



# Skills for Employment Investment Program (SEIP)

## COMPETENCY STANDARD FOR BASIC TECHNIQUES OF DYEING AND PRINTING *(TEXTILE SECTOR)*

Finance Division, Ministry of Finance  
Government of the People's Republic of Bangladesh

## Table of Contents

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<b>Copyright</b>	<b>3</b>
<b>List of Abbreviations</b>	<b>4</b>
<b>Introduction</b>	<b>5</b>
<b>Overview</b>	<b>6</b>
<b>Approval Sheet</b>	<b>7</b>
<b>Course Structure</b>	<b>11</b>
<b>Competency Chart</b>	<b>12</b>
<b>Units and Elements Table</b>	<b>15</b>
<b>The Generic Units</b>	<b>18</b>
Use basic mathematical concepts	18
Apply occupational health and safety (OHS) practice in the workplace	21
Carry out workplace interaction	24
Operate in a team environment	27
Apply basic IT skills	30
<b>The Sector-specific Units</b>	<b>33</b>
Explore the history of Textile Sector	33
Use hand and power tools	37
Read and interpret sketches and drawings	41
<b>The Occupation-specific Units</b>	<b>44</b>
Perform pre-treatment operation	44
Perform dyeing operation	49
Perform printing operation	53
Perform finishing operation	57

## Copyright

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The Competency Standard for Basic Techniques of Dyeing and Printing is a document for the development of curricula, teaching and learning materials, and assessment tools. It also serves as the document for providing training consistent with the requirements of industry in order for individuals who graduated through the established standard via competency-based assessment to be suitably qualified for a relevant job.

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## List of Abbreviations

<b>General</b>	
BMET	Bureau of Manpower Employment and Training
B-SEP	Bangladesh Skills for Employment and Productivity
BTEB	Bangladesh Technical Education Board
DTE	Directorate of Technical Education
ILO	International Labor Organization
ISC	Industry Skills Council
NPVC	National Pre-Vocation Certificate
NTVQF	National Technical and Vocational Qualifications Framework
PPP	Public Private Partnership
SCDC	Standards and Curriculum Development Committee
SEIP	Skills for Employment Investment Program
TVET	Technical Vocational Education and Training
UoC	Unit of Competency
<b>Occupation Specific</b>	
OHS	Occupational health and safety
PPE	Personal protective equipment
SOP	Standard operating procedure

## Introduction

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The Skills for Employment Investment Program (SEIP) Project of the Finance Division of the Ministry of Finance has embarked on a project which aims to qualitatively and quantitatively expand the skilling capacity of identified public and private training providers by establishing and operationalising a responsive skill ecosystem and delivery mechanism through a combination of well-defined set of funding triggers and targeted capacity support.

Among the many components of the project, one is to promote a Market Responsive Inclusive Skills Training Delivery programme. Key priority economic growth sectors identified by the government have been targeted by the project to improve current job skills along with up-skilling of the existing workforce to ensure 'required skills to industry standards'. Training providers are encouraged and supported to work with industry to address identified skills and knowledge to enable industry growth and increased employment through the provision of market responsive inclusive skills training programmes. Priority sectors were identified to adopt a demand driven approach to training with effective inputs from Industry Skills Councils (ISC's), employer associations and employers.

This document is developed to improve skills and knowledge in accordance with the job roles, duties and tasks of the occupation and ensure that the required skills and knowledge are aligned to industry requirements.

The document also details the format, sequencing, wording and layout of the Competency Standard for an occupation which is comprised of Units of Competence and its corresponding Elements.

## Overview

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A **competency standard** is a written specification of the knowledge, skills and attitudes required for the performance of an occupation, trade or job corresponding to the industry standard of performance required in the workplace.

The purpose of a competency standards is to:

- provide a consistent and reliable set of components for training, recognising and assessing people's skills, and may also have optional support materials
- enable industry recognised qualifications to be awarded through direct assessment of workplace competencies
- encourage the development and delivery of flexible training which suits individual and industry requirements
- encourage learning and assessment in a work-related environment which leads to verifiable workplace outcomes

Competency standards are developed by a working group comprised of national and international subject-matter experts, SEIP, BTEB, ISC, and industry experts to identify the competencies required of an occupation in a particular sector.

Competency standards describe the skills, knowledge and attitude needed to perform effectively in the workplace. Competency standards acknowledge that people can achieve technical and vocational competency in many ways by emphasising what the learner can do, not how or where they learned to do it.

With competency standards, training and assessment may be conducted at the workplace or at training institute or any combination of these.

Competency standards consist of a number of units of competency. A unit of competency describes a distinct work activity that would normally be undertaken by one person in accordance with industry standards.

Units of competency are documented in a standard format that comprises of:

- unit title
- nominal duration
- unit code
- unit descriptor
- elements and performance criteria
- variables and range statement
- curricular content guide
- assessment evidence guide

Together, all the parts of a unit of competency:

- describe a work activity
- guide the assessor to determine whether the candidate is competent or not yet competent

## Approval Sheet

Identification and validation of units of competency and elements for this occupation were made by experts within this sector. A series of meetings were held to accurately capture industry and employer needs and expectations, and develop the competency framework that would help to enhance the employability of the youth trained. This process started on 1 June 2018 and concluded with a validation workshop with working group on 7 August 2018.

### Experts Involved

Industry and subject-matter experts who provided their valuable inputs to develop this competency standard (June - August 2018).

Name	Organisation	Designation
Engr. Mozaffar Hossain	SIM Group	Managing Director
Mr. Masud Rana	Asia Composite Mills Limited	Managing Director
Mr. Abu Rayhan Albeeroone	BTMA-SEIP	Chief Coordinator
Md. Khairul Islam Khan	Noman Weaving Mills Limited	Executive Director
Md. Jahidul Islam	Noman Weaving Mills Limited	Production Manager - Weaving
Fakrul Alam	Noman Terry Towel Mills Limited	Manager - Merchandising
Md. Alamgir Hossain	Noman Terry Towel Mills Limited	Assistant General Manager - Yarn Dyeing
Md. Abdur Rouf Khan	Noman Terry Towel Mills Limited	General Manager - Planning and Operation
Md. Shazzadul Islam	Noman Terry Towel Mills Limited	Manager - Planning and Operation
Md. Nizam Uddin	Noman Home Textile Mills Limited	Deputy General Manager
Shilpi Akter	British Council - SD03	National Subject Matter Consultant - Textile Sector

### Development Workshop

Working group formation and competency standard development workshop participants [held on 25 July 2018]:

Name	Organisation	Designation
Mr. Abu Rayhan Albeeroone	BTMA-SEIP	Chief Coordinator
Dr. Md. Shah Alam Majumder	BTEB	Specialist (Course Accreditation)

Name	Organisation	Designation
Md. Arshad Ali	Hossain Dyeing & Printing Limited	Senior Manager - Production
Fakhrul Alam	Noman Terry Towel Mills Limited	Manager - Yarn Dyeing
Md. Yusuf Mollah	SIM fabrics Ltd.	Assistant Manager
Md. Mahabub Hasan	NITER	Assistant Professor
Syed Nasir Ershad	SEIP	AEPD (Public1)
Md. Ahsan Habib	SEIP	TVET Specialist
Mr Mohiuzzaman	SEIP	Course Specialist
David King	British Council - SD03	Team Leader
Shilpi Akter	British Council - SD03	National Subject Matter Consultant - Textile Sector

### Validation Workshop

Competency standard validation workshop participants [held on 7 August 2018]:

Name	Organisation	Designation
Mr. Abu Rayhan Albeeroone	BTMA-SEIP	Chief Coordinator
Md. Shazzadul Islam	Noman Terry Towel Mills Limited	Manager
Mir Azharul Islam	Hamid Fabrics Limited	Chief Operating Officer
Fakhrul Alam	Noman Terry Towel Mills Limited	Manager
Md. Yusuf Mollah	Sim Fabrics Limited	Assistant Manager
Md. Samiul Hoque Biswas	Hossain Dyeing and Printing Limited	Deputy General manager
Md. Abdur Razzaque	BTEB-SEIP	Specialist -1 (Course Accreditation)
Syed Nasir Ershad	SEIP	AEPD (Public 1)
Md. Ahsan Habib	SEIP	TVET Specialist
Mr Mohiuzzaman	SEIP	Course Specialist
David King	British Council - SD03	Team Leader
Shilpi Akter	British Council - SD03	National Subject Matter Consultant - Textile Sector



The ensuing sections of this document comprise of a description of the relevant occupation, trade or job with all the key components of a unit of competency, including:

- a chart with an overview of all Units of Competency for the relevant occupation, trade or job including the Unit Codes and the Unit of Competency titles and corresponding Elements
- the Competency Standard that includes the Unit of Competency, Unit Descriptor, Elements and Performance Criteria, Range of Variables, Curricular Content Guide and Assessment Evidence Guide

**Committee Workshop**

The National competency standards for National Skills Certificate in Basic Techniques of Dyeing and Printing, **NTVQF Level [INSERT LEVEL]** qualification is a document developed by the Skill for Employment Investment Programme (SEIP), Finance Division, Ministry of Finance. This standard has been developed by an industry expert group under guidance of SEIP. The standard was approved by the SCDC **[BTEB to insert date]** at NTVQF Cell, BTEB.

**Respectable members of the SCDC:**

Basic Techniques of Dyeing and Printing - Level <b>[INSERT LEVEL]</b>		

## Course Structure

SL	Unit Code and Title		Level	Nominal Duration (Hours)
<b>Generic Competencies (5 units of competency required)</b>				
1	SEIP-TEX-BDP-01-G	Use basic mathematical concepts		8
2	SEIP-TEX-BDP-02-G	Apply occupational health and safety (OHS) practice in the work place		8
3	SEIP-TEX-BDP-03-G	Carry out workplace interaction		8
4	SEIP-TEX-BDP-04-G	Operate in a team environment		8
5	SEIP-TEX-BDP-05-G	Apply basic IT skills		8
<b>Sub-Total</b>				<b>40</b>
<b>Sector-specific Competencies (3 units of competency required)</b>				
1	SEIP-TEX-BDP-01-S	Explore the history of textile sector		8
2	SEIP-TEX-BDP-02-S	Use hand and power tools		8
3	SEIP-TEX-BDP-03-S	Read and interpret sketches and drawings		8
<b>Sub-Total</b>				<b>24</b>
<b>Occupation-specific Competencies (4 units of competency required)</b>				
1	SEIP-TEX-BDP-01-O	Perform pre-treatment operation		64
2	SEIP-TEX-BDP-02-O	Perform dyeing operation		88
3	SEIP-TEX-BDP-03-O	Perform printing operation		80
4	SEIP-TEX-BDP-04-O	Perform finishing operation		64
<b>Sub-Total</b>				<b>296</b>
<b>Total Nominal Learning Hours</b>				<b>360</b>

## Competency Chart

Units of Competency	Elements		
Use basic mathematical concepts SEIP-TEX-BDP-01-G	Identify calculation requirements in the workplace	Select appropriate mathematical methods/concepts for the calculation	Use tools and instruments to perform calculations
	Apply occupational health and safety (OHS) practice in the work place SEIP-TEX-BDP-02-G	Identify OHS policies and procedures	Apply personal health and safety practices
Respond to emergencies			
Carry out workplace interaction SEIP-TEX-BDP-03-G	Interpret workplace communication and etiquette	Read and understand workplace documents	Participate in workplace meetings and discussions
	Practice professional ethics at work		
Operate in a team environment SEIP-TEX-BDP-04-G	Identify team goals and work processes	Identify own role and responsibilities within team	Communicate and co-operate with team members
	Practice problem solving within the team		
Apply basic IT skills SEIP-TEX-BDP-05-G	Identify and use most commonly used IT tools	Understand use of computer	Work with word processing application
	Work with spreadsheets	Access email and search the internet	

## Sector-specific (Common) Competencies

<p>Explore the history of Textile Sector SEIP-TEX-BDP-01-S</p>	<p>Examine the background of textile sector</p>	<p>Identify main industries within textile sector</p>	<p>Identify fibres, yarns and fabrics</p>
	<p>Identify production process</p>	<p>Identify prime local and export markets</p>	
<p>Use hand and power tools SEIP-TEX-BDP-02-S</p>	<p>Identify and inspect hand and power tools</p>	<p>Use hand tools properly and safely</p>	<p>Operate power tools properly and safely</p>
	<p>Clean and maintain hand and power tools</p>		
<p>Read and interpret sketches and drawings SEIP-TEX-BDP-03-S</p>	<p>Interpret information and specifications</p>	<p>Read and interpret sketches and drawings</p>	

## Occupation-specific (Core) Competencies

Perform pre-treatment operation SEIP-TEX-BDP-01-O	Prepare for work	Operate singeing-desizing machine	Carry out scouring
	Carry out bleaching	Carry out mercerization	Clean and maintain machine
Perform dyeing operation SEIP-TEX-BDP-02-O	Prepare for work	Identify dyeing process	Carry out dyeing
	Clean and maintain machine		
Perform printing operation SEIP-TEX-BDP-03-O	Prepare for work	Identify printing process	Carry out printing
	Carry out dye fixation	Clean and maintain machine	
Perform finishing operation SEIP-TEX-BDP-04-O	Prepare for work	Identify finishing process	Carry out finishing
	Clean and maintain machine		

## Units and Elements Table

### Generic – Compulsory (5 units of competency required)

Code	Unit of Competency	Elements of Competency	Duration (hours)
SEIP-TEX-BDP-01-G	Use basic mathematical concepts	<ol style="list-style-type: none"> <li>1. Identify calculation requirements in the workplace.</li> <li>2. Select appropriate mathematical methods/concepts for the calculation.</li> <li>3. Use tools and instruments to perform calculations.</li> </ol>	8
SEIP-TEX-BDP-02-G	Apply occupational health and safety (OHS) practice in the workplace	<ol style="list-style-type: none"> <li>1. Identify OHS policies and procedures.</li> <li>2. Apply personal health and safety practices.</li> <li>3. Report hazards and risks.</li> <li>4. Respond to emergencies.</li> </ol>	8
SEIP-TEX-BDP-03-G	Carry out workplace interaction	<ol style="list-style-type: none"> <li>1. Interpret workplace communication and etiquette.</li> <li>2. Read and understand workplace documents.</li> <li>3. Participate in workplace meetings and discussions.</li> <li>4. Practice professional ethics at work.</li> </ol>	8
SEIP-TEX-BDP-04-G	Operate in a team environment	<ol style="list-style-type: none"> <li>1. Identify team goals and work processes.</li> <li>2. Identify own role and responsibilities within team.</li> <li>3. Communicate and co-operate with team members.</li> <li>4. Practice problem solving within the team.</li> </ol>	8
SEIP-TEX-BDP-05-G	Apply basic IT skills	<ol style="list-style-type: none"> <li>1. Identify and use most commonly used IT tools.</li> <li>2. Understand use of computer.</li> <li>3. Work with word processing application.</li> <li>4. Work with spreadsheets.</li> <li>5. Access email and search the internet.</li> </ol>	8
<b>Total Hours</b>			<b>40</b>

### Sector-specific – Compulsory (3 units of competency required)

Code	Unit of Competency	Elements of Competency	Duration (hours)
SEIP-TEX-BDP-01-S	Explore the background of Textile Sector	<ol style="list-style-type: none"> <li>1. Examine the background of textile sector.</li> <li>2. Identify main industries within textile sector.</li> <li>3. Identify fibres, yarns and fabrics.</li> <li>4. Identify production process.</li> <li>5. Identify prime local and export markets.</li> </ol>	8
SEIP-TEX-BDP-02-S	Use hand and power tools	<ol style="list-style-type: none"> <li>1. Identify and inspect hand and power tools.</li> <li>2. Use hand tools properly and safely.</li> <li>3. Operate power tools properly and safely.</li> <li>4. Clean and maintain hand and power tools.</li> </ol>	8
SEIP-TEX-BDP-03-S	Read and interpret sketches and drawings	<ol style="list-style-type: none"> <li>1. Interpret information and specifications.</li> <li>2. Read and interpret sketches and drawings.</li> </ol>	8
<b>Total Hours</b>			<b>24</b>



### Occupation-specific – Compulsory (4 units of competency required)

Code	Unit of Competency	Elements of Competency	Duration (hours)
SEIP-TEX-BDP-01-O	Perform pre-treatment operation	<ol style="list-style-type: none"> <li>1. Prepare for work.</li> <li>2. Operating singeing-desizing machine.</li> <li>3. Carry out scouring.</li> <li>4. Carry out bleaching.</li> <li>5. Carry out mercerization</li> <li>6. Clean and maintain machine.</li> </ol>	64
SEIP-TEX-BDP-02-O	Perform dyeing operation	<ol style="list-style-type: none"> <li>1. Prepare for work.</li> <li>2. Identify dyeing process.</li> <li>3. Carry out dyeing.</li> <li>4. Clean and maintain machine.</li> </ol>	88
SEIP-TEX-BDP-03-O	Perform printing operation	<ol style="list-style-type: none"> <li>1. Prepare for work.</li> <li>2. Identify printing process.</li> <li>3. Carry out printing.</li> <li>4. Carry out dye fixation</li> <li>5. Clean and maintain machine.</li> </ol>	80
SEIP-TEX-BDP-04-O	Perform finishing operation	<ol style="list-style-type: none"> <li>1. Prepare for work.</li> <li>2. Identify finishing process.</li> <li>3. Carry out finishing.</li> <li>4. Clean and maintain machine.</li> </ol>	64
<b>Total Hours</b>			<b>296</b>

## Generic Competencies

<b>Unit Title:</b>	Use basic mathematical concepts
<b>Unit Code:</b>	SEIP-TEX-BDP-01-G
<b>Nominal Hours:</b>	8 hours
<b>Unit Descriptor:</b>	This unit covers the skills, knowledge and attitudes required to perform computations using basic mathematical concepts at workplace. It specifically includes identifying general calculation requirements, selecting appropriate mathematical method/concept, and forming and solving mathematical problems in the workplace using appropriate tools and instruments.
<b>Elements of Competency</b>	<b>Performance Criteria</b> ( <b><u>bold and underlined</u></b> terms are elaborated in the Range of Variables)
1. Identify calculation requirements in the workplace	1.1. <b><u>Calculation requirements</u></b> are identified from <b><u>workplace information</u></b> . 1.2. Mathematical problems are constructed from workplace information.
2. Select appropriate mathematical methods/concepts for the calculation.	2.1. <b><u>Appropriate method</u></b> is selected to carry-out calculation requirements. 2.2. Constructed mathematical problems are solved with appropriate method.
3. Use tools and instruments to perform calculations	3.1. Tools and instruments required for computation are identified. 3.2. Calculation is performed using appropriate tools and instruments accurately.

Range of Variables	
Variable	Range ( <i>may include but not limited to</i> )
1. Calculations requirements	1.1. Unit 1.2. Area 1.3. Height/ length/ breadth/ thickness 1.4. Diameter 1.5. Weight/density 1.6. Capacity 1.7. Time 1.8. Temperature 1.9. Material/data usage 1.10. Speed 1.11. Costing

Range of Variables	
Variable	Range ( <i>may include but not limited to</i> )
2. Workplace information	2.1. Floor environment 2.2. Design sheet 2.3. Specification sheet 2.4. Working chart/drawing 2.5. Standard operating procedure (SOP) 2.6. Job order
3. Appropriate method	3.1. Addition 3.2. Subtraction 3.3. Division 3.4. Multiplication 3.5. Conversion 3.6. Percentage and ratio calculation 3.7. Simple equation
4. Tools and instruments	4.1. Calculator 4.2. Cell phone 4.3. Computer 4.4. Ruler

Evidence Guide	
The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.	
1. Critical aspects of competency	Assessment must evidence that the candidate: <ol style="list-style-type: none"> <li>1.1. Identified calculation requirements from workplace information</li> <li>1.2. Selected appropriate method to carry out the calculation requirements</li> <li>1.3. Completed calculations using appropriate tools/instruments</li> </ol>
2. Underpinning knowledge	<ol style="list-style-type: none"> <li>2.1. Numerical concepts</li> <li>2.2. Basic mathematical methods such as addition, subtraction, multiplication and division and percentage</li> <li>2.3. Mathematical language, symbols and terminology</li> <li>2.4. Measuring units</li> </ol>
3. Underpinning skills	<ol style="list-style-type: none"> <li>3.1. Construct simple problems with workplace information</li> <li>3.2. Solve problems using appropriate method and instruments</li> <li>3.3. Use appropriate tools and instruments.</li> </ol>

### Evidence Guide

The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.

<b>4. Underpinning attitudes</b>	<b>4.1.</b> Prompt in carrying out activities <b>4.2.</b> Tidy and punctual <b>4.3.</b> Respectful of peers, subordinates and seniors in the workplace <b>4.4.</b> Safely use tools and equipment <b>4.5.</b> Sincere and honest concerning duties
<b>5. Resource implications</b>	The following resources must be provided: <b>5.1.</b> Work place ( simulated or actual) <b>5.2.</b> Calculator <b>5.3.</b> Cell phone <b>5.4.</b> Computer/laptop/notebook <b>5.5.</b> Measuring tape <b>5.6.</b> Ruler <b>5.7.</b> Projector <b>5.8.</b> Stationary <b>5.9.</b> Learning manual
<b>6. Methods of assessment</b>	Methods of assessment may include but is not limited to: <b>6.1.</b> Written test <b>6.2.</b> Oral test <b>6.3.</b> Observation <b>6.4.</b> Demonstration <b>6.5.</b> Portfolio
<b>7. Context of assessment</b>	<b>7.1.</b> Competency assessment must be done in a training institute or an actual or simulated workplace after completion of this unit of competency. <b>7.2.</b> Assessment must be done by a suitably qualified/certified assessor.

### Accreditation Requirements

Training Providers must be accredited by Bangladesh Technical Education Board (BTEB), the National Quality Assurance Body, or a body with delegated authority for quality assurance to conduct training and assessment against this unit of competency for credit towards the award of any NTVQF qualification. Accredited providers assessing against this unit of competency must meet the quality assurance requirements set by BTEB.

<b>Unit Title:</b>	Apply occupational health and safety (OHS) practice in the workplace
<b>Unit Code:</b>	SEIP-TEX-BDP-02-G
<b>Nominal Hours:</b>	8 hours
<b>Unit Descriptor:</b>	This unit covers the skills, knowledge and attitudes required to apply occupational health and safety (OHS) practices in the workplace. It specifically includes identifying OHS policies and procedures, applying personal health and safety practices, reporting hazards and risks, and responding to emergencies.
<b>Elements of Competency</b>	<b>Performance Criteria</b> ( <b><u>bold and underlined</u></b> terms are elaborated in the Range of Variables)
1. Identify OHS policies and procedures	<p>1.1. <b><u>OHS policies</u></b> and safe operating procedures are interpreted.</p> <p>1.2. Safety signs and symbols are identified and followed.</p> <p>1.3. Response, evacuation procedures and other contingency measures are interpreted correctly.</p>
2. Apply personal health and safety practices	<p>2.1. OHS policies and procedures are applied in the workplace including <b><u>personal protective equipment (PPE)</u></b>.</p> <p>2.2. Common health issues are recognised.</p> <p>2.3. Common safety issues are identified.</p>
3. Report hazards and risks	<p>3.1. Hazards and risks are identified.</p> <p>3.2. Hazards and risks assessment and controls are interpreted.</p>
4. Respond to emergencies	<p>4.1. Respond to alarms and warning devices.</p> <p>4.2. <b><u>Emergency response plans and procedures</u></b> are responded to.</p> <p>4.3. <b><u>First aid procedures</u></b> during emergency situations are identified.</p>

<b>Range of Variables</b>	
<b>Variable</b>	<b>Range</b> ( <i>may include but not limited to</i> )
1. OHS policies	<p>1.1. Organisational OHS polices</p> <p>1.2. International OHS requirements</p> <p>1.3. Fire safety rules and regulations</p>
2. Emergency response plans and procedures	<p>2.1. Firefighting procedures</p> <p>2.2. Earthquake response procedures</p> <p>2.3. Emergency response plans and procedures</p> <p>2.4. Medical and first aid</p>

Range of Variables	
Variable	Range ( <i>may include but not limited to</i> )
3. First aid procedure	3.1. Washing of open wound 3.2. Washing chemically infected area 3.3. Applying bandage 3.4. Taking appropriate medicine
4. Personal protective equipment	4.1. Safety glasses 4.2. Ear plugs 4.3. Gloves 4.4. Apron 4.5. Helmet 4.6. Mask 4.7. Safety shoes

Evidence Guide	
The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.	
1. Critical aspects of competency	Assessment must evidence that the candidate: <ol style="list-style-type: none"> <li>1.1. Identified OHS policies and procedures</li> <li>1.2. Applied personal health and safety practices (including PPE)</li> <li>1.3. Reported hazards and risks</li> <li>1.4. Responded to emergencies</li> </ol>
2. Underpinning knowledge	<ol style="list-style-type: none"> <li>2.1. Workplace OHS policies and procedures</li> <li>2.2. Work safety procedures</li> <li>2.3. Emergency response procedures:               <ol style="list-style-type: none"> <li>2.3.1. Firefighting</li> <li>2.3.2. Earthquake response</li> <li>2.3.3. Accident response</li> </ol> </li> <li>2.4. Types of hazards (biological, chemical and physical) and their effects</li> <li>2.5. OHS awareness</li> <li>2.6. Personal protective equipment (PPE)</li> </ol>
3. Underpinning skills	<ol style="list-style-type: none"> <li>3.1. Identifying OHS policies and procedures</li> <li>3.2. Applying personal health and safety practices</li> <li>3.3. Reporting hazards and risks</li> <li>3.4. Responding to emergencies</li> </ol>

## Evidence Guide

The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.

4. Underpinning attitudes	<ul style="list-style-type: none"><li>4.1. Committed to occupational health and safety practices</li><li>4.2. Communicates well with peers, subordinates and seniors in workplace</li><li>4.3. Prompt in carrying out activities</li><li>4.4. Tidy and punctual</li><li>4.5. Sincere and honest concerning duties</li><li>4.6. Responsible during emergencies</li></ul>
5. Resource implications	<p>The following resources must be provided:</p> <ul style="list-style-type: none"><li>5.1. Workplace (simulated or actual)</li><li>5.2. Personal protective equipment (PPE)</li><li>5.3. Firefighting equipment</li><li>5.4. Emergency response manual</li><li>5.5. First aid kits</li><li>5.6. Projector</li><li>5.7. Stationary</li><li>5.8. Learning manual</li></ul>
6. Methods of assessment	<p>Methods of assessment may include but is not limited to:</p> <ul style="list-style-type: none"><li>6.1. Written test</li><li>6.2. Demonstration</li><li>6.3. Oral test</li><li>6.4. Observation</li><li>6.5. Portfolio</li></ul>
7. Context of assessment	<ul style="list-style-type: none"><li>7.1. Competency assessment must be done in a training institute or an actual or simulated workplace after completion of this unit of competency.</li><li>7.2. Assessment must be done by a suitably qualified/certified assessor.</li></ul>

### Accreditation Requirements

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<b>Unit Title:</b>	Carry out workplace interaction
<b>Unit Code:</b>	SEIP-TEX-BDP-03-G
<b>Nominal Hours:</b>	8 hours
<b>Unit Descriptor:</b>	This unit covers the skills, knowledge and attitudes required to carry out workplace interaction. It specifically includes workplace communication, etiquette, understanding workplace documents, workplace meetings and discussions, and professional ethics at work.
<b>Elements of Competency</b>	<b>Performance Criteria</b> ( <b><u>bold and underlined</u></b> terms are elaborated in the Range of Variables)
1. Interpret workplace communication and etiquette	<p>1.1. Workplace codes of conduct are interpreted as per organisational guidelines.</p> <p>1.2. Appropriate lines of communication are maintained with supervisors and colleagues.</p> <p>1.3. Workplace interactions are conducted in a <b><u>courteous manner</u></b> to gather and convey information.</p> <p>1.4. <b><u>Workplace procedures and matters</u></b> are comprehended.</p>
2. Read and understand workplace documents	<p>2.1. Workplace documents are interpreted correctly.</p> <p>2.2. Visual information/symbols/signage are understood correctly and followed.</p> <p>2.3. Specific and relevant information are accessed from <b><u>appropriate sources</u></b>.</p> <p>2.4. Appropriate medium is used to transfer information and ideas.</p>
3. Participate in workplace meetings and discussions	<p>3.1. Team meetings are attended on time.</p> <p>3.2. Meeting procedures and etiquette are followed.</p> <p>3.3. Active participation is ensured, opinions are expressed and heard.</p> <p>3.4. Inputs are provided and interpreted in line with the meeting purpose.</p>
4. Practice professional ethics at work	<p>4.1. Responsibilities as a team member are performed.</p> <p>4.2. Tasks are performed in accordance with workplace procedures.</p> <p>4.3. Confidentiality is maintained.</p> <p>4.4. Inappropriate and conflicting situations are avoided.</p>



Range of Variables	
Variable	Range (may include but not limited to)
1. Courteous manner	1.1. Effective questioning 1.2. Active listening 1.3. Speaking skills 1.4. Writing skill 1.5. Email etiquette
2. Workplace procedures and matters	2.1. Notes 2.2. Arranging a meeting 2.3. Agenda 2.4. Simple reports such as progress and incident reports 2.5. Job sheets 2.6. Operational manuals 2.7. Brochures and promotional material 2.8. Visual and graphic materials 2.9. Standards 2.10. OHS information 2.11. Signs
3. Appropriate sources	3.1. Human Resources (HR) Department 3.2. Managers 3.3. Supervisors 3.4. Management Information System (MIS)

Evidence Guide	
The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.	
1. Critical aspects of competency	Assessment must evidence that the candidate: <ol style="list-style-type: none"> <li>1.1. Interpreted workplace communication and etiquette</li> <li>1.2. Interpreted workplace instructions and symbols</li> <li>1.3. Performed active participation in workplace meetings</li> </ol>
2. Underpinning knowledge	<ol style="list-style-type: none"> <li>2.1. Workplace communication and etiquette</li> <li>2.2. Workplace documents, signs and symbols</li> <li>2.3. Meeting procedure and etiquette</li> <li>2.4. Professional ethics</li> </ol>
3. Underpinning skills	<ol style="list-style-type: none"> <li>3.1. Demonstrating workplace communication and etiquette</li> <li>3.2. Interpreting workplace instructions and symbols</li> <li>3.3. Demonstrating active participation in workplace meeting</li> <li>3.1. Applying professional ethics at work</li> </ol>

### Evidence Guide

The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.

<b>4. Underpinning attitudes</b>	<b>4.1.</b> Prompt in carrying out activities <b>4.2.</b> Tidy and punctual <b>4.3.</b> Respectful of peers, subordinates and seniors in the workplace <b>4.4.</b> Concerned about the work environment <b>4.5.</b> Sincere and honest concerning duties
<b>5. Resource implications</b>	The following resources must be provided: <b>5.1.</b> Workplace (simulated or actual) <b>5.2.</b> Workplace procedures <b>5.3.</b> Standard operating procedure <b>5.4.</b> Workplace documents, signs and symbols <b>5.5.</b> Codes of conduct <b>5.6.</b> Projector <b>5.7.</b> Stationary <b>5.8.</b> Learning manual
<b>6. Methods of assessment</b>	Methods of assessment may include but is not limited to: <b>6.1.</b> Written test <b>6.2.</b> Demonstration <b>6.3.</b> Oral test <b>6.4.</b> Observation <b>6.5.</b> Portfolio
<b>7. Context of assessment</b>	<b>7.1.</b> Competency assessment must be done in a training institute or an actual or simulated workplace after completion of this unit of competency. <b>7.2.</b> Assessment must be done by a suitably qualified/certified assessor.

### Accreditation Requirements

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<b>Unit Title:</b>	Operate in a team environment
<b>Unit Code:</b>	SEIP-TEX-BTDP-04-G
<b>Nominal Hours:</b>	8 hours
<b>Unit Descriptor:</b>	This unit covers the skills, knowledge and attitudes required to operate in a team environment. It specifically includes team goals and work processes, roles and responsibilities, team communication and problem solving within the team.
<b>Elements of Competency</b>	<b>Performance Criteria</b> ( <b><u>bold and underlined</u></b> terms are elaborated in the Range of Variables)
1. Identify team goals and work processes	<p>1.1. Roles and objectives of the team are identified and interpreted.</p> <p>1.2. Roles and responsibilities of team members are identified and interpreted.</p>
2. Identify own role and responsibilities within team	<p>2.1. Personal role and responsibilities are identified within the team environment.</p> <p>2.2. Reporting relationships are interpreted within team and external to team.</p>
3. Communicate and co-operate with team members	<p>3.1. Other teammates' tasks are identified and support provided when requested.</p> <p>3.2. The team is encouraged through <b><u>sharing information</u></b> or expertise, working together to solve problems, and putting team success first.</p> <p>3.3. Views and opinions of other team members are interpreted and respected.</p>
4. Practice problem solving within the team	<p>4.1. Problems faced at the individual and team level are identified and showed insight into the root-causes of the problems.</p> <p>4.2. A range of solutions and courses of action are identified together with benefits, costs, and risks associated with each.</p> <p>4.3. The good ideas of others to help develop solutions are recognised and advice sought from those who have solved similar problems.</p> <p>4.4. It is looked beyond the obvious and not stopped at the first answers.</p>

Range of Variables	
Variable	Range (may include but not limited to)
1. Sharing information	1.1. Agenda 1.2. Minutes 1.3. Progress and incident reports 1.4. Operational manuals 1.5. Visual and graphic materials 1.6. Emails and SMS 1.7. Phone directory 1.8. Policy, procedure and standards 1.9. OHS information

Evidence Guide	
The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.	
1. Underpinning knowledge	1.1. Team goals and work processes 1.2. Roles and responsibilities 1.3. Finding problems and solving them
2. Underpinning skills	2.1. Identifying own role and responsibilities within team 2.2. Communicating and co-operating with team members 2.3. Demonstrating problem solving within the team
3. Underpinning attitudes	3.1. Active on teamwork 3.2. Prompt in carrying out activities 3.3. Tidy and punctual 3.4. Respectful of peers, subordinates and seniors in the workplace 3.5. Sincere and honest concerning duties
4. Underpinning knowledge	4.1. Team goals and work processes 4.2. Roles and responsibilities 4.3. Finding problems and solving them
5. Resource implications	The following resources must be provided: 5.1. Workplace (simulated or actual) 5.2. Projector 5.3. Stationary 5.4. Learning manual

### Evidence Guide

The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.

#### 6. Methods of assessment

Methods of assessment may include but is not limited to:

- 6.1. Written test
- 6.2. Demonstration
- 6.3. Oral test
- 6.4. Observation
- 6.5. Portfolio

#### 7. Context of assessment

- 7.1. Competency assessment must be done in a training institute or an actual or simulated workplace after completion of this unit of competency.
- 7.2. Assessment must be done by a suitably qualified/certified assessor.

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<b>Unit Title:</b>	Apply basic IT skills
<b>Unit Code:</b>	SEIP-TEX-BTDP-05-G
<b>Nominal Hours:</b>	8 hours
<b>Unit Descriptor:</b>	This unit covers the skills, knowledge and attitudes required to apply basic IT skills in the workplace. It specifically includes identifying common IT tools, using computer, word processing and spreadsheet applications, email and searching on internet.
<b>Elements of Competency</b>	<b>Performance Criteria</b> ( <b><u>bold and underlined</u></b> terms are elaborated in the Range of Variables)
1. Identify and use most commonly used IT tools	1.1. History of information technology (IT) is identified and summarised. 1.2. Commonly used <b><u>IT tools</u></b> are identified and described.
2. Understand use of computer	2.1. Basic parts of a computer are identified. 2.2. Turning on and off technique of a computer is performed. 2.3. Working environment, functions and features of operating system is interpreted. 2.4. Simple trouble-shooting techniques are applied.
3. Work with word processing application	3.1. Word processing application appropriate to perform activity is operated. 3.2. Basic typing technique to document is applied. 3.3. Word processing techniques to document are employed. 3.4. Personal CV writing using suitable word processing techniques is practiced. 3.5. Saving and retrieving technique of a document is used.
4. Work with spreadsheets	4.1. Spreadsheet working environment, functions and features are identified and interpreted. 4.2. Data entry on spreadsheet appropriate to perform activity is performed. 4.3. <b><u>Data manipulation techniques</u></b> to spreadsheet document are applied. 4.4. Spreadsheet document is created and saved.
5. Access email and search the internet	5.1. Use of email account in online environment is explained. 5.2. Writing and sending of workplace emails is completed. 5.3. Different <b><u>browsers</u></b> to work online are identified and selected. 5.4. Browse different web portals and apply proper search techniques.

Range of Variables	
Variable	Range (may include but not limited to)
1. IT tools	1.1. Cell phone 1.2. Tablets 1.3. Computers, laptops, notebooks 1.4. Internet 1.5. Software 1.6. Satellite
2. Data manipulation techniques	2.1. Sum 2.2. Average 2.3. Count 2.4. Max 2.5. Min 2.6. If 2.7. Sort 2.8. Fill 2.9. Header 2.10. Footer Print
3. Browsers	3.1. Internet Explorer 3.2. Firefox 3.3. Google Chrome 3.4. Opera 3.5. Safari 3.6. Omni Web 3.7. Microsoft Edge

Evidence Guide	
The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.	
1. Critical aspects of competency	Assessment must evidence that the candidate: <ol style="list-style-type: none"> <li>1.1. Identified commonly used IT tools</li> <li>1.2. Performed simple trouble-shooting with computer</li> <li>1.3. Performed typing on word processing software, saved and retrieved documents</li> <li>1.4. Performed data entry with spreadsheet</li> <li>1.5. Used email account for different online purposes</li> </ol>
2. Underpinning knowledge	<ol style="list-style-type: none"> <li>2.1. IT and IT tools</li> <li>2.2. Computer trouble-shooting</li> <li>2.3. Techniques to access internet</li> </ol>

### Evidence Guide

The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.

<b>3. Underpinning skills</b>	<b>3.1.</b> Demonstrating simple trouble-shooting with computer <b>3.2.</b> Demonstrating typing on word processing software <b>3.3.</b> Demonstrating data entry with spreadsheet <b>3.4.</b> Opening email account and using it for different purposes
<b>4. Underpinning attitudes</b>	<b>4.1.</b> Active on teamwork <b>4.2.</b> Prompt in carrying out activities <b>4.3.</b> Tidy and punctual <b>4.4.</b> Respectful of peers, subordinates and seniors in the workplace <b>4.5.</b> Sincere and honest concerning duties
<b>5. Resource implications</b>	The following resources must be provided: <b>5.1.</b> Workplace (simulated or actual) <b>5.2.</b> IT tools <b>5.3.</b> Computer/laptop/notebook <b>5.4.</b> Software <b>5.5.</b> Internet <b>5.6.</b> Projector <b>5.7.</b> Stationary <b>5.8.</b> Learning manual
<b>6. Methods of assessment</b>	Methods of assessment may include but is not limited to: <b>6.1.</b> Written test <b>6.2.</b> Demonstration <b>6.3.</b> Oral test <b>6.4.</b> Observation <b>6.5.</b> Portfolio
<b>7. Context of assessment</b>	<b>7.1.</b> Competency assessment must be done in a training institute or an actual or simulated workplace after completion of this unit of competency. <b>7.2.</b> Assessment must be done by a suitably qualified/certified assessor.

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## Sector-specific Competencies

<b>Unit Title:</b>	Explore the history of Textile Sector
<b>Unit Code:</b>	SEIP-TEX-BDP-01-S
<b>Nominal Hours:</b>	8 hours
<b>Unit Descriptor:</b>	This unit covers the skills, knowledge and attitudes required to explore the history of Textile Sector. It specifically includes examining the background and main industries of textile sector, identifying fibres, yarns and fabrics, identifying production process, and identifying prime local and export markets.
<b>Elements of Competency</b>	<b>Performance Criteria</b> ( <b><u>bold and underlined</u></b> terms are elaborated in the Range of Variables)
1. Examine the background of textile sector	1.1. The historical background of textile sector is examined and described. 1.2. <b><u>Steps of textile processing</u></b> are identified.
2. Identify main industries within textile	2.1. <b><u>Main industries</u></b> of the textile sector are identified. 2.2. Importance of textile sector and main industries is explored and analysed.
3. Identify fibres, yarns and fabrics	3.1. Different types of <b><u>fibre, yarn and fabric</u></b> are identified. 3.2. Common types of <b><u>dyes and chemicals</u></b> are identified. 3.3. Various input and output packages are identified.
4. Identify production process	4.1. Production process is identified. 4.2. <b><u>Flow chart of dyeing and printing</u></b> process is described.
5. Identify prime local and export markets	5.1. Prime <b><u>local markets</u></b> and <b><u>export markets</u></b> are identified. 5.2. Local and export markets are listed.

Range of Variables	
Variable	Range ( <i>may include but not limited to</i> )
1. Steps of textile processing	1.1. Spinning 1.2. Weaving 1.3. Knitting 1.4. Dyeing 1.5. Printing
2. Main industries	2.1. Spinning 2.2. Weaving 2.3. Knitting 2.4. Dyeing 2.5. Printing

<b>Range of Variables</b>	
<b>Variable</b>	<b>Range</b> <i>(may include but not limited to)</i>
<b>3. Fibres, yarns and fabrics</b>	<b>3.1. Fibre:</b> <b>3.1.1.</b> Cotton <b>3.1.2.</b> Polyester <b>3.1.3.</b> Nylon <b>3.1.4.</b> Viscose <b>3.1.5.</b> Wool <b>3.2. Yarn:</b> <b>3.2.1.</b> Short staple <b>3.2.2.</b> Long staple <b>3.2.3.</b> Single yarn <b>3.2.4.</b> Ply yarn <b>3.2.5.</b> Slub yarn <b>3.2.6.</b> Monofilament <b>3.2.7.</b> Multifilament <b>3.3. Fabric:</b> <b>3.3.1.</b> Woven <b>3.3.2.</b> Knitted <b>3.3.3.</b> Grey <b>3.3.4.</b> Greige
<b>4. Dyes</b>	<b>4.1. Water soluble dyes:</b> <b>4.1.1.</b> Reactive <b>4.1.2.</b> Direct <b>4.1.3.</b> Acid <b>4.1.4.</b> Basic <b>4.2. Water insoluble dyes:</b> <b>4.2.1.</b> Vat <b>4.2.2.</b> Disperse <b>4.2.3.</b> Sulpher dyes
<b>5. Chemicals</b>	<b>5.1.</b> Caustic soda (NaOH) <b>5.2.</b> Hydrogen per oxide (H <sub>2</sub> O <sub>2</sub> ) <b>5.3.</b> Soap/detergent <b>5.4.</b> Stabiliser <b>5.5.</b> Optical brightener <b>5.6.</b> Wetting agent <b>5.7.</b> Sequestering <b>5.8.</b> Levelling agent <b>5.9.</b> Acetic acid

Range of Variables	
Variable	Range (may include but not limited to)
6. Flow chart of dyeing and printing	6.1. Pre-treatment: <ul style="list-style-type: none"> <li>6.1.1. Singeing</li> <li>6.1.2. Desizing</li> <li>6.1.3. Scouring</li> <li>6.1.4. Bleaching</li> <li>6.1.5. Mercerization</li> </ul> 6.2. Dyeing 6.3. Printing 6.4. Finishing
7. Local markets	7.1. Garments 7.2. Wholesale 7.3. Retail
8. Export markets	8.1. Europe 8.2. United States 8.3. Australia

Evidence Guide	
The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.	
1. Critical aspects of competency	Assessment must evidence that the candidate: <ul style="list-style-type: none"> <li>1.1. Identified the background of textile sector</li> <li>1.2. Identified basic steps of textile processing</li> <li>1.3. Identified fibres, yarns and fabrics</li> <li>1.4. Identified dyes and chemicals</li> <li>1.5. Described flow chart of dyeing and printing</li> </ul>
2. Underpinning knowledge	<ul style="list-style-type: none"> <li>2.1. History of textile sector</li> <li>2.2. Steps of textile processing</li> <li>2.3. Fibres, yarns and fabrics</li> <li>2.4. Dyes and chemicals</li> <li>2.5. Prime local and export markets</li> </ul>
3. Underpinning skills	<ul style="list-style-type: none"> <li>3.1. Describing the history of textile sector</li> <li>3.2. Identifying steps of textile processing</li> <li>3.3. Identifying fibres, yarns and fabrics</li> <li>3.4. Identifying dyes and chemicals</li> <li>3.5. Identifying prime local and export markets</li> </ul>

### Evidence Guide

The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.

<b>4. Underpinning attitudes</b>	<b>4.1.</b> Eager to learn <b>4.2.</b> Patient and attentive <b>4.3.</b> Tidy and punctual <b>4.4.</b> Active on team work <b>4.5.</b> Sincere and honest concerning duties
<b>5. Resource implications</b>	The following resources must be provided: <b>5.1.</b> Workplace (simulated or actual) <b>5.2.</b> Map/globe <b>5.3.</b> Materials (fibres, yarns and fabrics) <b>5.4.</b> Samples (dyes and chemicals) <b>5.5.</b> Production process flow chart <b>5.6.</b> Projector <b>5.7.</b> Stationary <b>5.8.</b> Learning manual
<b>6. Methods of assessment</b>	Methods of assessment may include but is not limited to: <b>6.1.</b> Written test <b>6.2.</b> Oral test <b>6.3.</b> Observation <b>6.4.</b> Demonstration <b>6.5.</b> Portfolio
<b>7. Context of assessment</b>	<b>7.1.</b> Competency assessment must be done in a training institute or an actual or simulated workplace after completion of this unit of competency. <b>7.2.</b> Assessment must be done by a suitably qualified/certified assessor.

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<b>Unit Title:</b>	Use hand and power tools
<b>Unit Code:</b>	SEIP-TEX-BDP-02-S
<b>Nominal Hours:</b>	24 hours
<b>Unit Descriptor:</b>	This unit covers the skills, knowledge and attitudes required to use hand and power tools in the workplace. It specifically includes identifying and inspecting hand and power tools for usability, using and operating tools properly and safely, and cleaning and maintaining hand and power tools after use.
<b>Elements of Competency</b>	<b>Performance Criteria</b> ( <b><u>bold and underlined</u></b> terms are elaborated in the Range of Variables)
1. Identify and inspect hand and power tools	<p>1.1. Appropriate hand and power tools are identified.</p> <p>1.2. Application of hand and power tools is recognised.</p> <p>1.3. Usability of hand and power tools are checked and verified.</p>
2. Use hand tools properly and safely	<p>2.1. Appropriate <b><u>hand tools</u></b> are selected.</p> <p>2.2. Safety precautions are ensured before using hand tools.</p> <p>2.3. Unsafe or faulty hand tools are identified and marked for repair.</p> <p>2.4. <b><u>Measuring tools</u></b> are checked and calibrated before use.</p> <p>2.5. Use hand tools properly and safely to perform work activity.</p>
3. Operate power tools properly and safely	<p>3.1. Appropriate <b><u>power tools</u></b> are selected.</p> <p>3.2. Power supply outlet and electrical cord are inspected and confirmed safe for use in accordance with established workplace safety requirements.</p> <p>3.3. Safety precautions are ensured before using power tools in accordance with manufacturer's operating specification.</p> <p>3.4. Proper sequence of operation applied for using power tools.</p> <p>3.5. Unsafe or faulty power tools are identified and marked for repair.</p> <p>3.6. Operate power tools properly and safely to perform work activity.</p>
4. Clean and maintain hand and power tools	<p>4.1. Dust and foreign matters are removed from hand and power tools in accordance to workplace standards.</p> <p>4.2. Condition of hand and power tools are checked after use and reported.</p> <p>4.3. Appropriate lubricant is applied after use and prior to storage.</p> <p>4.4. Measuring tools are checked and calibrated after use.</p> <p>4.5. Defective hand and power tools are inspected and repaired or replaced.</p> <p>4.6. Hand and power tools are stored and secured in accordance with workplace requirements.</p>

<b>Range of Variables</b>	
<b>Variable</b>	<b>Range</b> <i>(may include but not limited to)</i>
1. Hand tools	1.1. Hacksaw 1.2. Hammer 1.3. Files 1.4. Pliers 1.5. Punches 1.6. Screwdrivers 1.7. Wrench box 1.8. Hand tap 1.9. Wire cutters 1.10. Hand drill 1.11. Hand grinder
2. Power tools	2.1. Portable drilling machine 2.2. Threading machine 2.3. Saws 2.4. Glue gun 2.5. Soldering iron 2.6. Grinders
3. Measuring tools	3.1. Digital pH meter 3.2. Electronic digital scale 3.3. Measuring balance 3.4. Pocket digital scale 3.5. pH test paper 3.6. Salt gravity meter 3.7. Baume meter

<b>Evidence Guide</b>	
The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.	
1. Critical aspects of competency	Assessment must evidence that the candidate: <ol style="list-style-type: none"> <li>1.1. Identified and selected appropriate hand and power tools for work to be performed</li> <li>1.2. Identified and used measuring and testing tools appropriate to work activity</li> <li>1.3. Followed safety precautions when using hand and power tools</li> <li>1.4. Operated power tools safely and pursuant to manufacturer's operating specification</li> <li>1.5. Performed cleaning and maintenance of hand and power tools after use and prior to storing</li> </ol>

**Evidence Guide**

The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.

<b>2. Underpinning knowledge</b>	<b>2.1.</b> Information on types of hand and power tools, their functions and use <b>2.2.</b> Procedures for safely using hand and power tools
<b>3. Underpinning skills</b>	<b>3.1.</b> Identifying hand, power and measuring tools <b>3.2.</b> Following safety precautions when using hand, power and measuring tools <b>3.3.</b> Using hand and measuring tools correctly and safely in accordance with manufacturer's operating specification <b>3.4.</b> Operating power tools correctly and safely in accordance with manufacturer's operating specification <b>3.5.</b> Cleaning and maintaining hand and power tools after use <b>3.6.</b> Applying appropriate lubricant on hand and power tools after use and prior to storing
<b>4. Underpinning attitudes</b>	<b>4.1.</b> Tidy and punctual <b>4.2.</b> Prompt in carrying out activities <b>4.3.</b> Sincere and honest concerning duties <b>4.4.</b> Active on teamwork <b>4.5.</b> Eager to learn <b>4.6.</b> Concerned for proper use of tools <b>4.7.</b> Committed to occupational health and safety practices
<b>5. Resource implications</b>	The following resources must be provided: <b>5.1.</b> Workplace (simulated or actual) <b>5.2.</b> Personal protective equipment (PPE) <b>5.3.</b> Hand tools <b>5.4.</b> Power tools <b>5.5.</b> Measuring tools <b>5.6.</b> Projector <b>5.7.</b> Stationary <b>5.8.</b> Learning manual
<b>6. Methods of assessment</b>	Methods of assessment may include but is not limited to: <b>6.1.</b> Written test <b>6.2.</b> Oral test <b>6.3.</b> Observation <b>6.4.</b> Demonstration <b>6.5.</b> Portfolio
<b>7. Context of assessment</b>	<b>7.1.</b> Competency assessment must be done in a training institute or an actual or simulated workplace after completion of this unit of competency. <b>7.2.</b> Assessment must be done by a suitably qualified/certified assessor.

**Evidence Guide**

The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.

**Accreditation Requirements**

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<b>Unit Title:</b>	Read and interpret sketches and drawings
<b>Unit Code:</b>	SEIP-TEX-BTDP-03-S
<b>Nominal Hours:</b>	8 hours
<b>Unit Descriptor:</b>	This unit covers the skills, knowledge, and attitudes required to read and interpret sketches and drawings. It specifically includes identifying information and specifications and interpreting sketches and drawings as required.
<b>Elements of Competency</b>	<b>Performance Criteria</b> ( <b><u>bold and underlined</u></b> terms are elaborated in the Range of Variables)
1. Interpret information and specifications	1.1. Appropriate <b><u>manuals</u></b> for work activity are identified and collected. 1.2. <b><u>Information and specifications</u></b> in the manuals is interpreted and applied.
2. Read and interpret sketches and drawings	2.1. Relevant <b><u>sketches and drawings</u></b> are identified for job requirement. 2.2. Key <b><u>terms and abbreviations</u></b> are identified and interpreted. 2.3. <b><u>Signs and symbols</u></b> are identified and interpreted. 2.4. Schedules, dimensions, sketches, drawings and specifications are correctly read and interpreted.

<b>Range of Variables</b>	
<b>Variable</b>	<b>Range</b> ( <i>may include but not limited to</i> )
1. Manuals	1.1. Buyers specification 1.2. Compliance 1.3. Maintenance procedure 1.4. Periodic maintenance 1.5. Quality assurance 1.6. Standard operating procedure (SOP)
2. Information and specifications	2.1. Product 2.2. Performance 2.3. Method
3. Sketches and drawings	3.1. Technical 3.2. Measurement 3.3. Design
4. Terms and abbreviations	4.1. Refers to all terms and abbreviations associated with the Textile Sector
5. Signs and symbols	5.1. Includes all signs and symbols associated with the Textile Sector

## Evidence Guide

The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.

<b>1. Critical aspects of competency</b>	Assessment must evidence that the candidate: <b>1.1.</b> Identified information and specifications <b>1.2.</b> Read and interpreted sketches and drawings
<b>2. Underpinning knowledge</b>	<b>2.1.</b> Manuals <b>2.2.</b> Units of measurement <b>2.3.</b> Units of conversion <b>2.4.</b> Sketches, drawings and specifications
<b>3. Underpinning skills</b>	<b>3.1.</b> Reading and identifying information and specifications (from manual) <b>3.2.</b> Reading and interpreting sketches and drawings
<b>4. Underpinning attitudes</b>	<b>4.1.</b> Eager to learn <b>4.2.</b> Tidy and punctual <b>4.3.</b> Concerned about proper use of computer and peripherals <b>4.4.</b> Concerned for other's rights <b>4.5.</b> Sincere and honest concerning duties
<b>5. Resource implications</b>	The following resources must be provided: <b>5.1.</b> Workplace (simulated or actual) <b>5.2.</b> Computer/laptop/notebook <b>5.3.</b> Manuals <b>5.4.</b> Information and specifications <b>5.5.</b> Sketches and drawings <b>5.6.</b> Projector <b>5.7.</b> Software <b>5.8.</b> Stationary <b>5.9.</b> Learning manual
<b>6. Methods of assessment</b>	Methods of assessment may include but is not limited to: <b>6.1.</b> Written test <b>6.2.</b> Oral test <b>6.3.</b> Observation <b>6.4.</b> Demonstration <b>6.5.</b> Portfolio
<b>7. Context of assessment</b>	<b>7.1.</b> Competency assessment must be done in a training institute or an actual or simulated workplace after completion of this unit of competency. <b>7.2.</b> Assessment must be done by a suitably qualified/certified assessor.

**Evidence Guide**

The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.

**Accreditation Requirements**

Training Providers must be accredited by Bangladesh Technical Education Board (BTEB), the National Quality Assurance Body, or a body with delegated authority for quality assurance to conduct training and assessment against this unit of competency for credit towards the award of any NTVQF qualification. Accredited providers assessing against this unit of competency must meet the quality assurance requirements set by BTEB.

## Occupation-specific Competencies

<b>Unit Title:</b>	Perform pre-treatment operation
<b>Unit Code:</b>	SEIP-TEX-BTDP-01-O
<b>Nominal Hours:</b>	64 hours
<b>Unit Descriptor:</b>	This unit covers the skills, knowledge and attitudes required to perform pre-treatment operation. It specifically includes preparing for work, operating singeing-desizing machine, carrying out scouring, bleaching and mercerization, and cleaning and maintaining machine.
<b>Elements of Competency</b>	<b>Performance Criteria</b> ( <b><u>bold and underlined</u></b> terms are elaborated in the Range of Variables)
1. Prepare for work	<p>1.1. Job specifications and instructions are read and interpreted.</p> <p>1.2. <b><u>Technical terms</u></b> are identified and interpreted.</p> <p>1.3. Appropriate <b><u>machinery</u></b> is identified and selected.</p> <p>1.4. Appropriate personal protective equipment (PPE) is identified and selected.</p>
2. Operate singeing-desizing machine	<p>2.1. Grey fabric is identified and collected.</p> <p>2.2. <b><u>Control points</u></b> for singeing-desizing machine are identified.</p> <p>2.3. <b><u>Chemicals and auxiliaries for desizing</u></b> are identified and collected.</p> <p>2.4. Chemicals are mixed according to appropriate recipe.</p> <p>2.5. Fabric is collected and fed into the machine as per standard operating procedure.</p> <p>2.6. Singeing-desizing machine is operated as per standard operating procedure.</p> <p>2.7. Performance test of materials is carried out.</p>
3. Carry out scouring	<p>3.1. <b><u>Chemicals and auxiliaries for scouring</u></b> are identified and collected.</p> <p>3.2. Chemicals are mixed according to required recipe.</p> <p>3.3. Control points for scouring are identified.</p> <p>3.4. Fabric is identified, collected fed into scouring machine as per standard operating procedure.</p> <p>3.5. Scouring machine is performed as per standard operating procedure.</p> <p>3.6. Performance test of materials is carried out.</p> <p>3.7. Materials are conditioned as per standard.</p>

4. Carry out bleaching	<p>4.1. <b>Chemicals and auxiliaries for bleaching</b> are identified and collected.</p> <p>4.2. Chemicals are mixed according to required recipe.</p> <p>4.3. Control points for bleaching are identified.</p> <p>4.4. Fabric is identified, collected and fed into machine as per standard operating procedure.</p> <p>4.5. Bleaching machine is operated as per standard operating procedure.</p> <p>4.6. Performance test of materials is carried out.</p> <p>4.7. Materials are conditioned as per standard.</p>
5. Carry out mercerization	<p>5.1. <b>Chemicals for mercerization</b> are identified and collected.</p> <p>5.2. Chemicals are mixed according to required recipe.</p> <p>5.3. Control points for mercerization are identified.</p> <p>5.4. Fabric is identified, collected and fed into machine as per standard operating procedure.</p> <p>5.5. Mercerization machine is operated as per standard operating procedure.</p> <p>5.6. Performance test of materials is carried out.</p> <p>5.7. Materials are conditioned as per standard, if required.</p>
6. Clean and maintain machine	<p>6.1. Machine and machine parts are cleaned as per manufacturer instructions and pursuant to schedule.</p> <p>6.2. Waste material from machine is identified, separated and disposed of as per standard operating procedure.</p>

Range of Variables	
Variable	Range ( <i>may include but not limited to</i> )
1. Machinery	<p>1.1. Singeing</p> <p>1.2. Desizing</p> <p>1.3. Scouring</p> <p>1.4. Bleaching</p>
2. Technical terms	<p>2.1. Conditioning</p> <p>2.2. Batching</p> <p>2.3. Standard operating procedure</p>
3. Control points	<p>3.1. Speed</p> <p>3.2. Temperature</p> <p>3.3. Time</p> <p>3.4. pH</p>

Range of Variables	
Variable	Range (may include but not limited to)
4. Chemicals and auxiliaries for desizing	<b>4.1. Chemicals:</b> 4.1.1. Enzymes 4.1.2. Acetic acid (CH <sub>3</sub> COOH) 4.1.3. Magnesium chloride (MgCl <sub>2</sub> ) 4.1.4. Salt <b>4.2. Auxiliaries:</b> 4.2.1. Wetting agent
5. Chemicals and auxiliaries for scouring	<b>5.1. Chemicals:</b> 5.1.1. Sodium Hydro-oxide (Caustic, NaOH) 5.1.2. Sodium carbonate (Soda ash, Na <sub>2</sub> CO <sub>3</sub> ) <b>5.2. Auxiliaries:</b> 5.2.1. Wetting agent 5.2.2. Sequestering agent 5.2.3. Detergent
6. Chemicals and auxiliaries for bleaching	<b>6.1. Chemicals:</b> 6.1.1. Hydrogen per oxide ( H <sub>2</sub> O <sub>2</sub> ) 6.1.2. Sodium Hydro-oxide (Caustic, NaOH) 6.1.3. Salt <b>6.2. Auxiliaries:</b> 6.2.1. Stabilizer
7. Chemicals and auxiliaries for mercerization	<b>7.1. Chemicals:</b> 7.1.1. Sodium hydro-oxide (NaOH) <b>7.2. Auxiliaries:</b> 7.2.1. Wetting agent

Evidence Guide	
The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.	
1. Critical aspects of competency	Assessment must evidence that the candidate: 1.1. Prepared for work 1.2. Operated singing-desizing machine 1.3. Performed scouring 1.4. Performed bleaching 1.5. Performed mercerizing

**Evidence Guide**

The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.

<b>2. Underpinning knowledge</b>	<ul style="list-style-type: none"><li>2.1. Work preparation</li><li>2.2. Standard job specifications</li><li>2.3. Technical terms</li><li>2.4. Control points</li><li>2.5. Chemicals</li><li>2.6. Singing-desizing</li><li>2.7. Scouring</li><li>2.8. Bleaching</li><li>2.9. Mercerizing</li><li>2.10. Maintenance procedures</li></ul>
<b>3. Underpinning skills</b>	<ul style="list-style-type: none"><li>3.1. Preparing for work</li><li>3.2. Identifying and collecting materials</li><li>3.3. Identifying and collecting chemicals and auxiliaries</li><li>3.4. Preparing desizing, scouring and bleaching solution</li><li>3.5. Operating machinery</li><li>3.6. Feeding materials into machine</li><li>3.7. Cleaning and maintaining machine</li><li>3.8. Disposing of waste material</li></ul>
<b>4. Underpinning attitudes</b>	<ul style="list-style-type: none"><li>4.1. Tidy and punctual</li><li>4.2. Prompt in carrying out activities</li><li>4.3. Sincere and honest concerning duties</li><li>4.4. Active on teamwork</li><li>4.5. Eager to learn</li><li>4.6. Concerned for proper use of tools</li><li>4.7. Concerned about the work environment</li><li>4.8. Committed to occupational health and safety practices</li><li>4.9. Communicates with peers and seniors in the workplace</li></ul>
<b>5. Resource implications</b>	<p>The following resources must be provided:</p> <ul style="list-style-type: none"><li>5.1. Workplace (simulated or actual)</li><li>5.2. Personal protective equipment (PPE)</li><li>5.3. Job specifications and instructions</li><li>5.4. Tools and equipment</li><li>5.5. Materials</li><li>5.6. Chemicals</li><li>5.7. Projector</li><li>5.8. Stationary</li><li>5.9. Learning manual</li></ul>

**Evidence Guide**

The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.

**6. Methods of assessment**

Methods of assessment may include but is not limited to:

- 6.1. Written test
- 6.2. Oral test
- 6.3. Observation
- 6.4. Demonstration
- 6.5. Portfolio

**7. Context of assessment**

- 7.1. Competency assessment must be done in a training institute or an actual or simulated workplace after completion of this unit of competency.
- 7.2. Assessment must be done by a suitably qualified/certified assessor.

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<b>Unit Title:</b>	Perform dyeing operation
<b>Unit Code:</b>	SEIP-TEX-BTDP-02-O
<b>Nominal Hours:</b>	88 hours
<b>Unit Descriptor:</b>	This unit covers the skills, knowledge and attitudes required to carry out dyeing operation. It specifically includes preparing for work, identifying the dyeing process, carrying out dyeing and, cleaning and maintain machine.
<b>Elements of Competency</b>	<b>Performance Criteria</b> ( <b><u>bold and underlined</u></b> terms are elaborated in the Range of Variables)
1. Prepare for work	<p>1.1. Job specifications and instructions are read and interpreted.</p> <p>1.2. Technical terms are identified and interpreted.</p> <p>1.3. Appropriate machinery is identified and selected.</p> <p>1.4. Appropriate personal protective equipment (PPE) is identified and selected.</p>
2. Identify dyeing process	<p>2.1. <b><u>Process of dyeing</u></b> is identified and described.</p> <p>2.2. <b><u>Types of dyeing machine</u></b> are identified.</p> <p>2.3. Functions of dyeing machine are explained.</p>
3. Carry out dyeing	<p>3.1. <b><u>Control points</u></b> for dyeing machine are identified.</p> <p>3.2. Materials are identified and collected.</p> <p>3.3. <b><u>Dyes and auxiliaries</u></b> are identified and collected.</p> <p>3.4. Chemicals are mixed according to required recipe.</p> <p>3.5. Materials are checked and fed into machine as per standard operating procedure.</p> <p>3.6. Dyeing machine is operated as per standard operating procedure.</p> <p>3.7. Neutralisation and washing is carried out after dyeing as per standard operating procedure</p> <p>3.8. Dyed materials are collected.</p>
4. Clean and maintain machine	<p>4.1. Machine and machine parts are cleaned as per manufacturer instructions and pursuant to schedule.</p> <p>4.2. Waste material from machine is identified, separated and disposed of as per standard operating procedure.</p>

<b>Range of Variables</b>	
<b>Variable</b>	<b>Range</b> ( <i>may include but not limited to</i> )
1. Process of dyeing	<p>1.1. Recipe formulation</p> <p>1.2. Chemical mixing</p> <p>1.3. Dyeing</p> <p>1.4. Neutralization</p> <p>1.5. Washing</p>

<b>Range of Variables</b>	
<b>Variable</b>	<b>Range</b> <i>(may include but not limited to)</i>
2. Types of dyeing machine	2.1. Yarn dyeing 2.2. Winch dyeing (knit fabric dyeing) 2.3. Jet dyeing (knit fabric dyeing) 2.4. Jigger dyeing (woven fabric dyeing) 2.5. Soft flow dyeing (knit fabric dyeing) 2.6. Pad-batch dyeing (semi-continuous dyeing machine) 2.7. Pad-dry-steam dyeing (continuous dyeing machine)
3. Control points	3.1. Time 3.2. Temperature 3.3. Pressure 3.4. pH 3.5. Shade percentage 3.6. Material and liquor ratio (M:L ratio)
4. Dyes and auxiliaries	4.1. Dyes: 4.1.1. Reactive (Clariant, Dysinchem) 4.1.2. Vat 4.1.3. Disperse 4.1.4. Acid 4.1.5. Pigment 4.2. Auxiliaries: 4.2.1. Glauber salt 4.2.2. Soda ash 4.2.3. Wetting agent 4.2.4. Sequestering agent 4.2.5. Acetic acid 4.2.6. Levelling agent

<b>Evidence Guide</b>	
The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.	
1. Critical aspects of competency	Assessment must evidence that the candidate: <ol style="list-style-type: none"> <li>1.1. Prepared for work</li> <li>1.2. Identified and described dyeing process</li> <li>1.3. Identified and explained functions of machine</li> <li>1.4. Prepared dyeing solution</li> <li>1.5. Operated dyeing machine</li> <li>1.6. Performed washing</li> </ol>

**Evidence Guide**

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<b>2. Underpinning knowledge</b>	<ul style="list-style-type: none"><li>2.1. Standard job specifications</li><li>2.2. Control points</li><li>2.3. Dyes</li><li>2.4. Chemicals</li><li>2.5. Dyeing machine</li><li>2.6. Neutralising</li><li>2.7. Washing</li><li>2.8. Maintenance procedures</li></ul>
<b>3. Underpinning skills</b>	<ul style="list-style-type: none"><li>3.1. Preparing for work</li><li>3.2. Identifying and collecting materials</li><li>3.3. Identifying and collecting chemicals and auxiliaries</li><li>3.4. Preparing dye solution</li><li>3.5. Feeding materials into machine</li><li>3.6. Operating dyeing machine</li><li>3.7. Cleaning and maintaining machine</li><li>3.8. Disposing of waste material</li></ul>
<b>4. Underpinning attitudes</b>	<ul style="list-style-type: none"><li>4.1. Tidy and punctual</li><li>4.2. Prompt in carrying out activities</li><li>4.3. Sincere and honest concerning duties</li><li>4.4. Active on teamwork</li><li>4.5. Eager to learn</li><li>4.6. Concerned for proper use of tools</li><li>4.7. Concerned about the work environment</li><li>4.8. Committed to occupational health and safety practices</li><li>4.9. Communicates with peers and seniors in the workplace</li></ul>
<b>5. Resource implications</b>	<p>The following resources must be provided:</p> <ul style="list-style-type: none"><li>5.1. Workplace (simulated or actual)</li><li>5.2. Personal protective equipment (PPE)</li><li>5.3. Job specifications and instructions</li><li>5.4. Tools and equipment</li><li>5.5. Materials</li><li>5.6. Chemicals</li><li>5.7. Dyes</li><li>5.8. Projector</li><li>5.9. Stationary</li><li>5.10. Learning manual</li></ul>

### Evidence Guide

The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.

#### 6. Methods of assessment

Methods of assessment may include but is not limited to:

- 6.1. Written test
- 6.2. Oral test
- 6.3. Observation
- 6.4. Demonstration
- 6.5. Portfolio

#### 7. Context of assessment

- 7.1. Competency assessment must be done in a training institute or an actual or simulated workplace after completion of this unit of competency.
- 7.2. Assessment must be done by a suitably qualified/certified assessor.

### Accreditation Requirements

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<b>Unit Title:</b>	Perform printing operation
<b>Unit Code:</b>	SEIP-TEX-BTDP-03-O
<b>Nominal Hours:</b>	80 hours
<b>Unit Descriptor:</b>	This unit covers the skills, knowledge and attitudes required to perform printing operation. It specifically includes preparing for work, identifying the printing process, carrying out printing and dye fixation, and cleaning and maintaining machine.
<b>Elements of Competency</b>	<b>Performance Criteria</b> ( <b><u>bold and underlined</u></b> terms are elaborated in the Range of Variables)
1. Prepare for work	<p>1.1. Job specifications and instructions are read and interpreted.</p> <p>1.2. Technical terms are identified and interpreted.</p> <p>1.3. Appropriate machinery is identified and selected.</p> <p>1.4. Appropriate personal protective equipment (PPE) is identified and selected.</p>
2. Identify printing process	<p>2.1. <b><u>Process of printing</u></b> is identified and described</p> <p>2.2. <b><u>Types of printing</u></b> are identified and described.</p> <p>2.3. <b><u>Types of printing machine</u></b> are identified.</p> <p>2.4. Functions of printing machine are explained.</p>
3. Carry out printing	<p>3.1. <b><u>Control points</u></b> for printing machine are identified.</p> <p>3.2. Fabrics are identified and collected.</p> <p>3.3. Screens for printing are identified and collected.</p> <p>3.4. <b><u>Dyes and printing auxiliaries</u></b> are identified and collected.</p> <p>3.5. Chemicals are mixed and printing paste is prepared according to recipe.</p> <p>3.6. Materials are checked and fed into machine as per standard operating procedure.</p> <p>3.7. Printing machine is operated as per standard operating procedure.</p> <p>3.8. Printed materials are collected.</p>
4. Carry out dye fixation	<p>4.1. Collected printed materials are fed into steaming/curing machine for permanency of dyes.</p> <p>4.2. Curing/steaming is carried out as per standard operating procedure.</p> <p>4.3. Steaming/curing machine is operated as per standard operating procedure.</p> <p>4.4. Neutralization after printing is completed.</p> <p>4.5. Washing is carried out as per standard, if required.</p> <p>4.6. Performance test of materials is carried out.</p>
5. Clean and maintain machine	<p>5.1. Machine and machine parts are cleaned as per manufacturer instructions and pursuant to schedule.</p> <p>5.2. Waste material from machine is identified, separated and disposed of as per standard operating procedure.</p>

<b>Range of Variables</b>	
<b>Variable</b>	<b>Range (may include but not limited to)</b>
1. Process of printing	1.1. Recipe formulation 1.2. Preparation of printing paste 1.3. Preparation of screen 1.4. Printing 1.5. Steaming/curing 1.6. Neutralization 1.7. Washing
2. Types of printing	2.1. Block 2.2. Roller 2.3. Flat screen 2.4. Spray 2.5. Ink-jet 2.6. Flock
3. Types of printing machine	3.1. Rotary screen printing 3.2. Flatbed screen printing 3.3. Flock printing 3.4. Ink-jet printing
4. Control points	4.1. Viscosity of print paste 4.2. pH 4.3. Time 4.4. Temperature 4.5. Speed
5. Dyes and auxiliaries	5.1. Dyes 5.2. Pigments 5.3. Binder

<b>Evidence Guide</b>	
The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.	
1. Critical aspects of competency	Assessment must evidence that the candidate: <ol style="list-style-type: none"> <li>1.1. Prepared for work</li> <li>1.2. Identified and described printing process</li> <li>1.3. Identified and explained functions of machine</li> <li>1.4. Prepared chemicals and printing paste</li> <li>1.5. Operated printing machine</li> </ol>

## Evidence Guide

The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.

<b>2. Underpinning knowledge</b>	<ul style="list-style-type: none"><li>2.1. Work preparation</li><li>2.2. Standard job specifications</li><li>2.3. Control points</li><li>2.4. Chemicals</li><li>2.5. Printing machine</li><li>2.6. Maintenance procedures</li></ul>
<b>3. Underpinning skills</b>	<ul style="list-style-type: none"><li>3.1. Preparing for work</li><li>3.2. Identifying and collecting materials</li><li>3.3. Identifying and collecting chemicals and auxiliaries</li><li>3.4. Preparing chemicals and printing paste</li><li>3.5. Feeding materials into machine</li><li>3.6. Operating printing machine</li><li>3.7. Cleaning and maintaining machine</li><li>3.8. Disposing of waste material</li></ul>
<b>4. Underpinning attitudes</b>	<ul style="list-style-type: none"><li>4.1. Tidy and punctual</li><li>4.2. Prompt in carrying out activities</li><li>4.3. Sincere and honest concerning duties</li><li>4.4. Active on teamwork</li><li>4.5. Eager to learn</li><li>4.6. Concerned for proper use of tools</li><li>4.7. Concerned about the work environment</li><li>4.8. Committed to occupational health and safety practices</li><li>4.9. Communicates with peers and seniors in the workplace</li></ul>
<b>5. Resource implications</b>	<p>The following resources must be provided:</p> <ul style="list-style-type: none"><li>5.1. Workplace (simulated or actual)</li><li>5.2. Personal protective equipment (PPE)</li><li>5.3. Job specifications and instructions</li><li>5.4. Tools and equipment</li><li>5.5. Materials</li><li>5.6. Chemicals</li><li>5.7. Dyes</li><li>5.8. Printing paste</li><li>5.9. Projector</li><li>5.10. Stationary</li><li>5.11. Learning manual</li></ul>

**Evidence Guide**

The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.

**6. Methods of assessment**

Methods of assessment may include but is not limited to:

- 6.1. Written test
- 6.2. Oral test
- 6.3. Observation
- 6.4. Demonstration
- 6.5. Portfolio

**7. Context of assessment**

- 7.1. Competency assessment must be done in a training institute or an actual or simulated workplace after completion of this unit of competency.
- 7.2. Assessment must be done by a suitably qualified/certified assessor.

**Accreditation Requirements**

Training Providers must be accredited by Bangladesh Technical Education Board (BTEB), the National Quality Assurance Body, or a body with delegated authority for quality assurance to conduct training and assessment against this unit of competency for credit towards the award of any NTVQF qualification. Accredited providers assessing against this unit of competency must meet the quality assurance requirements set by BTEB.



<b>Unit Title:</b>	Perform finishing operation
<b>Unit Code:</b>	SEIP-TEX-BTDP-04-O
<b>Nominal Hours:</b>	64 hours
<b>Unit Descriptor:</b>	This unit covers the skills, knowledge and attitudes required to perform finishing operation. It specifically includes preparing for work, identifying the finishing process, carrying out finishing and, cleaning and maintaining machine.
<b>Elements of Competency</b>	<b>Performance Criteria</b> ( <b><u>bold and underlined</u></b> terms are elaborated in the Range of Variables)
1. Prepare for work	<p>1.1. Job specifications and instructions are read and interpreted.</p> <p>1.2. Technical terms are identified and interpreted.</p> <p>1.3. Appropriate machinery is identified and selected.</p> <p>1.4. Appropriate personal protective equipment (PPE) is identified and selected.</p>
2. Identify finishing process	<p>2.1. <b><u>Finishing process</u></b> is identified and described.</p> <p>2.2. <b><u>Types of finishing</u></b> are identified and described.</p> <p>2.3. Functions of finishing machine are explained.</p>
3. Carry out finishing	<p>3.1. <b><u>Control points</u></b> for finishing machine are identified.</p> <p>3.2. Materials are identified and collected.</p> <p>3.3. Chemicals for finishing are identified and collected.</p> <p>3.4. Chemicals are prepared according to required recipe.</p> <p>3.5. Materials are checked and fed into machine as per standard operating procedure.</p> <p>3.6. Finishing machine is operated as per standard operating procedure.</p> <p>3.7. Finished materials are collected.</p> <p>3.8. Performance test of materials is carried out.</p>
4. Clean and maintain machine	<p>4.1. Machine and machine parts are cleaned as per manufacturer instructions and pursuant to schedule.</p> <p>4.2. Waste material from machine is identified, separated and disposed of as per standard operating procedure.</p>

<b>Range of Variables</b>	
<b>Variable</b>	<b>Range</b> ( <i>may include but not limited to</i> )
1. Process of finishing	<p>1.1. Chemical finishing:</p> <p>1.1.1. Recipe formulation</p> <p>1.1.2. Preparation of solution</p> <p>1.1.3. Mixing</p> <p>1.1.4. Finishing</p>

Range of Variables	
Variable	Range (may include but not limited to)
2. Types of finishing	2.1. Mechanical: <ul style="list-style-type: none"> <li>2.1.1. Stenter</li> <li>2.1.2. Sueding</li> <li>2.1.3. Sanforizing</li> <li>2.1.4. Calendaring</li> <li>2.1.5. Brushing</li> </ul> 2.2. Chemical: <ul style="list-style-type: none"> <li>2.2.1. Softening</li> <li>2.2.2. Resin finish</li> <li>2.2.3. Anti-microbial finish</li> </ul>
3. Control points	3.1. Speed 3.2. Temperature 3.3. pH 3.4. Time

Evidence Guide	
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1. Critical aspects of competency	Assessment must evidence that the candidate: <ul style="list-style-type: none"> <li>1.1. Prepared for work</li> <li>1.2. Identified and described finishing process</li> <li>1.3. Identified and explained functions of machine</li> <li>1.4. Prepared chemical solution</li> <li>1.5. Operated finishing machine</li> </ul>
2. Underpinning knowledge	<ul style="list-style-type: none"> <li>2.1. Work preparation</li> <li>2.2. Standard job specifications</li> <li>2.3. Control points</li> <li>2.4. Chemicals</li> <li>2.5. Finishing machine</li> <li>2.6. Maintenance procedures</li> </ul>

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<b>3. Underpinning skills</b>	<ul style="list-style-type: none"><li>3.1. Preparing for work</li><li>3.2. Identifying and collecting materials</li><li>3.3. Identifying and collecting chemicals</li><li>3.4. Preparing chemical solution</li><li>3.5. Feeding materials into machine</li><li>3.6. Operating finishing machine</li><li>3.7. Cleaning and maintaining machine</li><li>3.8. Disposing of waste material</li></ul>
<b>4. Underpinning attitudes</b>	<ul style="list-style-type: none"><li>4.1. Tidy and punctual</li><li>4.2. Prompt in carrying out activities</li><li>4.3. Sincere and honest concerning duties</li><li>4.4. Active on teamwork</li><li>4.5. Eager to learn</li><li>4.6. Concerned for proper use of tools</li><li>4.7. Concerned about the work environment</li><li>4.8. Committed to occupational health and safety practices</li><li>4.9. Communicates with peers and seniors in the workplace</li></ul>
<b>5. Resource implications</b>	<p>The following resources must be provided:</p> <ul style="list-style-type: none"><li>5.1. Workplace (simulated or actual)</li><li>5.2. Personal protective equipment (PPE)</li><li>5.3. Job specifications and instructions</li><li>5.4. Tools and equipment</li><li>5.5. Materials</li><li>5.6. Chemicals</li><li>5.7. Projector</li><li>5.8. Stationary</li><li>5.9. Learning manual</li></ul>
<b>6. Methods of assessment</b>	<p>Methods of assessment may include but is not limited to:</p> <ul style="list-style-type: none"><li>6.1. Written test</li><li>6.2. Oral test</li><li>6.3. Observation</li><li>6.4. Demonstration</li><li>6.5. Portfolio</li></ul>
<b>7. Context of assessment</b>	<ul style="list-style-type: none"><li>7.1. Competency assessment must be done in a training institute or an actual or simulated workplace after completion of this unit of competency.</li><li>7.2. Assessment must be done by a suitably qualified/certified assessor.</li></ul>

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