven textiles over a period of time.

Learning Outcomes

After completing the unit, the students shall be able to

- Appreciate the finer nuances of handloom weaving.
- Classify the regional weaves of India.
- Identify the different handlooms used in India.
- Identify a specific hand-woven textile of India on the basis of technique, raw material, colours, motifs and layout.
- Identify the influencing factors for development and evolution of a specific hand-woven textile.

Course content

- Introduction to traditional hand-woven textiles from different regions of India.
- Categorisation of weaving styles on the basis of end product:
 - a) Saris
 - (i) Benaras Brocades
 - (ii) Bauchari, Jamdani
 - (iii) Paithani
 - (iv) Kanjeevaram
 - (v) Chanderi, Maheshwari
 - b) Shawls
 - (i) Kashmir shawl
 - (ii) Kullu & Kinnaur
 - (iii) Wraps of North-east

- c) Floor coverings
 - (i) Carpets
 - (ii) Durries
- Study of the above mentioned hand-woven textiles with reference to origin, technique, raw material, colours, patterns, layout and end product.
- Overview of the historic hand-woven textiles and the contemporary scenario.

Methodology of Teaching:

- Illustrated lectures
- Visit to local museums/haats/exhibitions of craft based products

References:

Barnard, Nicholas & Gillow, John (1991), *Traditional Indian Textiles* (Thames & Hudson Ltd.: London)

Dhamija, Jasleen & Jain, Jyotindra (1989), *Handwoven Fabrics of India* (Mapin Publishing: Ahmedabad)

Textile Chemical Processing

Class XII

theory 50 Marks practical 50

(Theory)

Objectives of the course

- To gain an overview of processes involved in Dyeing , Printing and Finishing of Textile materials
- To familiarize students about chemical processing and its role in fabric Manufacturing
- To introduce preparatory process of major Textile fibers
- To study dyeing printing and finishing of Natural fibers.

Unit I Introduction to Chemical Processing-Pretreatments:

15 Marks

Course content

- Textile Chemical processing for fibers
- Impurities present in the Natural and Synthetics Fibers
- Elementary knowledge of processing
- Different processes e.g., singeing, de-sizing, scouring, bleaching& mercerizing,

Learning outcome

After finishing the course, students will be able to understand

- Various technical terminology used in the industry
- Various types of impurities presents in the Substrates
- The processes involved in removing impurities.

Teaching Methodology

- Illustrated Lectures with Power Point presentation and Slides.

Unit II Dyeing

15 Marks

Content

- Suitability of Dyes and dyeing methods, important classes of dyes for natural and man-made fibers e.g., direct, acid, basic, vat, azoic, sulfur and disperse dyes
- Important features of dyes
- Dyeing machines & special dyeing effects

Learning outcome

After finishing the course, students will be able to

- Dye all kind of Textile Fabrics.
- Select dyes as per the type of fabrics
- Identify dyeing methods used in the Industry.
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Teaching Methodology

- ❖ Illustrated Lectures with Power Point presentation and Slides.

Unit III Printing:

10 Marks

Content

- Printing paste ingredients
- Introduction to various methods of printing , specific features and limitations of various methods, Such as Hand Block Printing, Hand Screen printing, Automatic Flat Bed Screen Printing, Rotary Screen Printing, Heat Transfer Printing
- Style of Printing (Direct Prints, Discharge Prints, Resist Prints, Pigment Prints, Blotch Prints, Flock Prints, Burnout Prints, Duplex Prints, Engineered Prints, Warp Prints) & their Specific feature for their Identification.

Learning outcome

After finishing the course, students will be able to understand

- Various terminology used in textile printing
- Styles and methods involved in printing
- Various effects produced by various styles of printing
- Limitation of the printing methods

Teaching Methodology

- Illustrated Lectures with PowerPoint presentation and Slides

Unit IV Finishing

10 Marks

Content

- Classification of the finishes:
 - According to Designer/Merchandiser /Sales Persons
 - According to Textile Chemist
 - According to Degree of Performance
- ❖ Objectives of the various finishes
 - Types of Calendaring and its objective
 - Napping
 - Emerizing
 - Parchmentising
 - Shape Retention Finishes
 - Shrinkage Control Finishes
 - Sanforizing
 - Decatizing
 - Soil Release /Stain Repellent Finish

- Water Repellent & Water Proofing
- Anti – Microbial Finish
- Flame Retarding Finish
- Garment Washing

Learning outcome

After finishing the course, students will be able to understand

- Types of finishes and their performance

Teaching Methodology

- Illustrated Lectures with PowerPoint presentation and Slides

Practical

50 Marks

Units Contents of the Subject

- I. Desizing of cotton Fabrics by Acid Desizing method and calculate the weight loss in the Process.
- II. Scouring of cotton by Sodium Hydroxide and measure water permeability of the process.
- III. Bleach the cotton fabric with the bleaching powder or Sodium Hypo chlorite
- IV. Bleach the cotton fabric by hydrogen Peroxide
- V. Degumming of the Silk
- VI. Bleaching of the silk with the Hydrogen Peroxide
- VII. Dyeing of cotton with Direct Dyes
- VIII. Dyeing of cotton with Reactive dyes
- IX. Dyeing of cotton with Vat dyes
- X. Dyeing of cotton with Sulphur dyes
- XI. Dyeing of cotton with Azo dyes
- XII. Dyeing of wool with Acid Dyes
- XIII. Dyeing of wool with Reactive Dyes
- XIV. Dyeing of Silk with Acid Dyes
- XV. Dyeing of Nylon with Acid Dyes
- XVI. Tie and dye of cotton with Direct dyes (Resist Print)
- XVII. Batik Print on the Cotton Fabrics (Resist Print)
- XVIII. Printing on the polyester fabrics by Pigment colour
- XIX. Printing on cotton fabrics by Naptholcolours
- XX. Printing on cotton fabric with natural colours

Marking Scheme

Two practical from each section shall be conducted

- | | | |
|----|--|----------|
| I | Session Work | 20 Marks |
| | Maintenance of Record | |
| | On the Lab Learning | |
| II | Viva Voice | 10 Marks |
| II | All the laboratory experiments will carry five marks each, they should be evaluated on the basis of evenness of the dyeing and printing, Neatness and cleanliness maintained during the practical. | |
| | 20 Marks | |

- **Reference material**

- The Ashford book of Dyeing by Ann Milner
- Lab experiments on textile chemical processing by S.P. Mishra
- Chemistry of dyes and principles of dyeing by Dr. V.A. Shenai
- Technology of Bleaching and Mercerizing by Dr. V.A. Shenai
- Technology of Printing by Dr. V.A. Shenai
- Technology of Textile Printing By R.S.Prayag
- Textile chemical Processing by P. Angappan, A. Edwin Sunder,V. Ilango.
- Chemical treatments of textiles for colouration by P. Angappan, A. Edwin Sunder,V. Ilango
- The Dyeing of Textile fibres by Joseph Rivlin
- Dyeing and Chemical Technology for textile fiber by E R Trotman
- The Dyeing of Textile Materials by Jose Ceggra
- Cellulosic Dyeing by J Shore
- Color for Textiles by W Ingamells
- Handbook of Textile Processing Machineries By R S Bhagwat
- Textile Dyeing Operations ByS V Kulkarni, CD Blackwell, AL Blackard, AW Alexander
- Textile Auxiliaries and Finishing Chemicals by AA Vaidya and SS Trivedi
- Textile , Fiber to Fabric by Corbman

COURSE COMMITTEE MEMBERS

- 1) Sr. Prof. Banhi Jha, Dean (A)
- 2) Dr. Biswajit Saha, Associate Professor and Programme Officer, Vocational Education Cell, CBSE
- 3) Ms. Swati Gupta, Assistant Professor and Assistant Programme Officer, Vocational Education Cell, CBSE
- 4) Ms Savita Sheoran Rana, Chairperson, Textile Design Department

