



# National Competency Standards for

## “Textile Wet Processing”

### (Supervisor)

### Level-5



**National Vocational and Technical Training Commission  
(NAVTTTC) Government of Pakistan**



## TABLE OF CONTENT

S.No	TABLE OF CONTENTS	Pages
1.	Title of qualifications	1
2.	Introduction	3
3.	Purpose of the qualification	4
4.	Date of Validation	4
5.	Code of qualifications	5
6.	Entry Requirements	5
7.	Members of qualifications development committee	6
8.	Members of qualifications review and validation committee	7
9.	Summary of Competency Standards	8
<b>CORE COMPETENCIES</b>		
<b>CS1</b>	0723TWP04A - Supervise Pre-treatment Processes	9
<b>CS2</b>	0723TWP04B - Supervise Fabric Dyeing Processes	11
<b>CS3</b>	0723TWP04C - Supervise Fabric Printing Processes	13
<b>CS4</b>	0723TWP04D - Supervise Fabric Finishing Process	15
	Complete List of Tools and Equipment	19
<b>Entrepreneurial Skills</b>		
<b>CS1</b>	0723TWP04E - Practice Professionalism	17



## INTRODUCTION

Pakistan is the 8th largest exporter of textile products in Asia. It is 4th largest producer and 3rd largest consumer of cotton. It comprises of 46% of the total manufacturing sector and provides employment to 40% of the total labor force. 5% of the total textile companies are listed on the stock exchange.

The textile sector contributes 8.5 % of total GDP of Pakistan.

Thus, making it imperative for Pakistan government to actively train the individuals to attend to the needs of the ever challenging and rapidly evolving changes in the sector, Textile industry a highly challenging and well-paid professional is always in need of trained & quality-oriented staff

Whether it is merchandising/marketing, stitching /wet processing / HSE or awareness to the quality standards, the industry is always in need of quality individuals.

Textile industry competency standards deal with the knowledge and skills required in the provision of wet processing. These standards focus on the procedures to equip the work force with the knowledge and skills that personify the efficient work performance in assisting the higher management in delivering the quality products & services

This course on wet processing is designed as a comprehensive training program for both male and female students at diploma level (level1-5). This training program covers all features of wet processing like introduction of the concept, principles, constituents, organization, etc.; as well as technological issues involved. It also involves the management of multitude of activities covering all aspects of wet processing

## PURPOSE OF THE QUALIFICATION

The competency based NVQ has been developed to train the unskilled men and women of Pakistan on the technical and entrepreneurial skills to be employed / self-employed and inevitably set sustainable impact on their lives by increase in their



livelihood income generation.

The purpose of this qualification is to give the candidate a thorough understanding and skills of the textile sector with special reference to wet processing in three years training programme. The textile industry needs skilled labour for meeting the national and international standards. It is therefore important to stress the need for a multidisciplinary approach to meet the challenges within the sector. Upon successful completion of this course the trainee should be able to:

- Core elements and the development of textile industry
- Give an account of essentials textile industry and future of this industry
- Demonstrate an understanding of different textile traits.
- Point out relevant industry stakeholders & their roles in driving innovative in textile management
- Improve the professional competence of the trainees
- Provide opportunities for recognition of skills attained through non-formal or informal pathways
- Improve the quality and effectiveness of training and assessment for textile industry skilled labour
- Enhance textile industry activities at regional/provincial/national levels through better approach

## DATE OF VALIDATION

This national vocational qualification (NVQ) has been validated by the Qualifications Development Committee (QDC) in **06<sup>th</sup> to 10<sup>th</sup> December, 2021** and will remain in currency until June 2024.

\*Shall be reviewed after 3 years



## CODE OF QUALIFICATION

Qualification Title	Code
National Vocational Certificate Level 5, in (Textile Wet Processing) "Supervisor"	0723TWP04

## ENTRY REQUIREMENTS

For National Vocational Certificate Level-5 in Textile, the entry requirement is award of National Vocational Certificate Level-4 in Textile Wet Processing.



## DEVELOPMENT COMMITTEE

The following members participated in the qualification development of these qualifications:

The following members participated in the qualification development of these qualifications:

Sr. No.	Name	Designation	Organization
1.	Mr. Muhammad Aasim	Assistant Director,	NAVTTTC Coordinator, Islamabad
2.	Ms. Mehwish Aisha	DACUM Facilitator	CBT Expert/Certified Assessor
3.	Mr. Muhammad Irfan	Principal	GAMTI (PTEVTA), Township, Lahore
4.	Ms. Ayesha Yameen	Deputy Manager	Friends Enterprises Lahore
5.	Ms. Qurbat Zahra	Director	Adamjee Enterprises BOR Society Lahore
6.	Ms. Tehrim Ijaz	MTO	Taiga Apparels
7.	Ms. Warda Afzal	Instructor Clothing & Textiles	GCTW Lytton Lahore
8.	Mr. Hassan Tariq	DGM	Laundry and Development Cotton Web Ltd, Lahore
9.	Mr. Ahsan Nazer	Director	RND NTU Faisalabad
10.	Mr. Ayazudin	CEO, Reet Garment, Lahore	
11.	Mr. Abdul Samad	Freelancer	, MBA, Faisalabad
12.	Ms. Mehak Hamid	Fashion Designer & Assessor,	UMT, Sialkot
13.	Mr. Imran Afzal	GM,	Future session pvt. Ltd.



14.	Mr. Kashif Asif Mirza	Divisional Head EC	RUDOLF Pakistan
15.	Mr. Ali Abbas	Director	Arts and Design Lahore



## QUALIFICATIONS REVIEW AND VALIDATION COMMITTEE

The following members participated in the qualification development of these qualifications:

Sr. No.	Name	Designation	Organization
1.	Mr. Shahzad Ahmad	Director	VT, NAVTTC HQ, Islamabad
2.	Ms. Mehwish Aisha	DACUM Facilitator	CBT Expert/Certified Assessor
3.	Mr. Muhammad Irfan	Principal	GAMTI (PTEVTA), Township, Lahore
4.	Ms. Warda Afzal	Instructor	GCT(W), Lytton Road, Lahore
5.	Ms. Syeda Fatima Iqbal	System Analyst	PBTE, Lahore
6.	Ms. Mehak Hamid	Lecturer	UMT, Sialkot
7.	Ms. Amreen Hassan	Lecturer	LPDI, Sialkot
8.	Ms. Manal Akhtar	Quality Assurance Supervisor	Interloop, Faisalabad
9.	Ms. Faiza Jabeen	Fashion & Textile Designer	The Trendy House
10.	Ms. Sameen Aslam	Instructor	
11.	Ms. Muhammad Shahzad	Sr. Instructor (Textile)	GCT (Campus), PTUT, Lahore



## SUMMARY OF COMPETENCY STANDARDS

“Associate Merchandiser” (12 Months)								
Code	Competency Standards	Level	Theory		Practical		Total	
			C	Hr.	C	Hr.	C	Hr.
1.	Supervise Pre-treatment Processes	5	10	100	15	150	25	250
2.	Supervise Fabric Dyeing Processes	5	10	100	15	150	25	250
3.	Supervise Fabric Printing Processes	5	10	100	15	150	25	250
4.	Supervise Fabric Finishing Process	5	10	100	15	150	25	250
5.	Practice Professionalism	5	8	80	12	120	20	200
Total			48	480	72	720	120	1200



## Competency Standard A: Supervise Pre-treatment Processes - 0723TWP04A

**Overview:** This competency standard deal with learning the competencies needed to execute post production tasks. That includes Plan for Pre-treatment Processes, Manage Pre-treatment Processes and laboratory testing for Pre- monitoring. Your underpinning knowledge will be sufficient to provide you the basis for your work.

Competency Units	Performance Criteria
<b>CU1.</b> Manage Pre-Treatment Processes	<p><b>You must be able to:</b></p> <p><b>P1.</b> Interpret Specification Sheet/ Processing Order (PO)</p> <p><b>P2.</b> Organise fabric pre-treatment processes, including:</p> <ul style="list-style-type: none"> <li>○ Fabric Preparation</li> <li>○ Loading/Unloading Fabric</li> <li>○ Management of Chemical Recipes</li> <li>○ De-Sizing</li> <li>○ Singeing</li> <li>○ Scouring</li> <li>○ Bleaching</li> </ul> <p><b>P3.</b> Monitor undergoing Pre-treatment processes on the production floor</p> <p><b>P4.</b> Prepare quality and production report after completing each pre-treatment process</p>
<b>CU2.</b> Perform Laboratory Testing for Pre-Treated Fabric	<p><b>You must be able to:</b></p> <p><b>P1.</b> Calculate Fabric Weight (GSM/ (Oz/Yd<sup>2</sup>))</p> <p><b>P2.</b> Calculate Fabric Construction (Yarn Count, EPI, PPI, etc.)</p> <p><b>P3.</b> Perform test for Singeing (Pilling Test, Fabric Stiffness Test, etc.) as per slet Standards</p> <p><b>P4.</b> Perform test for De-Sizing (De-Sizing Efficiency Test, Iodine Test, TEGEWA, etc.) as per set Standards</p> <p><b>P5.</b> Perform test for Scouring (Absorbency Test, etc.) as per set Standards</p>



	<p><b>P6.</b> Perform test for bleaching (CIE Index, 100 Tile Test, Yellowness Whiteness, Tear and Tensile Test, etc.) as per set Standards</p> <p><b>P7.</b> Prepare Final Lab Test Report as per Set Standards</p>
--	--



## Knowledge & Understanding

The candidate must be able to demonstrate underpinning knowledge and understanding required to carry out the tasks covered in this competency standard. Therefore he/she must be able to:

- K1.** Explain Fabric Weight (GSM/Ounces Per Square Yard (Oz/Yd<sup>2</sup>)), Ends Per Inch (EPI), Picks Per Inch (PPI), etc.
- K2.** Define Textile Testing Standards (AATCC, ASTM, ISO, etc.)

## Critical Evidence(s) Required

The candidate needs to produce any or all of the following documents/evidences:

1. Portfolio
2. Assignment(s)/Project(s)
3. Relevant Certification(s)
4. Relevant Job/Experience Letter

Furthermore, the candidate must execute demonstration(s) which may include the following:

1. Prepare Pre Treatment Process report as per given instructions
2. Perform Laboratory Test of the assigned fabric



## Competency Standard B: Supervise Fabric Dyeing Processes - 0723TWP04B

**Overview:** This competency standard deal with learning the competencies needed to prepare a Plan for Fabric Dyeing, Manage Dyeing Processes, and Perform laboratory testing for dyed Articles. Your underpinning knowledge will be sufficient to provide you the basis for your work.

Competency Units	Performance Criteria
<b>CU1.</b> Manage Dyeing Processes	<p><b>You must be able to:</b></p> <p><b>P1.</b> Interpret Specification Sheet/Process Order (PO)</p> <p><b>P2.</b> Organise fabric Dyeing processes</p> <p><b>P3.</b> Monitor Dyeing processes as per requirement</p> <p><b>P4.</b> Prepare quality and production report after completing each Dyeing process</p>
<b>CU2.</b> Perform Laboratory Testing for Dyed Articles	<p><b>You must be able to:</b></p> <p><b>P1.</b> Calculate Fabric Weight (GSM/ (Oz/Yd<sup>2</sup>)</p> <p><b>P2.</b> Perform Shade Matching (Visual/Data Colour)</p> <p><b>P3.</b> Perform Change in Shade Test</p> <p><b>P4.</b> Perform Colour Fastness Tests to:</p> <ul style="list-style-type: none"> <li>✓ Crocking (Dry and Wet Rubbing)</li> <li>✓ Washing</li> <li>✓ Bleaching</li> <li>✓ Light</li> <li>✓ Perspiration</li> </ul> <p><b>P5.</b> Prepare Final Lab Test Report as per Set Standards</p>

## Knowledge & Understanding

The candidate must be able to demonstrate underpinning knowledge and understanding required to carry out the tasks covered in this competency standard. Therefore he/she must be able to:

- K1.** Explain Dyestuff (Vat Dyeing, Reactive Dyeing, etc.)
- K2.** Describe Testing parameters for Dyed Fabric



**K3.** Explain Calculation/Formulas

### **Critical Evidence(s) Required**

**The candidate needs to produce any or all of the following documents/evidences:**

1. Portfolio
2. Assignment(s)/Project(s)
3. Relevant Certification(s)
4. Relevant Job/Experience Letter

**Furthermore, the candidate must execute demonstration(s) which may include the following:**

1. Perform Laboratory Test of the assigned dyed fabric



## Competency Standard C: Supervise Fabric Printing Processes - 0723TWP04C

**Overview:** This competency standard deal with learning the competencies needed to Build Brand Strategy. That includes Plan for Fabric Printing, Manage Printing Processes, Perform laboratory testing for Printed Fabric. Your underpinning knowledge will be sufficient to provide you the basis for your work.

Competency Units	Performance Criteria
<b>CU3.</b> Manage Printing Processes	<p><b>You must be able to:</b></p> <p><b>P1.</b> Interpret Specification Sheet/Process Order (PO)</p> <p><b>P2.</b> Organise fabric Printing processes</p> <p><b>P3.</b> Monitor Printing processes as per requirement</p> <p><b>P4.</b> Prepare a Final Report of Printed Fabric</p>
<b>CU3.</b> Perform Laboratory Testing for Printed Fabric	<p><b>You must be able to:</b></p> <p><b>P1.</b> Calculate Fabric Weight (GSM/ (Oz/Yd<sup>2</sup>)</p> <p><b>P2.</b> Perform Shade Matching (Visual/Data Colour)</p> <p><b>P3.</b> Perform Change in Shade Test</p> <p><b>P4.</b> Perform Colour Fastness Tests To:</p> <ul style="list-style-type: none"> <li>✓ Crocking (Dry and Wet Rubbing)</li> <li>✓ Washing</li> <li>✓ Bleaching</li> <li>✓ Light</li> <li>✓ Perspiration</li> </ul> <p><b>P5.</b> Prepare Final Lab Test Report as per Set Standards</p>

## Knowledge & Understanding

The candidate must be able to demonstrate underpinning knowledge and understanding required to carry out the tasks covered in this competency standard. Therefore he/she must be able to:

- K1.** Explain Planning procedure of fabric Printing processes
- K2.** Explain Laboratory Testing Methods for Printed Fabric



## Critical Evidence(s) Required

The candidate needs to produce any or all of the following documents/evidences:

1. Portfolio
2. Assignment(s)/Project(s)
3. Relevant Certification(s)
4. Relevant Job/Experience Letter

Furthermore, the candidate must execute demonstration(s) which may include the following:

1. Perform Laboratory Test of the assigned printed fabric



## Competency Standard D: Supervise Fabric Finishing Process - 0723TWP04D

**Overview:** This unit of competency describes the outcomes required to manage develop, a Plan for Fabric Finishing, Processes and Perform laboratory testing for Final Product monitor a personal budget in order to plan regular savings and manage debt effectively.

Competency Units	Performance Criteria
<b>CU4.</b> Manage Fabric Finishing Processes	<p><b><i>You must be able to:</i></b></p> <p><b>P1.</b> Interpret Specification Sheet/Process Order (PO)</p> <p><b>P2.</b> Organise fabric Finishing processes</p> <p><b>P3.</b> Monitor Finishing processes as per requirement</p> <p><b>P4.</b> Prepare a Final Report of Printed Fabric</p>
<b>CU1.</b> Perform laboratory testing for Finished Product	<p><b><i>You must be able to:</i></b></p> <p><b>P1.</b> Calculate Fabric Weight (GSM/ (Oz/Yd<sup>2</sup>)</p> <p><b>P2.</b> Check fabric Width</p> <p><b>P3.</b> Perform Skewness and Bowing Test</p> <p><b>P4.</b> Perform Whiteness/Absorbency Test for White Fabric</p> <p><b>P5.</b> Perform Change in Skew Test</p> <p><b>P6.</b> Perform Tear and Tensile Test</p> <p><b>P7.</b> Perform Crease Resistant Test</p> <p><b>P8.</b> Perform Bending Length Test</p> <p><b>P9.</b> Perform Anti-Cracking Test</p> <p><b>P10.</b> Perform Shrinkage Test</p> <p><b>P11.</b> Perform Abrasion Test</p> <p><b>P12.</b> Perform Pilling Test</p> <p><b>P13.</b> Perform Spray Rating Test</p> <p><b>P14.</b> Perform Flame Retardant Test</p> <p><b>P15.</b> Perform Air Permeability Test</p> <p><b>P16.</b> Perform Stretchability Test</p> <p><b>P17.</b> Perform Barium Activity Number Test</p> <p><b>P18.</b> Prepare Final Lab Test Report as per Set</p>



	Standards
--	-----------

## Knowledge & Understanding

The candidate must be able to demonstrate underpinning knowledge and understanding required to carry out tasks covered in this competency standard. This includes the knowledge of:

- K1.** Explain the abilities to plan and organize Fabric Finishing Processes
- K2.** Explain Laboratory Testing Methods for Finished Fabric

## Critical Evidence(s) Required

**The candidate needs to produce any or all of the following documents/evidences:**

1. Portfolio
2. Assignment(s)/Project(s)
3. Relevant Certification(s)
4. Relevant Job/Experience Letter

**Furthermore, the candidate must execute demonstration(s) which may include the following:**

1. Perform Laboratory Test of the assigned Finished fabric



## Competency Standard E: Practice Professionalism - 0723TWP04E

**Overview:** This competency standard deal with learning the competencies needed to develop designs for garment by taking inspiration from history of costume, history of art and fashion designers. Your concept of making garment design will prepare you to contextualise the work from different sources.

Competency Units	Performance Criteria
<b>CU1.</b> Develop Portfolio for industry	<p><b>You must be able to:</b></p> <p><b>P1.</b> Select previous assignments for portfolio</p> <p><b>P2.</b> Work on previous selected assignments for portfolio</p> <p><b>P3.</b> Compile variety of assignments for portfolio</p> <p><b>P4.</b> Make Professional Portfolio for industry</p> <p><b>P5.</b> Develop Digital Portfolio for industry</p>
<b>CU2.</b> Perform Internship	<p><b>You must be able to:</b></p> <p><b>P1.</b> Prepare for internship</p> <ul style="list-style-type: none"> <li>• Personal Presentation</li> <li>• Portfolio Presentation</li> <li>• Interview preparation</li> </ul> <p><b>P2.</b> Demonstrate Ethics for Internship</p> <p><b>P3.</b> Identify Industry for internship</p> <p><b>P4.</b> Perform Internship in Industry</p> <ul style="list-style-type: none"> <li>• Fill the Performa of Internship</li> <li>• Report the performance of internship</li> </ul>

## Knowledge & Understanding

The candidate must be able to demonstrate underpinning knowledge and understanding required to carry out the tasks covered in this competency standard. This includes the knowledge of:

- K1.** Importance of portfolio
- K2.** Ethics for Internship



## Critical Evidence(s) Required

The candidate needs to produce following critical evidence(s) in order to be competent in this competency standard:

1. Professional
2. Portfolio



## COMPLETE LIST OF TOOLS AND EQUIPMENT

SR#	Tools & Equipment	Quantity
1.	Computer Systems	25
2.	Scanner	1
3.	Printer	1
4.	Panton Book	1
5.	Pick Glass/Magnifying Glass	25
6.	Textile/Fabric Light Box	1
7.	Scissors	25
8.	GSM Cutter	5
9.	Measuring Tape	25
10.	Barcode Scanner	1
11.	Spec Sheet	25