

Model Curriculum

Pirn Winding Machine Operator

SECTOR: TEXTILE
SUB-SECTOR: WEAVING - TEXTILES
OCCUPATION: WEAVING
REF ID: TSC/Q2206, V3.0
NSQF LEVEL: 3



Certificate

CURRICULUM COMPLIANCE TO QUALIFICATION PACK – NATIONAL OCCUPATIONAL STANDARDS

is hereby issued by the

TEXTILE SECTOR SKILL COUNCIL
for the

MODEL CURRICULUM

Complying to National Occupational Standards of Job Role/ Qualification Pack:
'Pirn Winding Machine Operator' QP No. 'TSC/ Q 2206' **NSQF Level 3**

Date of Issuance: **January, 27th, 2022**

Valid up to: **January, 27th, 2025**

** Valid up to the next review date of the Qualification Pack*



(Dr. Swapna Mishra)
Director (C&T)
(Textile Sector Skill Council)

TABLE OF CONTENTS

1. Curriculum	01
2. Trainer Prerequisites	06
3. Annexure: Assessment Criteria	07

Pirn Winding Machine Operator

CURRICULUM / SYLLABUS

This program is aimed at training candidates for the job of a "Pirn Winding Machine Operator", in the "Textile" Sector/Industry and aims at building the following key competencies amongst the learner

Program Name	Pirn Winding Machine Operator		
Qualification Pack Name & Reference ID.	Pirn Winding Machine Operator TSC/Q2206, version 3.0		
Version No.	3.0	Version Update Date	27.01.2022
Pre-requisites to Training	<ul style="list-style-type: none"> • Grade 9 with No Experience (OR) • Grade 8 pass and pursuing continuous schooling in regular school with vocational subject with no experience (OR) • 8th grade pass with 1 year of relevant experience (OR) • 5th grade pass with 4 years of relevant experience (OR) • Ability to read and write with 5 years of experience" 		
Training Outcomes	<p>After completing this programme, participants will be able to:</p> <ul style="list-style-type: none"> • Perform taking charge of shift and handing over shift • Operate Pirn winding machine • Maintain work area, tools and machines • Gain behavioral skill for team working • Maintain health, safety and security at work place • Comply with industry and organizational requirement 		

This course encompasses 6 out of 6 National Occupational Standards (NOS) of “Pirn Winding Machine Operator” Qualification Pack issued by “TSC: Textile Sector Skill Council”

	Module	Key Learning Outcomes	Equipment Required
1	Taking charge of shift and handing over shift to Pirn winding machine operator Theory Duration (hh:mm) 15:00 Practical Duration (hh:mm) 60:00 Corresponding NOS Code TSC/N 2211	<ul style="list-style-type: none"> Learn general discipline Gain knowledge about basic skills of communication Understand the role of carding operator Perform tasks while taking charge of shift and handing over shift Become familiar in faults identification 	Class room requirements: a batch of 25 people seating capacity with a screen and projector
2	Operating Auto Pirn winding machine Theory Duration (hh:mm) 45:00 Practical Duration (hh:mm) 90:00 Corresponding NOS Code TSC/N 2212	<ul style="list-style-type: none"> Perform stripping of empty pirn Perform running of pirn winding machine and battery filling 	1. common for every batch: poster/video visuals for work method 2. Class room requirements: a batch of 25 people seating capacity with a screen and projector
3	Maintain work area, tools and machines Theory Duration (hh:mm) 05:00 Practical Duration (hh:mm) 10:00 Corresponding NOS Code TSC/N 9001	<ul style="list-style-type: none"> Gain knowledge on Housekeeping system Identify and know unique functions of basic hand tools like cleaning hook, cleaning stick, bag, etc. Handling equipment importance Perform maintenance activities for handling equipment 	1. common for every batch: poster/video visuals for work method 2. Class room requirements: a batch of 25 people seating capacity with a screen and projector

4	<p>Working in a team</p> <p>Theory Duration (hh:mm) 05:00</p> <p>Practical Duration (hh:mm) 10:00</p> <p>Corresponding NOS Code TSC/N 9002</p>	<ul style="list-style-type: none"> Understanding the team work and its importance Know about the basic requirements for team working 	<p><u>Class room requirements:</u> a batch of 25 people seating capacity with a screen and projector</p>
5	<p>Maintain health, safety and security at work place</p> <p>Theory Duration (hh:mm) 15:00</p> <p>Practical Duration (hh:mm) 30:00</p> <p>Corresponding NOS Code TSC/N 9003</p>	<ul style="list-style-type: none"> Know the general safety Rules Know the importance of personal protective equipment like apron, cap, earplugs, nose mask etc. and their application under different working conditions. Gain knowledge on various health hazards relevant to workplace and basic first aid training. Identify and select right equipment such as fire extinguisher & based on type of fire. Become good practice on first aid, fire fighting etc. 	<p><u>1. A sample of following items for each trainee:</u> apron, head cap, nose mask, ear plug, shoe, <u>2. common for every batch:</u> first aid materials, fire extinguisher, work method posters/pictures, <u>3. Class room requirements:</u> 25 people seating capacity with a screen and projector</p>
6	<p>Comply with industry and organisational requirement</p> <p>Theory Duration (hh:mm) 05:00</p> <p>Practical Duration (hh:mm) 10:00</p> <p>Corresponding NOS Code TSC/N 9004</p>	<ul style="list-style-type: none"> Know about organizational and industry standards Know the requirements for self-development Gain knowledge on Organizational & Industry standards 	<p><u>Class room requirements:</u> 25 people seating capacity with a screen and projector</p>

7	<p>Employability Skills (30 Hours)</p> <p>Theory Duration (hh:mm) 12:00</p> <p>Practical Duration (hh:mm) 18:00</p>	<ul style="list-style-type: none"> • Discuss the importance of Employability Skills in meeting the job requirements. • Explain constitutional values, civic rights, duties, citizenship, responsibility towards society etc. that are required to be followed to become a responsible citizen. • Show how to practice different environmentally sustainable practices • Discuss 21st century skills. • Display positive attitude, self -motivation, problem solving, time management skills and continuous learning mindset in different situations. • Use appropriate basic English sentences/ phrases while speaking • Demonstrate how to communicate in a well -mannered way with others. • Demonstrate working with others in a team • Show how to conduct oneself appropriately with all genders and PwD • Discuss the significance of reporting sexual harassment issues in time • Discuss the significance of using financial products and services safely and securely. • Explain the importance of managing expenses, income, and savings. • Explain the significance of approaching the concerned authorities in time for any exploitation as per legal rights and laws • Show how to operate digital devices and use the associated applications and features, safely and securely • Discuss the significance of using internet for browsing, accessing social media platforms, safely and securely. • Discuss the need for identifying opportunities for potential business, sources for arranging money and potential legal and financial challenges. • Differentiate between types of customers • Explain the significance of identifying customer needs and addressing them • Discuss the significance of maintaining hygiene and dressing appropriately. • Create a biodata • Use various sources to search and apply for jobs • Discuss the significance of dressing up neatly and maintaining hygiene for an interview • Discuss how to search and register for apprenticeship opportunities. 	<p>Class room requirements: 25 people seating capacity with a screen and projector</p>
---	--	--	--

Total Duration: Theory Duration 102:00 Practical Duration 228:00	Unique Equipment Required: Apron, head cap, nose mask, earplug, shoe, Pirn winding machine, Empty Pirns, Full Pirns, Yarn Package
---	---

Grand Total Course Duration: 330 Hours, 0 Minutes

(This syllabus/ curriculum has been approved by TSC: Textile Sector Skill Council)

Trainer Prerequisites for Job role: “Pirn Winding machine operator” mapped to

Qualification Pack: “Pirn Winding machine operator, TSC/Q 2206, Version 3.0”

Sr. No.	Area	Details
1	Description	To deliver accredited training service, mapping to the curriculum detailed above, in accordance with the Qualification Pack “Pirn Winding machine operator /TSC/ Q2206
2	Personal Attributes	Aptitude for conducting training, and pre/ post work to ensure competent, Employable candidates at the end of the training. Strong communication skills, interpersonal skills, ability to work as part of a team; a passion for quality and for developing others; well-organized and focused, eager to learn and keep oneself updated with the latest in the mentioned field.
3	Minimum Educational Qualifications	<ul style="list-style-type: none"> Basic Literacy and Numeracy
4a	Domain Certification	Certified for Job Role: “Pirn Winding machine operator ” mapped to QP: “Pirn Winding machine operator TSC/Q2206, Version 3.0”. Minimum accepted score 80%.
4b	Platform Certification	Required that the Trainer is certified for MEP/ Q2601 Job Role: “Trainer” with atleast 80% score
5	Experience	4 years experience in specific sector as a trainer with 1 year as a pirn winder

Employability Trainer Prerequisites

Trainer Prerequisites						
Minimum Educational Qualification	Specialization	Relevant Industry Experience		Training Experience		Remarks
		Years	Specialization	Years	Specialization	
Graduate/CITS	Any Discipline			2	Teaching Experience	Prospective ES trainer should: <ul style="list-style-type: none"> have good communication skills be well versed in English have digital skills have attention to detail be adaptable have willingness to learn
Current ITI Trainers	Employability Skills Training (3 days full-time course done between 2019-2022)					
Certified current EEE trainers (155 hours)	from Management SSC (MEPSC)					
Certified Trainer	Qualification Pack: Trainer (MEP/Q0102)					

Annexure: Assessment Criteria

Job Role: Pirn Winding Machine Operator
Qualification Pack: Pirn Winding Machine Operator (TSC/Q 2206)
Sector Skill Council: Textile Sector Skill Council

Guidelines for assessment: -

1. Criteria for assessment for each qualification pack will be created by the Sector Skill Council. Each performance criteria (PC) will be assigned marks proportional to its importance in NOS. SSC will also lay down proportion of marks for theory & skill practical for each PC.
2. The assessment for the theory part will be based on knowledge bank of question created by the SSC.
3. Individual assessment agencies will create unique question papers for theory part for each candidate at each examination/training centre (as per assessment criteria below)
4. Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/training centre based on these criteria.
5. To pass the qualification pack, every trainee should score a minimum of 50%.
6. In case of successfully passing only certain number of NOS's, the trainee is eligible to take subsequent assessment on the balance NOS's to pass the Qualification Pack

National Occupational Standards (NOS)	Performance Criteria (PC)	Total Marks	Out Of	Marks Allocation		
				Theory	Skills Practical	Viva
1. TSC/N2211 (Taking charge of shift and handing over shift to Pirn Winding Machine Operator)	PC1. come at least 10 - 15 minutes earlier to the work spot	160	12	0	12	0
	PC2. meet the previous shift winder & discuss with him/ her regarding the issues faced by them with respect to the quality or production or spare or safety or any other specific instruction etc.		12	6	6	0
	PC3. check for the running condition of the pirn winding spindles		12	3	6	3
	PC4. check the running material & the count in the running spindles		12	3	6	3
	PC5. check the weft stock & the quality of the weft stock , to ensure whether the said stock is		12	4	8	0
	PC6. Enough to run the machines		10	2	8	0

	throughout the shift.					
	PC7. check for the empty pirns on the magazines		10	4	6	0
	PC8. check whether all the empty bobbins/ pirns are collected from the empty pirn box & also to ensure that the bunch waste in the said empty pirns are completely stripped		12	2	8	2
	PC9. check the cleanliness of the machines & other work areas		10	3	4	3
	PC10. Check whether any spare/raw material/ tool / fabric/ any other material are thrown under the machines or in the other work areas.		10	2	6	2
	PC11. Question the previous shift winder for any deviation in the above and should bring the same to the knowledge of his/ her shift superior as well that of the previous shift as well.		12	2	8	2
	PC12. hand over the shift to the incoming winder in a proper manner & get clearance from the incoming counterpart before leaving the work spot		12	3	8	1
	PC13. Report to his/ her shift superiors as well as that of the incoming shift, in case his/ her counterpart doesn't come for work, for the incoming shift. in that case, the shift has to be properly handed over to the incoming shift superior & get clearance from him/ her, before leaving the work spot		12	3	8	1
	PC14. report to his/ her shift superior about the quality / production / safety issues/ any other issue faced in his/ her shift and should leave the department only after getting concurrence for		12	3	6	3

	the same from his/ her superiors					
	Total		160	40	100	20
	Weightage %			76%	19%	5%
2. TSC/N2212 (Operating Auto Pirn Winding Machine)	PC1. collect the empty pirns from the “ empty pirn boxes” kept on the looms to store the empty pirns falling after transfer of weft pirns effected through “ automatic weft replenishment “	340	10	2	6	2
	PC2. Ensure that there is no excess weft yarn than the bunch waste, left in the said empty pirns. The same has to be intimated to the higher authority, so that they can be arrested on the looms. And they said empty pirns with excess weft yarns (¼ pirns & ½ pirns) have to be run on the looms itself, without giving room for high wastage of yarn.		10	0	8	2
	PC3. See that the said empty pirns are left with 2- 3 meters of weft yarn (bunch waste), as otherwise, it illustrates that there was no bunch provided in the pirn winding.		10	0	8	2
	PC4. hand- strip the bunch waste from the collected empty pirns		10	5	5	0
	PC5. the stripped empty pirns to be filled in the magazine on the pirn winding machine		10	5	5	0
	PC6. Ensure the spindle numbers are written against each spindle.		8	2	4	2
	PC7. To ensure proper identification of the “material & the count”, to be run on each & every pirn winding spindle. either the same can be written on the corresponding spindles or boards with the said details can be hanged against the individual		10	5	5	0

	spindles					
	PC8. Ensure that the full pirns after the pirn winding are dropped on the weft boxes kept below the respective pirn winding spindles.	8	3	3	2	
	PC9. ensure that the full pirns from one spindle after winding don't fall on the box kept below the adjacent spindles	10	3	4	3	
	PC10. Check the material & the count, in the cones / cheeses from the bags/ boxes before the same are fixed on the cone/cheese holders on the machine against the respective spindles.	8	2	4	2	
	PC11. Ensure whether the auto bunching mechanism on the respective spindles is working properly.	10	0	8	2	
	PC12. Bring the weft yarn from the cones/ cheeses through the guides on the respective spindles.	10	4	4	2	
	PC13. ensure that the initial threading is with proper bunch length only	10	0	8	2	
	PC14. The weft breakage has to be attended using "knotter" or by ensuring tiny hand knots.	8	2	6	0	
	PC15. For any abnormal thread breakage, the same has to be brought to the notice of higher authority.	10	2	8	0	
	PC16. the produced weft pirns have to be taken to the loom shed in different boxes depending on the material and the count., to ensure "no weft mix-up"	10	2	8	0	

	PC17. The said weft pirns have to be stored on the pirn boxes kept on the respective looms.		10	2	8	0
	PC18. Use weft pirns kept on the boxes on the respective looms only, to fill the batteries on the corresponding looms.		10	4	6	0
	PC19. should pull about 2 meters of weft in the pirns in the right hand & hold around 4 - 5 pirns at a time in the left hand		10	4	6	0
	PC20. Press the pirn head of the pirns in space in the battery disc one by one and press the tips of the pirns in the aligned path of the pirn holders.		8	2	4	2
	PC21. and then, should win the pirn threads in the battery umbrella , anti-clock		8	2	4	2
	PC22. A board to be hanged/ kept in the winding department and the following details to be written on the same. • spindle number • material type (cotton/ viscose/ polyester / p.c./ other etc.) running on the respective spindle • material classification (o. e/ ring sun carded/ ring spun combed/ ring spun compact/other etc. running on the respective spindle • count running on the respective spindle • the loom number against the respective spindle		8	2	4	2
	PC23. Ensure that stripping of empty pirns is done by hands only. and no knife to be used, as it will damage the empty pirns themselves		8	2	4	2
	PC24. Ensure that the empty pirns are in good condition in respect to both head & tip.		8	2	4	2

PC25. Ensure that brass wrapper in the empty pirn is in good condition. Whenever new empty pirns are engaged, to see that the brass port in is buffed properly using sand emery.	8	2	4	2
PC26. While collecting empty pirns, from the looms, to see that no broken empty pirn/ full pirn is there. Accordingly, the same has to be brought to the notice of the higher authority.	8	2	4	2
PC27. Clean the machine & the pirn winding area at least twice in a shift, so that the same are kept neat & clean all the time.	10	2	6	2
PC28. collect the waste wound on the umbrella of the loom batteries at the end of the shift	10	2	6	2
PC29. weigh the battery waste & bunch waste separately and the same has to be recorded in the note kept for it	8	4	4	0
PC30. the said waste has to be stored separately in the places earmarked	8	5	3	0
PC31. Tie the "waste bag" & all the waste generated by the winders are collected in the said waist bag, which can be ultimately disposed in the places/ bins provided, at the end of the shift.	8	5	3	0
PC32. should ensure that the correct weft yarn, as per the "loom card" only is used	8	6	2	0
PC33. See that the weft yarn is completely used, without giving room for additional wastage of raw materials. For any quality issue or defective cone etc., the same has to be brought to the notice of the superiors.	8	4	4	0

	PC34. Give preference to safety. Should not enter the area, where he/ she are not allowed. should not do a job in which training has not being given		10	7	3	0
	PC35. Ensure that no raw material/ cloth/ spare/ tool / any other material is thrown under/ near the machines or in the other work areas.		8	5	3	0
	PC36. Check for the reasons for the frequent weft breaks. The reasons that could be corrected by him/ herself should be corrected.		8	6	1	1
	PC37. otherwise, the same has to be reported to the mechanics/ fitters/ superiors		8	6	1	1
	PC38. to write log book , for the following • spindle problem for bunch or non-functioning of spindle • spare breakage • other machine complaint • material complaint for poor performance or damage • pirn breakages (loom wise) • pirn breakage in pirn winding		8	4	4	0
	Total		340	117	182	41
	Weightage %			34%	54%	12%
3. TSC/N 9001 (Maintain work area, tools and machines)	PC1. handle materials, machinery, equipment and tools with care and use them in the correct way	50	4	2	1	1
	PC2. use correct lifting and handling procedures		4	2	1	1
	PC3. use materials to minimize waste		3	1	1	1
	PC4. maintain a clean and hazard free working area		3	1	1	1
	PC5. maintain tools and		4	1	2	1

	equipment				
	PC6. carry out running maintenance within agreed schedules		4	2	1 1
	PC7. carry out maintenance and/or cleaning within one's responsibility		4	2	1 1
	PC8. report unsafe equipment and other dangerous occurrences		4	2	1 1
	PC9. ensure that the correct machine guards are in place		3	1	1 1
	PC10. work in a comfortable position with the correct posture		3	1	1 1
	PC11. use cleaning equipment and methods appropriate for the work to be carried out		3	1	1 1
	PC12. dispose of waste safely in the designated location		4	2	1 1
	PC13. store cleaning equipment safely after use		3	1	1 1
	PC14. carry out cleaning according to schedules and limits of responsibility		4	2	1 1
	Total		50	21	15 14
	Weightage %			42%	30% 28%
4. TSC/N 9002 (Working in a team)	PC1. be accountable to the own role in whole process	50	5	1	3 1
	PC2. perform all roles with full responsibility		4	1	2 1
	PC3. be effective and efficient at workplace		4	2	1 1
	PC4. properly communicate about company policies		4	1	1 2
	PC5. report all problems faced during the process		4	1	1 2
	PC6. talk politely with other team		4	1	1 2

	members and colleagues					
	PC7. submit daily report of own performance		5	2	2	1
	PC8. adjust in different work situations		4	1	2	1
	PC9. give due importance to others' point of view		4	1	1	2
	PC10. avoid conflicting situations		4	2	1	1
	PC11. develop new ideas for work procedures		4	2	1	1
	PC12. improve upon the existing techniques to increase process efficiency		4	2	1	1
	Total		50	17	17	16
	Weightage %			34%	34%	32%
5. TSC/N 9003 (Maintain health, safety and security at work place)	PC1. Comply with health and safety related instructions applicable to the workplace	100	5	2	2	1
	PC2. Use and maintain personal protective equipment as per protocol		5	2	2	1
	PC3. Carry out own activities in line with approved guidelines and procedures		4	1	2	1
	PC4. Maintain a healthy lifestyle and guard against dependency on intoxicants		4	1	2	1
	PC5. Follow environment management system related procedures		4	1	2	1
	PC6. Identify and correct (if possible) malfunctions in machinery and equipment		5	2	2	1
	PC7. Report any service malfunctions that cannot be rectified		4	1	2	1

	PC8. Store materials and equipment in line with manufacturer's and organizational requirements		4	2	1	1
	PC9. Safely handle and move waste and debris		4	2	1	1
	PC10. Minimize health and safety risks to self and others due to own actions		5	2	2	1
	PC11. Seek clarifications, from supervisors or other authorized personnel in case of perceived risks		4	0	2	2
	PC12. Monitor the workplace and work processes for potential risks and threats		5	2	2	1
	PC13. Carry out periodic walk-through to keep work area free from hazards and obstructions, if assigned		5	2	2	1
	PC14. Report hazards and potential risks/ threats to supervisors or other authorized personnel		4	2	1	1
	PC15. Participate in mock drills/ evacuation procedures organized at the workplace		4	2	2	0
	PC16. Undertake first aid, fire-fighting and emergency response training, if asked to do so		5	2	2	1
	PC17. Take action based on instructions in the event of fire, emergencies or accidents		5	2	2	1
	PC18. Follow organization procedures for shutdown and evacuation when required		4	1	2	1
	PC19. identify different kinds of possible hazards (environmental, personal, ergonomic, chemical) of the industry		4	1	2	1

	PC20. recognize other possible security issues existing in the workplace		4	1	2	1
	PC21. recognize different measures to curb the hazards		4	1	2	1
	PC22. communicate the safety plan to everyone		4	1	2	1
	PC23. attach disciplinary rules with the implementation		4	1	2	1
	Total		100	34	43	23
	Weightage %			34%	43%	23%
6. TSC/N 9004 (Comply with industry and organizational requirement)	PC1. perform own duties effectively	50	4	2	1	1
	PC2. take responsibility for own actions		4	2	1	1
	PC3. be accountable towards the job role and assigned duties		4	1	2	1
	PC4. take initiative and innovate the existing methods		3	1	1	1
	PC5. focus on self-learning and improvement		4	2	1	1
	PC6. co-ordinate with all the team members and colleagues		4	2	1	1
	PC7. communicate politely		4	1	1	2
	PC8. avoid conflicts and miscommunication		4	2	1	1
	PC9. know the organizational standards		4	1	2	1
	PC10. implement them in your performance		4	2	1	1
	PC11. motivate others to follow them		3	1	1	1
	PC12. know the industry standards		4	1	3	0
	PC13. align them with organization standards		4	1	2	1
	Total		50	19	18	13
	Weightage %			38%	36%	26%

National Occupational Standards (NOS)	Performance Criteria (PC)	Total Marks	Out Of	Marks Allocation		
				Theory Marks	Practical Marks	Viva Marks
7. DGT/VSQ/ N0101 – Employability Skills	Introduction to Employability Skills			1	1	-
	1. understand the significance of employability skills in meeting the job requirements					
	Constitutional values – Citizenship			1	1	-
	2. identify constitutional values, civic rights, duties, personal values and ethics and environmentally sustainable practices.					
	Becoming a Professional in the 21st Century			1	3	-
	3. explain 21st Century Skills such as Self-Awareness, Behavior Skills, Positive attitude, self-motivation, problem-solving, creative thinking, time management, social and cultural awareness, emotional awareness, continuous learning mindset etc.					
	Basic English Skills			2	3	-
	4. speak with others using some basic English phrases or sentences					
	Communication Skills			1	1	-
	5. follow good manners while communicating with others					
	6. work with others in a team					
	Diversity & Inclusion			1	1	-
	7. communicate and behave appropriately with all genders and PwD					
	8. report any issues related to sexual harassment					
	Financial and Legal Literacy			3	4	-
	9. use various financial products and services safely and securely					
	10. calculate income, expenses, savings etc.					
	11. approach the concerned authorities for any exploitation as per legal rights and laws					

	Essential Digital Skills			4	6	-
	12. operate digital devices and use its features and applications securely and safely					
	13. use internet and social media platforms securely and safely					
	Entrepreneurship			3	5	-
	14. identify and assess opportunities for potential business					
	15. identify sources for arranging money and associated financial and legal challenges					
	Customer Service			2	2	-
	16. identify different types of customers					
	17. identify customer needs and address them appropriately.					
	18. follow appropriate hygiene and grooming standards.					
	Getting ready for apprenticeship & Jobs			1	3	-
	19. create a basic biodata					
	20. search for suitable jobs and apply					
	21. identify and register apprenticeship opportunities as per requirement					
	NOS Total		50	20	30	-
	Grand Total		800	268	405	137



Textile Sector Skill Council

15th Floor, Nirmal Tower, Barakhamba Road, New Delhi-110 001