Model Curriculum

QP Name: Draw Frame Operator

QP Code: TSC/Q0105

QP Version: 2.0

NSQF Level: 4

Model Curriculum Version: 1.0

Textile Sector Skill Council || Textile Sector Skill Council (TSC) 14H, 14th Floor, Hansalaya Building, 15, Barakhamba Road, New Delhi - 110 001
Office: +91-11-43536355-7

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Training Parameters

Sector	Textile
Sub-Sector	Spinning - Textiles
Occupation	Pre Spinning Operations
Country	India
NSQF Level	4
Aligned to NCO/ISCO/ISIC Code	NCO-2015/8151.0700
Minimum Educational Qualification and Experience	Basic Literacy and Numeracy with 0-6 Months of experience
Pre-Requisite License or Training	NA
Minimum Job Entry Age	18 Years
Last Reviewed On	19/03/2021
Next Review Date	19/03/2026
NSQC Approval Date	
QP Version	2.0
Model Curriculum Creation Date	19/03/2021
Model Curriculum Valid Up to Date	19/03/2026
Model Curriculum Version	1.0
Minimum Duration of the Course	300 hours
Maximum Duration of the Course	300 hours

Program Overview

This section summarizes the end objectives of the program along with its duration.

Training Outcomes

- Take charge of the shift and handover shift in the draw frame department.
- Operate draw frame machine.
- Perform sliver piecing operations.
- Attend draw frame machine for can change, sliver breakages and can doffing.
- Carry out cleaning and other tenting activities in the draw frame department.
- Maintain work area, tools, and machines as per guidelines.
- Follow greening and energy conservation activities as per guidelines.
- Describe the importance of health, safety, and security at the workplace.
- Communicate and work effectively in a team.
- Comply with organizational and industry standards.

Compulsory Modules

The table lists the modules, their duration, and mode of delivery.

NOS and Module Details	Theory Duration	Practical Duration	On-the-Job Training Duration (Mandatory)	On-the-Job Training Duration (Recommended)	Total Duration
Bridge Module	**03:00**	**01:00**			**04:00**
Module 1: Introduction to spinning mills and the objectives of draw frame machine operation	03:00	01:00			04:00
TSC/N0132: Carry out shift change, can change, sliver piecing, doffing, and tenting responsibilities in draw frame department **Version 1.0** **NSQF Level - 4**	**62:00**	**154:00**			**216:00**
Module 2: Taking charge and handing over of shift in draw frame department	06:00	14:00			20:00
Module 3: Operate the draw frame machine	10:00	26:00			36:00
Module 4: Perform sliver can change in a draw frame machine	8:00	22:00			30:00
Module 5: Perform piecing of broken sliver at draw frame creel side	12:00	28:00			40:00
Module 6: Perform piecing	06:00	14:00			20:00

NOS and Module Details	Theory Duration	Practical Duration	On-the-Job Training Duration (Mandatory)	On-the-Job Training Duration (Recommended)	Total Duration
of broken sliver at draw frame front side					
Module 7: Perform can doffing in the draw frame machine	08:00	21:00			29:00
Module 8: Carryout cleaning activities in the draw frame machine	06:00	15:00			21:00
Module 9: Carryout other tenting activities in the draw frame department	06:00	14:00			20:00
TSC/N9015: Follow machine, safety and organizational guidelines in textile sector Version 1.0 NSQF Level - 4	**19:00**	**46:00**			**65:00**
Module 10: Maintaining the work area, tools, and machines	02:00	06:00			08:00
Module 11: Greening and energy conservation in the textile sector	02:00	06:00			08:00
Module 12: Health, safety, and emergencies response at workplace	09:00	23:00			32:00
Module 13: Organizational standards and policies	06:00	11:00			17:00
TSC/N9016: Follow teamwork, adaptability, and communication guidelines in textile sector Version 1.0 NSQF Level - 4	**05:00**	**10:00**			**15:00**
Module 14: Teamwork, trust, and communication	03:00	07:00			10:00
Module 15: Adaptability	02:00	03:00			05:00
Total Duration	**89:00**	**211:00**			**300:00**

Module Details

Module 1: Introduction to spinning mills and the objectives of draw frame machine operation

Bridge Module

Terminal Outcomes:

- Discuss the role of spinning mills in the textile value chain.
- Discuss the process and product flow in the spinning mills.
- Discuss the objectives of the draw frame machine.

Duration: ***03:00***	**Duration**: ***01:00***
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Discuss the role of spinning mills in the textile value chain. • Discuss the raw material, final product and process flow in a typical spinning mill. • Describe the functions of the draw frame machine. • Classify the types of draw frame with reference to technology and process.	• Illustrate the process flow in a typical spinning mill. • Label the parts of a draw frame machine.
Classroom Aids:	
Charts, Posters, Projector, Blackboard.	
Tools, Equipment, and Other Requirements	
Samples of fibres, yarns, intermediate and finished packages, process flow chart from blow room to finishing department, sample tools and accessories for draw frame, etc., seating arrangement for 25 people, chalk, poster with parts of draw frame labelled, signboards, sample logbooks, and formats.	

Module 2: Taking charge and handing over of shift in draw frame department

Mapped to TSC/N0132, v1.0

Terminal Outcomes:

- Describe the basics of staple yarn spinning.
- Explain the position of the draw frame operator in the hierarchy line and the type of role to play in a spinning mill.
- Discuss the rules and regulations of textile mills.
- Prepare and review shift log report and checklist.
- Demonstrate inspection of machines, materials, and accessories in the draw frame department.
- Calculate and prepare draw frame production record.

Duration: ***06:00***	**Duration**: ***14:00***
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Describe the basics of staple yarn spinning i.e., process flow, types of machines involved, material flow, types of fibres used, type of yarn produced, terms and definitions of the count, production, efficiency, machine speed, colour code, etc. • Define organizational hierarchy and describe the vertical link between superior and lower levels in an organization. • Describe the roles and responsibilities of the draw frame operator. • List out the rules and regulations followed in a spinning mill like shift timing and duration, limits of leave and holidays, etc. • Describe the process of shift handover and shift takeover. • Describe shift checklist, shift log report, and state their significance. • Discuss the quality requirements of raw materials, spares used in the drawing department. • Discuss the basic electric connection and motor drives used in the draw frame machine. • Discuss the components of shift handover log report. • List the operational tools required to carry out the tenting activities in the draw frame department. • Classify the count system followed in a spinning mill. • Distinguish between the different types of	• Demonstrate preparation of organization chart depicting the various departments and roles involved in a spinning mill. • Demonstrate preparation of a sample log report of an outgoing shift and a checklist of incoming shift. • Demonstrate the process of taking supply and production stock. • Demonstrate inspection of raw materials and tools available at the production area. • Demonstrate collection of the shift details from the previous shift operator. • Demonstrate the end of shift activities like cleaning, weighing waste, disposal of waste, etc. • Demonstrate calculation of shift production, amount of hard waste generated, and record in the register. • Demonstrate the process of reporting anomalies to the shift supervisor.

waste generated at the draw frame and their effect on sliver quality. • Discuss the SOP of taking care of shift and handing over the shift in the draw frame department. • Discuss the consequences of improper shift takeover and handover.	
Classroom Aids:	
Charts, Posters, Projector, Blackboard.	
Tools, Equipment, and Other Requirements	
Waist bag, waste samples, samples of operational tools, calculator, sample logbooks and production records, two draw frame machines in running production condition with six feed cans and two empty cans, seating arrangement for 25 people.	

Module 3: Operate the draw frame machine

Mapped to TSC/N0132, v1.0

Terminal Outcomes:

- Demonstrate the operation of the draw frame machine as per the SOP.
- Demonstrate the operation of the machine display panel, recognize machine faults, check and feed process parameters, etc.
- Demonstrate dismantling and assembling of detachable parts in draw frame machine.

Duration: ***10:00***	**Duration**: ***26:00***
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Discuss the SOP of operating the draw frame machine. • Discuss the functions of each signal lamp in the draw frame machine. • Describe the main parts of the draw frame machine, control switches, and display board and their function. • Discuss the importance of safety doors in the draw frame machine.	• Demonstrate starting and stopping of draw frame machine. • Demonstrate the steps of identification of various malfunctions of machine using the machine display panel. • Demonstrate the operation of the machine display panel for inspecting the parameters like hank, speed, hank production, efficiency, etc. • Demonstrate dismantling and assembling of machine parts of top drafting rollers, clearers, sliver trumpet, etc. • Demonstrate opening and closing of machine safety doors and waste collection chamber.
Classroom Aids:	
Charts, Posters, Projector, Blackboard.	
Tools, Equipment, and Other Requirements	
Two draw frame machines, seating arrangement for 25 people.	

Module 4: Perform sliver can change in a draw frame machine

Mapped to TSC/N0132, v1.0

Terminal Outcomes:

- Demonstrate identification of sliver exhausts in the draw frame machine as per the SOP.
- Demonstrate transportation of sliver cans using specified tools.
- Demonstrate sliver can replacement and sliver piecing as per SOP.

Duration: ***08:00***	**Duration**: ***22:00***
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Describe the parts of the creel zone in a draw frame machine and their function. • State the relation between count and colour code identification of sliver cans and their importance. • Explain the objectives of sliver doubling in the draw frame process. • Discuss the SOP of sliver can replenishment and can transport. • Discuss the need for checking damages on the surface of the sliver.	• Demonstrate transportation of sliver cans using specified tools. • Demonstrate inspection of the can for sliver exhausts. • Demonstrate changing sliver can at creel area for piecing activity. • Demonstrate the steps for passing new end in creel passage, and run the machine. • Demonstrate the storage of sliver cans as per the SOP.
Classroom Aids:	
Charts, Posters, Projector, Blackboard.	
Tools, Equipment, and Other Requirements	
Two draw frame machines, six feed cans and two empty sliver cans, seating arrangement for 25 people.	

Module 5: Perform piecing of broken sliver at draw frame creel side

Mapped to TSC/N0132, v1.0

Terminal Outcomes:

- Demonstrate identification of broken sliver at creel zone.
- Demonstrate sliver piecing as per the SOP.
- Demonstrate threading of sliver in the draw frame machine as per the SOP.

Duration: ***12:00***	**Duration**: ***28:00***
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Describe the sliver passage through various parts of the draw frame. • Discuss the different types of sliver piecing methods. • Distinguish between different signal lamps provided at draw frame machine. • Explain the reasons for sliver breakages at creel. • State the importance of attending to sliver breakage on priority and urgently with respect to any other task in the draw frame department. • Discuss the SOP of piecing broken sliver at creel zone.	• Demonstrate the use of signal lamps to identify the machine stoppage. • Demonstrate how to locate the position of broken sliver at creel zone. • Demonstrate piecing broken sliver, align the sliver in passage and run machine. • Demonstrate collection of sliver waste as per the SOP.
Classroom Aids:	
Charts, Posters, Projector, Blackboard.	
Tools, Equipment, and Other Requirements	
Two draw frame machines, waist bag, samples of slivers, sliver waste, seating arrangement for 25 people.	

Module 6: Perform piecing of broken sliver at draw frame front side

Mapped to TSC/N0132, v1.0

Terminal Outcomes:

- Demonstrate piecing of front side breaks in the draw frame machine as per the SOP.

Duration: ***06:00***	**Duration***: 14:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Describe the parts of the draw frame machine in the front zone and their functions. • State the reasons for sliver breakage at the delivery side of the draw frame machine. • Discuss the of Relative Humidity (RH%) in the draw frame department. • List the appropriate tools for cleaning roller lapping, drafting zone cleaning, etc. • Discuss the SOP for repairing breakages at the delivery side of the draw frame.	• Demonstrate removal of top and bottom roller lapping. • Demonstrate cleaning of trumpet choking. • Demonstrate piecing of sliver at the delivery end of the draw frame. • Demonstrate threading of sliver in drafting and coiler zone and run the machine.
Classroom Aids:	
Charts, Posters, Projector, Blackboard.	
Tools, Equipment, and Other Requirements	
Two draw frame machines, lapping cleaning tool, drafting zone cleaning gun, waist bag, samples of slivers, sliver waste, seating arrangement for 25 people.	

Module 7: Perform can doffing in the draw frame machine

Mapped to TSC/N0132, v1.0

Terminal Outcomes:

- Demonstrate the creeling activity of empty cans at machine reserve zone.
- Demonstrate doffing of finished cans manually as per the SOP.

Duration: ***08:00***	**Duration**: ***21:00***
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Describe the parts of the draw frame machine in the doffing zone and their functions. • Differentiate between doffing processes indifferent types of draw frame machines. • State the capacity of the reserve can magazine at draw frame. • Discuss the relationship between sliver can content or doff length and sliver hank. • State the doffing duration in the draw frame machine as per the SOP. • Discuss the SOP of doffing the can at draw frame.	• Demonstrate filling of empty cans at reserve magazine. • Demonstrate the use of draw frame control panel to identify the can doffing. • Demonstrate manual doffing as per the SOP. • Demonstrate transportation and stacking of full sliver cans as per the SOP. • Demonstrate cleaning of can caster wheels as per the SOP.
Classroom Aids:	
Charts, Posters, Projector, Blackboard.	
Tools, Equipment, and Other Requirements	
Two draw frame machines, two sliver cans, can caster cleaning fixer, seating arrangement for 25 people.	

Module 8: Carryout cleaning activities in the draw frame machine

Mapped to TSC/N0132, v1.0

Terminal Outcomes:

- Demonstrate cleaning of different parts of the draw frame machine by following the standard cleaning method.

Duration: ***06:00***	**Duration**: ***15:00***
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Explain the importance of maintaining the Draw frame department clean and its implication on sliver quality. • List surface defects and impurities on the slivers. • List the cleaning activities of the draw frame operator. • Describe the tools and equipment used for cleaning the draw frame machine and the procedure for handling tools. • Describe the 5s housekeeping system and discuss how this system helps to maintain the draw frame machine and department tidy. • Discuss the SOP of cleaning the draw frame machine. • State limits and responsibilities of draw frame operator for supporting draw frame fitter.	• Demonstrate cleaning of the draw frame machine as per the SOP. • Demonstrate collection of suction waste at the waste collection chamber. • Demonstrate sweeping of floor area around the draw frame machine. • Demonstrate segregating the different types waste collected at draw frame. • Demonstrate the process to remove surface defects and impurities on the slivers.
Classroom Aids:	
Charts, Posters, Projector, Blackboard.	
Tools, Equipment, and Other Requirements	
Two draw frame machines, waist bag, various types of waste, cleaning stick, cleaning brush, broom, seating arrangement for 25 people.	

Module 9: Carryout other tenting activities in the draw frame department

Mapped to TSC/N0132, v1.0

Terminal Outcomes:

- Perform other tenting activities in the draw frame department.

Duration: ***06:00***	**Duration**: ***14:00***
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• List the other tenting activities of the draw frame tenter. • List the cleaning material required in the draw frame department. • Describe the terms of production, efficiency, hank meter reading, waste, etc. • List the possible malfunctions in the draw frame department. • Explain the count change process and important items to be noted during count change. • Discuss the SOP of other tenting activities in the draw frame department. • Discuss the reporting methods and formats to the superiors.	• Demonstrate supporting the count change team for setting, wheel change. • Demonstrate supporting the QC inspector to carryout wrapping tests. • Demonstrate recognising stop motion ineffectiveness. • Demonstrate the process of identifying and reporting malfunctions in the draw frame department.
Classroom Aids:	
Charts, Posters, Projector, Blackboard, Chalk.	
Tools, Equipment, and Other Requirements	
Two draw frame machines, draft change wheel, seating arrangement for 25 people.	

Module 10: Maintaining the work area, tools, and machines

Mapped to TSC/N9015, v1.0

Terminal Outcomes:

- Maintain the work area, tools, and machines in the spinning preparatory department.
- Explain the objective of tools, PPE used in the Spinning preparatory department.

Duration: *02:00*	**Duration: *06:00***
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Differentiate between various tools used for cleaning and maintenance. • Explain the objectives of each maintenance and cleaning tool used in draw frame machine operation. • Discuss the significance of safe handling procedures of tools and equipment. • Brief the importance of written instructions on the allocated machines. • Discuss the significance of minimizing the wastage of material, effort and time. • Prepare a draft schedule for cleaning and waste collection for the assigned job role. • List the types of Material handling equipment and methods used in the spinning preparatory department. • Discuss the types and importance of PPE used in the spinning preparatory department.	• Demonstrate the procedure of handling raw materials, tools, PPE, and machines in spinning mill. • Identify the appropriate tools and equipment for the respective job. • Demonstrate the scheduled cleaning of machines and equipment. • Demonstrate the inspection of machine guards in the allotted draw frame machine.
Classroom Aids:	
Charts, Posters, Projector, Blackboard.	
Tools, Equipment, and Other Requirements	
Two draw frame machines, ancillaries, material handling equipment, tool kits of operational, cleaning and maintenance activities, PPE, seating arrangement for 25 people.	

Module 11: Greening and energy conservation in the textile sector

Mapped to TSC/N9015, v1.0

Terminal Outcomes:

- Identify the recyclable, non-recyclable, and hazardous wastes in the spinning preparatory department.
- Optimize usage of material and resources at the workplace.

Duration: *02:00*	**Duration: *06:00***
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Discuss the terms of pollution control, soil conservation, waste management, recycle, forest conservation, global warming, organic products, etc. • List the different sources of energy. • Discuss the impact of using non-biodegradable materials on the environment. • Evaluate the different ways to conserve energy in a textile factory. • Discuss the significance of conserving the environment and energy resources. • Discuss the significance of specified usage of resources at the work area.	• Demonstrate the segregation of recyclable, non-recyclable, hazardous wastes in the spinning preparatory department. • Demonstrate the handling and storage of waste materials. • Create a list of potential ways to reduce wastage and conserve energy in a textile factory.
Classroom Aids:	
Charts, Posters, Projector, Blackboard.	
Tools, Equipment, and Other Requirements	
samples of organic cotton, video visuals on solar power, package materials - covers, bags, wrappers, box, seating arrangement for 25 people.	

Module 12: Health, safety, and emergency response at workplace

Mapped to TSC/N9015, v1.0

Terminal Outcomes:

- Perform first aid at the workplace.
- Follow fire safety protocol in case of fire emergencies in the hand loom unit.
- Recognize hazardous materials in the hand loom unit.

Duration: *09:00*	**Duration: *23:00***
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Discuss the significance of safe handling procedures of tools and equipment. • Discuss the importance and standard procedure for materials. • Discuss the impacts hazards of unsafe workplace conditions and procedures in the textile industry (operational, environmental, personal, ergonomic, chemical, electric, fire) and methods to avoid hazards. • Distinguish between the various types of fire extinguishers. • Distinguish different types of alarms and their significance. • Differentiate the different items in a First aid box. • Discuss the correct work posture and importance of ergonomics for the assigned job role.	• Classify abnormal sounds emanating from faulty/worn-out machine parts. • Classify PPEs like body protectors, earplugs, nose masks, head caps, etc. as per guidelines. • Demonstrate handling of fire extinguishers. • Locate emergency exits of workplace and organization. • Participate in fire drills/evacuation at the workplace. • Demonstrate application of first aid procedures for injury/accidents in mock situations. • Demonstrate lifting of heavyweight materials as per the standard procedure.
Classroom Aids:	
Charts, Posters, Projector, Blackboard.	
Tools, Equipment, and Other Requirements	
PPE, first aid kit, fire extinguishers, draw frame machine, seating arrangement for 25 people.	

Module 13: Organizational standards and policies

Mapped to TSC/N9015, v1.0

Terminal Outcomes:

- Recognize the significance of organization policies, quality standards, rules, and regulations in textile industry.
- Maintain a hygienic working atmosphere as per the protocol of the textile sector.

Duration: *06:00*	**Duration: *11:00***
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Discuss the significance of following organizational standard procedures, quality standards, rules, codes, policies, and safety standards for the textile sector. • Discuss the need for organizational quality systems, 5S, ISO, SA, etc. following in the textile sector. • Brief the importance of following workwear standards, behavioural protocols, and etiquette in the textile sector. • Discuss the contents of the organization's formats and procedures for reporting production, defects, faults, material/tool requisition, and quality parameters and tasks completed for the assigned job.	• Practice the systems like Quality circles, 5S, ISO, etc. in the routine work. • Demonstrate the steps to maintain a hygienic workplace.
Classroom Aids:	
Charts, Posters, Projector, Blackboard.	
Tools, Equipment, and Other Requirements	
list of rules and regulations followed in the organization, list of industry standards such as performance indicators of mills, process, worker, seating arrangement for 25 people.	

Module 14: Teamwork, trust, and communication

Mapped to TSC/N9016, v1.0

Terminal Outcomes:

- Confirm to standard guidelines while working with the team.
- Communicate effectively with others at the workplace.

Duration: *03:00*	**Duration: *07:00***
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Discuss the importance of teamwork and following industry protocols at the workplace. • Explain the limits and responsibilities for the assigned duties in the textile sector. • Summarize emergency contact numbers, details of officials, reporting protocols, and formats. • List hierarchy of communication and communication etiquettes in the textile sector.	• Apply methods of teamwork to complete a given task. • Prepare a sample shift performance report for an allotted task. • Demonstrate the use of appropriate verbal and non-verbal communication skills while interacting with others at the workplace.
Classroom Aids:	
Charts, Posters, Projector, Blackboard.	
Tools, Equipment, and Other Requirements	
Video visuals of basic communications and team working, models of communicating and team working area at your job, seating arrangement for 25 people.	

Module 15: Adaptability

Mapped to TSC/N9016, v1.0

Terminal Outcomes:

- Operate at the various environment and different hierarchy levels for the assigned task.
- Create a work plan for the allotted task.

Duration: *02:00*	**Duration: *03:00***
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Discuss the significance of adaptability at the workplace with various levels of people. • Discuss the importance of developing adaptability skills. • Discuss the impacts of inadaptability at the workplace.	• Demonstrate the ability to work in a dynamic work environment by developing coping mechanisms, survival tactics, and traits of flexibility. • Create a sample backup work plan for the shortage of manpower, raw materials, etc.
Classroom Aids:	
Charts, Posters, Projector, Blackboard.	
Tools, Equipment, and Other Requirements	
Video visuals of adaptability with suitable examples, seating arrangement for 25 people.	

Annexure

Trainer Requirements

Trainer Prerequisites						
Minimum Educational Qualification	**Specialization**	**Relevant Industry Experience**		**Training Experience**		**Remarks**
		Years	***Specialization***	***Years***	***Specialization***	
Basic Literacy and Numeracy	NA	1	Spinning Production	4	Spinning Production	

Trainer Certification	
Domain Certification	**Platform Certification**
TSC/Q0105, v2.0 - Draw Frame Operator, Minimum pass percentage 80 percent.	MEP/Q2601, v1.0 – Trainer, Minimum pass percentage 80 percent.

Assessor Requirements

Assessor Prerequisites						
Minimum Educational Qualification	**Specialization**	**Relevant Industry Experience**		**Training/Assessment Experience**		**Remarks**
		Years	***Specialization***	***Years***	***Specialization***	
ITI	Textiles	3	Spinning Production			

Assessor Certification	
Domain Certification	**Platform Certification**
TSC/Q0105, v2.0 - Draw Frame Operator, Minimum pass percentage 80 percent.	MEP/Q2701, v1.0 – Assessor, Minimum pass percentage 80 percent.

Assessment Strategy

The overall assessment strategy and specific arrangements have been put in place to ensure that assessment is always valid, reliable, and fair and show that these are in line with the requirements of the NSQF.

a) The emphasis is on 'learn-by-doing' and practical demonstration of skills and knowledge based on the performance criteria.

b) The assessment papers are developed by Subject Matter Experts (SME) available with the Assessment Agency as per the performances and assessment criteria mentioned in the Qualification Packs.

c) The assessment papers are also checked for the various outcome-based parameters such as quality, time taken, tools and equipment requirement, etc.

d) The assessments are designed to assess maximum parts during the practical hands-on work. Duties and responsibility of Draw Frame Operator also assessed. The technical limitations at the training centres are taken care of in theory and viva.

e) The assessment agencies are instructed to hire qualified and experienced assessors as per TSC's criteria who have integrity, reliability, and fairness. Each assessor shall sign a document with its assessment agency by which they commit themselves to comply with the rules of confidentiality and conflict of interest, independence from commercial and other interests that would compromise the impartiality of the assessments.

f) The assessment agencies are instructed to ideally have assessors with the right mix of industry experience, academia and these are detailed in the Assessment Agency Protocol of TSC

g) The assessors selected by Assessment Agencies are scrutinized and made to undergo training and introduction to Assessment Framework, competency-based assessments, assessors guide, etc. and they are assessed for Domain and assessment skills. Only those assessors who clear both the assessments with a minimum of 80% marks in each are permitted to carry out assessments.

h) The assessors are provided with an Assessors guide developed by the Subject Matter Expert of the Assessment Agency or by Textile SSC as per Assessment Framework. The Assessors guides are developed to ensure the maximum possible consistency/transparency in the assessment by different assessors and elaborate on the following:

1. Qualification Pack Structure.
2. Guidance for the assessors to conduct theory, practical, and viva assessments.
3. Guidance for trainees to be given by the assessor before the start of the assessments.
4. Guidance on the assessment process, practical brief with the step of operational practical observation checklist Attendance Sheet and mark sheet.
5. Viva guidance for uniformity and consistency across the batch.
6. Guidance on assessment evidence collection.

The assessment results are backed by evidence collected by assessors.

1. The assessors need to collect a copy of the attendance sheets for the training done under the scheme. The attendance sheets are signed and stamped by the in-charge/ Head of the training centre.

2. The assessors need to verify the authenticity of the candidate by checking the photo ID card issued by the institute as well as anyone's Photo ID card issued by the Central/Government. The same needs to be mentioned in the attendance sheet. In case of suspicion, the assessor should authenticate and cross verify the trainee's credentials in the enrolment form.

3. The assessors need to take a camera to click a photograph of the trainees working on the job and giving a theory exam as evidence.

4. The assessors also need to carry a Photo ID card.

5. The assessors also need to take the photographs as evidence from appropriate angles/sides of the final workpiece/job submitted by the trainee.

6. The details on the assessment framework are elaborated in the Textile SSC protocol for accreditation of Assessment Agencies and Assessment Framework.

All accredited Assessment Agencies follow the "Textile SSC's protocol for accreditation of Assessment Agencies and Assessment Framework". Each NOS in the Qualification Pack (QP) will be assigned a relative weightage for assessment based on the criticality of the NOS. Therein each Performances Criteria in the NOS will be assigned marks for theory or practical based on relative importance, the criticality of function, and training infrastructure.

References

Glossary

Term	Description
Declarative Knowledge	Declarative knowledge refers to facts, concepts and principles that need to be known and/or understood in order to accomplish a task or to solve a problem.
Key Learning Outcome	Key learning outcome is the statement of what a learner needs to know, understand and be able to do in order to achieve the terminal outcomes. A set of key learning outcomes will make up the training outcomes. Training outcome is specified in terms of knowledge, understanding (theory) and skills (practical application).
OJT (M)	On-the-job training (Mandatory); trainees are mandated to complete specified hours of training on site
OJT (R)	On-the-job training (Recommended); trainees are recommended the specified hours of training on site
Procedural Knowledge	Procedural knowledge addresses how to do something, or how to perform a task. It is the ability to work, or produce a tangible work output by applying cognitive, affective or psychomotor skills.
Training Outcome	Training outcome is a statement of what a learner will know, understand and be able to do upon the completion of the training.
Terminal Outcome	Terminal outcome is a statement of what a learner will know, understand and be able to do upon the completion of a module. A set of terminal outcomes help to achieve the training outcome.

Acronyms and Abbreviations

Term	Description
QP	Qualification Pack
NSQF	National Skills Qualification Framework
NSQC	National Skills Qualification Committee
NOS	National Occupational Standards
SOP	Standard Operating Procedure
PPE	Personal Protective Equipment
QC	Quality Control
ISO	International Organization for Standardization
SA	Standards on Auditing