



UTTARAKHAND BOARD OF TECHNICAL EDUCATION
JOINT ENTRANCE EXAMINATION AND TRAINING, RESEARCH DEVELOPMENT CELL, DEHRADUN
STUDY AND EVALUATION SCHEME FOR DIPLOMA PROGRAMME

BRANCH NAME– TEXTILE DESIGN

SEMESTER – IV

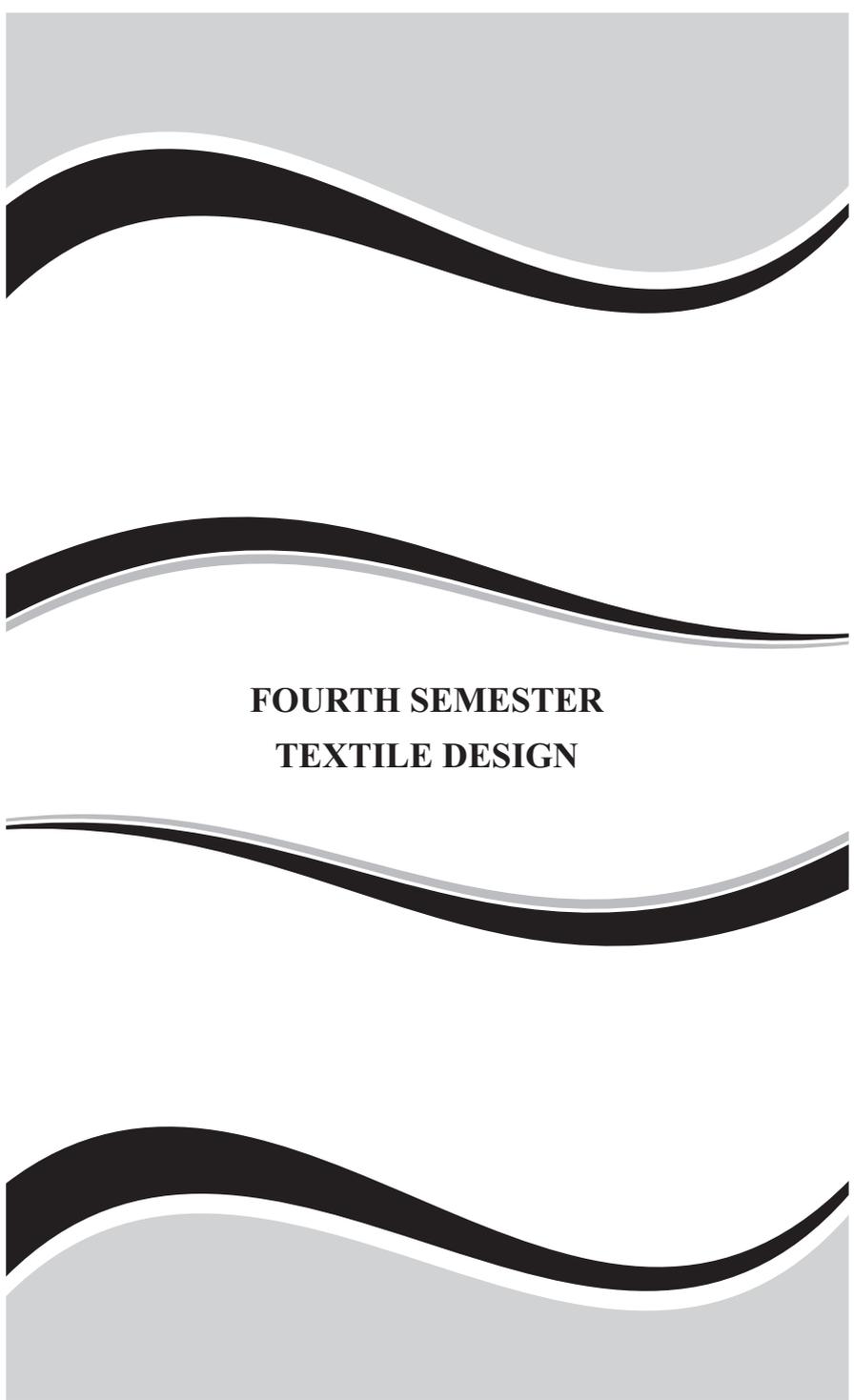
Subject Code	Subject	L	T	P	T O T	EVALUATION SCHEME						Total Marks	Credit Point
						Internal		External					
						Theory	Practical	Theory		Practical			
						Max Marks	Max Marks	Max Marks	Hrs.	Max Marks	Hrs.		
Period/Weeks													
194002	Design Studio	2	-	7	9	-	100	-	-	150	3.0	250	8
194005	Woven Fabric Design - IV	3	-	3	6	30	30	70	2.5	50	3.0	180	6
194003	Fabric Manufacturing	3	-	3	6	30	30	70	2.5	50	3.0	180	6
194004	Textile Coloration - II	3	-	3	6	30	40	70	2.5	50	3.0	190	6
194001	Computer Aided Textile Design - II	-	-	3	3	-	50	-	-	100	3.0	150	2
194052	Industrial Exposure (Assessment at Inst. Level) +	-	-	4	4	-	25	-	-	-	-	25	1
014054	General Proficiency (Disc/Game/SCA/NCC/NSS) #	-	-	4	4	-	25	-	-	-	-	25	1
TOTAL		11	-	27	38	90	300	210	-	400	-	1000	30

General Proficiency will comprise of various co-curricular activities like games, hobby clubs, seminars, declamation contests, extension lectures, NCC, NSS and cultural activities, elementary mathematics, GS & G.K. etc.

+ Industrial Exposure compulsory at minimum 2 industries or Department.

Note:- 1- Each period will be 50 minutes. 2- Each session will be of 16 weeks. 3- Effective teaching will be at least 12.5 weeks.

Branch Code - 19



**FOURTH SEMESTER
TEXTILE DESIGN**

L	T	P
2	-	7

Subject Code : 194002

RATIONALE

The purpose of introducing the projects are to enable the students to apply the knowledge, skills and attitudes acquired during the entire course of the solution of real life problems. Each student will be assigned a specific problem. The student will have to go through the entire problem solving right from conception of design up to the execution of design. It is expected that students will be sent to various textile industry for about 6-8 weeks at a stretch and they will be asked to take live problem from the field as project work.

DETAILED CONTENTS

PRACTICAL EXERCISES:-

Subject aim at exposing the students to experiment on the practical aspect to a finished product. Student has to select a style, embroidered/painted/printed/woven/dyed fabric and then make at least 10 designs using computer – coral and Adobe Photoshop

They can continue one or more style and finish a complete product with 4 different colour ways, at least 50 croques should be made before a final design chart, visualization is made and approved by the supervisor with at least 3 to 4 colour schemes.

Style of printings to be discussed-

- Direct style- block, stencil, screen, roller, photographic printing.
- Resist style- Tie and dye, batik
- Discharge style-

Students will have to make design for sari, dress material, upholstery.

Ideas and concept of world textile design (motifs and color combination).

- | | |
|-------------|---------------|
| 1. Persian | 4. Chinese |
| 2. Egypt | 5. Japanese |
| 3. European | 6. Indonesian |

*** Practical subject**

Notes:-1. In a semester students is required to make 2-4 paper design and then the suggested paper designs have to be implemented in various styles on fabric.

L	T	P
3	-	3

Subject Code : 194005

RATIONALE

The students of textile design are supposed to have knowledge and skills regarding various advanced weave and their construction. Hence, in this subject, students will learn advance design for various fabric and quality particulars of different textile.

DETAILED CONTENT

Theory

1. Principle of formation of terry pile construction of three, four, five and six pick terry pile weaves. Their methods of drafting and denting.
2. Pile fabrics; Introduction of plain warp pile fabric design in detail. Introduction of weft pile fabric design.
3. Construction of bed ford cord and wadded bed ord.
4. Welts and pique, methods of embellishing pique fabrics.
5. Production of simple colour and weave effects.

PRACTICAL EXERCISES

1. Analysis of fabrics
 - a) Objects and methods of analyzed fabric
 - b) Specifications to be analyzed
 - c) Identifying **warp** and weft in the fabric
2. Analysis of following fabrics.
 - A. Gents Shirting (Cotton)
 1. Stripes on loom
 2. Small geometrical motifs on doobby loom
 - B. Gents Suiting
 1. Trouser length with colour effect in plain weave
 2. Tweed material for jackets in wool
 - C. Ladies dress material

RECOMMENDED BOOKS

1. Grammar of textile Design- Nisbet
2. Structural Fabric Design by Kilby
3. Woven structures and design- Doris Goerner, British Textile Technology Group WIRA House, Leeds UK
4. Fiber to Fabric by Ghosh
5. Watson's Advance Textile Design
6. Watson's Textile Design and Colour
7. Knitting Technology- Spencer
8. Warp Knit Fabric Construction by Charis Wildens U. Wilkens Verlag Germany
9. Simple Fabric Structure by S.S. Satsangi

L	T	P
3	-	3

Subject Code : 194003

RATIONALE

The students of textile design must have a well developed aesthetic sense to recognize beauty in object and capability to make best use of the experience in designing and development textile object with the help of various looms. The students are supposed to have knowledge and skills regarding various technique and methods of fabric manufacturing. Hence, in this subject, students will learn about the mechanism of various fabric and quality particulars of different textile.

DETAILED CONTENTS

Section : A Manufacturing techniques and Mechanism employed to produce woven fabric

1. Objects of sizing, sizing ingredients and their functions, passage of material through sizing machine.
2. Dobby- Introduction Mechanism of climax doobby, principle of single double lift doobby.
3. Principle of drop box motion.
4. Jacquard-Different types of jacquard, principle of single and double lift jacquard, Cross border and inverted hook jacquard, card arrangement for double lift double cylinder jacquard. Different Jacquard harness ties-straight, border, cross etc.
5. Salient features of shuttleless looms.

Section : B Manufacturing techniques and Mechanism employed to produce knitted fabric

1. Introduction and classification of knitted fabric. (Types of knitting needles, their knitting cycle)
2. Elementary of Weft knitting (plain, rib, interlock) and warp knitting.

PRACTICAL EXERCISE

1. Demonstration in Textile Mill.
2. Study of Dobby and their function.

3. Demonstration of Drop box.
4. Study of Jacquard and their function.
5. Industrial visit to show working of dyeing machines.

RECOMMENDED BOOKS

1. Weaving Mechanism Vol. I & II by NN Banerjee
2. Fancy Weaving by K T Aswani
3. Winding and warping by BTRA
4. Warp Sizing by JB Smith
5. Principle of Weaving by Marks and Robinsons
6. Yarn Preparation Vol I & II by R Sen Gupta
7. Mechanism of Weaving by WM Fox

L	T	P
3	-	3

Subject Code : 194004

RATIONALE

The students of textile design must have a well developed aesthetic sense to recognize beauty in object and capability to make best use of the experience in designing and development textile object with the help of various Printing and dyeing technique. The students are supposed to have knowledge and skills regarding various technique and methods of dyeing and printing. Hence, in this subject, students will learn about the of various Printing and dyeing technique and quality particulars of different textile.

DETAILED CONTENTS

Theory

Section-A- Textile Dyeing

1. Application of Dyes on wool/silk
 - Basic/Acid/Metal complex dyes
2. Application of Dyes on Synthetics
 - Acrylic with Basic Dyes
 - Polyester/ Terelene with Disperse Dyes
 - Nylon/ Polyamides with Acid Dyes
3. Introduction to machinery/equipments used in dyeing
 - Fiber Dyeing machine (Stock dyeing)
 - Hank Dyeing and Beam Dyeing
 - Union and cross Dyeing Machine
 - Jet Dyeing Machine
 - Jigger Dyeing Machine

Section-B- Textile Printing

1. Printing in resist/ reserved style
 - Batik style and tie and dye
 - pigment resist under reactive ground
 - Vat resist under Vat Dyed ground
2. Method of Preparation of screens.
 - Enamel Method
 - Photoelectric/Photographic Method

3. Introduction of Transfer Printing
4. Function of acid, common salt, sulphate, TRO, urea, soap/ detergent

LIST OF PRACTICAL

1. Dyeing of cotton with
 - Direct dyes
 - Sulphur dyes
 - Brinthal dyes
2. Printing of fabric in direct style of printing block printing screen printing
 - Direct dyes for cotton
 - Acid dyes for silk and wool
 - Pigment printing

RECOMMENDED BOOKS

1. Chemistry of dyes and Principle of dyeing – V A shenai (Vol.2) Sevak Publications, Mumbai
2. Technology of dyeing – Shenai (Vol.5) Sevak Publications, Mumbai
3. The dyeing of Textile materials – PrenticeCegarra
4. Technology of printing by V A shenai (Vol.2) Sevak Publications, Mumbai
5. Technology of printing by Kalley
6. Dyeing and Printing by Kalley
7. Dyeing and Printing by Varke
8. Introduction to Textile Printing by Clark
9. Chemical Processing of synthetic fibers and blends by Datye K.V. and Vaidye A A, John wiley and sons, New York
10. Dyeing and chemical technology of textile fibers, ER Trotman, Charles Griffin & Co Ltd London
11. A glimpse of chemical Technology of fibrous Materials by RR Chakravorty, Mahajan Publication, Ahmedabad
12. Dyeing and Printing by Jyocestorey
13. Manual of Textile Printing by Story

L	T	P
-	-	3

Subject Code : 194001

RATIONALE

Information technology has great influence on all aspects of life. Almost all work places and living environment are being computerized. In order to prepare diploma holders to work in these environments, it is essential that they are exposed to various aspects of information technology such as understanding the concept of information technology and its scope; operating a computer; use of various tools of MS office; using internet etc. form the broad competency profile of diploma holders. This exposure will enable the students to enter their professions with confidence, live in a harmonious way and contribute to the productivity.

DETAILED CONTENTS

Related Theory for Practical Exercises

1. Philosophy and utility of CATD system, working with various standard software package like Photoshop, Coral Draw, Ned Graphics, Auto Tex (for textile design) Nanosoft, Textronics.
2. Understanding graphics representation, file conversion, drawing simple geometric figures, capturing a single colour picture design using CCD/Scanner.
3. Uses of computer to construct design on different bases with reference to various arrangements for woven design.
4. Uses of CATD in various end uses in single colour viz dress material, upholstery, furnishing, label & embroidery with help of Ned Graphics, Auto Tex (for Textile Design), Textronics
5. Understanding of digitizer and making design with the help of digitizer using Painter.

PRACTICAL EXERCISES

1. To draw 3 geometrical folk design with coral draw.
2. To do colour ways of the Ex.1 using coral draw.
3. Create different textures for background and design motifs/natural objects which the student will create using digitizer.
4. Make 3 woven design for shirting material using different strip, checks, dals.
5. Do colour ways of Ex. 4.

6. Scan a 10 inch X 15 inch design and learn to stitch making a single image.
7. Design a logo for your production unit with written words also.
8. Understanding and uses of electronics pen on the tablet freely and intuitively.
9. Creating flowers and digitally using a tablet.

RECOMMENDED BOOKS

1. CAD in clothing and textiles by W.Aldrich.
2. A magazine on Computer in the world of Textiles.
3. Ned Graphics.
4. Coral and Photoshop.
5. Wacom Digitizer with Paint Software.