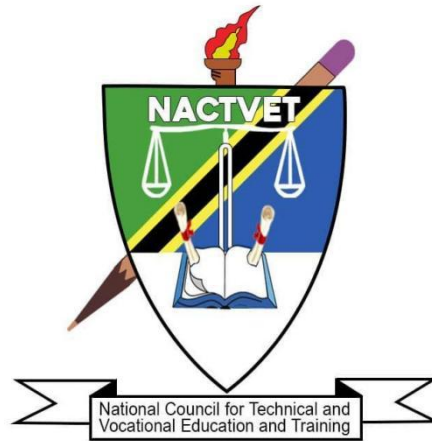


**NATIONAL COUNCIL FOR TECHNICAL AND VOCATIONAL EDUCATION AND
TRAINING**



MARCH 2023

PROPOSED OCCUPATIONAL STANDARDS

OCCUPATION: TEXTILE TECHNICIAN

LEVEL: NTA 5

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ABBREVIATIONS

A	Acrylic
Ba	Bamboo Fiber
C	Cotton Yarn
CBET	Competency Based Education and Training
CS	Card Sliver
G	Gassed Yarn
J	Combed Yarn
L	Polyvinyl Chloride Fibre
MS	Sliver
NACTVET	National Council for Technical and Vocational Education and Training
NOS	National Occupational Standards
O	Polypropylene
OE	Rotor Spinning
OS	Occupational Standards
R	Artificial Cotton
SF	Spinning Frame
SP	Spindle
SY	Yarn Evenness
T	Terylene
T/C	Terylene Cotton
TET	Technical Education and Training

T/R	Polyester-viscose Blended Yarn
Ts	Tencel
TVET	Technical and Vocational Education and Training
V	Vinylon
V/C	Polyvinyl Alcohol Cotton Blended Yarn
WU	Weight Uniformity

GLOSSARY OF TERMS

Circumstantial Knowledge:	Detailed knowledge, which allows the decision-making in regard to different circumstances and cross cutting issues.
Competence:	The ability to use knowledge, understanding, practical, and thinking skills to perform effectively to the workplace standards required in employment.
Competency:	A description of the ability one possesses when able to perform a given occupational task effectively and efficiently.
Competency-based Education:	An instructional programme that derives its content from validated tasks and bases assessment on the learner's performance.
Curriculum:	A description or composite of statements about "what is to be learned" by the trainee/student in a particular instructional programme; a product that states the "intended learning outcomes".
Educational/Training Programme:	The complete curriculum and instruction (what and how) that is designed to prepare a person for employment in a job or other particular performance situation.
Occupation:	A specific position requiring the performance of specific tasks - essentially the same tasks are performed by all employees having the same title. (Example: baker)
Occupational Area:	This is a broad grouping of related jobs. (Example: catering service).
Occupational Standards:	Specific requirements of competences people are expected to demonstrate in a particular occupational area, including knowledge and relevant attitudes. They also act as a performance tool of assessment of the prescribed outcomes.
Occupational/Job Analysis:	A process used to identify the tasks that are important to employees in any given occupation.
Performance Criteria:	Indicate expected end results or outcomes in the form of evaluative statements.
Skills:	The ability to perform occupational tasks with a high degree of proficiency within a given occupation. Skill is conceived of as a composite of three completely interdependent components: cognitive, affective, and psychomotor.
Standards:	A set of statements, which, if proved true under working conditions, means that an individual is meeting an expected level and type of performance.

Task Analysis:	The process of analysing each task to determine the steps, circumstantial knowledge, attitudes, performance criteria, tools and materials needed, as well as safety concerns required for the employees performing it.
Task:	A work activity that has a definite beginning and ending, is observable or measurable, and consists of two or more definite steps that leads to a product, service, or decision.
Underpinning Knowledge:	Crucial knowledge that an individual must acquire in order to demonstrate competences that are associated in performing a given task.
Verification Process:	The process of having experts review and confirm the importance of the task (competency) statements identified through occupational analysis. Other questions, such as the degree of task learning difficulty are also frequently asked. This process is also sometimes referred to as validation.
Occupational Competence:	The application of knowledge and skills that consistently meet the standards required by the work context.

1.0. INTRODUCTION

Technical Education and Training (TET) is one of the most important education sub-sectors in Tanzania, responsible for developing a skilled workforce to support the country's industrialization economic agenda. Tanzania's *Development Vision 2025* intends to raise the country's economy to a middle-income status. This requires a skilled workforce that is aligned with the needs of the public and private sectors of the economy. The National Council for Technical Education has begun the job of drafting Occupational Standards that will eventually be adopted as National Occupational Standards for TET in order to ensure that it meets the needs of the labour market and the country's economic agenda.

National Occupational Standards (NOS) are performance criteria that are matched with labour market demands. Each National Occupation Standard describes functions, performance standards, and knowledge/understanding for one important function or task. They combine skills, knowledge, and attitudes to describe best practice. They are useful tools for establishing job roles, personnel recruiting, supervision, and appraisal, as well as TET standards. They're also helpful for benchmarking and harmonizing qualifications on a national and international level. Standards, in general, provide a solid framework for high-quality TET that is labour market-relevant, current, and consistent in delivery across all public and private institutions.

However, it must be noted that, Occupational Standards and Training standards/qualifications standards are different. Occupational Standards are defined in terms of activities performed by a person in a selected occupation (e.g., an electrical engineer designs electrical circuits, performs troubleshooting in electrical circuits, etc.) and they are usually defined by employers following procedures agreed upon by all stakeholders. Education and training standards are developed from the activities defined in occupational standards, and they include learning objectives to ensure that the necessary skills and knowledge are developed by a person to enable him or her to function at an agreed level in an occupation. Education and Training standards are used to define curricula in training institutions. It is however critical that there must be a direct link between the occupational standards and the training standards to respond to the demands of the labour market.

In TET delivery, Tanzania adopted the Competence Based Education and Training (CBET) approach. The CBET approach focuses on providing learners with the skills and knowledge required to meet the occupational standards. Occupational Standards are thus the starting point for developing competency-based training (CBET) programmes. TET institutions will be required to benchmark their curricula with relevant occupational standards.

Occupational Standards are developed based on a given occupation's current and future demands. As a result, they serve as a means of bridging the gap between the worlds of employment and technical education and training (TET).

The Textile Technician Occupation has its own set of occupational standards. The document explains how the occupational standards were developed, as well as the scope, the occupational profile in the form of DACUM charts, and the Occupational Standards.

2.0. OCCUPATIONAL STANDARD DEVELOPMENT PROCESS

The Occupational standards development process began with an examination of major documents that guide Tanzanian skill development. The *10-year National Skills Development Strategy (2016-2026)* was one of the documents reviewed, and it outlined six (6) economic sectors that should be prioritized when developing skills development programmes.

These sectors include: Transport and Logistics, Tourism and Hospitality, Agribusiness, Construction, Energy and ICT. NACTE labour market reports were also used in the literature review to determine the skills demand in the Tanzanian labour market as a whole.

After the literature review, a workshop comprised of expert workers and educators with substantial knowledge and experience in the occupation conducted an occupational analysis utilizing the DACUM approach to produce the occupational profile. The analysis resulted in DACUM Charts, which are attached as Appendix 1 to this document.

The Occupational Standards were then developed. Experts in Occupational Analysis and the Development of Occupational Standards facilitated the workshop. Interviews, online surveys, and a stakeholder forum were used to validate the Occupational Standards. Engineers, supervisory technicians on the job, and experienced Textile Technicians were key informants in the survey to discover occupational trends. This information was used to gain insight from the workplaces regarding trends and changes in the profession, including how well graduates are prepared for working in the occupation. A total of ... online surveys were completed by experts from the labour market across the country. Apart from the survey aiding in defining the scope for the occupational analysis, they also served to engage a wide cross-section of experts in the occupation. Apart from this, the stakeholders' forum was attended by ... participants from different parts of the country representing various companies.

3.0. THE SCOPE AND OVERVIEW OF THE OCCUPATION STANDARDS FOR TEXTILE TECHNICIANS

These standards cover a broad range of duties and tasks that can be performed by a Textile Technician. However, the occupational standards are not meant to replace individual job descriptions. Instead, they are to be used for guidance in defining skill levels and knowledge for the technician in specific

settings or positions. The Textile Technician may perform tasks in a number of key areas of the occupational standards, but not necessarily in all areas. For example, in large operations, other individuals may be employed or designated to perform specific tasks.

The Textile Technician should work under the supervision of engineers to complete the basic knowledge and skills required by the textile industry, such as fiber pretreatment, spinning, weaving, and raw fabric finishing. In the workshop, technicians should complete the development and implementation of production processes, production management, quality analysis and control, equipment maintenance and servicing, and quality inspection of raw materials and products. Generally, the Textile Technician performs the following responsibilities:

- a) Drawing shift turnover
- b) Drawing frame management
- c) Drawing quality control
- d) Spinning shift turnover
- e) Spinning recognition and calculation drawing
- f) Spinning frame management
- g) Spinning quality control
- h) Warping pre-post preparation
- i) Warping shift turnover
- j) Warping frame management
- k) Warping quality control
- l) Weaving shift turnover
- m) Weaving recognition and calculation
- n) Weaving frame operation and management
- o) Quality control

The Occupational Standards have been clustered into NTA qualification levels i.e., NTA level 4, 5 and 6.

4.0. VALIDITY PERIOD

Due to the rapid development of technology, the validity period of occupational standards is 3-5 years. The review will proceed in the same manner as the one before it, with new occupational standards being developed based on current trends of the labour market.

5.0. OCCUPATIONAL STANDARDS

5.1 OCCUPATIONAL STANDARDS FOR TEXTILE TECHNICIAN - NTA 5

OCCUPATION	TEXTILE TECHNICIAN	OCCUPATION CODE	
DUTY TITLE	DRAWING	DUTY NO.	501
TASK TITLE	DRAWING SHIFT TURNOVER	TASK NO.	5011
PERFORMANCE CRITERIA	The person performing this task must be able to perform the drawing process in accordance with national standards and customer specifications.		
RANGE STATEMENT	<p>The task can be performed in the textile workshop under the supervision of Senior Textile Technicians or Textile Engineers.</p> <p>The tools and equipment to be used include:</p> <ol style="list-style-type: none"> 1. Roller; 2. Belt roller; 3. Pressurization device; 4. Knocking off motion; 5. Cleaning device; 6. Sliver can; 7. Bell mouth. 		
EVIDENCE REQUIREMENT			
PRACTICAL PERFORMANCE		UNDERPINNING KNOWLEDGE	
<p>The person performing this task must be able to do the following:</p> <ol style="list-style-type: none"> 1. Explain clearly the production situation; 2. Explain clearly the process situation; 3. Check the process parameter on-frame operation; 4. Read the control panel content. 		<p>Detailed knowledge about:</p> <p>1.0 Methods</p> <p>The person performing this task must be able to explain how to:</p> <ol style="list-style-type: none"> 1.1 Determine the textile variety; 1.2 Confirm the drawing quantity; 1.3 Confirm the condition of the frame; 1.4 Determine and adjust the process parameters. <p>2.0 Principles</p> <p>The person performing this task must be able to explain the following principles:</p> <ol style="list-style-type: none"> 2.1 The principles of drawing; 2.2 The definition of draft; 2.3 The influencing factors of the distribution of fiber speed change points during the draft process; 2.4 Friction field; 2.5 The concept and influencing factors of drafting force and gripping force. <p>3.0 Theories</p> <p>The person performing this task must be able to explain the following:</p> <ol style="list-style-type: none"> 3.1 The implementation method of draft; 	

	<p>3.2 Draft multiple; 3.3 Total draft and partial draft.</p> <p>4.0 Essential Skills 4.1 Communication skills; 4.2 Report writing; 4.3 Customer service; 4.4 Time management; 4.5 Interpersonal skills.</p> <p>5.0 Math Skills 5.1 Geometry (Fundamentals of Planar Composition and Stereoscopic Composition); 5.2 Basic algebraic operations.</p>
DESCRIPTION OF THE END PRODUCT / SERVICE	The service machine is operated normally and safely to ensure the continuous production of the winding machine.
CIRCUMSTANTIAL KNOWLEDGE	<p>Detailed knowledge about:</p> <ol style="list-style-type: none"> 1. Health and safety laws and regulations; 2. Safety operation procedures for drawing; 3. Firefighting knowledge.

OCCUPATION	TEXTILE TECHNICIAN	OCCUPATION CODE	
DUTY TITLE	DRAWING	DUTY NO.	501
TASK TITLE	DRAWING FRAME MANAGEMENT	TASK NO.	5012
PERFORMANCE CRITERIA	The person performing this task must be able to manage the drawing frame in accordance with national standards and customer specifications.		
RANGE STATEMENT	<p>The task can be performed in the textile workshop under the supervision of Senior Textile Technicians or Textile Engineers.</p> <p>The tools and equipment to be used include:</p> <ol style="list-style-type: none"> 1. Roller; 2. Belt roller; 3. Pressurization device; 4. Knocking off motion; 5. Cleaning device; 6. Sliver can; 7. Bell mouth. 		
EVIDENCE REQUIREMENT			
PRACTICAL PERFORMANCE		UNDERPINNING KNOWLEDGE	
<p>The person performing this task must be able to do the following:</p> <ol style="list-style-type: none"> 1. Prepare raw materials; 2. Perform operations such as splitting, tearing the tail, tearing the head, overlapping the head, and wrapping the roll; 3. Perform drawing frame operations such as rubber roller installation, adjustment of spacing and strip speed, optimization of draft multiple, searching of leveling points, setting and adjustment of leveling strength, and correction of low speed adjustment coefficients; 4. Organise and store. 		<p>Detailed knowledge about:</p> <p>1.0 Methods</p> <p>The person performing this task must be able to explain how to:</p> <ol style="list-style-type: none"> 1.1 Prepare raw materials; 1.2 Split the yarn or fiber bundle into appropriate widths; 1.3 Operate the drawing frame stably and smoothly. <p>2.0 Principles</p> <p>The person performing this task must be able to explain the following principles:</p> <ol style="list-style-type: none"> 2.1 The principle of drawing; 2.2 The definition of draft; 2.3 The influencing factors of the distribution of fiber speed change points during the draft process. <p>3.0 Theories</p> <p>The person performing this task must be able to explain the following:</p> <ol style="list-style-type: none"> 3.1 The implementation method of draft; 3.2 Draft multiple; 3.3 Total draft and partial draft. <p>4.0 Essential Skills</p>	

	<p>4.1 Communication skills;</p> <p>4.2 Report writing;</p> <p>4.3 Customer service;</p> <p>4.4 Time management;</p> <p>4.5 Interpersonal skills.</p> <p>5.0 Math Skills</p> <p>5.1 Geometry (Fundamentals of Planar Composition and Stereoscopic Composition);</p> <p>5.2 Basic algebraic operations.</p>
DESCRIPTION OF THE END PRODUCT / SERVICE	The safety and parameters of the frame during the production process are managed to ensure that the slivers meet production requirements.
CIRCUMSTANTIAL KNOWLEDGE	<p>Detailed knowledge about:</p> <ol style="list-style-type: none"> 1. Health and safety laws and regulations; 2. Safety operation procedures for drawing; 3. Firefighting knowledge.

OCCUPATION	TEXTILE TECHNICIAN	OCCUPATION CODE	
DUTY TITLE	SPINNING	DUTY NO.	502
TASK TITLE	SPINNING SHIFT TURNOVER	TASK NO.	5021
PERFORMANCE CRITERIA	The person performing this task must be able to produce qualified spun yarns in accordance with national standards and customer requirements.		
RANGE STATEMENT	<p>The task can be performed in the textile workshop under the supervision of Senior Textile Technicians or Textile Engineers.</p> <p>The tools and equipment to be used include:</p> <ol style="list-style-type: none"> 1. Spinning frame; 2. Drawing board or white paper; 3. Table; 4. Paper; 5. Calculator; 6. Pencil/Marker pen. 		
EVIDENCE REQUIREMENT			
PRACTICAL PERFORMANCE		UNDERPINNING KNOWLEDGE	
<p>The person performing this task must be able to do the following:</p> <ol style="list-style-type: none"> 1. Complete the handover and explanation of equipment operation and existing safety hazards based on the production situation; 2. Complete the handover and explanation of production situation and supply of previous and subsequent working procedures based on the process; 3. Clean the production operation area. 		<p>Detailed knowledge about:</p> <p>1.0 Methods</p> <p>The person performing this task must be able to explain how to:</p> <ol style="list-style-type: none"> 1.1 Check the operation of the equipment; 1.2 Eliminate safety hazards in the equipment; 1.3 Check the production situation; 1.4 Carry out the shift turnover work. <p>2.0 Principles</p> <p>The person performing this task must be able to explain the following principles:</p> <ol style="list-style-type: none"> 2.1 Underpinning knowledge of spinning production technology; 2.2 Knowledge of spinning equipment; 2.3 Operating principle of the spinning machine. <p>3.0 Theories</p> <p>The person performing this task must be able to explain the following:</p> <ol style="list-style-type: none"> 3.1 Raw materials for yarns; 3.2 Classification of yarns; 3.3 Yarn texture; 3.4 Mechanical performance indicators of yarns; 3.5 The purpose of spinning technology; 3.6 The process of spinning technology. 	

	<p>4.0 Essential Skills</p> <p>4.1 Technical skills;</p> <p>4.2 Report writing;</p> <p>4.3 Time management;</p> <p>4.4 Interpersonal skills;</p> <p>4.5 Teamwork skills.</p>
DESCRIPTION OF THE END PRODUCT / SERVICE	Qualified fine yarns or folded yarns are produced in accordance with the Tanzanian textile industry standards.
CIRCUMSTANTIAL KNOWLEDGE	<p>Detailed knowledge about:</p> <ol style="list-style-type: none"> 1. Health and safety laws and regulations (Occupational Safety and Health Agency); 2. Civilized production requirements; 3. Firefighting knowledge.

OCCUPATION	TEXTILE TECHNICIAN	OCCUPATION CODE	
DUTY TITLE	SPINNING	DUTY NO.	502
TASK TITLE	SPINNING RECOGNITION AND CALCULATION	TASK NO.	5022
PERFORMANCE CRITERIA	The person performing this task must be able to produce qualified spun yarns on the premise of ensuring efficiency in accordance with national standards and customer requirements.		
RANGE STATEMENT	<p>The task can be performed in the textile workshop under the supervision of Senior Textile Technicians or Textile Engineers.</p> <p>The tools and equipment to be used include:</p> <ol style="list-style-type: none"> 1. Spinning machine; 2. Table, drawing board or white paper; 3. Paper; 4. Calculator; 5. Pencil/Marker pen, and straightedge. 		
EVIDENCE REQUIREMENT			
PRACTICAL PERFORMANCE	UNDERPINNING KNOWLEDGE		
<p>The person performing this task must be able to do the following:</p> <ol style="list-style-type: none"> 1. Identify the control panel of the equipment and the process and mechanical schematic diagram of the spinning frame; 2. Calculate the fineness indicator and twist of yarn; 3. Calculate relevant indicators of production efficiency. 	<p>Detailed knowledge about:</p> <p>1.0 Methods</p> <p>The person performing this task must be able to explain how to:</p> <ol style="list-style-type: none"> 1.1 Identify the names and functions of various components of the spinning frame; 1.2 Control the spinning quality; 1.3 Calculate the spinning output indicator of lathe workers. <p>2.0 Principles</p> <p>The person performing this task must be able to explain the following principles:</p> <ol style="list-style-type: none"> 2.1 Principles of safety production; 2.2 Principles of spinning technology. <p>3.0 Theories</p> <p>The person performing this task must be able to explain the following:</p> <ol style="list-style-type: none"> 3.1 The fineness indicator and twist indicator for yarns; 3.2 The indicator for spinning output; 3.3 The purpose of spinning technology; 3.4 The composition of the spinning frame; 3.5 The tower-style arrangement of roving. 		

	<p>4.0 Essential Skills</p> <p>4.1 Technical skills;</p> <p>4.2 Report writing;</p> <p>4.3 Time management;</p> <p>4.4 Teamwork skills.</p> <p>5.0 Math Skills</p> <p>5.1 Basic algebraic operations;</p> <p>5.2 Calculation and conversion of various indicators for measurement and unit.</p>
DESCRIPTION OF THE END PRODUCT / SERVICE	Reading and calculation skills are used to ensure normal production and obtain yarns that meet certain quality standards.
CIRCUMSTANTIAL KNOWLEDGE	<p>Detailed knowledge about:</p> <ol style="list-style-type: none"> 1. Health and safety laws and regulations; 2. Work area safety management system; 3. Safety operation of operating tools; 4. Firefighting knowledge.

OCCUPATION	TEXTILE TECHNICIAN	OCCUPATION CODE	
DUTY TITLE	WARPING	DUTY NO.	503
TASK TITLE	WARPING PRE-POST PREPARATION	TASK NO.	5031
PERFORMANCE CRITERIA	The person performing this task must be able to apply circumstantial knowledge and skills, identify faults based on the given warping equipment, and carry out relevant preparation work.		
RANGE STATEMENT	<p>The task can be performed in the warping workshop under the supervision of Senior Textile Technicians or Textile Engineers.</p> <p>The tools and equipment to be used include:</p> <ol style="list-style-type: none"> 1. Warping machine; 2. Drawing board or white paper; 3. Table; 4. Paper; 5. Calculator; 6. Gloves; 7. Pencil/Marker pen; 8. Scissors. 		
EVIDENCE REQUIREMENT			
PRACTICAL PERFORMANCE		UNDERPINNING KNOWLEDGE	
<p>The person performing this task must be able to do the following:</p> <ol style="list-style-type: none"> 1. Read the equipment faults on the control panel; 2. Read the structural sketch of the equipment; 3. Complete the statistics and analysis of production efficiency and team output. 		<p>Detailed knowledge about:</p> <p>1.0 Methods</p> <p>The person performing this task must be able to explain how to:</p> <ol style="list-style-type: none"> 1.1 Inspect production tools; 1.2 Calculate production efficiency and team output; 1.3 Conduct statistics and analysis of production, efficiency, and other conditions. <p>2.0 Principles</p> <p>The person performing this task must be able to explain the following principles:</p> <ol style="list-style-type: none"> 2.1 The basic principles for warping operation; 2.2 The calculation principles for production efficiency and team output; 2.3 The statistical principles for output, efficiency, etc. <p>3.0 Theories</p> <p>The person performing this task must be able to explain the following:</p> <ol style="list-style-type: none"> 3.1 Fault codes and corresponding faults of the warping machine equipment; 	

	<p>3.2 Knowledge of the production technology of warping machines;</p> <p>3.3 Knowledge of warping machine equipment;</p> <p>3.4 Statistical calculation methods for production efficiency and output of warping machines;</p> <p>3.5 Statistical analysis methods for defect cylinder and defect axis rate.</p> <p>4.0 Essential Skills</p> <p>4.1 Communication skills;</p> <p>4.2 Teamwork skills;</p> <p>4.3 Time management;</p> <p>4.4 Data analysis.</p> <p>5.0 Math Skills</p> <p>5.1 Measurement and unit;</p> <p>5.2 Statistics.</p>
DESCRIPTION OF THE END PRODUCT / SERVICE	The continuous production of the warping machine is ensured, and relevant pre-job preparation work is done well.
CIRCUMSTANTIAL KNOWLEDGE	<p>Detailed knowledge about:</p> <ol style="list-style-type: none"> 1. Safety operation of warping equipment; 2. Safety operation of operating tools; 3. Firefighting knowledge.

OCCUPATION	TEXTILE TECHNICIAN	OCCUPATION CODE	
DUTY TITLE	WARPING	DUTY NO.	503
TASK TITLE	WARPING SHIFT TURNOVER	TASK NO.	5032
PERFORMANCE CRITERIA	The person performing this task must be able to apply the circumstantial knowledge and skills to conduct handover of production varieties for the given warping equipment.		
RANGE STATEMENT	<p>The task can be performed in the warping workshop under the supervision of Senior Textile Technicians or Textile Engineers.</p> <p>The tools and equipment to be used include:</p> <ol style="list-style-type: none"> 1. Warping machine; 2. Drawing board or white paper; 3. Table; 4. Paper; 5. Calculator; 6. Gloves; 7. Pencil/Marker pen; 8. Scissors. 		
EVIDENCE REQUIREMENT			
PRACTICAL PERFORMANCE		UNDERPINNING KNOWLEDGE	
<p>The person performing this task must be able to do the following:</p> <ol style="list-style-type: none"> 1. Complete the handover of new variety characteristics; 2. Complete the handover of new variety operation; 3. Complete the handover of equipment operation state; 4. Identify and eliminate safety hazards of the warping machine. 		<p>Detailed knowledge about:</p> <p>1.0 Methods</p> <p>The person performing this task must be able to explain how to:</p> <ol style="list-style-type: none"> 1.1 Distinguish the characteristics of various yarn varieties; 1.2 Complete the handover of new variety; 1.3 Complete the handover of on-frame technology; 1.4 Complete the handover of equipment; 1.5 Complete the safety operation of warping machines. <p>2.0 Principles</p> <p>The person performing this task must be able to explain the following principles:</p> <ol style="list-style-type: none"> 2.1 Basic elements that affect yarn performance; 2.2 Operating principles for warping machines; 2.3 The structure and performance of yarns. <p>3.0 Theories</p> <p>The person performing this task must be able to explain the following:</p> <ol style="list-style-type: none"> 3.1 The operating state of the warping machine; 3.2 Temperature and humidity; 	

	<p>3.3 Warping technology.</p> <p>4.0 Essential Skills</p> <p>4.1 Communication skills;</p> <p>4.2 Teamwork skills;</p> <p>4.3 Time management;</p> <p>4.4 Identification of equipment faults.</p> <p>5.0 Math Skills</p> <p>5.1 Measurement and unit.</p>
DESCRIPTION OF THE END PRODUCT / SERVICE	The service machine is operated normally and safely to ensure the continuous production of the warping machine.
CIRCUMSTANTIAL KNOWLEDGE	<p>Detailed knowledge about:</p> <ol style="list-style-type: none"> 1. Safety operation of warping equipment; 2. Safety operation of operating tools; 3. Firefighting knowledge.

OCCUPATION	TEXTILE TECHNICIAN	OCCUPATION CODE	
DUTY TITLE	WEAVING	DUTY NO.	504
TASK TITLE	WEAVING SHIFT TURNOVER	TASK NO.	5041
PERFORMANCE CRITERIA	The person performing this task must be able to carry out shift handover work hand over the operation and production status of the machine, as well as changes in raw materials and process, and handle the problems detected during handover in accordance with the national textile occupational standards and weaving operation specifications.		
RANGE STATEMENT	The task can be performed in the weaving workshop under the supervision of Senior Textile Technicians or Textile Engineers. The tools and equipment to be used include: 1. Loom; 2. Scissors; 3. Straightedge; 4. Calculator; 5. Paper; 6. Pencil/Marker pen; 7. Thermometer and hygrometer.		
EVIDENCE REQUIREMENT			
PRACTICAL PERFORMANCE		UNDERPINNING KNOWLEDGE	
The person performing this task must be able to do the following: 1. Clarify the use of raw materials in the variety; 2. Clarify the situation of fixed supply and doing first for prior use; 3. Clarify the damaged vehicles and parts of the equipment; 4. Clarify the continuous defects; 5. Check for problems such as vibration and abnormal noise during equipment operation; 6. Check the situation of fixed supply and doing first for prior use during production.		Detailed knowledge about: 1.0 Methods The person performing this task must be able to explain how to: 1.1 Clarify the raw materials for the yarn count; 1.2 Check the use of raw materials; 1.3 Check the on-frame operation status of the variety; 1.4 Ensure the normal supply of raw materials for the process. 2.0 Principles The person performing this task must be able to explain the following principles: 2.1 The raw materials, varieties, and specifications of the fabric; 2.2 Principles for fabric detection and handling of continuous defects; 2.3 The working principles of the loom. 3.0 Theories The person performing this task must be able to explain the following:	

	<p>3.1 Fundamentals of weaving production technology;</p> <p>3.2 Knowledge of weaving equipment;</p> <p>3.3 On-frame requirements for the production variety;</p> <p>3.4 Continuous defects and handover requirements;</p> <p>3.5 Knowledge of loom performance and operation;</p> <p>3.6 On-frame operation requirements for the production variety.</p> <p>4.0 Essential Skills</p> <p>4.1 Communication skills;</p> <p>4.2 Teamwork skills;</p> <p>4.3 Time management.</p>
DESCRIPTION OF THE END PRODUCT / SERVICE	The weaving shift turnover is correctly completed in accordance with textile occupational standards and technical requirements.
CIRCUMSTANTIAL KNOWLEDGE	<p>Detailed knowledge about:</p> <ol style="list-style-type: none"> 1. The content of the device control panel; 2. Knowledge of equipment maintenance.

OCCUPATION	TEXTILE TECHNICIAN	OCCUPATION CODE	
DUTY TITLE	WEAVING	DUTY NO.	504
TASK TITLE	WEAVING RECOGNITION AND CALCULATION	TASK NO.	5042
PERFORMANCE CRITERIA	The person performing this task must be able to comply with national textile occupational standards, apply circumstantial knowledge and skills, read fabric organisation charts, draw tour route maps, and calculate and statistically analyse weaving production plans.		
RANGE STATEMENT	<p>The task can be performed in the weaving workshop under the supervision of Senior Textile Technicians or Textile Engineers.</p> <p>The tools and equipment to be used include:</p> <ol style="list-style-type: none"> 1. Loom; 2. Scissors; 3. Cloth mirror; 4. Calculator; 5. Paper; 6. Pencil/Marker pen. 		
EVIDENCE REQUIREMENT			
PRACTICAL PERFORMANCE		UNDERPINNING KNOWLEDGE	
<p>The person performing this task must be able to do the following:</p> <ol style="list-style-type: none"> 1. Read tour route maps; 2. Identify items such as yarn raw materials, yarn types, fabric organisation, warp and weft yarn number (count), warp and weft density, width, piece length, and fabric name in the fabric production plan; 3. Calculate yarn density, moisture regain, and fabric density; 4. Complete the conversion between yarn density indicators. 		<p>Detailed knowledge about:</p> <p>1.0 Methods</p> <p>The person performing this task must be able to explain how to:</p> <ol style="list-style-type: none"> 1.1 Ensure the planning and mobility of the tour; 1.2 Read the production plan; 1.3 Calculate relevant indicators in the production plan; 1.4 Convert yarn density indicators. <p>2.0 Principles</p> <p>The person performing this task must be able to explain the following principles:</p> <ol style="list-style-type: none"> 2.1 Planning and mobility of weaving tour routes; 2.2 Knowledge of weaving process production orders; 2.3 Principles for determining yarn density, moisture regain, and fabric density in the weaving process; 2.4 Underpinning knowledge of fabric yarn density. <p>3.0 Theories</p> <p>The person performing this task must be able to explain the following:</p> <ol style="list-style-type: none"> 3.1 Reading of the weaving process sheet; 	

	<p>3.2 Calculation method for fabric yarn density, moisture regain, and fabric density;</p> <p>3.3 Calculation method for the conversion between yarn density indicators.</p> <p>4.0 Essential Skills</p> <p>4.1 Communication skills;</p> <p>4.2 Teamwork skills.</p> <p>5.0 Math Skills</p> <p>5.1 Statistics.</p>
<p>DESCRIPTION OF THE END PRODUCT / SERVICE</p>	<p>The tour route maps are read, and fabric reading and calculation are proficiently carried out based on the actual production condition in accordance with the national textile occupational standards and technical requirements.</p>
<p>CIRCUMSTANTIAL KNOWLEDGE</p>	<p>Detailed knowledge about:</p> <ol style="list-style-type: none"> 1. Health and safety laws and regulations (Occupational Safety and Health Agency); 2. Safety operation of operating tools; 3. Firefighting knowledge.

TABLE 1: DACUM CHARTS FOR TEXTILE TECHNICIAN - NTA 5

DUTIES	TASKS	ENABLERS
1.0 Drawing	1.1 Drawing shift turnover.	<p>General skills and knowledge</p> <ul style="list-style-type: none"> • Communication skills • Report writing • Customer service • Time management • Interpersonal skills • Math skills <p>Tools and equipment</p> <ul style="list-style-type: none"> • Roller • Belt roller • Pressurization device • Knocking off motion • Cleaning device • Sliver can • Bell mouth <p>Materials</p> <ul style="list-style-type: none"> • Fibre and yarn <p>Requirements for employees</p> <ul style="list-style-type: none"> • Adaptability • Positive work attitude • Rigorous work ethos • Professional ethics and integrity
	1.2 Drawing frame management.	
2.0 Spinning	2.1 Spinning shift turnover.	<p>General skills and knowledge</p> <ul style="list-style-type: none"> • Communication skills • Report writing • Customer service • Time management • Interpersonal skills • Teamwork skills • Math skills <p>Tools and equipment</p> <ul style="list-style-type: none"> • Spinning frame • Drawing board or white paper • Table • Calculator • Pencil/Marker pen <p>Materials</p>
	2.2 Spinning recognition and calculation.	

DUTIES	TASKS	ENABLERS
		<ul style="list-style-type: none"> • Fibre and yarn • White paper <p>Requirements for employees</p> <ul style="list-style-type: none"> • Adaptability • Positive work attitude • Rigorous work ethos • Professional ethics and integrity
3.0 Warping	3.1 Warping pre-post preparation.	<p>General skills and knowledge</p> <ul style="list-style-type: none"> • Communication skills • Report writing • Customer service • Time management • Interpersonal skills • Teamwork skills • Math skills <p>Tools and equipment</p> <ul style="list-style-type: none"> • Warping machine • Drawing board or white paper • Table • Calculator • Gloves • Pencil/Marker pen • Scissors <p>Materials</p> <ul style="list-style-type: none"> • Fibre and yarn • White paper <p>Requirements for employees</p> <ul style="list-style-type: none"> • Adaptability • Positive work attitude • Rigorous work ethos • Professional ethics and integrity
	3.2 Warping shift turnover.	
4.0 Weaving	4.1 Weaving shift turnover.	<p>General skills and knowledge</p> <ul style="list-style-type: none"> • Communication skills • Report writing • Customer service • Time management • Interpersonal skills • Teamwork skills • Math skills
	4.2 Weaving recognition and calculation.	

DUTIES	TASKS	ENABLERS
		<p>Tools and equipment</p> <ul style="list-style-type: none"> • Loom • Scissors • Cloth mirror • Calculator • Paper • Pencil/Marker pen <p>Materials</p> <ul style="list-style-type: none"> • Fibre and yarn • White paper <p>Requirements for employees</p> <ul style="list-style-type: none"> • Adaptability • Positive work attitude • Rigorous work ethos • Professional ethics and integrity