

# Model Curriculum

## Power loom Operator

**SECTOR: TEXTILE**  
**SUB-SECTOR: WEAVING**  
**OCCUPATION: WEAVING**  
**REF ID: TSC/Q 2209, V1.0**  
**NSQF LEVEL: 4**



## 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: 'POWERLOOM OPERATOR' QP No. 'TSC/Q 2209' **NSQF Level 4**

Date of Issuance: **August, 9<sup>th</sup>, 2017**

Valid up to: **August, 9<sup>th</sup>, 2020**

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



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

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# Power loom Operator

## CURRICULUM / SYLLABUS

This program is aimed at training candidates for the job of a “Power loom operator”, in the “Textile” Sector/Industry and aims at building the following key competencies amongst the learner

<b>Program Name</b>	<b>Power loom Operator</b>		
<b>Qualification Pack Name &amp; Reference ID.</b>	Power loom Operator TSC/Q2209, version 1.0		
<b>Version No.</b>	1.0	<b>Version Update Date</b>	09-08-2017
<b>Pre-requisites to Training</b>	Preferably equivalent to 6th (Normal literacy of reading, writing and understanding)		
<b>Training Outcomes</b>	After completing this programme, participants will be able to: <ul style="list-style-type: none"> <li>• Perform taking charge of shift and handing over shift</li> <li>• Operate power-loom machines with SOP</li> <li>• Maintain work area, tools and machines</li> <li>• Gain behavioural skill for team working</li> <li>• Maintain health, safety and security at work place</li> <li>• Comply with industry and organizational requirement</li> </ul>		

This course encompasses 6 out of 6 Compulsory National Occupational Standards (NOS), 1 out of 1 Optional NOS of "Powerloom Operator" Qualification Pack issued by "TSC: Textile Sector Skill Council"

Sr. No.	Module	Key Learning Outcomes	Equipment Required
1	<p><b>Taking charge of shift and handing over shift to powerloom operator</b></p> <p><b>Theory Duration</b> (hh:mm) 15:00</p> <p><b>Practical Duration</b> (hh:mm) 33:00</p> <p><b>Corresponding NOS Code</b> TSC/N 2215</p>	<ul style="list-style-type: none"> <li>Gain knowledge on general discipline</li> <li>Gain knowledge on basic skills of communication</li> <li>Understand the role of Power loom operator</li> <li>Perform tasks while taking charge of shift and handing over shift</li> <li>Become familiar in faults identification</li> </ul>	<p><u>Class room requirements:</u> a batch of 25 people seating capacity with a screen and projector</p>
2	<p><b>Running the power loom</b></p> <p><b>Theory Duration</b> (hh:mm) 50:00</p> <p><b>Practical Duration</b> (hh:mm) 82:00</p> <p><b>Corresponding NOS Code</b> TSC/N 2216</p>	<ul style="list-style-type: none"> <li>Gain knowledge on machine parts &amp; its function</li> <li>Gain knowledge on preparation activities of Powerloom machine like shuttle checking, picking strap checking etc.</li> <li>Perform warp and weft break repair</li> <li>Perform machine settings based on processing running quality of the fabric</li> </ul>	<p>1. <u>common for every batch:</u> poster/video visuals for work method</p> <p>2. <u>Class room requirements:</u> a batch of 25 people seating capacity with a screen and projector</p>
3	<p><b>Maintain work area, tools and machines</b></p> <p><b>Theory Duration</b> (hh:mm) 10:00</p> <p><b>Practical Duration</b> (hh:mm) 14:00</p> <p><b>Corresponding NOS Code</b> TSC/N 9001</p>	<ul style="list-style-type: none"> <li>Gain knowledge on Housekeeping system</li> <li>Identify and know unique functions of basic hand tools like cleaning hook, cleaning stick, bag, etc.</li> <li>Handling equipment importance's</li> <li>Perform maintenance activities for handling equipment</li> </ul>	<p>1. <u>common for every batch:</u> poster/video visuals for work method</p> <p>2. <u>Class room requirements:</u> a batch of 25 people seating capacity with a screen and projector</p>
4	<p><b>Working in a team</b></p> <p><b>Theory Duration</b> (hh:mm) 08:00</p>	<ul style="list-style-type: none"> <li>Understand the team work and its importance</li> <li>Gain Knowledge about the basic requirements for team working</li> </ul>	<p><u>Class room requirements:</u> a batch of 25 people seating capacity with a screen and projector</p>

Sr. No.	Module	Key Learning Outcomes	Equipment Required
	<p><b>Practical Duration</b> (hh:mm) 16:00</p> <p><b>Corresponding NOS Code</b> TSC/N 9002</p>		
5	<p><b>Maintain health, safety and security at work place</b></p> <p><b>Theory Duration</b> (hh:mm) 16:00</p> <p><b>Practical Duration</b> (hh:mm) 32:00</p> <p><b>Corresponding NOS Code</b> TSC/N 9003</p>	<ul style="list-style-type: none"> <li>Gain knowledge about the general safety Rules</li> <li>Gain knowledge about the importance of personal protective equipment like apron, cap, earplugs, nose mask etc. and their application under different working conditions.</li> <li>Gain knowledge on various health hazards relevant to workplace and basic first aid training.</li> <li>Identify and select right equipment such as fire extinguisher &amp; based on type of fire.</li> <li>Become good practice on first aid, firefighting etc.</li> </ul>	<p>1. <u>A sample of following items for each trainee:</u> apron, head cap, nose mask, ear plug, shoes</p> <p>2. <u>common for every batch:</u> first aid materials, fire extinguisher, work method posters/pictures,</p> <p>3. <u>Class room requirements:</u> 25 people seating capacity</p>
6	<p><b>Comply with industry and organisational requirement</b></p> <p><b>Theory Duration</b> (hh:mm) 08:00</p> <p><b>Practical Duration</b> (hh:mm) 16:00</p> <p><b>Corresponding NOS Code</b> TSC/N 9004</p>	<ul style="list-style-type: none"> <li>Know about organizational and industry standards</li> <li>Know the requirements for self-development</li> <li>Gain knowledge on Organizational &amp; Industry standards</li> </ul>	<p><u>Class room requirements:</u> 25 people seating capacity with a screen and projector</p>
	<p><b>COMPULSORY NOS: Total Duration</b></p> <p><b>Theory Duration</b> 107:00</p> <p><b>Practical Duration</b> 193:00</p>	<p><b>Unique Equipment Required:</b></p> <p>Laptop, white board, marker, projector, first aid kit, Face mask, Drawing hook, Scissors, counting glass etc.</p>	

OPTIONS (Optional to choose any or all or none)

OPTION 1: Solar power drive attachment

Sr. No.	Module	Key Learning Outcomes	Equipment Required
1	<p><b>Operation and Maintenance of solar attachment</b></p> <p><b>Theory Duration</b> (hh:mm) 10:00</p> <p><b>Practical Duration</b> (hh:mm) 20:00</p> <p><b>Corresponding NOS Code</b> TSC/N 7904</p>	<ul style="list-style-type: none"> <li>Know about the operation of solar power system and their main components</li> <li>Know the cleaning procedures of solar power system components</li> <li>Gain knowledge on maintenance activities of solar power components such as Batteries, Charge controller, Solar panels etc</li> </ul>	<p><u>1. common for every batch:</u> poster/video visuals for work method</p> <p><u>2. Class room requirements:</u> a batch of 25 people seating capacity with a screen and projector</p>
	<p><b>OPTION 1 : Total Duration</b></p> <p><b>Theory Duration</b> 10:00</p> <p><b>Practical Duration</b> 20:00</p>	<p><b>Unique Equipment Required:</b></p> <p>Laptop, white board, marker, projector, first aid kit, Mask, Hip bag etc.</p>	

	<p><b>GRAND Total Duration</b></p> <p><b>Minimum Duration for the QP= <u>300 hrs</u></b></p> <p><b>Theory: <u>107 hrs</u></b></p> <p><b>Practical: <u>193 hrs</u></b></p> <p><b>Maximum Duration for the QP= <u>330 hrs</u></b></p> <p><b>Theory: <u>117 hrs</u></b></p> <p><b>Practical: <u>213 hrs</u></b></p>	<p><b>Unique Equipment Required for the QP:</b></p> <p>Laptop, white board, marker, projector, first aid kit</p>	
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*(This syllabus/ curriculum has been approved by TSC: Textile Sector Skill Council)*

## Trainer Prerequisites for Job role: “Power loom Operator” mapped to Qualification Pack: “Power loom Operator TSC/ Q 2209, Version 1.0”

Sr. No.	Area	Details
1	<b>Description</b>	To deliver accredited training service, mapping to the curriculum detailed above, in accordance with the Qualification Pack <u>“Power loom Operator TSC/ Q2209, Version 1.0</u>
2	<b>Personal Attributes</b>	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
3	<b>Minimum Educational Qualifications</b>	Preferably equivalent to 6th (Normal literacy of reading, writing and understanding)
4a	<b>Domain Certification</b>	Certified for Job Role: “Power Loom Operator” mapped to QP: “ Power loom Operator TSC/ Q2209, Version 1.0” .Minimum accepted score 80%.
4b	<b>Platform Certification</b>	Required that the Trainer is certified for MEP/Q 0102 Job Role: “Trainer” with atleast 80% score
5	<b>Experience</b>	Minimum 5 years experience as Power loom Operator



## CRITERIA FOR ASSESSMENTS

### ASSESSMENT CRITERIA

**Job Role :** Power Loom Operator  
**Qualification Pack :** TSC/Q 2209  
**Sector Skill Council :** Textile Sector Skill Council

#### Assessment Guidelines:

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 and Skills Practical for each PC.
2. The assessment for the theory part will be based on knowledge bank of questions created by the SSC.
3. Assessment will be conducted for all compulsory NOS, and where applicable, on the selected elective/ option NOS/ set of NOS.
4. Individual assessment agencies will create unique question papers for theory part for each candidate at each examination/training center (as per assessment criteria below).
5. Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/training center based on this criterion.
6. To pass the Qualification Pack, every trainee should score a minimum of 80% in aggregate marks to successfully clear the assessment
7. In case of unsuccessful completion, the trainee may seek reassessment on the Qualification Pack.

#### Compulsory :

Generic Assessable outcomes	Performance Criteria(PC)	Total Marks	Out Of	Marks allocation	
				Skills Practical	Theory
<b>1. TSC/ N2215 Taking charge of shift and handing over shift to Power Loom Operator</b>	PC1. Come at least 10-15minutes Earlier to the work spot	100	8	8	0
	PC2. Bring the necessary operational tools like " weavers' hook", " knife" etc.		10	4	6
	PC3. . Meet the previous shift Operator, 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.		10	7	3
	PC4. Check for the availability of the weft & the condition of the same		6	4	2
	PC5. Check the condition of the running beams, for cross ends, ends pulling out particularly at the selvages		6	4	2
	PC6. Check the availability of the thrums, quality & condition of the same		5	3	2

	PC7. Check the cloth for the running damages like end out, wrong drawing, wrong denting, double end, reed mark, temple cut/ temple mark, let-off mark, take up fault, oil stain, hole, cloth torn, weft catching, weft lashing in etc.		8	5	3
	PC8. Check for the size of the cloth rolls & see whether any indication is there in the cloth rolls		6	4	2
	PC9. Check the cleanliness of the machines & other work areas		5	3	2
	PC10. Check whether any spare/raw material/ tool / fabric/ any other material are thrown under the machines or in the other work areas.		5	4	1
	PC11. Question the previous shift weaver 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.		8	6	2
	PC12. Hand over the shift to the incoming weaver in a proper manner & get clearance from the incoming counterpart before leaving the work spot		8	6	2
	PC13. Report to your shift superior as well as that of the incoming shift, in case counterpart doesn't report 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		7	4	3
	PC14. Report to your shift superior about the quality / production / safety issues/ any other issue faced in your shift and should leave the department only after getting his/her concurrence for the same.		8	6	2
			<b>100</b>	<b>68</b>	<b>32</b>
<b>2. TSC/N 2216 Running Plain Power</b>	PC1. Make tiny & firm weaver's knots		6	4	2
	PC2. Find out broken warp ends		6	4	2

loom	PC3. Find out the location of the broken end by bringing the hands under the dropper bars with mechanical droppers.	275	6	6	0
	PC4. Detect the location by bringing the hands over the droppers, with mechanical / electrical warp stop motion		4	3	1
	PC5. Mend the broken warp end in the sized beams with the thrums of the same count of the sized beams using " weavers ' knots"		6	4	2
	PC6. Draw the mended warp yarn through the healds properly ,as per the drawing order prescribed		6	4	2
	PC7. Draw the mended warp yarn through the reed dent properly as per the denting order prescribed		6	4	2
	PC8. See that the sley has been brought to the back centre		5	3	2
	PC9. See that the shuttle is inserted fully in the shuttle box		5	3	2
	PC10. Run the loom by pulling the starting handle with full torque		6	4	2
	PC11. See that the sley has to be brought the back centre		4	2	2
	PC12. Take out shuttle from shuttle box		6	4	2
	PC13. Do pick finding		4	4	0
	PC14. Find out the last pick inserted in the produced cloth		6	4	2
	PC15. Tie sley to the back centre, after doing the pick finding		5	3	2
	PC16. Insert shuttle into the correct box as per the pick finding done		5	3	2
	PC17. See that the shuttle is inserted fully in the shuttle box		6	6	0
	PC18. Bring the loom to the front centre to see that there is no gap between the reed & the fell of the cloth accordingly take up should be adjusted		7	4	3
	PC19. Bring back the sley to centre		6	3	3
	PC20. See that the shuttle is inserted fully in the shuttle box		8	6	2
	PC21. Run the loom by pulling the starting handle with full to		10	7	3

	PC22. Store the required quantity of weft pirns in the pirn storage container which is near the machine.		8	6	2
	PC23. Correct the fabric defects like wrong drawing, wrong denting, end out, double end etc., immediately and also ensure that the other fabric defects too are corrected at the earliest, before continuing further production.		4	3	1
	PC24. Clean the machines & work area, so as to ensure good working atmosphere without damaging the fabrics in the looms where the cleaning work is carried out as well as in the adjacent & opposite looms should not misuse "air" can use air for cleaning, only in the areas where it is allowed		8	6	2
	PC25. "Unweave " the same in case of any floats		7	5	2
	PC26. Run the machine without starting mark or crack.		8	6	2
	PC27. Ensure that the loose threads are hanged in higher length (not more than 4 mm) accordingly and trimmed after attending to the warp breaks.		7	5	2
	PC28. Patrol the machines and do mending so as to minimize the stoppages		6	6	0
	PC29. Check the warp yarn tension, if required to increase or decrease the warp yarn tension by adjusting the dead weight in the let off motion.		6	4	2
	PC30. Ensure the cloth roll size and proper winding. If the fabric length is reached the prescribed length to cut the fabric and empty cloth roll fixed for fresh winding.		6	4	2
	PC31. Tie the "waist bag" & all the waste generated by the weavers are collected in the said waist bag, which can be ultimately disposed in the places/ bins provided at the end of the shift.		8	3	5

PC32. Ensure that the correct weft yarn as per the "loom card" only is used	8	3	5
PC33. Ensure 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.	6	2	4
PC34. Avoid pulling out warp ends unnecessarily. If end is getting cut often in the selvage, the same has to be brought to the notice of the mechanics/ fitters/ superiors & get it corrected	6	3	3
PC35. Ensure that all the stop motions, preventive mechanisms etc., function properly	5	2	3
PC36. Ensure that the correct quality of thrums are available & see that the same are properly tied	8	3	5
PC37. Check the knotted loom for knotting quality, double ends have to be removed. Should report to superiors for any deviation in the same & for any other quality issue	9	3	6
PC38. Ensure that the looms are stopped for a minimum possible down time due to whatever reason & see that you gets the maximum outputs in your shift	8	3	5
PC39. Check the fabrics for the defects at least twice in a shift and sign on the cloth both times	10	5	5
PC40. Ensure that the cloth rolls are doffed whenever/ wherever necessary	6	3	3
PC41. Give preference to safety and do not enter the area, where you are not allowed and do not do a job in which training has not been given	5	3	2
PC42. 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

	PC43. Check for the reasons for the frequent warp/ weft breaks. The reasons that can be corrected by your self should be corrected, otherwise the same has to be reported to the mechanics/ fitters/ superiors		5	3	2
			<b>275</b>	<b>171</b>	<b>104</b>
<b>3. TSC/ N 9001</b> <b>Maintain work area, tools and machines</b>	PC1. Handle materials, machinery, equipment and tools safely and correctly	50	4	2	2
	PC2. Use correct lifting and handling procedures		4	2	2
	PC3. Use materials to minimize waste		3	2	1
	PC4. Maintain a clean and hazard free working area		3	2	1
	PC5. Maintain tools and equipment		4	3	1
	PC6. Carry out running maintenance within agreed schedules		4	2	2
	PC7. Carry out maintenance and/or cleaning within one's responsibility		4	2	2
	PC8. Report unsafe equipment and other dangerous occurrences		4	2	2
	PC9. Ensure that the correct machine guards are in place		3	2	1
	PC10. Work in a comfortable position with the correct posture		3	2	1
	PC11. Use cleaning equipment and methods appropriate for the work to be carried out		3	2	1
	PC12. Dispose of the waste safely in the designated location		4	2	2
	PC13. Store cleaning equipment safely after use		3	2	1
	PC14. Carry out cleaning according to schedules and limits of responsibility		4	2	2
		<b>50</b>	<b>29</b>	<b>21</b>	
<b>4.TSC/ N9002</b>	PC1. Be accountable to your role in whole process		5	4	1

<b>Working in a team</b>	PC2. Perform all roles with full responsibility	50	4	3	1
	PC3. Be effective and efficient at workplace		4	2	2
	PC4. Properly communicate about Company policies		4	3	1
	PC5. Report all problems faced During the process		4	3	1
	PC6. Talk politely with other team Members and colleagues		4	3	1
	PC7. Submit daily report of own Performance		5	3	2
	PC8. Adjust in different work Situations		4	3	1
	PC9. Give due importance to others' point of view		4	3	1
	PC10. Avoid conflicting situations		4	2	2
	PC11. Develop new ideas for work procedures		4	2	2
	PC12. Improve upon the existing Techniques to increase process efficiency		4	2	2
			<b>50</b>	<b>33</b>	<b>17</b>
<b>5.TSC/ N9003 Maintain health, safety at and security at workplace</b>	PC1. Comply with health and safety related instructions applicable to the workplace	100	5	3	2
	PC2. Use and maintain personal Protective equipment as per protocol		5	3	2
	PC3. Carry out own activities in line with approved guidelines and procedures		4	3	1
	PC4. Maintain a healthy lifestyle And guard against dependency on intoxicants		4	3	1
	PC5. Follow environment Management system related Procedures		4	3	1
	PC6. Identify and correct (if possible) malfunctions in machinery and equipment		5	3	2
	PC7. Report any service malfunctions that cannot be rectified		4	3	1

PC8. Store materials and equipment in line with manufacturer's and organizational requirements	4	2	2
PC9. Safely handle and move waste And debris	4	2	2
PC10. Minimize health and safety risks to self and others due to own actions	5	3	2
PC11. Seek clarifications, from Supervisors or other authorized personnel in case of perceived risks	4	4	0
PC12. Monitor the workplace and Work processes for potential risks and threats	5	3	2
PC13. Carry out periodic walk-Through to keep work area free from hazards and obstructions, if assigned	5	3	2
PC14. Report hazards and potential risks/threats to supervisors or other authorized personnel	4	2	2
PC15. Participate in mock drills/ Evacuation procedures organized at the workplace	4	2	2
PC16. Undertake first aid, fire-Fighting and emergency response training, if asked to do so	5	3	2
PC17. Take action based on Instructions in the event of fire, emergencies or accidents	5	3	2
PC18. Follow organization Procedures for shutdown and evacuation when required	4	3	1
PC19. Identify different kinds of possible hazards (environmental, personal, ergonomic, chemical) of the industry	4	3	1
PC20. Recognize other possible Security issues existing in the workplace	4	3	1
PC21. Recognize different measures To curb the hazards	4	3	1
PC22. Communicate the safety plan to everyone	4	3	1
PC23. Attach disciplinary rules with the implementation	4	3	1
	<b>100</b>	<b>66</b>	<b>34</b>



<b>6.TSC/N 9004</b> <b>Comply with industry and organizational requirements</b>	PC1. Perform own duties effectively	50	4	2	2
	PC2. Take responsibility for own actions		4	2	2
	PC3. Be accountable towards the Job role and assigned duties		4	3	1
	PC4. Take initiative and innovate the existing methods		3	2	1
	PC5. Focus on self-learning and Improvement		4	2	2
	PC6. Co-ordinate with all the team Members and colleagues		4	2	2
	PC7. Communicate politely		4	3	1
	PC8. Avoid conflicts and miscommunication		4	2	2
	PC9. Know the organizational Standards		4	3	1
	PC10. Implement the mind our performance		4	2	2
	PC11. Motivate others to follow them		3	2	1
	PC12. Know the industry standards		4	3	1
	PC13. Align them with organization standards		4	3	1
			<b>50</b>	<b>31</b>	<b>19</b>
Total		<b>625</b>	<b>291</b>	<b>227</b>	

OPTIONS					
Option 1: Solar power drive attachment					
TOTAL MARKS: 50				Marks Allocation	
Assessible Outcomes	Assessment Criteria	Total Marks	Out of	Theory	Skills Practical
TSC/N7904 Operation and Maintenance of solar attachment	PC1. Clear the weed/ Grass near the solar panels if any	50	3	1	2
	PC2. Clean the surface of the solar panel for dust with wet sponge/cloth		3	1	2
	PC3. Ensure the Charge controller, Batteries are working properly as instructed		3	1	2

PC4. Prepare Solar powered Handloom/ Khadi machine for operation		4	1	3
PC5. Switch on the main motor and start the machine for production		3	1	2
PC6. Check periodically for the working of light indicators and display panel for voltage fluctuation		5	2	3
PC7. Ensure that the battery is kept at a dry place		4	1	3
PC8. Check the Electrolyte level of battery and top up the electrolyte whenever required		5	2	3
PC9. Check for electrolyte/ Distilled water leak from batteries		5	2	3
PC10. Clean the battery at prescribed intervals for fluff accumulation		3	1	2
PC11. Clean the inverter, Battery Charger and Charge controller for fiber dust		3	1	2
PC12. Inspect and ensure the cleanliness of panel boxes		3	1	2
PC13. Use Personal Protective Equipments while topping up of Distilled water and cleaning		3	1	2
PC14. Use appropriate tools such as cloth, brush for to various parts of the power system		3	1	2
	<b>Total</b>	<b>50</b>	<b>17</b>	<b>33</b>