

Model Curriculum

Jigger Machine operator

SECTOR : TEXTILE
SUB-SECTOR : PROCESSING
OCCUPATION : DYEING AND PRINTING
REF ID : TSC/Q5201, 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: 'JIGGER MACHINE OPERATOR'
QP No. 'TSC/Q5201' **NSQF Level 4**'

Date of Issuance: **May, 20th, 2019**

Valid up to: **May, 20th, 2021**

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

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(Textile Sector Skill Council)

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Jigger Machine operator

CURRICULUM / SYLLABUS

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

Program Name	Jigger Machine operator		
Qualification Pack Name & Reference ID.	TSC/Q5201, v1.0		
Version No.	1.0	Version Update Date	21.05.2019
Pre-requisites to Training	10th Standard, preferably		
Training Outcomes	<p>After completing this programme, participants will be able to:</p> <ul style="list-style-type: none"> • Demonstrate the activities involved in taking charge of shift and handing over of shift • Operate Jigger machine as per Standard Operating Procedure • Manage the work area, tools and machines as per industry guidelines • List out the advantages of team work • Describe the importance of health, safety and security at work place • Explain the industry and organizational quality standards 		

This course encompasses 7 out of 7 National Occupational Standards (NOS) of “Jigger Machine operator” Qualification Pack issued by “TSC: Textile Sector Skill Council”

Sr. No.	Module	Key Learning Outcomes	Equipment Required
1	<p>Taking charge of shift and handing over shift to Jigger Machine Operator</p> <p>Theory Duration (hh:mm) 12:00</p> <p>Practical Duration (hh:mm) 30:00</p> <p>Corresponding NOS Code TSC/N5201</p>	<ul style="list-style-type: none"> • Explain the different types of Fabrics and its usage • Describe the importance of general discipline at work place • Describe the Textile dyeing process flow • Discuss the production information with the incoming and outgoing counterpart • Describe the role of Jigger machine operator • Demonstrate the activities involved in taking charge of shift and handing over of shift • Recall the material flow in the textile processing industry • Identify the fabric processing faults and report as per the industry standard 	<ul style="list-style-type: none"> • Computer and Projector • Fabric roll • Jigger machine in production condition
2	<p>Operating the Jigger machine</p> <p>Theory Duration (hh:mm) 12:00</p> <p>Practical Duration (hh:mm) 29:00</p> <p>Corresponding NOS Code TSC/N5202</p>	<ul style="list-style-type: none"> • Describe the parts and functions of Jigger machine • Describe the importance of Jigger machine maintenance • Demonstrate Loading and Unloading of chemical/ dyestuffs on Jigger machine • Demonstrate Loading and Unloading of fabric on Jigger machine • Record the technical details/information in the given log book or ledger • List the need and importance operational tools required for Jigger machine • List out the major check points in the Jigger before starting the machine • Demonstrate the activities involved in machine preparation 	<ul style="list-style-type: none"> • Computer and Projector • Fabric roll • Jigger machine in production condition
3	<p>Check the quality of a sample of the fabric processed on the Jigger</p> <p>Theory Duration (hh:mm) 07:00</p> <p>Practical Duration (hh:mm) 16:00</p> <p>Corresponding NOS</p>	<ul style="list-style-type: none"> • Explain the sample preparation procedure for quality testing • Demonstrate sample cutting, soaping & washing • Explain the effects of processing parameters on finished fabric • Record the observations/ results in the given log book or ledger • List out the tools required for sample preparation • Explain the Standard Quality checking method following in the Textile processing mill 	<ul style="list-style-type: none"> • Computer and Projector • Fabric roll • Jigger machine in production condition

Sr. No.	Module	Key Learning Outcomes	Equipment Required
	Code TSC/N5203		
4	<p>Maintain work area, tools and machines</p> <p>Theory Duration (hh:mm) 10:00</p> <p>Practical Duration (hh:mm) 24:00</p> <p>Corresponding NOS Code TSC/N9001</p>	<ul style="list-style-type: none"> • Maintain the work place clean and neat • Describe the functions of basic hand tools • List out the available material handling equipment in weaving unit • List the various maintenance activities for power loom machine • Describe the importance of machine guard • Demonstrate the drive belt installation in the loose pulley of the machine • Demonstrate the shuttle maintenance activities such as tip sharpening, yarn guide replacement etc. as per standard procedure • List out the oil drop points in the power loom machine • Demonstrate the correct way of lifting tools/ equipment as per standard procedure • Describe the need for greasing the ball bearings and the greasing frequency 	<ul style="list-style-type: none"> • Computer and Projector • Fabric roll • Jigger machine in production condition
5	<p>Working in a team</p> <p>Theory Duration (hh:mm) 12:00</p> <p>Practical Duration (hh:mm) 19:00</p> <p>Corresponding NOS Code TSC/N9002</p>	<ul style="list-style-type: none"> • Discuss the importance of team work • List out the team work activities in power loom shed • Discuss the process involved in loom gaiting process and roles of Jigger Machine operator/ helper in gaiting operation • Demonstrate warp beam positioning on the loom • Demonstrate heald frame installation on the loom along with team mates • Explain the company policies • Submit daily report of the own performance • Report the daily work done to supervisory as per company's protocol 	<ul style="list-style-type: none"> • Computer and Projector • Fabric roll • Jigger machine in production condition

Sr. No.	Module	Key Learning Outcomes	Equipment Required
6	<p>Maintain health, safety and security at work place</p> <p>Theory Duration (hh:mm) 25:00</p> <p>Practical Duration (hh:mm) 58:00</p> <p>Corresponding NOS Code TSC/N9003</p>	<ul style="list-style-type: none"> Identify the power loom machine malfunction Report the machine malfunction to the supervisor as per standard procedure Discuss the importance of wearing Personal Protective Equipment in the power loom shed List general safety methods to be followed in power loom shed Discuss the importance of healthy environment in the work place Handle the tools and waste as per company standard Monitor the work place for possible health hazards Identify and select right firefighting equipment Describe the evacuation methods during emergency situation 	<ul style="list-style-type: none"> Computer and Projector Fabric roll Jigger machine in production condition
7	<p>Comply with industry and organizational requirement</p> <p>Theory Duration (hh:mm) 14:00</p> <p>Practical Duration (hh:mm) 32:00</p> <p>Corresponding NOS Code TSC/N9004</p>	<ul style="list-style-type: none"> List out the responsibilities of Jigger Machine operator Communicate the information to the co-worker/ supervisor as per standard protocol Discuss the importance of following the industry standards Demonstrate reporting to the supervisor as per standard procedure Write the Material requisition form for the worn out/ damaged parts in the power loom machine List the quality requirements of woven fabric Discuss the dress code to be followed in power loom shed as per industry standard Discuss the importance of loom patrolling as per standard patrolling method 	<ul style="list-style-type: none"> Computer and Projector Fabric roll Jigger machine in production condition
<p>Total Duration 300:00</p> <p>Theory Duration 92:00</p> <p>Practical Duration 208:00</p>		<p>Unique Equipment Required: Computer & Projector, Fabric roll, Jigger machine in Production condition</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: “Jigger Machine operator” mapped to Qualification Pack: “Jigger Machine operator/ TSC/Q5201, Version 1.0”

Sr. No.	Area	Details
1	Description	To deliver accredited training service, mapping to the curriculum detailed above, in accordance with the Qualification Pack “ <u>Jigger Machine operator/ TSC/Q5201, Version 1.0</u> ”.
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	NA
4a	Domain Certification	Certified for Job Role: “ <u>Jigger Machine operator</u> ” mapped to QP: “ <u>TSC/Q5201, Version 1.0</u> ”. Minimum accepted score 80%.
4b	Platform Certification	Required that the Trainer is certified for MEP/Q2601 Job Role: “Trainer” with at least 80% score
5	Experience	1 year experience as Jigger machine operator & 4 years experience as trainer

ASSESSMENT CRITERIA

Job Role: Jigger Machine operator
Qualification Pack: TSC/Q5201, 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	
				Theory	Skills Practical
1. TSC/ N5201 (Taking charge of shift and handing over shift to Jigger Machine Operator)	PC1. come at least 10 - 15 minutes earlier to the work place	37	2	0	2
	PC2. bring the necessary operational tools to the department		1	0	1
	PC3. meet the previous shift operator and 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.		3	1	2
	PC4. understand the fabric being processed & process running on the machine		2	0	2
	PC5. ensure the technical details are mentioned on the job card display on the machine		2	1	1
	PC6. check for the availability of the spare trolley for unloading the fabric		1	1	0
	PC7. check the next batch to be processed is ready near the machine		1	1	0
	PC8. ensure the required dyes & chemicals are already weighed & prepared		1	1	0
	PC9. check the cleanliness of the machines & other work areas		2	0	2
	PC10. question the previous shift operator for any deviation in the above and bring the same to the knowledge of his/ her shift superior as well that of the previous shift as well.		2	0	2
	PC11. hand over the shift to the incoming operator in a proper manner		2	0	2
	PC12. ensure proper communication regarding fabric quality & the process running on the machine while providing the details		3	1	2
	PC13. provide all relevant information regarding the stoppages or breakdown in the machine, any damage to the fabric or machine.		2	0	2
	PC14. ensure the empty trolley is near the		1	0	1

National Occupational Standards (NOS)	Performance Criteria (PC)	Total Marks	Out Of	Marks Allocation	
				Theory	Skills Practical
	machine for unloading the fabric				
	PC15. ensure the next lot to be processed, which is already stitched & arranged properly is ready near the machine		1	0	1
	PC16. ensure the required dyes & chemicals for the next lot or next process are weighed & prepared		1	0	1
	PC17. get clearance from the incoming counterpart before leaving the work spot		2	0	2
	PC18. report to his/ her shift superiors as well as that of the incoming shift operator in case his/ her counterpart doesn't report for the incoming shift		2	0	2
	PC19. ensure the shift has to be properly handed over to the incoming shift operator		1	1	0
	PC20. report to his/ her shift superior about the quality / production / safety issues/ any other issue faced in his/ her shift and leave the department only after getting concurrence for the same from his/ her superiors		2	0	2
	PC21. collect the wastes from waste collection bags, weigh them and transport to storage area		1	0	1
	PC22. ensure the machine and its work place is clean		2	0	2
	Total		37	7	30
2. TSC/ N5202 (Operating the Jigger Machine)	PC1. understand the task mentioned in the work order	35	2	1	1
	PC2. ensure that the machine is empty & clean		2	0	2
	PC3. load the fabric from the batch/trolley in the center of the machine		2	0	2
	PC4. ensure fabric is crease-less and evenly fed onto the machine		2	0	2
	PC5. prepare the chemical/dye-stuff required		2	0	2
	PC6. inject the chemical in the machine tank/dispenser		2	0	2
	PC7. know the operations of the machine & the plc programs		2	0	2
	PC8. read & understand the process being followed to do the task		3	1	2
	PC9. check the ph, temp & other parameters during the process		3	1	2
	PC10. maintain even temp across the width of machine		2	0	2
	PC11. maintain even & minimum tension on the fabric		2	0	2
	PC12. drain the machine once sample is approved		1	0	1
	PC13. unload the fabric from the machine after completion of the process		1	0	1
	PC14. make sure the machine is kept clean at all times, before loading, while running & after unloading the fabric		2	0	2

National Occupational Standards (NOS)	Performance Criteria (PC)	Total Marks	Out Of	Marks Allocation	
				Theory	Skills Practical
	PC15. follow the preventive maintenance schedule & ensure the machine is running smoothly		2	0	2
	PC16. check that all controls are functioning properly		2	0	2
	PC17. ensure the right quality of water, steam & air is available for proper functioning of machine		2	0	2
	PC18. cool down the machine after completion of job		1	0	1
	Total		35	3	32
3. TSC/N 5203 (Check the quality of a sample of the fabric processed at jigger)	PC1. cut sample as per the time / no. of turn mentioned in the work order to avoid any delay	19	3	1	2
	PC2. cut proper size of the sample		1	0	1
	PC3. cut the sample from same place every time		1	0	1
	PC4. clean hands or cutting tools to avoid soiling of the sample		2	0	2
	PC5. develop techniques for various types of dyestuffs used in the process such as direct, reactive, vat, sulphur etc.		3	1	2
	PC6. manage soaping chemical, temp & no. of soaping/ washings for different dyestuff		3	1	2
	PC7. manage method, temp & place of drying of the cut sample		3	1	2
	PC8. compare the sample with the standard attached to the work order or in the master file		2	0	2
	PC9. take the sample to your supervisor if the sample is not matching to the standard for decision		1	0	1
	Total		19	4	15
4. TSC/ N9001 (Maintain work area, tools and machines)	PC1. handle materials, machinery, equipment and tools with care and use them in the correct way	29	3	1	2
	PC2. use correct lifting and handling procedures		1	0	1
	PC3. use materials to minimize waste		2	1	1
	PC4. maintain a clean and hazard free working area		3	1	2
	PC5. maintain tools and equipment		3	1	2
	PC6. carry out running maintenance within agreed schedules		2	1	1
	PC7. carry out maintenance and/or cleaning within one's responsibility		1	0	1
	PC8. report unsafe equipment and other dangerous occurrences		1	1	0
	PC9. ensure that the correct machine guards are in place		2	1	1
	PC10. work in a comfortable position with the correct posture		3	1	2
	PC11. use cleaning equipment and methods appropriate for the work to be carried out		2	1	1
	PC12. dispose of waste safely in the designated location		2	0	2

National Occupational Standards (NOS)	Performance Criteria (PC)	Total Marks	Out Of	Marks Allocation	
				Theory	Skills Practical
	PC13. store cleaning equipment safely after use		2	0	2
	PC14. carry out cleaning according to schedules and limits of responsibility		2	1	1
	Total		29	10	19
5.TSC/ N9002 (Working in a team)	PC1. be accountable to the own role in whole process	26	2	1	1
	PC2. perform all roles with full responsibility		3	1	2
	PC3. be effective and efficient at workplace		4	1	3
	PC4. properly communicate about company policies		2	1	1
	PC5. report all problems faced during the process		1	1	0
	PC6. talk politely with other team members and colleagues		2	1	1
	PC7. submit daily report of own performance		1	0	1
	PC8. adjust in different work situations		2	0	2
	PC9. give due importance to others' point of view		2	1	1
	PC10. avoid conflicting situations		3	1	2
	PC11. develop new ideas for work procedures		2	1	1
	PC12. improve upon the existing techniques to increase process efficiency		2	1	1
	Total			26	10
6. TSC/ N9003 (Maintain health, safety and security at workplace)	PC1. comply with health and safety related instructions applicable to the workplace	71	5	1	4
	PC2. use and maintain personal protective equipment such as "ear plug", "nose mask", "head cap" etc., as per protocol		5	1	4
	PC3. carry out own activities in line with approved guidelines and procedures		3	1	2
	PC4. maintain a healthy lifestyle and guard against dependency on intoxicants		2	1	1
	PC5. follow environment management system related procedures		3	1	2
	PC6. identify and correct (if possible) malfunctions in machinery and equipment		3	1	2
	PC7. report any service malfunctions that cannot be rectified		2	1	1
	PC8. store materials and equipment in line with organizational requirements		2	0	2
	PC9. safely handle and remove waste		2	0	2
	PC10. minimize health and safety risks to self and others due to own actions		3	1	2
	PC11. seek clarifications, from supervisors or other authorized personnel in case of perceived risks		3	1	2
	PC12. monitor the workplace and work processes for potential risks and threat		2	0	2
	PC13. carry out periodic walk-through to keep work area free from hazards and obstructions, if assigned		3	2	1

National Occupational Standards (NOS)	Performance Criteria (PC)	Total Marks	Out Of	Marks Allocation	
				Theory	Skills Practical
	PC14. report hazards and potential risks/ threats to supervisors or other authorized personnel		3	2	1
	PC15. participate in mock drills/ evacuation procedures organized at the workplace		3	1	2
	PC16. undertake first aid, fire-fighting and emergency response training, if asked to do so		5	2	3
	PC17. take action based on instructions in the event of fire, emergencies or accidents		4	1	3
	PC18. follow organization procedures for shutdown and evacuation when required		2	0	2
	PC19. identify different kinds of possible hazards (environmental, personal, ergonomic, chemical) of the industry		5	1	4
	PC20. recognize other possible security issues existing in the workplace		3	1	2
	PC21. recognize different measures to curb the hazards		3	1	2
	PC22. communicate the safety plan to everyone		3	2	1
	PC23. attach disciplinary rules with the implementation		2	1	1
	Total		71	23	48
7. TSC/ N9004 (Comply with industry and organizational requirement)	PC1. perform own duties effectively	39	4	1	3
	PC2. take responsibility for own actions		4	1	3
	PC3. be accountable towards the job role and assigned duties		3	1	2
	PC4. take initiative and innovate the existing methods		4	1	3
	PC5. focus on self-learning and improvement		3	1	2
	PC6. co-ordinate with all the team members and colleagues		3	1	2
	PC7. communicate politely		3	1	2
	PC8. avoid conflicts and miscommunication		3	1	2
	PC9. know the organizational standards		2	1	1
	PC10. implement them in your performance		3	1	2
	PC11. motivate others to follow them		3	1	2
	PC12. know the industry standards		2	1	1
	PC13. align them with organization standards		2	0	2
	Total			39	12
Total			256	150	69