

STUDY AND EVALUATION SCHEME FOR DIPLOMA PROGRAMME IN TEXTILE DESIGN

Third Semester

Sr. No.	Subject	L	T	P	Total	Evaluation Scheme						Total Marks
						Internal Assessment		External Assessment (Examination)				
						Theory	Practical	Theory		Practical		
						Max. Marks	Max. Marks	Max. Marks	Hrs.	Max. Marks	Hrs.	
3.1	Design Ideas	2	-	3	5	-	100	-	-	100	3.00	200
3.2	Woven Fabric Design-III	2	-	3	5	25	25	70	2.5	60	3.00	180
3.3	Principal of Loom	2	-	3	5	25	25	70	2.5	60	3.00	180
3.4	Textile Colouration-1	2	-	3	5	25	25	70	2.5	60	3.00	180
3.5	Textile Calculation	2	-	3	5	50	-	70	2.5	-	-	120
3.6	CATD-1	-	-	3	3	-	40	-	-	50	3.00	90
	Industrial Exposure (Assessment at Inst. Level)+	-	-	-	4	-	25	-	-	-	-	25
	Disc/ Games/SCA/NCC/NSS #	-	-	-	4	-	25	-	-	-	-	25
	Total	10	-	18	36	125	265	280	-	330	-	1000

+ Industrial visit compulsory to minimum 2 industries or Departments.

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

Six week project based industrial training as per details specification in major project syllabus, out of six week, four weeks during vacation after 4th semester & two weeks after 5th semester till commencement of 6th semester industrial oriented training cum major project work will be evaluated in 6th semester by as examiner from industry.

3.1 DESIGN IDEAS

	L	T	P
Periods/week	3	-	5

RATIONALE

Diploma holders of textile design should be trained to create patterns for printed and woven fabrics. They will have to make designs for saris, upholstery, dress material, towels etc for different themes. In this subject the students work for nature study and rendering for printing designs.

DETAILED CONTENTS

PRACTICAL EXERCISES:

Different Themes are to be discussed in the class for each theme the students have to submit 10 ideas in colors on rough sheets. One ideas of selected and incorporated in to design with repeat on paper.

Section –A

Stylization of following suggested natural themes:-

1. Sea animals, grass beads and roots
2. Animal skin textures
3. Comositation of birds and trees
4. Butterfly and flowers

Section –B

Select design for the fabric with the following themes:-

1. Geometrical patterns
2. Floral patterns
3. Traditional pattern
4. Animated forms
5. Monumental designs
6. Fruit and vegetables
7. Calligraphy
8. Jewelry design*

*Practical subject only

Notes:-

1. In a semester, a student is required to make 3-5 paper designs and then the suggested paper design have to be implemented in various style on fabric.
2. Beside the suggested topics, one is free to select any other (topic) from day to day requirement

RECOMMENDED BOOKS

1. The Encyclopedia of patterns and motifs by Dorothy Bosomworth; studio London
2. Impression A Classic Collection of textile design by K rakish;the designer Paint
3. Textile Designs Idea and Applications by Cloel Sokelov; PBC International Inc. New York
4. Fabric Art Heritage of india by Sukla das; Abhinav Publications
5. Textile design 200 Years of Patterns for Printed Fabrics Arranged By Motifs,Colours, period and Design by Mary Schoeser and celia Rufey; Thomes and Hudson
6. Handwoven Fabrics of India by Jarleen Dhamija and Jhyotindra Jain;Mapin Publishing Pvt.Ltd , Ahmedabad
7. History of Textile Design by VA Shenai;Sevak Publications,Bombay
8. Designers Guide to Colour 3 By Jeanne Allen; Chronicle Books San Francisco

SUGGESTED DISTRIBUTION OF MARKS

Topic	Time Allotted (Period)	Marks Allocation (%)
1	24	50
2	24	50
Total	48	100

3.2 WOVEN FABRIC DESIGN – III

L T P
Periods/week 2 - 3

RATIONALE

The students of textile design are supposed to have knowledge and skill regarding various advanced weaves and their construction. Hence, in subject, students will learn different weaves, their method of employment to acquire competency for production of woven designs for different end uses.

DETAILED CONTENTS

THEORY

1. Backed fabric, warp and weft backed fabric, wadded warp and weft backed fabric their beaming and drafting procedure.
2. Double Cloth: Construction of double cloth on design paper, their beaming, drafting and pegging. Introduction of (i) Tubular fabrics (ii) double-faced fabrics (iii) fabrics opening to double the width (iv) concept of double equal plain fabrics. War and Weft tying principle. (This should be shown in a Textile mill or through visuals).
3. Introduction to gauze and Leno fabrics.
Structure of gauze and leno fabrics ; bottom and top doubling principle. (gauze and leno structures to be shown in a Textile mill or through visuals).
4. Brocade and damask fabrics, reversible and non- reversible damask, making of brocade and damask designs.(shown in a Textile mill or through visuals).

PRACTICAL EXERCISES

1. Study of the fabrics regarding structure/weaving and its end uses:
2. Draper or curtain- materials in natural colour with perforated weaves or different drafting.
3. Furnishing fabrics (upholstery) in double cloth weaves
4. Bed cover, dobby weaves
5. Partitions and Lampshades in gauze and leno fabrics

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 SS Satsangi

SUGGESTED DISTRIBUTION OF MARKS

Topic	Time Allotted (Period)	Marks Allocation (%)
1	6	20
2	14	40
3	6	20
4	6	20
Total	32	100

3.3 PRINCIPLE OF LOOM

L T P
Periods/week 2 - 3

RATIONALE

The diploma holders in textile design are supposed to have knowledge and skills related to various looms and manufacturing of fabric. Thus in this subject, student will learn manufacturing techniques and mechanism employed to produce fabric.

DETAILED CONTENT

1. Introduction to yarn packages and different yarn faults and imperfections.
2. Introduction to drawing gaiting up process. Procedure of gaiting up of warp beam on the loom.
3. Objectives of warp winding and prin winding processes.
4. Introduction to Direct warping and sectional warping. Methods of Creeling.
5. Primary motions of loom. Over picking and under picking. Introduction to project repair and air jet picking.
6. Different type of shading.
7. Secondary loom motions:-Objectives & mechanism & Take up motion , Seven wheel take up motion ,Positive take up motion and positive and negative let off.
8. Objects of warp protecting motion, mechanism of loose reed & fast reed motions.
9. Objects of warp stop motion, Weft stop motions (Side weft fork motion)
10. Introduction to carpet weaving(Tufted & knotted carpets)

PRACTICAL EXERCISES

1. To study seven wheel take up motion.
2. To study loose reed & fast reed motions.
3. To study side weft fork motions.
4. Demonstration of looms.
5. Demonstration of carpet samples on carpet frames.
6. Industrial Visit.

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

SUGGESTED DISTRIBUTION OF MARKS

Topic	Time Allotted (Period)	Marks Allocation (%)
1	4	12
2	4	12
3	2	7
4	2	7
5	4	12
6	4	12
7	2	7
8	4	12
9	2	7
10	4	12
Total	32	100

3.4 TEXTILE COLOURATION – I

L T P
Periods/week 2 - 3

RATIONALE

A diploma holder in textile design must have sufficient knowledge and skill about principles of pretreatment as well as dyeing and printing operation. Textile designer should be able to execute various recipes for dyeing and printing pretreatment, material, equipment and process.

DETAILED CONTENTS

THEORY

SECTION- A- Textile Dyeing

1. Introduction to dyes and dyeing. Classification and brief idea of dyes (Natural, Mordant & Synthetic)
2. Pretreatments/preparation of Material i.e. Fiber, Yarn and fabric for Dyeing/Printing/Finishing
 - 2.1 Singeing & Shearing
 - 2.2 Desizing
 - 2.3 Scouring/Degumming
 - 2.4 Bleaching
 - 2.5 Optical brightening
 - 2.6 Mercerization
 - 2.7 Heat setting
3. Water Hardness and its removal (Importance of soft water in dyeing)
4. pH- its definition, function and importance in dyeing
 - 4.1 Dyeing of cotton with Direct dyes
 - 4.2 Reactive dyes
 - 4.3 Insoluble Azoic colours
 - 4.4 Vat dyes
 - 4.5 Sulphur dye

SECTION- B- Textile Printing

1. Introduction to printing. Style of Printing (direct/Resist/Discharge)
2. Printing paste and its importance. Essential constituents of printing paste and their importance
3. Selection of thickeners and their properties
4. Auxiliaries used for printing
5. After treatment of printed material
 - 5.1 Drying
 - 5.2 Steaming/ageing/curing
 - 5.3 Washing off

LIST OF PRACTICALS

1. Scouring of cotton, wool, silk and synthetics.
2. Bleaching of cotton fabric with sodium hypochlorite and H₂O₂ (Hydrogen peroxide) Bleaching of wool and silk with H₂O₂ (Hydrogen peroxide) synthetics with sodium chlorite
3. Direct style of printing of cotton with
4. Reactive dyes/Vat dyes
5. Pigment colours/Rapid dyes fast
6. Direct style of printing of wool, silk and synthetic with
7. Acid dyes/Metal Complex dyes
8. Disperse dyes/Basic dyes

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 – Prente Cegarra
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 Jyoce storey
13. Manual of Textile Printing by Story

SUGGESTED DISTRIBUTION OF MARKS

Topic	Time Allotted (Period)	Marks Allocation (%)
1	4	12
2	4	12
3	4	12
4	4	12
5	4	12
6	4	12
7	2	8
8	2	8
9	4	12
Total	32	100

3.5 TEXTILE CALCULATION

L T P
Periods/week 2 - 3

RATIONALE

A diploma holder in textile design is supposed to calculate the yarn count, yarn dimensions and carry out other textile calculations related to textile designing. This subject aims at developing knowledge of various calculations related to yarn and fabric.

DETAILED CONTENTS

THEORY

1. Yarn numbering, (Yarn count). Various direct and indirect yarn numbering systems. Universal yarn numbering system.
2. Conversion of count from one yarn numbering system to another like tex, Denier, English count, New French system, metric system, jute system, worsted and woolen.
3. Calculations of resultant yarn number of plied yarn and average yarn number.
4. Calculation of yarn diameter.
5. Warp cover, weft cover Cloth cover, cover factor and weight of fabric per unit.
6. Calculation of weight of warp, weight of weft of different color yarns in stripped and check fabrics.
7. Calculation related to cloth take-up and crimp percentage.
8. Calculations related to weight of warp and weft required to produce given length of fabrics as per given quality particulars.
9. Calculations for loom production.
10. Calculation related to basic reed, reed count, heald count.

RECOMMENDED BOOKS

1. Weaving Calculation by R Sen Gupta.
2. Spinning calculation by WS Taggart
3. Handbook of Spinning calculation by TK Pattabhiram.
4. Advance textile designs: by William Wattsons.
5. Textiles sciences by P K Sharma.
6. Woven cloth construction, Mark and Robinson, The Textile Institute, Manchester

SUGGESTED DISTRIBUTION OF MARKS

Topic	Time Allotted (Period)	Marks Allocation (%)
1	4	12
2	4	12
3	2	7
4	2	7
5	4	12
6	4	12
7	2	7
8	4	12
9	2	7
10	4	12
Total	32	100

3.6 CATD- I (COMPUTER AIDED TEXTILE DESIGN- I)

L T P

Periods/week - - 3

RATIONALE

The term CAD has found its way in to all major discipline that have got anything to do with designing or drafting technique. The major objective of this course is to expose the students to different software available in the field of textile design industry so that they are able to use those software in the design and construction of various textiles.

DETAILED CONTENTS

PRACTICAL EXERCISES

1. Introduction to latest coral draw & Photoshop software
2. Uses of various tools n coral draw & Photoshop.
3. Formation of design using different tools and application of design on graph paper.
4. Application and election of suitable colours for a particular design.
5. Scan a design with the help of Photoshop.
6. Uses of digitizer for design.
7. Enlargement and reduction of design.
8. To learn and understand the functioning of the coral trace and using it to trace scanned work for further processes.

RECOMMENDED BOOKS

1. SAMS Coral Draw
2. SAMS Adobe Photoshop.