

# Model Curriculum

## Power loom operator

**SECTOR** : TEXTILE  
**SUB-SECTOR** : WEAVING  
**OCCUPATION** : WEAVER  
**REF ID** : TSC/Q2208, V 1.0  
**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: 'POWER LOOM OPERATOR'  
QP No. 'TSC/Q2208' **NSQF Level 4**

Date of Issuance: **April, 24<sup>th</sup>, 2016**

Valid up to: **April, 24<sup>th</sup>, 2020**

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

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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>	TSC/Q2208, v1.0		
<b>Version No.</b>	1.0	<b>Version Update Date</b>	16.04.2019
<b>Pre-requisites to Training</b>	Class 6 <sup>th</sup> , Preferably		
<b>Training Outcomes</b>	<p><b>After completing this programme, participants will be able to:</b></p> <ul style="list-style-type: none"> <li>• Demonstrate the activities involved in taking charge of shift and handing over of shift</li> <li>• Operate power-loom as per Standard Operating Procedure</li> <li>• Manage the work area, tools and machines as per industry guidelines</li> <li>• List out the advantages of team work</li> <li>• Describe the importance of health, safety and security at work place</li> <li>• Explain the industry and organizational quality standards</li> </ul>		

This course encompasses 6 out of 6 National Occupational Standards (NOS) of “Power loom 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 of shift to power loom operator</b></p> <p><b>Theory Duration</b> (hh:mm) 13:00</p> <p><b>Practical Duration</b> (hh:mm) 36:00</p> <p><b>Corresponding NOS Code</b> TSC/N2215</p>	<ul style="list-style-type: none"> <li>• Explain the different types of fabrics and its usage</li> <li>• Describe the importance of general discipline at work place</li> <li>• Describe the weaving process flow</li> <li>• Discuss the production information with the incoming and outgoing counterpart</li> <li>• Describe the role of Power loom operator</li> <li>• Demonstrate the activities involved in taking charge of shift and handing over of shift</li> <li>• Recall the material flow in the weaving industry</li> <li>• Identify the fabric faults and report as per the industry standard</li> </ul>	<ul style="list-style-type: none"> <li>• Computer and Projector</li> <li>• Warp Beam</li> <li>• Weft Package</li> <li>• Power loom in production condition</li> <li>• Drawing hook</li> <li>• Magnifying glass</li> </ul>
2	<p><b>Running the power loom</b></p> <p><b>Theory Duration</b> (hh:mm) 41:00</p> <p><b>Practical Duration</b> (hh:mm) 90:00</p> <p><b>Corresponding NOS Code</b> TSC/N2216</p>	<ul style="list-style-type: none"> <li>• Describe the parts and functions of power loom machine</li> <li>• Describe the importance of power loom maintenance</li> <li>• Demonstrate warp attending procedure</li> <li>• Demonstrate weft replenishment attending procedure</li> <li>• Record the technical details/information in the given log book or ledger</li> <li>• List the need and importance operational tools required for Power loom machine</li> <li>• List out the major check points in the power loom before starting the machine</li> <li>• Demonstrate the activities involved in loom preparation</li> </ul>	<ul style="list-style-type: none"> <li>• Computer and Projector</li> <li>• Warp Beam</li> <li>• Weft Package</li> <li>• Power loom in production condition</li> <li>• Drawing hook</li> <li>• Magnifying glass</li> </ul>
3	<p><b>Maintain work area, tools and machines</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></p>	<ul style="list-style-type: none"> <li>• Maintain the work place clean and neat</li> <li>• Describe the functions of basic hand tools</li> <li>• List out the available material handling equipment in weaving unit</li> <li>• List the various maintenance activities for power loom machine</li> <li>• Describe the importance of machine guard</li> <li>• Demonstrate the drive belt</li> </ul>	<ul style="list-style-type: none"> <li>• Computer and Projector</li> <li>• Warp Beam</li> <li>• Weft Package</li> <li>• Power loom in production condition</li> <li>• Drawing hook</li> <li>• Magnifying glass</li> </ul>

Sr. No.	Module	Key Learning Outcomes	Equipment Required
	TSC/N9001	<p>installation in the loose pulley of the machine</p> <ul style="list-style-type: none"> <li>• Demonstrate the shuttle maintenance activities such as tip sharpening, yarn guide replacement etc. as per standard procedure</li> <li>• List out the oil drop points in the power loom machine</li> <li>• Demonstrate the correct way of lifting tools/ equipment as per standard procedure</li> <li>• Describe the need for greasing the ball bearings and the greasing frequency</li> </ul>	
4	<p><b>Working in a team</b></p> <p><b>Theory Duration</b> (hh:mm) 07:00</p> <p><b>Practical Duration</b> (hh:mm) 17:00</p> <p><b>Corresponding NOS Code</b> TSC/N9002</p>	<ul style="list-style-type: none"> <li>• Discuss the importance of team work</li> <li>• List out the team work activities in power loom shed</li> <li>• Discuss the process involved in loom gaiting process and roles of power loom operator/ helper in gaiting operation</li> <li>• Demonstrate warp beam positioning on the loom</li> <li>• Demonstrate heald frame installation on the loom along with team mates</li> <li>• Explain the company policies</li> <li>• Submit daily report of the own performance</li> <li>• Report the daily work done to supervisory as per company's protocol</li> </ul>	<ul style="list-style-type: none"> <li>• Computer and Projector</li> <li>• Warp Beam</li> <li>• Weft Package</li> <li>• Power loom in production condition</li> <li>• Drawing hook</li> <li>• Magnifying glass</li> </ul>
5	<p><b>Maintain health, safety and security at work place</b></p> <p><b>Theory Duration</b> (hh:mm) 13:00</p> <p><b>Practical Duration</b> (hh:mm) 35:00</p> <p><b>Corresponding NOS Code</b> TSC/N9003</p>	<ul style="list-style-type: none"> <li>• Identify the power loom machine malfunction</li> <li>• Report the machine malfunction to the supervisor as per standard procedure</li> <li>• Discuss the importance of wearing Personal Protective Equipment in the power loom shed</li> <li>• List general safety methods to be followed in power loom shed</li> <li>• Discuss the importance of healthy environment in the work place</li> <li>• Handle the tools and waste as per company standard</li> <li>• Monitor the work place for possible health hazards</li> <li>• Identify and select right firefighting equipment</li> <li>• Describe the evacuation methods during emergency situation</li> </ul>	<ul style="list-style-type: none"> <li>• Computer and Projector</li> <li>• Warp Beam</li> <li>• Weft Package</li> <li>• Power loom in production condition</li> <li>• Drawing hook</li> <li>• Magnifying glass</li> </ul>

Sr. No.	Module	Key Learning Outcomes	Equipment Required
6	<p><b>Comply with industry and organizational 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/N9004</p>	<ul style="list-style-type: none"> <li>List out the responsibilities of Power loom operator</li> <li>Communicate the information to the co-worker/supervisor as per standard protocol</li> <li>Discuss the importance of following the industry standards</li> <li>Demonstrate reporting to the supervisor as per standard procedure</li> <li>Fill the material requisition form for the worn out/damaged parts in the power loom machine</li> <li>List the quality requirements of woven fabric</li> <li>Discuss the dress code to be followed in power loom shed as per industry standard</li> <li>Discuss the importance of loom patrolling as per standard patrolling method</li> </ul>	<ul style="list-style-type: none"> <li>Computer and Projector</li> <li>Warp Beam</li> <li>Weft Package</li> <li>Power loom in production condition</li> <li>Drawing hook</li> <li>Magnifying glass</li> </ul>
<p><b>Total Duration:</b> (hh:mm) <b>300:00</b></p> <p><b>Theory Duration</b> (hh:mm) <b>90:00</b></p> <p><b>Practical Duration</b> (hh:mm) <b>210:00</b></p>		<p><b>Unique Equipment Required:</b></p> <p>Computer and Projector, Warp Beam, Weft Package, Power loom in production condition, Drawing hook, Magnifying glass</p>	

**Grand Total Course Duration: 300 Hours, 0 Minutes**

*(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/Q2208, 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/Q2208, 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 focused, eager to learn and keep oneself updated with the latest in the mentioned field.
3	<b>Minimum Educational Qualifications</b>	NA
4a	<b>Domain Certification</b>	Certified for Job Role: “Power loom operator” mapped to QP: “ <u>TSC/Q2208, Version 1.0</u> ”. Minimum accepted score 80%.
4b	<b>Platform Certification</b>	Required that the Trainer is certified for MEP/Q2601 Job Role: “Trainer” with at least 80% score
5	<b>Experience</b>	Minimum 4-year experience as a Trainer and 2-year experience as Power loom Operator



## ASSESSMENT CRITERIA

**Job Role:** Power Loom Operator  
**Qualification Pack :** TSC/Q2208, V1.0  
**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. Individual assessment agencies will create unique question papers for theory part for each candidate at each examination/training center (as per assessment criteria below).
4. Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/training center based on this criterion.
5. To pass the Qualification Pack, every trainee should score a minimum of 80%
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		
				Skills Practical	Theory	Viva
1. TSC/ N2215 Taking charge of shift and handing over shift to Power Loom Operator	PC1. Come at least 10-15 minutes Earlier to the work spot	100	8	8	0	0
	PC2. Bring the necessary operational tools like " weavers' hook", " knife" etc.		10	4	6	0
	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	5	3	2
	PC4. Check for the availability of the weft & the condition of the same		6	3	2	1
	PC5. Check the condition of the running beams, for cross ends, ends pulling out particularly at the selvages		6	4	2	0
	PC6. Check the availability of the thrums, quality & condition of the same		5	3	2	0
	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	0
	PC8. Check for the size of the cloth rolls & see whether any indication is there in the cloth rolls		6	3	2	1

	PC9. Check the cleanliness of the machines & other work areas	5	2	2	1
	PC10. Check whether any spare/raw material/ tool / fabric/ any other material are thrown under the machines or in the other work areas.	5	3	1	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	4	2	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	4	2	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	3	3	1
	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	4	2	2
		<b>100</b>	<b>55</b>	<b>32</b>	<b>13</b>
	<b>Weightage %</b>		<b>57%</b>	<b>30%</b>	<b>13%</b>
<b>2. TSC/N 2216 Running Plain Power loom</b>	PC1. Make tiny & firm weaver's knots	6	4	2	0
	PC2. Find out broken warp ends	6	4	2	0
	PC3. Find out the location of the broken end by bringing the hands under the dropper bars with mechanical droppers.	6	6	0	0
	PC4. Detect the location by bringing the hands over the droppers, with mechanical / electrical warp stop motion	4	2	1	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	3	2	1

PC6. Draw the mended warp yarn through the healds properly ,as per the drawing order prescribed
PC7. Draw the mended warp yarn through the reed dent properly as per the denting order prescribed
PC8. See that the sley has been brought to the back centre
PC9. See that the shuttle is inserted fully in the shuttle box
PC10. Run the loom by pulling the starting handle with full torque
PC11. See that the sley has to be brought the back centre
PC12. Take out shuttle from shuttle box
PC13. Do pick finding
PC14. Find out the last pick inserted in the produced cloth
PC15. Tie sley to the back centre, after doing the pick finding
PC16. Insert shuttle into the correct box as per the pick finding done
PC17. See that the shuttle is inserted fully in the shuttle box
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
PC19. Bring back the sley to centre
PC20. See that the shuttle is inserted fully in the shuttle box
PC21. Run the loom by pulling the starting handle with full to
PC22. Store the required quantity of weft pirns in the pirn storage container which is near the machine.
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.

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6	3	2	1
6	3	2	1
5	2	2	1
5	3	2	0
6	4	2	0
4	2	2	0
6	3	2	1
4	3	0	1
6	4	2	0
5	3	2	0
5	3	2	0
6	6	0	0
7	4	3	0
6	3	3	0
8	4	2	2
10	5	3	2
8	4	2	2
4	3	1	0

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	4	2	2
PC25. "Unweave " the same in case of any floats	7	4	2	1
PC26. Run the machine without starting mark or crack.	8	4	2	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	3	2	2
PC28. Patrol the machines and do mending so as to minimize the stoppages	6	6	0	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	3	2	1
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	3	2	1
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	0
PC32. Ensure that the correct weft yarn as per the "loom card" only is used	8	3	5	0
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	0

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	0
PC35. Ensure that all the stop motions, preventive mechanisms etc., function properly	5	2	3	0
PC36. Ensure that the correct quality of thrums are available & see that the same are properly tied	8	3	5	0
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	2	6	1
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	1
PC39. Check the fabrics for the defects at least twice in a shift and sign on the cloth both times	10	5	5	0
PC40. Ensure that the cloth rolls are doffed whenever/ wherever necessary	6	3	3	0
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	2	2	1
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	3	3	2
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	2	2	1
	<b>275</b>	<b>143</b>	<b>104</b>	<b>28</b>
<b>Weightage %</b>		<b>51%</b>	<b>38%</b>	<b>11%</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	1	2	1
	PC2. Use correct lifting and handling procedures		4	1	2	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 equipment		4	1	1	1
	PC6. Carry out running maintenance within agreed schedules		4	1	2	1
	PC7. Carry out maintenance and/or cleaning within one's responsibility		4	1	2	1
	PC8. Report unsafe equipment and other dangerous occurrences		4	1	2	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 the waste safely in the designated location		4	1	2	1
	PC13. Store cleaning equipment safely after use		3	1	1	1
	PC14. Carry out cleaning according to schedules and limits of responsibility		4	1	2	1
	<b>50</b>	<b>15</b>	<b>21</b>	<b>14</b>		
<b>Weightage %</b>		<b>30%</b>	<b>42%</b>	<b>28%</b>		
<b>4.TSC/ N9002</b> <b>Working in a team</b>	PC1. Be accountable to your role in whole process	5	3	1	1	
	PC2. Perform all roles with full responsibility	4	2	1	1	
	PC3. Be effective and efficient at workplace	4	1	2	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 Members and colleagues	50	4	1	1	2
	PC7. Submit daily report of own Performance		5	2	2	1
	PC8. Adjust in different work Situations		4	2	1	1
	PC9. Give due importance to others' point of view		4	1	1	2
	PC10. Avoid conflicting situations		4	1	2	1
	PC11. Develop new ideas for work procedures		4	1	2	1
	PC12. Improve upon the existing Techniques to increase process efficiency		4	1	2	1
			<b>50</b>	<b>17</b>	<b>17</b>	<b>16</b>
	<b>Weightage %</b>		<b>34%</b>	<b>34%</b>	<b>32%</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	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	2	1	1
	PC4. Maintain a healthy lifestyle And guard against dependency on intoxicants		4	2	1	1
	PC5. Follow environment Management system related Procedures		4	2	1	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	2	1	1
	PC8. Store materials and equipment in line with manufacturer's and organizational requirements		4	1	2	1
	PC9. Safely handle and move waste And debris		4	1	2	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	2	0	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	1	2	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	2	1	1
	PC19. Identify different kinds of possible hazards (environmental, personal, ergonomic, chemical) of the industry		4	2	1	1
	PC20. Recognize other possible Security issues existing in the workplace		4	2	1	1
	PC21. Recognize different measures To curb the hazards		4	2	1	1
	PC22. Communicate the safety plan to everyone		4	2	1	1
	PC23. Attach disciplinary rules with the implementation		4	2	1	1
			<b>100</b>	<b>43</b>	<b>34</b>	<b>23</b>
	<b>Weightage %</b>			<b>43%</b>	<b>34%</b>	<b>23%</b>
<b>6.TSC/N 9004 Comply with industry and organizational requirements</b>	PC1. Perform own duties effectively	50	4	1	2	1
	PC2. Take responsibility for own actions		4	1	2	1
	PC3. Be accountable towards the Job role and assigned duties		4	2	1	1
	PC4. Take initiative and innovate the existing methods		3	1	1	1



PC5. Focus on self-learning and Improvement	4	1	2	1
PC6.Co-ordinatewithall the team Members and colleagues	4	1	2	1
PC7.Communicatepolitely	4	1	1	2
PC8.Avoidconflictsand miscommunication	4	1	2	1
PC9.Knowtheorganizational Standards	4	2	1	1
PC10. Implement the mind our performance	4	1	2	1
PC11.Motivateothers to follow them	3	1	1	1
PC12. Know the industry standards	4	3	1	0
PC13. Align them with organization standards	4	2	1	1
	<b>50</b>	<b>18</b>	<b>19</b>	<b>13</b>
<b>Weightage %</b>		<b>36%</b>	<b>38%</b>	<b>26%</b>
<b>Grant Total</b>	<b>625</b>	<b>291</b>	<b>226</b>	<b>108</b>