



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 – VI

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.		
196001	Computer Aided Textile Design - IV	2	-	2	4	-	75	-	-	100	3.0	175	6
196002	Textile Testing and Quality Control - II	3	-	3	6	40	40	70	2.5	100	3.0	250	10
196003	Major Project Work	2	-	11	13	-	250	-	-	100	3.0	350	14
106001	Management*	3	-	-	3	30	-	70	2.5	-	-	100	2
196052	Industrial Exposure (Assessment at Inst. Level) +	-	-	4	4	-	25	-	-	-	-	25	1
016054	General Proficiency (Disc/Game/SCA/NCC/NSS) #	-	-	4	4	-	25	-	-	-	-	25	1
016055	Employability Skills**	4	-	-	4	25	-	50	2.5	-	-	75	1
Total		14	-	24	38	95	415	190	-	300	-	1000	35

* Common with Fashion Design & Garment Technology.

** Common with All Branches.

Student Centered Activities will comprise of various co-curricular activities like games, hobby clubs, seminars, declamation contests, Extension lectures, NCC, NSS and cultural activities etc.

+ Industrial visit 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



**SIXTH SEMESTER
TEXTILE DESIGN**

L	T	P
2	-	2

Subject Code : 196001

RATIONALE

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

DETAILED CONTENTS

Related theory for practical exercise

1. Use of CATD in various end uses in multicolor viz.
 - dress material,
 - upholstery, furnishing,
 - label,
2. Use of computer for embroidery designs.
3. Use of CATD in various knitting designs.

PRACTICAL EXERCISES

1. Create design in accordance of the project in coral and convert the file in JPEG, TIFF & other image soft wares
2. Scan your hand printed designs and convert them using coral draw for furnishing fabrics
3. Use of symbols ,multicolor designs to print Bromides of different colors in black through Laser printer for exposing photographic screens
4. Design a logo for your production unit with return words also.
5. Different scanned images to be combined for final design.
6. Convert surface design to woven design & vice-versa
7. Designs to have perfect repeats for final woven or printed fabrics.

RECOMMENDED BOOKS

1. CAD in clothing and textiles by W. Aldrich
2. A Magazine on computer in the world of textiles
3. Software, Coral draw, Photoshop, Ned graphic

L	T	P
3	-	3

Subject Code : 196002

RATIONALE

Diploma holders in textile design are responsible for testing and quality control of yarn and fabric at the shop floor. Thus in this subject, students will be made fully aware of different quality standards and maintenance during manufacturing processes for the total quality concept.

DETAILED CONTENTS

Theory

1. Moisture relation and testing. Definition of moisture regains. Moisture content, absolute humidity and relative humidity. Relation between regain and moisture contents humidity. Standard laboratory conditioned measurement of moisture regain by drying ovens and electronic moisture meter.
2. Definition of crimp and take-up. Measurement of crimp by crimp meter. Crimp, take up and fabric properties.
3. Fabric thickness and its measurement. Measurement of fabric weight.
4. Introduction of fabric stiffness, Handle and drape. Measurement of fabric stiffness, Drape meter and its working
5. Crease recovery and its measurement
6. Pilling of fabric. Its measurement
7. Testing of fabric strength. (Tensile, tearing and bursting strength)
8. Fabric shrinkage and its measurement
9. Water absorbency properties of various fabrics
10. Flammability, factors affecting flammability of fabrics. Measurement of flammability
11. Concepts of serviceability, wear and abrasion, their measurement and interpretation of results.

PRACTICAL EXERCISES

1. Measure of moisture content of yarn and fabric by electronic moisture meter and drying oven
2. Crimp measurement of warp and weft of fabric with the help of crimp meter
3. Measurement of fabric thickness by thickness tester

4. Measurement of fabric weight
 - A- Measure of stiffness of fabric
 - B- Use of Drape meter
5. Measurement of crease, recovery angle of fabric (warp and weft direction)
6. Use of pilling tester
7. Measurement of tensile, bursting and tearing strength tests with the help of tensile strength tester, bursting strength tester and tearing strength tester
8. Use of Laundrometer for measurement of shrinkage
9. Use of water absorbency tester to measure water absorbency properties of fabric
10. Flammability testing with the help of flammability tester
11. Testing with wear and abrasion tester.

RECOMMENDED BOOKS

1. Textile testing by JE Booth
2. Textile Testing by Grover and Hambey
3. Textile Testing by Angapan
4. Textile Testing by John H. Skinkle

MAJOR PROJECT WORK

L	T	P
2	-	11

Subject Code : 196003

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.

Identification of textile industry and project activities which can be taken by the students for project work should begin well in advance (say in the beginning of third year). Students should also be asked to identify suitable textile industry and project activities which can be taken by them. One teacher is expected to guide, supervise and evaluate the project work of 5-7 students.

DETAILED CONTENTS

The assessment of project work shall be based on:

- 1- Definition of the problem
- 2- Explain the approach towards solution of the problem
- 3- Developing and sketching- developing alternatives
- 4- Color scheme- developing alternatives
- 5- Final design-developing alternatives
- 6- Fabric selection/yarn selection
- 7- Quality of print/Weave
- 8- Procedure adopted by student in originality of the design concepts
- 9- Initiative and participation of students

SUGGESTED PROBLEMS FOR PROJECT WORK

These problems may be reproduced on graph paper/design paper and later on, in the production of fabric by weaving or printing.

1. Indian mythology depicting a Mahabharata scene
2. Tantric art/ Mantric art on fabric/ glass painting.
3. Hand print with the help of acramine dyes

4. Nozil printing with intricate design.
5. Production of various designs on manmade fabric by heat treatment
6. Production of white design(crepe)on white grounds(self patterns) on cotton
7. Texture effects on different types of fabrics
8. Wash down effect on various dyed fabrics using enzymes, hypo chlorides, permanganates and pumice stores
9. Consideration of weave and colored patterns
10. Causes of lab to variations in dyeing
11. Preparation of different shades and their comparability with similar dyes
12. Dyeing of samples by changing dyeing parameters

INSTRUCTIONAL STRATEGY

A viva-voce examination shall be conducted at the end of the project for assessing the work of the student. The examination committee for this purpose shall consist of a professional designer, teacher who has guided the project. The project work should be properly displayed by the student.

L	T	P
3	-	-

Subject Code : 106001

RATIONALE

The knowledge of this subject is required for all engineers/technicians who wish to choose industry/field as their career. This course will also help those engineers who want to open their own industrial units. This course is designed to develop understanding of various functions of management, marketing techniques, various entrepreneurial support systems and preparation of project report.

DETAILED CONTENTS

1. Introduction to management

- Principles of management
- Functions of management
- Importance of management
- Scope of management
- Qualities of management
- Levels of management

2. Entrepreneurship and its support system

- HConcept/meaning/need
- Qualities of an entrepreneur
- Support system- DIC, Commercial banks, SIDBI, IDBI, NABARD

3. Market survey and opportunity identification

- How to start a small scale industry
- Procedures for registration of small scale Industry (S.S.I)
- List of items reserved for exclusive manufacturer in S.S.I
- Assessment of demand and supply in potential areas of growth
- Consideration in product selection

4. Communication

- Meaning, need, scope of communication
- Importance of communication

- Types of communication
- Barriers of communication

5. Environmental consideration

- Concept of ecology & environment
- Types of pollution(air, water, Noise)
- Factors contributing to Air, water & noise pollution
- Measures to control air, water & noise pollution

6. Financial Management

- Introduction to financial management
- Functions
- Objectives
- Taxes: income tax, sales tax, excise duty, custom duty, value added tax

7. Miscellaneous

- Leadership
- Motivation
- Labour
- Workers participation in management

RECOMMENDED BOOKS

1. Marketing Management by Phillip Kotler, Prentice Hall of India
2. Industrial Engineering and Management by OP Khanna, Dhanpat Rai & Sons, Delhi
3. Handbook of Entrepreneurship by BS Rathore, JS Saini

EMPLOYABILITY SKILLS

L	T	P
4	-	-

Subject Code : 016055

RATIONALE

Diploma holders are required to not only possess subject related knowledge but also soft skills to get good jobs and to rise steadily at their workplace. This subject is included to develop employability skills amongst the students.

DETAILED CONTENTS

Unit I: (06 periods)

- Technical Education & Industrial scenario.
- Competency required of an engineer.

Unit II: (06 periods)

- Professional Engineer desirable values and ethics and their development.
- Relation between engineering profession, society and environment

Unit III: (12 periods)

Effective Communication

- Reading & Active Listening Skills
- Speaking
- Writing
- Presentation Technique/Seminar
- Group discussion

Unit IV: (12 periods)

Managing project

- Leadership
- Motivation
- Time management
- Resource management
- Interpersonal relationship

Unit V: (10 periods)

Preparing for Employment

- Searching for job/job hunting

- Resume & CV Writing
- Interview technique in personal interview telephonic interview, panel
- Interview, group interview, video conferencing

Unit VI:

(08 periods)

Self Management

- Self awareness
- Stress Management
- Conflict resolution

Unit VII:

(06 periods)

- Creativity, Innovation and Intellectual property right
- Concept and need in present time for an engineer

Unit VIII:

(04 periods)

Rules & Ethics

- Basic rules, laws and norms to be adhered by engineers during their working

LIST OF PRACTICAS

- Steps how to effectively write different types of Letters.
- Steps to make a Presentation in Power Point.
- Steps to make a Resume more effective.
- Steps to conduct Telephonic/On-line Interview (Through skype/Google Hangout).
- Study of Different Techniques of Stress Management.
- Study of Rules & Ethical practices to be followed at Workplace.

RECOMMENDED BOOKS

- Employability skills by Kapil Dev, Vishnu P. Singh Asian Pub. New Delhi
- Employability skills for Diploma students by Dr. S.K. Singh, Vayu Education, New Delhi

SUGGESTED DISTRIBUTION OF MARKS

Unit No.	Time Allotted (Periods)	Marks Allotted(%)
1	06	10
2	06	10
3	12	18
4	12	18
5	10	16
6	08	12
7	06	10
8	04	6
Total	64	100



LEARNING OUT COMES AND MEANS OF ASSESSMENT

BRANCH NAME – TEXTILE DESIGN

SEMESTER – VI

S.NO.	Title of Subject/Unit	Learning Outcomes	Means of Assessment
1	Computer Aided Textile Design - IV	Use of computer and ITtools for creating document, making designs and presentation.	Assignments and Quiz/Class tests, mid-terms and end-term written tests, models/prototype making Actual laboratory and practical work , model/prototype making, assembly and disassembly exercises and viva-voce. Design development Software installation, Report writing presentation and viva-voce.
2	Textile Testing And Quality Control - II	Use appropriate procedures and to aware of different quality standards and maintenance during manufacturing.	Assignments of collecting and study of various types of textile standards of quality. Quiz/Class tests, mid-terms and end-term written tests, models/prototype making Actual laboratory and practical work, model/prototype making, assembly and disassembly exercises and viva-voce. Report writing presentation and viva-voce.
3	Major Project Work	Apply and Use of appropriate procedures to solve specific problem related to design development.	Assignments of entire problem solving from conception of design up to the execution of design. Quiz/Class tests, mid-terms and end-term, models/prototype making Actual laboratory and practical work, model/prototype making, assembly and disassembly exercises and viva-voce. Report writing presentation and viva-voce.

4	Management	Use appropriate procedures and develop understanding of various function of management, marketing technique, various entrepreneurial support.	Assignments. Quiz/Class tests, mid-terms and end-term, models/prototype making Actual laboratory and practical work, model/prototype making, assembly and disassembly exercises and viva-voce. Report writing presentation and viva-voce.
5	Employable Skills	To develop employability skills amongst the students Soft skill to get good job.	Assignments. Quiz/Class tests, mid-terms and end-term, models/prototype making Actual laboratory and practical work, model/prototype making, assembly and disassembly exercises and viva-voce. Report writing presentation and viva-voce.



TRAINEE FORMAT



Trainee's Evaluation Sheet

We are always keen to receive your views on the trainee's. The feedback you give allows us to continually adapt /train our students to better suit your needs. We would appreciate it if you could spend a few minutes filling in this form before the Trainee leaves (please hand it to the trainer when you've finished).

All feedback will be treated in the strictest of confidence.

Duration of training course: _____

Date of joining: _____

Name of Trainee: _____

Department _____

	Poor	Average	Good	Excellent/Useful
Overall Verdict	1	2	3	4
attendance	1	2	3	4
Skill acquired	1	2	3	4
Sense of responsibility	1	2	3	4
obedience	1	2	3	4
Pace of Training	1	2	3	4
Coordinating skills	1	2	3	4
Trainee's creative input	1	2	3	4

Trainee's area of specialization (if any)

Scope of improvisation (if any)

Date:

**Signature Of The Department Head/ Incharge
Designation**

INDUSTRIAL TRAINING/FIELD EXPOSURE

1. i) Name of the student
- ii) Branch & Year
- iii) Minor & Major Project & its specifications
2. i) Date of joining
- ii) Date of Leaving

3. Name of the industry
- Address
- Tel no Fax E-Mail
4. Details of Industry
- i) Product, Brand name
- ii) Services
5. Section of the industry visited and activities there in different departments
-
-
6. Details of machine/tools and Instrument manufacturer's name with specification, model No. & Sr. No. Used in different departments of the industry
-
-
7. Work procedure in the section visited
-
-
8. Specification of the product of the section and materials used
-
-
9. Status of repair and maintenance cell
-
-
10. Details of the different shops related to production, repair and maintenance work
-
-
11. Name of checking and inspecting instruments manufacturer's name with specs model no, and their details with quality control measures taken
-
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