



**TEXTILE PRINTER CURRICULUM**  
**DURATION: 6 Months**

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Curriculum specifications for Textile Printer

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### **Technical Training for Polio-affectees**

The United Nations Industrial Development Organization (UNIDO) is the specialized agency of the United Nations mandated to promote industrial development and global industrial cooperation.

UNIDO's Education Programme strives to promote industry relevant education and training for the sustainable industrial development of Pakistan.

The UNIDO Education Programme, in collaboration with the National Vocational & Technical Training Commission (NAVTTTC) and Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) developed ten curricula as part of its Polio-Plus initiative.

Amongst its main objectives, the United Nations' Polio-Plus Initiative is intended to aid in the rehabilitation of working-age disabled individuals by means of technical training programs in employable skills. With such training, it is projected that these individuals may then positively contribute, both socially and economically, within their respective communities.

In December 2013, teachers of selected Technical Educational & Vocational Training Authority (TEVTA) centres from the priority districts underwent such technical training for the specified ten curricula.

NAVTTTC delivered competency-based training to trainers of selected TEVTAs from several high priority polio districts. The competency standards developed and validated during the curricula development process, now certified as National Standards, are to be used during the training of polio-affected individuals. The workshop was markedly interactive nature, focusing on group work and presentations while highlighting the intended goal of applicability in such competency-based trainings.

One notable trainer recounted his own experiences working with thousands affected by Polio in Pakistan. Noting their often absence from rigorous economic participation, he referred to these individuals as Pakistan's 'untapped resources' and placed special emphasis on the work of disabled working-age individuals in the carpet industry and urged the other trainers to use this as an example during their own training to ensure the successful streamlining of polio-affectees into Pakistan's workforce.

In order to sensitize participants and raise awareness on the matter, participants shared individual experiences linked to polio-affecteds and working age individuals. Most of the high-priority TEVTAs are located in smaller districts of Pakistan where trainers hoped they could raise awareness through word-of-mouth. Additionally, they spoke of success stories and considered using those as sources of inspiration during their own trainings for polio-affecteds. Trainers were quick to suggest several untapped avenues to maximize the potential of this training.

It is imperative to note that although polio-affecteds may require special attention and training, it must be delivered without compromising their dignity and self-esteem.

The idea is to train polio-affecteds and equip them with the ability to earn a respectable living. TEVTAs of these high-priority districts will carry out these trainings through the coordination and support of NAVTTC.

The pattern of the training is such that it will aim to merge the training of Life Skills Curriculum into the training polio-affecteds will receive. Earlier in 2012, the Education Programme at UNIDO along with GIZ and NAVTTC developed a Curriculum on Life Skills.

The Life Skills component of this training will impart knowledge on the use of ‘soft skills’. This will result in employees who have:

Effective communication skills	A knack for internal and external customer care	Plain “common sense”	A good work ethic	Flexible attitude and are self-driven
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Since polio-affecteds are disconnected from the mainstream workforce, their inclusion through the use of Life Skills Curriculum will make their transition into Pakistan’s mainstream workforce smoother. If trainings consist of five sessions per week, three will consist of technical training for polio affecteds whilst the other two will incorporate ‘Life Skills’ trainings thereby making it more effective and successful.

UNIDO hopes that the creation of these curricula will serve the purpose for which they were made i.e. the rehabilitation of working-age disabled individuals through technical training programs in employable skills, so that they may contribute socially and economically in their respective communities.

Furthermore, it is hoped that this training will serve to educate and sensitize local communities, particularly illiterate people & workers, on measures for prevention against fatal diseases and the

benefits of early intervention while also mobilizing support in local communities for the polio eradication drive.

## Curriculum specification for Textile Printer

### 2. Introduction

#### The structure of this course

This curriculum is comprised of ten modules. This curriculum is developed for 800 hours. Delivery of the course may therefore be full time, 5 days a week, for 6 months. The full structure of the course is as follows:

<b>Module</b>	<b>Theory1 Days/ Hours</b>	<b>Workplace2 Days/hours</b>	<b>Total hours</b>
Module 1: Perform Stencil Printing	08	48	56
Module 2: Perform Batik Printing	08	56	64
Module 3: Perform Block printing	09	40	49
Module 4: Perform Screen Printing	16	96	112
Module 5: Perform Heat Transfer Printing	08	64	72
Module 6: Perform Rotary Printing	25	136	161
Module 7: Perform Flatbed / Panel printing	16	112	128
Module 8: Perform Digital printing	30	72	102
Module 9: Adopt Safety Precautions	20	08	28
Module 10: Develop Professionalism	20	08	28

The “Textile Printer” course covers extensive knowledge concerning the handling, mixing and implementation of colours through various techniques from stenciling to digital printing. The trainee will then apply the competency skills learned within this course in the printing industry or may be self-employed.

**Name of course:**

**Textile Printer**

**Overall objective of course:**

The main objective of this course is to prepare an individual in the work of a “Textile Printer” for the Fashion and Textile sector of Pakistan. With such preparation, these individuals may then enter into the Apparel and Textile field with an adequate level of competency, well-equipped with job knowledge, techniques and precision in performance. They may also be inclined to pursue their own path with their newfound skills, choosing to become entrepreneurs.

To achieve the main goal of this course, the trainee should meet the following objectives:

- Provision of basic textile printer skill.
- Knowledge of basic information concerning various techniques of printing.
- Knowledge of basic information concerning tools to be used in various techniques of printing.
- Provide knowledge of enhancement methods.
- Education should ensure the best negotiated prices and market trends.
- Production of Print using various techniques of textile printing.
- Knowledge of fabric composition, work specifications, sequence of operations, safety precautions and other reference materials.
- Knowledge of how to finish products and other associated articles.
- Knowledge of how to keep the tools tidy after their use.

### **3. Competencies gained after completion of course:**

On successful completion of this course trainee will know:

- How to identify required tools according to the requirements of printing techniques.
- Essential tools and instruments arranged in appropriate order and place.
- How to follow instructions to complete their job accurately.
- How to follow the instructions and procedures according to the printing technique.
- Colour theory and use of colour index template.
- Basic computer skills.
- Tools and machinery used according to the printing technique.
- Quality control, packing and appropriate handling of related product.
- How to adopt safety precautions during process of all types of textile printing techniques.

## **Job opportunities available immediately and in the future:**

After completion of this course the candidates can work in the following area/field:

1. At home for domestic purpose as well as cottage industry
2. May join any garment or fabric related industry
3. Can establish their own work and become entrepreneurs
4. Can teach in vocational institutes

<b>Trainee entry level</b>	:	F.A (Intermediate Level)
<b>Minimum qualification of trainer</b>	:	<b>Graduate in Fashion and Textile Design</b>  <b>Degree / Have at least 3years of Industrial Experience</b>
<b>Medium of Instruction i.e. language of instruction</b>	:	Urdu / English

### **Sequence of the modules:**

Module 1:	Perform Stencil Printing
Module 2:	Perform Batik Printing
Module 3:	Perform Block printing
Module 4:	Perform Screen Printing
Module 5:	Perform Heat Transfer Printing
Module 6:	Perform Rotary Printing
Module 7:	Perform Flatbed / Panel printing
Module 8:	Perform Digital Printing
Module 9:	Adopt Safety Precautions
Module 10:	Develop Professionalism

**Timeframe of assessment (recommendation)** : 6 months + 3 months Industrial Training

Total Hours: 800, Theory Hours: 160, Practical Hours: 640



#### 4. Overview about the program –Curriculum for Textile Printer

Module Title and Aim	Learning Units	Theory <sup>1</sup> Days/hours	Workplace <sup>2</sup> Days/hours	Timeframe of modules
Module 1  <b>Perform Stencil Printing</b>  (To get complete skills and knowledge to perform stencil printing)	1. "Textile Printing" 2. Colour Theory 3. Develop Basic shapes 4. Make a colour wheel 5. Draw and setting the repeat of design 6. Trace and cut design on stencil sheet 7. Techniques to do stencil printing 8. Health and safety	8 hours Theory  48 Practice Hours	56 Hours	7 Days
Module 2  <b>Perform Batik Printing</b>  (To get complete skills and knowledge to perform Batik printing)	1. Batik Printing 2. Make Wax 3. Make Cold Dye 4. Dip and Dry Method 5. Removal of Wax 6. Health and safety	8 hours Theory  56 Practice Hours	64 hours	8 Days
Module 3  <b>Perform Block Printing</b>  (To get complete skills and knowledge to perform Block printing)	1. Block Printing 2. Make design Block 3. Make Colour Paste 4. Dip Block in colour 5. Apply Block on Fabric 6. Dry and fix 7. Health and safety	9 hours Theory  40 Practice Hours	49 hours	6 Days
<b>Module 4</b>  <b>Perform Screen</b>	1. Screen Printing 2. Make Wooden Screen 3. Expose Design	16 hours Theory  96 Practice Hours	112 Hours	14 Days

<sup>1</sup> Learning hours in training provider premises

<sup>2</sup> Training workshop, laboratory and on-the-job workplace

<p><b>Printing</b></p> <p>(To get complete skills and knowledge to perform Screen printing)</p>	<ol style="list-style-type: none"> <li>4. Make gum and Paste Colour</li> <li>5. Apply Colour</li> <li>6. Dry and Fixation</li> <li>7. Health and safety</li> </ol>			
<p><b>Module 5</b></p> <p><b>Heat Transfer Printing</b></p> <p>(To get complete skills and knowledge to perform Heat Transfer printing)</p>	<ol style="list-style-type: none"> <li>1. "Heat transfer printing"</li> <li>2. Apply design on fabric</li> <li>3. Perform ironing on fabric</li> <li>4. Health and safety</li> </ol>	<p>8 hours Theory</p> <p>64 Practice Hours</p>	72 hours	9 Days
<p><b>Module 6</b></p> <p><b>Perform Rotary Printing</b></p> <p>(To get complete skills and knowledge to perform rotary printing)</p>	<ol style="list-style-type: none"> <li>1. "Rotary Printing"</li> <li>2. CAD CAM</li> <li>3. Do colour separation</li> <li>4. Apply engraving</li> <li>5. Exposing</li> <li>6. Develop the screen</li> <li>7. Cure the screen</li> <li>8. Enduring</li> <li>9. Final design inspection</li> <li>10. Arrange the rotary screen</li> <li>11. Operate the machine</li> <li>12. Health and safety</li> </ol>	<p>25 hours Theory</p> <p>136 Practice Hours</p>	161	20.5 Days
<p><b>Module 7</b></p> <p><b>Perform Flatbed / Panel Printing</b></p> <p>(To get complete skills and knowledge to perform Flatbed / Panel printing)</p>	<ol style="list-style-type: none"> <li>1. "Flatbed / Panel printing"</li> <li>2. Make screens</li> <li>3. Apply colour on screens</li> <li>4. Operate the machine</li> <li>5. Health and safety</li> </ol>	<p>16 hours Theory</p> <p>112 Practice Hours</p>	128 hours	16 Days
<p><b>Module 8</b></p> <p><b>Perform Digital Printing</b></p> <p>(To get complete skills and knowledge to perform Digital</p>	<ol style="list-style-type: none"> <li>1. "Digital Printing"</li> <li>2. Select design</li> <li>3. Load/Fix the fabric on digital printer</li> <li>4. Operate the machine</li> <li>5. Health and safety</li> </ol>	<p>30 hours Theory</p> <p>72 Practice Hours</p>	102 hours	12.5 Days

printing)				
<b>Module 9</b> <b>Adopt safety precautions</b> (To learn knowledge and skills of safety precautions and adopt them for personal safety, workplace and equipment while using different techniques of printing.	<ol style="list-style-type: none"> <li>1. Apply personal safety by using the safety gloves.</li> <li>2. Apply workplace safety</li> <li>3. Apply safety for tools and equipment</li> </ol>	20 hours Theory 8 Practice Hours	28 Hours	3.5 Days
<b>Module 10</b> <b>Develop professionalism</b> (To acquire skill, knowledge and effective communication with team members, management, experts and customers)	<ol style="list-style-type: none"> <li>1. Participate in training</li> <li>2. Organizational behavior</li> <li>3. Consult with experts</li> <li>4. Participate in skill enhancement training and competitions.</li> </ol>	20 hours Theory 8 Practice Hours	28 Hours	3.5 Days

### Teaching and Learning Guide for Textile Printer

#### Module: 1 Title: Perform Stenciling

Objective of the Module: The module covers the skills and knowledge required to understand the colour theory and to create the colour wheel by using Basic colours. And further, to use this knowledge to develop the stencil and perform experimentation with colour mediums.

Duration: 56 hours                      Theory: 8 hours                      Practice: 48 hours

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
1. Textile Printing	The trainee will be able to describe textile printing, materials and tools.	Introduce the Textile printer works and duties  Knowledge of: <ul style="list-style-type: none"> <li>• Introduction of "Textile Printer"</li> </ul>	1 hour theory  0 Practicel hour	Pencil Note pad	Class room with multimed i a projector

		<p>term</p> <ul style="list-style-type: none"> <li>Importance of knowledge of “Textile Printer” at the work place.</li> </ul> <p>Ability to:</p> <ul style="list-style-type: none"> <li>Do the “Textile Printer” Job</li> </ul>			
2.Colour Theory	The trainee will be able to describe the importance of colour theory.	<p>Knowledge of:</p> <ul style="list-style-type: none"> <li>Primary colours</li> <li>Secondary Colours</li> <li>Tertiary colors</li> <li>Mixing of colors</li> </ul> <p>Ability to:</p> <ul style="list-style-type: none"> <li>Make the secondary colours by mixing primary colors</li> <li>Make the tertiary colours by mixing secondary colours.</li> <li>Mixing different proportions of secondary colours to make tertiary colours</li> </ul>	<p>1 hour theory</p> <p>6 practical hours</p>	Pencil Note pad	Class room with multimedia projector
3.Develop basic Shapes	The trainee will be able to develop basic shapes like square, rectangle, triangle, and diamond.	<p>Knowledge of:</p> <ul style="list-style-type: none"> <li>Making basic shapes</li> <li>Making composition</li> <li>Making design from basic shapes</li> </ul> <p>Ability to:</p> <ul style="list-style-type: none"> <li>Use basic</li> </ul>	<p>1 hour theory</p> <p>10 hours practical</p>		

		<p>shapes for design</p> <ul style="list-style-type: none"> <li>• Use basic shape for composition</li> </ul>			
4. Make Color wheel	The trainee will be able to demonstrate the competence skill of making different colours by using primary colours and creating a colour wheel.	<p>Knowledge of:</p> <ul style="list-style-type: none"> <li>• Using Colour Index book</li> <li>• Making of colour wheel</li> <li>• Preparation of colours</li> <li>• Application of colours</li> </ul> <p>Ability to:</p> <ul style="list-style-type: none"> <li>• Use tools and equipment</li> <li>• Make different colours</li> <li>• Apply the colours with brush/sponge etc.</li> </ul>	<p>1 hour theory</p> <p>12 hours practical</p>	<p>-Colour Index Book</p> <p>-Primary colors</p> <p>-Black and white colour poster paint</p> <p>-Clutch pencil</p> <p>-Flexible Scale</p> <p>-Eraser</p> <p>-Compass with pencil</p> <p>-Water container</p> <p>-Sketch book</p> <p>With scholar sheets</p> <p>-Tables</p> <p>-Small drawing board</p> <p>-Brushes of different sizes</p> <p>-Rough cotton fabric</p> <p>-Low tack masking tape</p>	Class room with tables and sitting stools
5. Draw and setting the repeat of design	The trainee will be able to demonstrate how to draw the design and setting	<p>Knowledge of:</p> <ul style="list-style-type: none"> <li>• Creating design</li> <li>• Making textile repeat of design</li> </ul>	<p>1 hour theory</p> <p>6 hours practical</p>	<p>Tracing paper</p> <p>-Stencil / transparent sheet</p> <p>-Paper Scissors</p>	Class room with tables and sitting stools

	the repeat of design.	Ability to: <ul style="list-style-type: none"> <li>Use design according to negative and positive area of design.</li> </ul>		-Paper cutter -Small drawing board -Table glass -Marking pencil -low tack masking tape -Ruler Stencil brushes -Stencil Paints Paper towel Palette	
6. Trace and cut design on stencil sheet	The trainee will be able to cut the design on stencil sheet	Knowledge of: <ul style="list-style-type: none"> <li>Transfer design on stencil sheet and how to use tools.</li> </ul> Ability to: <ul style="list-style-type: none"> <li>Use cutter to cut the stencil sheet according to requirement.</li> </ul>	1 hour theory  12 hours practical		
7. Techniques to do stencil printing.	The trainee will be able to demonstrate the following techniques:  To apply the stencil on different surface like drawing sheets, card boards, and fabric  To apply the use of stencil by overlapping	Knowledge of: <ul style="list-style-type: none"> <li>How to use the stencil for design</li> <li>Developing the surface to apply the paint.</li> <li>Keeping the tools tidy</li> <li>Cleaning the brushes and other tools and equipment.</li> <li>Use of colour index book</li> </ul>	1 hour theory  6 hours practical	-Paper scissors -Drawing sheets -Paints, --Poster paints -Acrylics -Fabric (calico) -small drawing board -Brushes -Sponges -Low tack masking tape -ruler -Paper	Class room with tables and sitting stools

	it and with repeats  To apply the different textures with different mediums of colour.	Ability to: <ul style="list-style-type: none"> <li>• Fill the surface by applying proper colour quantity</li> <li>• Use the sponge to develop the different textures</li> <li>• Use of right repeat of design according to requirement.</li> </ul>		towel -Palette - Bowl -Water container -	
8.Health and safety	The trainee will be able to follow health and safety instructions while working in studio.	Knowledge of: <ul style="list-style-type: none"> <li>• Personal safety precautions of using tools.</li> </ul> Ability to: <ul style="list-style-type: none"> <li>• Apply personal safety by using safety gloves and apron.</li> </ul>	1 hour theory		

### Module: 2 Title: Perform Batik Printing

Objective of the Module: This module covers the skills and knowledge necessary to understand the technique of Batik printing. This traditional way of printing will help understand colours and handling of fabric in a traditional manner by applying wax onto it.

Duration: 64 hours

Theory: 8 hours

Practice: 56 hours

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
1. Batik Printing	The trainee will be able to learn the basic knowledge and skills of Batik Printing.	Introduce the Textile printer about works and duties of Batik Printing  <b>Knowledge of:</b> <ul style="list-style-type: none"> <li>• Introduction to Batik Printing environment,</li> </ul>	1 hour theory  0 hour practical	Note pad Pencil	Class room with multimedia projector

		<p>culture and discipline.</p> <ul style="list-style-type: none"> <li>• Introduction to the procedures of Batik printing</li> <li>• Introduction to the tools and equipment required in Batik Printing</li> </ul> <p><b>Ability to:</b></p> <ul style="list-style-type: none"> <li>• Use Batik Printing technique for the required design</li> <li>• Use Batik printing methods to gain the required quality for design.</li> </ul>			
2.Make Wax and its application	The trainee will be able to learn the skills and knowledge to handle the wax and proper method to use the tools.	<p>To demonstrate the competence knowledge and skill of making wax and its application</p> <p><b>Knowledge of:</b></p> <ul style="list-style-type: none"> <li>• Prepare Wax</li> <li>• Shenting tool</li> <li>• To control the viscosity of wax by use salt.</li> <li>• Using wax on design and not leaving it unattended.</li> <li>• Negative and positive area of design.</li> </ul> <p><b>Ability to:</b></p> <ul style="list-style-type: none"> <li>• Demonstrate the</li> </ul>	<p>1 hour theory</p> <p>16 hour practical</p>	<p>Wooden frame</p> <p>Stove</p> <p>Shenting tools</p> <p>Gloves</p> <p>Flat Brush</p> <p>Bowl</p> <p>Colour palette</p>	<p>Class room/</p> <p>Open Air area.</p>



		<p>wax-making and its handling</p> <ul style="list-style-type: none"> <li>• Demonstrate the application of wax in a balanced way.</li> <li>• Use of wax on the negative area of design.</li> </ul>			
3. Make Cold Dye	<p>The trainee will be able to demonstrate competently the knowledge and skill of making Cold dye.</p> <p>The trainee will also be able to demonstrate the use of cold dye pigment with accurate depth.</p>	<p><b>Knowledge of:</b></p> <ul style="list-style-type: none"> <li>• Proper mixing of cold dye to gain the accurate depth of colour.</li> <li>• Work method to develop cold dye to achieve best quality.</li> <li>• Pigments and dyes.</li> </ul> <p><b>Ability to:</b></p> <ul style="list-style-type: none"> <li>• Make pigments and dyes with accurate depth</li> <li>• Identify the quality of dyes and their result</li> <li>• Identify the right techniques for making cold dye</li> <li>• Develop the recipe of dye according to requirement.</li> </ul>	<p>1 hour theory</p> <p>16 hour practical</p>	<p>Stirrer</p> <p>Pot</p> <p>Container</p> <p>Weighing scale</p>	
6. Dip and Dry	<p>At the end of this subunit the trainee will have the</p>	<p><b>Knowledge of:</b></p> <ul style="list-style-type: none"> <li>• Colour application through the</li> </ul>	<p>2 hour theory</p> <p>8 hour practical</p>	<p>Pot</p> <p>Brush</p> <p>Stove</p>	

	skills and knowledge to develop the required colour for the process of dip and dry.	<p>process of dip and dry.</p> <ul style="list-style-type: none"> <li>• Dying the design fabric from light to dark.</li> <li>• Dry the design fabric under the shade.</li> <li>• Achieve the best quality design fabric according to the requirement.</li> </ul> <p><b>Ability to:</b></p> <ul style="list-style-type: none"> <li>• Follow the instructions for dip and dry method.</li> <li>• Apply colour by dipping into dye or to use brush to apply dye on required surface.</li> <li>• Dry the design fabric according to the light and dark colour.</li> </ul>	I		
7. Removal of Wax	At the end of this subunit the trainee will be able to demonstrate removal of wax from the design fabric neatly.	<p><b>Knowledge of:</b></p> <ul style="list-style-type: none"> <li>• Using the right process of removing wax.</li> <li>• Using hot iron and applying it at the back of design using newspaper.</li> </ul>	2 hour theory 8 hour practical	Iron Iron table	Studio / class room

		<ul style="list-style-type: none"> <li>Remove maximum wax by using heated iron.</li> <li>Handling the equipment to remove wax.</li> <li>Achieving the best quality design fabric according to the requirement.</li> </ul> <p><b>Ability to:</b></p> <ul style="list-style-type: none"> <li>Use the iron properly</li> <li>To place the news print sheet on which wax will absorb.</li> <li>To apply the heat with iron at the back of design.</li> </ul>			
6.Health and safety	The trainee will be able to follow health and safety instructions while working in batik studio.	<p>Knowledge of:</p> <ul style="list-style-type: none"> <li>Personal safety precautions of using tools.</li> </ul> <p>Ability to:</p> <ul style="list-style-type: none"> <li>Apply personal safety by using safety gloves and apron.</li> </ul>	1 hour theory 8 hour practical		

**Module: 3 Title: Perform Block Printing**

Objective of the Module: The module covers the skill and knowledge to understand the technique of Block printing. Another old technique of transferring design which will help the trainee to clear the concepts of printing with block. Block printing technique will help to understand the making of dye colour and its application in negative and positive area of design.

Duration: 49 hours

Theory: 9 hours

Practice: 40 hours

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
1. Block Printing	At the end of this subunit the trainee will have the knowledge and skills of Block Printing.	<p>Introduce the Textile printer about works and duties of Block Printing</p> <p><b>Knowledge of:</b></p> <ul style="list-style-type: none"> <li>• Introduction to the Block Printing environment, culture and discipline.</li> <li>• Introduction to the procedures of Block printing</li> <li>• Introduction to the tools and equipment required in Block Printing</li> </ul>	<p>1 hour theory</p> <p>0 hour practical</p>	Note pad Pencil	Studio with multimedia projector
2. Make Design Block	<p>The trainee will be able to get the skill and knowledge of following methods:</p> <p>-To use the Potato technique to develop block</p> <p>-Trainee would be able to identify the negative</p>	<p><b>Knowledge of:</b></p> <ul style="list-style-type: none"> <li>• Make design on potato, and use potato as a block.</li> <li>• Making block and having it made from block maker.</li> <li>• Develop block with negative and positive area of design.</li> <li>• Using colour</li> </ul>	<p>2 hour theory</p> <p>8 hour practical</p>	Carving tools	Printing studio

	and positive area of design.	<p>index.</p> <p><b>Ability to:</b></p> <ul style="list-style-type: none"> <li>• Develop block on potato and get it made from block maker.</li> <li>• Demonstrate the negative and positive area of design.</li> <li>• Use proper techniques to create quality product.</li> </ul>			
3. Make Color Paste	At the end of this sub unit trainee will have the knowledge and skills to make colour according to requirement.	<p><b>Knowledge of:</b></p> <ul style="list-style-type: none"> <li>• Develop colour as per requirement</li> <li>• Use the colour index according to the buyer demands</li> <li>• Following the proper methods to apply the colour on surface</li> <li>• Develop the proper surface for block printing.</li> </ul> <p><b>Ability to:</b></p> <ul style="list-style-type: none"> <li>• Make colour according to the requirement.</li> <li>• Develop the Proper surface for block printing.</li> </ul>	<p>2 hour theory</p> <p>8 hour practical</p>	<p>Colour index book</p> <p>Container</p> <p>Jute</p> <p>Sponge</p>	Printing room / studio
4. Dip block in color	The trainee will know the skills and knowledge concerning	<p><b>Knowledge of:</b></p> <ul style="list-style-type: none"> <li>• Selection of jute layers for proper colour application on block.</li> </ul>	<p>1 hour theory</p> <p>8 hour practical</p>	<p>Gloves</p> <p>Jute</p> <p>Apron</p>	Printing room / studio

	<p>the following methods:</p> <ul style="list-style-type: none"> <li>-To be able to identify the estimated quantity of the colour on block.</li> <li>-To be able to identify the required design printing and apply the block on fabric.</li> </ul>	<ul style="list-style-type: none"> <li>• Quantity required in the dip container</li> <li>• Using proper coverings like rubber gloves to avoid direct contact with colour.</li> </ul> <p><b>Ability to:</b></p> <ul style="list-style-type: none"> <li>• Demonstrate the development for applying the colour on block.</li> <li>• Develop the right surface for block printing</li> <li>• Select the right block for right colour</li> <li>• Interpret the correct colour depth to develop the right colour.</li> </ul>		Container	
5. Apply Block on Fabric	<p>The trainee will have the skills and knowledge of following methods:</p> <ul style="list-style-type: none"> <li>-To be able to Identify the area of fabric for printing and apply the block accurately.</li> <li>-To be able to identify the right colour for right block.</li> </ul>	<p><b>Knowledge of:</b></p> <ul style="list-style-type: none"> <li>• Use proper printing table for required results</li> <li>• Fix the fabric to be printed</li> <li>• Apply the block accurately.</li> <li>• Adapting the techniques and method to produce the required results.</li> <li>• Achieving the design by applying block with repeats.</li> </ul> <p><b>Ability to:</b></p> <ul style="list-style-type: none"> <li>• Arrange the surface for fixing the fabric.</li> </ul>	<p>1 hour theory</p> <p>8 hour practical</p>	Printing table	Printing room / studio

		<ul style="list-style-type: none"> <li>• Apply the block with required colour on the proper surface</li> <li>• Be able to use the right kind of repeats to achieve required results.</li> <li>• Clean the blocks properly after its application.</li> <li>• Clean the work area after the job done.</li> </ul>			
6. Dry and fix	At the end of this subunit, trainee will have the knowledge and skills to dry the design fabric, and fix the design by applying heat or steam to it.	<p><b>Knowledge of:</b></p> <ul style="list-style-type: none"> <li>• Monitoring time for drying the printed fabric.</li> <li>• Selecting the area to dry printed fabric through sunlight shaded area or hot air dryer.</li> </ul> <p><b>Ability to:</b></p> <ul style="list-style-type: none"> <li>• Monitor time for drying the design fabric.</li> <li>• Select the area for drying by seeing the colour intensity.</li> </ul>	1 hour theory 8 hours practical	Electric dryer Hot air dryer	
7. Health and safety	The trainee will be able to follow health and safety instructions while working in studio.	<p><b>Knowledge of:</b></p> <ul style="list-style-type: none"> <li>• Personal safety precautions of using tools.</li> </ul> <p><b>Ability to:</b></p> <ul style="list-style-type: none"> <li>• Apply personal safety by using safety gloves and apron.</li> </ul>	1 hour theory 0 hour practical		

**Module: 4 Title: Perform Screen Printing**

Objective of the Module: The important module covers the skills and knowledge necessary to understand the technique of screen printing area. After completing this module the trainee can

easily understand the cycle of industry in terms of rotary printing. The knowledge of screen printing will help the trainee to understand the logic of rotary print.

**Duration: 112 hours**

**Theory: 16 hours**

**Practice: 96 hours**

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
1. Screen Printing	The trainee will have the knowledge of Screen Printing	<p>Introduce the Textile printer to works and duties of Screen Printing</p> <p><b>Knowledge of:</b></p> <ul style="list-style-type: none"> <li>• Introduction to the Screen Printing environment, culture and discipline.</li> <li>• Introduction to the procedures of Screen printing</li> <li>• Introduction to the tools and equipment required in Screen Printing</li> </ul>	2 hours Theory	Note pad  Pencil	Class room with multimedia projector
2. Make Wooden Screen	<p>At the end of the subunit trainee will be able to demonstrate the following methods:</p> <p>-To demonstrate making of wooden frame according to the design</p>	<p><b>Knowledge of:</b></p> <ul style="list-style-type: none"> <li>• Making a wooden frame according to design and size requirement.</li> <li>• Fixation of mesh according to the design and size requirements.</li> <li>• Place the design transparency</li> </ul>	4 hour theory  16 hour practical	Hammer  Nails  Tracing / transparency sheet  Wood	Printing room



	<p>size.</p> <p>-Applying the mesh on wooden frame, according to the requirement.</p> <p>-To be able to place the design transparent sheet on the ready mesh.</p>	<p>on the mesh.</p> <p><b>Ability to:</b></p> <ul style="list-style-type: none"> <li>• Develop the wooden frame according to design and size</li> <li>• Fix the mesh on the frame according to design and size</li> <li>• Make screens of one design with different colours.</li> <li>• Place the transparency design sheet on the mesh.</li> </ul>			
3. Expose Design	<p>At the end of the subunit trainee will be able to get the skills and knowledge of following methods:</p> <p>-To apply the emulsion coating on the screen mesh.</p> <p>-To wait for the right</p>	<p><b>Knowledge of:</b></p> <ul style="list-style-type: none"> <li>• Applying the emulsion coating on the mesh</li> <li>• Leaving the screen with mesh and emulsion coating for specific time for drying purpose.</li> <li>• Exposing screen for the specific time on the light table.</li> </ul>	<p>2 hour theory</p> <p>32 hour practical</p>	<p>Exposing table</p> <p>Gloves</p> <p>Squeegee Scrapper</p> <p>Emulsion</p> <p>Sensitizer</p>	<p>Printing room/ studio</p> <p>Dark room</p>

	<p>time for drying of mesh.</p> <p>-To demonstrate the exposing of design on the mesh</p> <p>-To demonstrate the time factor of all three above mentioned processes as the time factor is very important in applying emulsion coating, drying and exposing.</p>	<p><b>Ability to:</b></p> <ul style="list-style-type: none"> <li>• Demonstrate the emulsion coating procedure on mesh of screen.</li> <li>• Demonstrate the time factor for drying on mesh and the procedure of drying it in the dark room.</li> <li>• Use the right quantity of sensitizer</li> <li>• Place the design transparency on the mesh to expose.</li> <li>• Place the screen on exposing table for the design and note the time of exposing.</li> <li>• Achieve the final design after washing of screen with pressure of water.</li> </ul>			
4. Make gum and paste	The trainee will have the skills and	<b>Knowledge of:</b>	2 hour theory	Stirrer Weighing	Printing room/ studio

color	<p>knowledge of following methods:</p> <p>To be able to make gum and paste correctly.</p> <p>-To be able to develop the gum and paste quickly for the desired results.</p> <p>-To be able to use water based medium for making gum and paste colour.</p>	<ul style="list-style-type: none"> <li>• How to use of binder(G3 and UD) emulsion.</li> <li>• Recipe for making a colour and paste like, keeping the ratio of binder constant (1kg of gum is obtained by adding 30gm of binder and 100 gm of binder, 30 gm of emulsion 840 gm of water.</li> </ul> <p><b>Ability to:</b></p> <ul style="list-style-type: none"> <li>• Make binder and emulsion.</li> <li>• Develop the recipe for making a colour and paste keeping in mind the proper details of materials to be used.</li> </ul>	16 hour practical	<p>scale</p> <p>Gloves</p> <p>Apron</p> <p>Scraper</p> <p>Pots</p>	
5. Apply color on screen	<p>The trainee will have the skills and knowledge of following methods:</p> <p>-To be able to pour the right</p>	<p><b>Knowledge of:</b></p> <ul style="list-style-type: none"> <li>• Applying the tool "squeegee" in a proper manner.</li> <li>• Applying the pigment colour on screen</li> </ul>	<p>2 hour theory</p> <p>16 hour practical</p>	<p>Squeegee</p> <p>Scraper</p> <p>Spoon</p> <p>Gloves</p> <p>Apron</p>	Printing room/ studio

	<p>quantity of colour paste on screen</p> <p>-To be able to apply the colour on screen with squeegee.</p> <p>-To be able to lift the extra colour from screen and put it back to paste bucket.</p>	<p>without any error.</p> <ul style="list-style-type: none"> <li>• Keeping the screen safe and avoiding to block the screen with colour.</li> <li>• Using proper gloves and apron to avoid the direct contact of colour with skin.</li> <li>• Printing with screen and avoid colour overlapping.</li> </ul> <p><b>Ability to:</b></p> <ul style="list-style-type: none"> <li>• Use the squeegee in proper manner and lift the unnecessary colour from screen.</li> <li>• Keep the screen safe from colour blocking.</li> <li>• Apply the pigment colour without any error.</li> <li>• Use proper gloves and apron to avoid the direct contact with skin or clothes.</li> <li>• Apply the colour in such a way that it should not be overlapped.</li> </ul>		Screen	
6. Dry and	At the end	<b>Knowledge of:</b>	2 hour	Pegs	Printing

Fixation	<p>of the subunit trainee will be able to get the skills and knowledge of following methods:</p> <p>-To be able to handle the printed fabric carefully and fabric should be creaseless.</p> <p>To be able to dry the printed fabric with different heat sources like, sun, hot air dryer.</p>	<ul style="list-style-type: none"> <li>Handling the printed fabric creaseless.</li> <li>Using different heat sources like, sunlight or hot air dryer to dry the printed fabric.</li> </ul> <p><b>Ability to:</b></p> <ul style="list-style-type: none"> <li>Handle the printed fabric Properly and fabric should be creaseless.</li> <li>Use the right kind of heat source like sun, or hot air dryer to dry the printed fabric.</li> </ul>	theory 8 hour practical	Sticks Hot air dryer	room/ studio
7.Health and safety	The trainee will be able to follow health and safety instructions while working in studio.	<p>Knowledge of:</p> <ul style="list-style-type: none"> <li>Personal safety precautions of using tools.</li> </ul> <p>Ability to:</p> <ul style="list-style-type: none"> <li>Apply personal safety by using safety gloves and apron.</li> </ul>	2 hour theory 8 hour practical		

**Module: 5 Title: Perform Heat Transfer Printing**

Objective of the Module: The important module covers the skill and knowledge necessary to understand the technique of heat transfer printing. After completing this technique, the trainee will be able to transfer the design on surface using the heat transfer method.

**Duration: 72 hours**

**Theory: 8 hours**

**Practice: 64 hours**

Learning Unit	Learning	Learning Elements	Duration	Materials	Learning
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	Outcomes			Required	Place
1. Heat transfer printing	The trainee will have the knowledge and skills of heat transfer printing.	<p>Introduce the Textile printer to works and duties of Heat transfer printing</p> <p><b>Knowledge of:</b></p> <ul style="list-style-type: none"> <li>• Introduction to the Heat transfer Printing environment, culture and discipline.</li> <li>• Introduction to the procedures of Heat transfer printing</li> <li>• Introduction to the tools and equipment required in Heat transfer Printing</li> </ul>	<p>2 hour theory</p> <p>0 hour practical</p>	<p>Note pad</p> <p>Pencil</p>	Class room with multimedia
2. Apply Design on Fabric	<p>At the end of the subunit trainee will have the skills and knowledge of following methods:</p> <p>-Knowledge of computer operating skills</p> <p>-To be able to take the design printout on the transfer sheet.</p> <p>-To be aware of front and back side of design.</p>	<p><b>Knowledge of:</b></p> <ul style="list-style-type: none"> <li>• Basic computer skills.</li> <li>• Taking a print of design on transfer sheet.</li> <li>• Placement of design on surface.</li> </ul> <p><b>Ability to:</b></p> <ul style="list-style-type: none"> <li>• Use basic computer skills to get the print on the transfer sheet.</li> <li>• Demonstrate the front and back side of design and place it properly on the surface.</li> </ul>	<p>2 hour theory</p> <p>32 hour practical</p>	<p>Transfere sheets</p> <p>Computer</p> <p>Printer inkjet</p> <p>Iron</p> <p>Heat transfer pads</p>	Printing room / studio

3.Perform Ironing on fabric	<p>At the end of the subunit trainee will be able to get the skills and knowledge of following methods:</p> <p>-To be able to demonstrate the use of iron with required temperature.</p> <p>-To be able to use the iron on the reverse side of transfer sheet.</p>	<p><b>Knowledge of:</b></p> <ul style="list-style-type: none"> <li>Using iron with appropriate temperature.</li> <li>Time duration while using the iron to transfer the design on print.</li> </ul> <p><b>Ability to:</b></p> <ul style="list-style-type: none"> <li>Demonstrate the use of iron with right temperature.</li> <li>Place the iron at the back of transfer sheet for specific time period.</li> </ul>	<p>2 hour theory</p> <p>32 hour practical</p>	<p>Iron</p> <p>Iron table</p>	<p>Printing room/ studio</p>
4.Health and safety	<p>The trainee will be able to follow health and safety instructions while working in studio.</p>	<p>Knowledge of:</p> <ul style="list-style-type: none"> <li>Personal safety precautions of using tools.</li> </ul> <p>Ability to:</p> <ul style="list-style-type: none"> <li>Apply personal safety by using safety gloves and apron.</li> </ul>	<p>2 hour theory</p> <p>0 hour practical</p>		

### Module 6: Perform Rotary Printing

Objective of the Module: this module covers the knowledge and skill of rotary design, operations and terminologies used for performing rotary printing.

Duration: 161 hours

Theory: 25 hours

Practice: 136 hours

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
1. Rotary Printing	The trainee will have the skills and knowledge of rotary printing setup and environment.	<p><b>Knowledge of:</b></p> <ul style="list-style-type: none"> <li>Basics of rotary screen printing</li> <li>Process to be used in rotary printing</li> </ul> <p><b>Ability to:</b></p> <ul style="list-style-type: none"> <li>Identify and follow the process of rotary printing.</li> <li>Co-ordinate and communicate to achieve and maintain organizational goals.</li> </ul>	1 hour theory 16 hour practical	Rotary printing machine screen heads Measuring tape.	In house institutional facility Collaboration with industry
2. CAD CAM	The trainee will have skills and knowledge to operate the software of CAD CAM	<p><b>Knowledge of:</b></p> <ul style="list-style-type: none"> <li>How to scan a design</li> <li>How to refine the design through design software of CAD CAM.</li> <li>Using Colour Index Book</li> </ul> <p><b>Ability to:</b></p> <ul style="list-style-type: none"> <li>Operate the scanning process.</li> <li>Take safety measures while operating CAD</li> </ul>	6 hour theory 16 hour practical	Rotary printing machine screen heads Measuring tape.	In house institutional facility Collaboration with industry



		CAM software.			
3. Do color separation	The trainee will be able to gain the knowledge and skills to do the colour separation	<p><b>Knowledge of:</b></p> <ul style="list-style-type: none"> <li>• Colour separation through CAD CAM and follows the procedure for the next process.</li> <li>• Using colour separation process from light to dark.</li> </ul> <p><b>Ability to:</b></p> <ul style="list-style-type: none"> <li>• Operate the CADCAM software for the color separation.</li> <li>• Follow the safety precautions to operate CAD CAM</li> </ul>	4 hour theory  20 hour practical		In house institutional facility  Collaboration with industry
4. Apply Engraving	The trainee will have the knowledge and skills to apply engraving on Nickel roller screens	<p><b>Knowledge of:</b></p> <ul style="list-style-type: none"> <li>• Using of emulsion on nickel screen</li> <li>• Applying the colour separated designs on nickel screens</li> <li>• Using different nickel roller screens for individual</li> </ul>	2 hour theory  32 hour practical	Nickel roller  Nickel Screens  Emulsion	In house institutional facility  Collaboration with industry

		<p>colour.</p> <p><b>Ability to:</b></p> <ul style="list-style-type: none"> <li>• Work in the engraving area with Wax jet, Ink Jet, and Laser jet facilities.</li> <li>• Engrave the colour separated design on nickel roller screen.</li> <li>• Use the right diameter nickel roller screen according to the repeat size of design</li> </ul>			
5.Exposing	The trainee will have the knowledge and skills to expose the nickel roller screens	<p><b>Knowledge of:</b></p> <ul style="list-style-type: none"> <li>• Exposing the roller screens according to stipulated time to gain the required results.</li> <li>• Following the safety measures while exposing the nickel roller screens.</li> </ul> <p><b>Ability to:</b></p> <ul style="list-style-type: none"> <li>• Follow the procedures of exposing according to the stipulated time.</li> </ul>	<p>2 hour theory</p> <p>8 hour practical</p>	<p>Exposing table</p> <p>Water pipe</p> <p>Exposing pad</p> <p>Water facility</p>	<p>Dark room</p> <p>Screen printing Studio</p> <p>In house institutional facility</p> <p>Collaboration with industry</p>
6. Develop the screen	The trainee will have the	<p><b>Knowledge of:</b></p> <ul style="list-style-type: none"> <li>• Developing the</li> </ul>	2 hour theory	Nickel roller screens	In house institutional facility

	<p>knowledge and skills to get the required results after developing the screens.</p>	<p>screen with simple plain water.</p> <ul style="list-style-type: none"> <li>Following the necessary procedures while developing the nickel roller screens.</li> </ul> <p><b>Ability to:</b></p> <ul style="list-style-type: none"> <li>Develop the screens with plain water to gain the required results.</li> </ul>	<p>8 hour practical</p>		<p>Collaboration with industry</p>
7.Cure the screen	<p>The trainee will have the knowledge and skills to cure the nickel roller screens with chemicals</p>	<p><b>Knowledge of:</b></p> <ul style="list-style-type: none"> <li>Curing the roller screens with chemical fixation process.</li> <li>Applying the heat in ovens with 180 degree on all sides of roller screens for approximately two hours.</li> <li>Applying safety measures while curing process.</li> </ul> <p><b>Ability to:</b></p> <ul style="list-style-type: none"> <li>Follow the process of curing with 180 degree heat on all sides of roller screens.</li> <li>Follow the safety procedure while securing the</li> </ul>	<p>2 hour theory</p> <p>8 hour practical</p>		<p>In house institutional facility</p> <p>Collaboration with industry</p>

		nickel screens.			
8. Endering	The trainee will have the knowledge and skills of Endering	<p><b>Knowledge of:</b></p> <ul style="list-style-type: none"> <li>• Process of endering in the rotary printing process.</li> <li>• Placing the heads at the nickel roller screens to fix it on the printing table area.</li> </ul> <p><b>Ability to:</b></p> <ul style="list-style-type: none"> <li>• Demonstrate the process of endering in which the heads to be placed at nickel roller screens.</li> <li>• Follow the safety procedures during the Endering process.</li> </ul>	2 hour theory 8 hour practical		In house institutional facility Collaboration with industry
9.Final design inspection	The trainee will have the knowledge and skills to inspect the final design which is ready to print.	<p><b>Knowledge of:</b></p> <ul style="list-style-type: none"> <li>• Inspect the final design in the shape of nickel roller screens, which are ready to print.</li> <li>• Following the necessary safety precautions during the process of final inspection of design.</li> </ul> <p><b>Ability to:</b></p> <ul style="list-style-type: none"> <li>• Do the final</li> </ul>	1 hour theory 8 hour practical		In house institutional facility Collaboration with industry

		<p>inspection of roller screens for the mass printing of fabric.</p> <ul style="list-style-type: none"> <li>Follow the safety measures in the process of rotary screen printing.</li> </ul>			
10. Arrange the rotary screen	The trainee will have the knowledge and skills to arrange the rotary screen according to the design requirement	<p><b>Knowledge of:</b></p> <ul style="list-style-type: none"> <li>Arranging the screen according to design repeat.</li> <li>Arranging the screen according to color sequence.</li> </ul> <p><b>Ability to:</b></p> <ul style="list-style-type: none"> <li>Interpret the instructions to arrange the rotary screen according to color sequence.</li> </ul>	<p>1 hour theory</p> <p>8 hour practical</p>		
11. Operate the machine	The trainee will have skills and knowledge to operate the rotary machine.	<p><b>Knowledge of:</b></p> <ul style="list-style-type: none"> <li>How to operate the rotary machine</li> <li>Importance of following the procedures of rotary screen printing.</li> </ul> <p><b>Ability to:</b></p> <ul style="list-style-type: none"> <li>Fabric fixation on the machine plank</li> <li>How to interpret</li> </ul>	<p>1 hour theory</p> <p>8 hour practical</p>		<p>In house institutional facility</p> <p>Collaboration with industry</p>

		and understand instructions			
		<ul style="list-style-type: none"> <li>Take safety measures while operating machine.</li> </ul>			
11. Health and safety	The trainee will be able to follow health and safety instructions while working in studio.	<p>Knowledge of:</p> <ul style="list-style-type: none"> <li>Personal safety precautions of using tools.</li> </ul> <p>Ability to:</p> <ul style="list-style-type: none"> <li>Apply personal safety by using safety gloves and apron.</li> </ul>	<p>1 hour theory</p> <p>8 hour practical</p>		

### Module 7: Perform Flatbed / Panel Printing

Objective of the Module: this module covers the knowledge and skill of Flatbed / Panel printing. Main objective of this module is to use this technique of print to do large scale printing in four colours.

Duration: 128 hours

Theory: 16 hours

Practice: 112 hours

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
1. Flatbed / Panel Printing	The trainee will gain the skills and knowledge to make screens, mainly on a larger level.	<p><b>Knowledge of:</b></p> <ul style="list-style-type: none"> <li>Flatbed / Panel orienting techniques</li> <li>Arranging the screens according to design requirement.</li> </ul> <p><b>Ability to:</b></p> <ul style="list-style-type: none"> <li>Interpret the flatbed / panel printing techniques according to color</li> </ul>	<p>3 hour theory</p> <p>8 hour practical</p>		

		sequence.			
2. Make Screens	The trainee will gain the skills and knowledge to make screens, mainly on larger level.	<p><b>Knowledge of:</b></p> <ul style="list-style-type: none"> <li>• Introduction of Flatbed / Panel printing.</li> <li>• Making the screens according to the required design.</li> </ul> <p><b>Ability to:</b></p> <ul style="list-style-type: none"> <li>• Interpret the instructions to develop the screens for Flatbed / Panel printing.</li> <li>• Adapt techniques and methods accordingly as per specifications</li> <li>• Control and run a process with accuracy</li> </ul>	4 hour theory 36 hour practical	Digital printer.	In house institutional facility Collaboration with industry
3. Apply colour on Screen	The trainee will gain the skills and knowledge to apply colour manually.	<p><b>Knowledge of:</b></p> <ul style="list-style-type: none"> <li>• Interpret the procedure of applying colour on fabric.</li> </ul> <p><b>Ability to:</b></p> <ul style="list-style-type: none"> <li>• Apply colour manually on the fabric surface.</li> <li>• Follow the safety procedures during</li> </ul>	4 hour theory 36 hour practical		In house institutional facility Collaboration with industry

		application of colours.			
4. Operate the machine	The trainee will gain the skills and knowledge to operate the Flatbed / Panel printing machine	<b>Knowledge of:</b> <ul style="list-style-type: none"> <li>Interpret the operation of Flatbed / Panel printing machine.</li> <li>Safety measures while operating the machine.</li> </ul> <b>Ability to:</b> <ul style="list-style-type: none"> <li>Operate the machine according to the safety measures.</li> </ul>	4 hour theory 32 hour practical		In house institutional facility Collaboration with industry
4. Health and safety	The trainee will be able to follow health and safety instructions while working in studio.	<b>Knowledge of:</b> <ul style="list-style-type: none"> <li>Personal safety precautions of using tools.</li> </ul> <b>Ability to:</b> <ul style="list-style-type: none"> <li>Apply personal safety by using safety gloves and apron.</li> </ul>	1 hour theory 0 hour practical		

### Module 8: Perform Digital Printing

Objective of the Module: this module covers the knowledge and skill of design softwares, digital printing operations and terminologies.

Duration: 102 hours

Theory: 30 hours

Practice: 72 hours

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
1. Digital Printing	The trainee will gain the skills and knowledge of mounting of fabric into the printer machine for proper	<b>Knowledge of:</b> <ul style="list-style-type: none"> <li>Basics of digital printing</li> <li>Process to be used in</li> </ul>	2 hour theory 0 hour practical		



	results and output	digital printing  <b>Ability to:</b>  <ul style="list-style-type: none"> <li>Identify and follow the process of digital printing.</li> <li>Operate the CAD program</li> <li>Co-ordinate and communicate to achieve and maintain organizational goals.</li> </ul>			
2. Select design	The trainee will gain the skills and knowledge to operate the digital machine to achieve and print of desired design	<b>Knowledge of:</b>  <ul style="list-style-type: none"> <li>Design software</li> <li>Digital printing operations</li> </ul> <b>Ability to:</b>  <ul style="list-style-type: none"> <li>Operate a digital printing machine</li> <li>Interpret and understand instruction to print a desired design</li> </ul>	6 hour theory  8 hour practical	Digital printing machine	In house institutional facility  Collaboration with industry

3. Load /fix the fabric on digital printer	The trainee will gain the skills and knowledge of mounting of fabric into the printer machine for proper results and output	<p><b>Knowledge of:</b></p> <ul style="list-style-type: none"> <li>• CMYK printing</li> <li>• Fabric and colour relation/ reaction</li> </ul> <p><b>Ability to:</b></p> <ul style="list-style-type: none"> <li>• Interpret instructions for loading a fabric</li> <li>• Adapt techniques and methods accordingly as per specifications</li> <li>• Control and run a process with accuracy</li> </ul>	2 hour theory 0 hour practical	Digital printer.	In house institutional facility  Collaboration with industry
4. Operate a machine	The trainee will gain the skills and knowledge of mounting of fabric into the printer machine for proper results and output	<p><b>Knowledge of:</b></p> <ul style="list-style-type: none"> <li>• Interpret the operation of digital printing machine.</li> <li>• Safety measures while operating the machine.</li> </ul> <p><b>Ability to:</b></p> <ul style="list-style-type: none"> <li>• Operate the machine</li> </ul>	13 hour theory 32 hour practical		

		according to the safety measures.			
4. Health and safety	The trainee will be able to follow health and safety instructions while working in studio.	<p>Knowledge of:</p> <ul style="list-style-type: none"> <li>Personal safety precautions of using tools.</li> </ul> <p>Ability to:</p> <ul style="list-style-type: none"> <li>Apply personal safety by using safety gloves and apron.</li> </ul>	<p>1 hour theory</p> <p>0 hour practical</p>		

### Module 9: Adopt safety pre-cautions

**Objective of the Module:** This module covers the knowledge and skill pertaining to the adoption of safety precautions for personal safety, workplace, and equipment for using in various techniques of printing.

Duration: 28 hours

Theory: 20 hours

Practice: 8 hours

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
1. Apply personal safety by using the safety gloves	<p>At the end of this sub unit a trainee will be able to:</p> <p>-Apply personal safety precautions while using of various tools like paper cutter, hammer.</p>	<p><b>Knowledge of:</b></p> <ul style="list-style-type: none"> <li>Personal safety precautions for using cutter and working with machines</li> </ul> <p><b>Ability to:</b></p> <ul style="list-style-type: none"> <li>Apply personal safety by using safety gloves and</li> </ul>	<p>4 hour theory</p> <p>0 hour practical</p>	<p>Multimedia CD's</p> <p>Gloves</p> <p>Apron</p> <p>Ear Plugs</p>	Class room / workshop

		apron			
2. Apply workplace safety	At the end of this subunit a trainee will be able to:  -Follow the safety precautions at work according to the requirements of different printing techniques.	<b>Knowledge of:</b> <ul style="list-style-type: none"> <li>Follow safety precautions at workplace / Lab.</li> </ul> <b>Ability to:</b> <ul style="list-style-type: none"> <li>Apply the safety precautions according to the technique requirement .</li> </ul>	8 hour theory  4 hour practical	Multimedia CD's	Class room / workshop
3. Apply safety for tools and equipment	At the end of this sub unit the trainee will be able to:  -Apply the safety for using tools and equipments.	<b>Knowledge of:</b> <ul style="list-style-type: none"> <li>Apply safety precautions for tools equipments.</li> </ul> <b>Ability to:</b> <ul style="list-style-type: none"> <li>Follow safety precautions using for different types of printing tools and equipments.</li> </ul>	8 hour theory  4 hour practical		

### Module 10: Develop Professionalism

**Objective of the Module:** This module covers the knowledge to develop effective communication with team members and management, experts and customers.

Duration: 28 hours

Theory: 20 hours

Practice: 8 hours

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
1. Participate in training	At the end of this sub unit a trainee will be able to:  -Understand and develop the personal development during training.	<p><b>Knowledge of:</b></p> <ul style="list-style-type: none"> <li>• Importance of punctuality in workplace / class.</li> <li>• Standard quality plan for apparel and textile industry.</li> <li>• Follow up the time management according to define methodology.</li> </ul> <p><b>Ability to:</b></p> <ul style="list-style-type: none"> <li>• Complete work in the stipulated time.</li> <li>• Prioritize the task.</li> </ul>	4 hour theory  2 hour practical	Multimedia CD's	Class room / workshop
2. Organizational behavior	At the end of this sub unit the trainee will have skills and knowledge required for effective communication with colleagues.	<p><b>Knowledge of:</b></p> <ul style="list-style-type: none"> <li>• Organization rules regarding communication.</li> <li>• Effective communication skills</li> <li>• Workplace and profession related vocabulary.</li> </ul> <p><b>Ability to:</b></p> <ul style="list-style-type: none"> <li>• Communicate in Urdu, English and local</li> </ul>	6 hour theory  2 hour practical		

		<p>language.</p> <ul style="list-style-type: none"> <li>• Work in a team</li> <li>• Display positive attitude towards colleagues for promoting team spirit.</li> </ul>			
3. Consult with experts	This sub unit covers the skills, knowledge and effective communication with team members and management experts.	<p><b>Knowledge of:</b></p> <ul style="list-style-type: none"> <li>• Workplace and profession related vocabulary</li> <li>• Interpreting and following work process implementation.</li> <li>• Listen/ receive information from clients/ experts/ management.</li> </ul> <p>Ability to:</p> <ul style="list-style-type: none"> <li>• Use related technical vocabulary</li> <li>• Handle complaints politely and properly.</li> <li>• Communicate with experts in a professional manner.</li> </ul>	6 hour theory 2 hour practical		
4. Participate in skill enhancement training and competitions.	The subunit deals with the skills and knowledge required for important skill test /	<p><b>Knowledge of:</b></p> <ul style="list-style-type: none"> <li>• Importance of development of professionalism</li> </ul>	4 hour theory 2 hour practical		

	competition	<ul style="list-style-type: none"> <li>Efficient skill test/competition.</li> </ul> <p>Ability to:</p> <ul style="list-style-type: none"> <li>Demonstrate skills efficiently</li> <li>Compete effectively for personal development.</li> </ul>			
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## 6.Assessment

### Module 1: Perform Stenciling

Learning Units	Theory Days/hours	Workplace Days/hours	Recommended formative assessment	Recommended Methodology	Scheduled Dates
1. Introduction to “Stencil Printing”	30 minutes		Introduce the textile printing process. Importance to have knowledge and skill related to textile printing.	Objective type test	
2.Colour theory	30 Minutes		To demonstrate competence knowledge and skill about basic colour theory.	Objective type Test	
3.Make a colour wheel		1 hour	To demonstrate competence, knowledge and skill about how to make a colour wheel using basic poster paint colors.	Practical Test	

4. Draw and set the repeat of the design		1 hour	Draw the design and set its repeat	Practical test	
5. Draw/trace and cut design on stencil sheet		1 hour	To demonstrate the knowledge and skill about how to develop the stencil and apply the different techniques.	Practical test	
6. Techniques use for different colour mediums		1 hour	To demonstrate the knowledge and skill about how to develop the stencil and apply the different techniques of colour mediums	Practical test	
7. Health and Safety	30 minutes			Objective type	

## Module 2: Perform Batik Printing

Learning Units	Theory Days/hours	Workplace Days/hours	Recommended formative assessment	Recommended Methodology	Scheduled Dates
1. Introduction to "Batik Printing"	30 minutes		Introduce the process of Batik, and its importance; to have knowledge and skill related to textile printing.	Objective type test	
2. Make Wax and its application		2 hours	Demonstrate the knowledge and skill about how to develop the wax and to apply it on design surface.	Practical test	
3. To make cold dye		30 minutes	To demonstrate the knowledge and skill about how to develop the cold dye.	Practical test	



4. Dip and Dry		30 minutes	To demonstrate the knowledge and skill of right way to dye and dry the design surface.	Practical test	
5. Removal of wax		1 hour	Demonstrate the knowledge and skill to remove the wax from design fabric using heat through iron.	Practical test	

### Module 3: Perform Block Printing

<b>Learning Units</b>	<b>Theory Days/hours</b>	<b>Workplace Days/hours</b>	<b>Recommended formative assessment</b>	<b>Recommended Methodology</b>	<b>Scheduled Dates</b>
1.Introduction to "Block Printing"	30 minutes		Introduce the process of Block printing, and its importance to have knowledge and skill related to textile printing.	Objective type test	
2.Make design Block		1 hour and 30 minutes	To demonstrate the process to develop the design block using potato or wood and to use and handle the proper tools to make design block.	Practical test	
3.Make colour paste		1 hour	To demonstrate the knowledge and skill of how to make colour paste for the process of block printing technique	Practical test	
4.Dip Block in colour		20 minutes	Use block and dip for right quantity of colour	Practical test	
5. Apply Block on Fabric		30 minutes	Accurate application of colour on fabric with block	Practical test	

6.Dry and fix		30 minutes	Use appropriate way to dry the design surface and cure it for final presentation	Demonstration	
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#### Module 4: Perform Screen Printing

Learning Units	Theory Days/hours	Workplace Days/hours	Recommended formative assessment	Recommended Methodology	Scheduled Dates
1. Introduction to "Screen printing"	30 minutes	30 minutes	Introduce the process of screen printing, and its importance; to have knowledge and skill related to textile printing.	Objective type test	
2 .Make Wooden screen		1 hour	Apply to follow the size of design and make screen according to that.	Demonstration	
3. Expose Design		1 hour	Expose design using a dark room facility to fulfill the requirements.	Demonstration	
4. Make gum and Paste		1 hour	Make right colour gum to apply on screen to develop the design on fabric.	Demonstration	
5. Dry and Fixation		1 hour	Dry the printed fabric and apply processes to fix colour	Practical test	

#### Module 5: Peform Heat Transfer Printing

Learning Units	Theory Days/hours	Workplace Days/hours	Recommended formative assessment	Recommended Methodology	Scheduled Dates
1. Introduction	30 minutes		Demonstrate procedure and	Objective type test	

to “Heat transfer printing”			method of heat transfer printing, and equipments, tools and materials required for this process.		
2. Apply Design on Fabric		1 hour	Select correct transfer sheet and printer.  Operate computer aided software to get a print of design on sheet and transfer it on the fabric.	Practical test	
3. Apply Heat (ironing)		1 hour	Use iron to transfer the design and the fabric from the sheet	Practical test	

#### Module 6: Perform Rotary Printing

Learning Units	Theory Days/hours	Workplace Days/hours	Recommended formative assessment	Recommended Methodology	Scheduled Dates
1. Introduction to “Rotary Printing”	30 minutes		Basic and principle Knowledge of rotary printing, its set-up process, and terminologies	Objective type test	
2. CAD CAM		1 hour	Demonstrate to operate CAD CAM software  Ability to make design using CAD CAM software, scan the design while observing safety precautions with computer operating system.	Practical test	

3. Do colour separation		1 hour	Carry out colour separation process using CAD CAM software	Practical test	
4. Apply engraving		2 hours	Engrave the design on nickel screen with careful selection of tools and equipment	Practical test	
5. Exposing		2 hour	Expose the design on roller screen, observing health and safety measures	Practical test	
6. Develop the screen		1 hour	Demonstrate the process of developing screens with plain water	Practical test	
7. Apply curing		1 hour	Cure the roller screens with chemical fixation observing safety measures	Oral and identification test Practical test	
8. Endering		1 hour	Demonstrate endering by placing nickel roller on the screen observing safety precautions	Practical test	
9. Final design inspection		30 minutes	Inspect the design in the form of nickel roller screen		
10. Operate the machine		30 minutes	Follow the procedures while operating rotary machines and observe safety precautions		

**Module 7: Perform Flatbed / Panel Printing**

<b>Learning Units</b>	<b>Theory Days/hours</b>	<b>Workplace Days/hours</b>	<b>Recommended formative assessment</b>	<b>Recommended Methodology</b>	<b>Scheduled Dates</b>
1. Make screens	30 minutes	1 hour	Introduction to flat bed screen printing and making flatbed screens according to the design	Objective type test  Demonstration	
2. Apply colour on screens		30 minutes	Procedure to apply colour on fabric manually.	Practical test	
3. Operate the machine		30 minutes	Operate the machine as per given instructions, and follow safety measures.	Practical test	

### Module 8: Perform Digital Printing

<b>Learning Units</b>	<b>Theory Days/hours</b>	<b>Workplace Days/hours</b>	<b>Recommended formative assessment</b>	<b>Recommended Methodology</b>	<b>Scheduled Dates</b>
1. Load/ Fix the fabric on digital printer	30 minutes	30 minutes	Demonstrate the concept of CMYK printing and loading fabric on digital printer accurately.	Objective type test  Practical test	
2. Select the design and print		1 hour	Demonstrate the use of CAD software to select the design and print it on fabric using digital printer.	Practical test	

### Module 9: Adopt safety precautions

Learning Units	Theory Days/hours	Workplace Days/hours	Recommended formative assessment	Recommended Methodology	Scheduled Dates
1. Observe personal safety	1 hour	1 hour	Apply and follow safety precautions while using various given tools for different techniques of printing.	Direct observation Practical Demonstration Tutorials for safety measures	
2. Observe workplace safety	30 minutes	30 minutes	Follow the Safety Precautions at workplace	Direct observation Practical Demonstration Tutorials for safety measures	
3. Observe safety measures for using equipment	1 hour	1 hour	Follow safety precautions using different tools, equipment and machinery	Direct observation Practical Demonstration Tutorials for safety measures	

### Module 10: Develop professionalism

Learning Units	Theory Days/hours	Workplace Days/hours	Recommended formative assessment	Recommended Methodology	Scheduled Dates
1. Participate in training	1 hours		Develop understating while managing time at workplace, meeting deadlines, and prioritize of	Direct observation test	

			work.		
2. Organizational behavior	1 hours		Effective communication with team members, management, experts and customers	Direct observation test	
3. Consult with experts	1 hours		Effectively communicate and consult management and supervisors	Direct observation test	
4. Participate in skill enhancement training and competitions.	2 hours		Application of personal training and efficient approach while completing the tasks in hand.	Direct observation test	

### Supportive notes

- Assessment context
- Critical aspects
- Assessment condition
- Resources required for assessment

### 5. List of Tools, Machinery & Equipment

<b>Name of Trade</b>	<b>Textile Printer</b>
<b>Duration</b>	<b>6 months + 3 months Industrial training</b>

<b>Sr. No.</b>	<b>Name of Item/ Equipment / Tools</b>	<b>Qty.</b>
1.	Paper Cutter	
2.	Glass	
3.	Scissors	

4.	Cjenting tools	
5.	Stove	
6.	Squeegee	
7.	Stirrer	
8.	Weighing balance	
9.	Iron	
10.	Carving tools	
11.	Color index reference	
12.	Printing table	
13.	Hot electric dryer	
14.	hammer	
15.	Exposing table	
16.	Scraper	
17.	Computer	
18.	Inkjet printer	
19.	Brushes	
20.	Color Palette	
21.	Apron	
22.	Gloves	
23.	Ear plugs	

## 6. List of Consumable Supplies

Sr. No.	Name of Consumable Supplies
1.	Brushes
2.	Wooden frames
3.	Gloves
4.	Apron
5.	Flat Brushes
6.	Sponges
7.	Pot / Containers
8.	Jute
9.	Nails
10.	Tracing paper
11.	Masking tape
12.	wood
13.	Pegs/Sticks
14.	Tracing paper



15	Sketch book
16	Eraser
17	Sharpener
18	Pencil