

# Model Curriculum

## Hand Spinning Operator

**SECTOR: TEXTILE**

**SUB-SECTOR: HANDLOOM & KHADI**

**OCCUPATION: SPINNER**

**REF ID: TSC/Q7901, VERSION 3.0**

**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: 'Hand Spinning Operator' QP No. 'TSC/ Q 7901' **NSQF Level 3**

Date of Issuance: "२१" ०१ २०२१

Valid up to: "२१" ०१ २०२२

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



(Dr. Swapna Mishra)  
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(Textile Sector Skill Council)

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# Hand Spinning Operator

## CURRICULUM / SYLLABUS

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

Program Name	Hand Spinning Operator		
Qualification Pack Name & Reference ID.	Hand Spinning Operator, TSC/Q7901		
Version No.	3.0	Version Update Date	25.11.2021
Pre-requisites to Training	<p>• Grade 9 with No Experience (OR)</p> <p>• Grade 8 pass and pursuing continuous schooling in regular school with vocational subject with no experience (OR)</p> <p>• 8th grade pass with 1 year of relevant experience (OR)</p> <p>• 5th grade pass with 4 years of relevant experience (OR)</p> <p>• Ability to read and write with 5 years of experience"</p>		
Training Outcomes	<p><b>After completing this programme, participants will be able to:</b></p> <ul style="list-style-type: none"> <li>• Maintain work area, tools and machines</li> <li>• Gain behavioral skill for team working</li> <li>• Maintain health, safety and security at work place</li> <li>• Comply with industry and organizational requirement</li> <li>• <b>Traditional Charka Operation:</b> Undertake spinning process by traditional charka by maintaining quality and productivity</li> <li>• <b>New Model Charka Operation:</b> Undertake spinning process by New Model Charka (NMC) by maintaining quality and productivity</li> <li>• <b>Solar Operated New Model Charka Operation:</b> Undertake spinning process by Solar Operated New Model Charka by maintaining quality, productivity with maintenance of solar power unit</li> </ul>		

This course encompasses 4 out of 4 Compulsory NOS (National Occupational Standards), 4 out of 4 Elective NOS of "Hand Spinning Operator" Qualification Pack issued by "TSC: Textile Sector Skill Council"

**COMPULSORY NOS:**

Sr. No.	Module	Key Learning Outcomes	Equipment Required
1	<p><b>Maintain work area, tools and machines in handloom sector</b></p> <p><b>Theory Duration</b> (hh:mm) 05:00</p> <p><b>Practical Duration</b> (hh:mm) 10:00</p> <p><b>Corresponding NOS Code</b> TSC/N9005</p>	<ul style="list-style-type: none"> <li>Gain knowledge on Housekeeping system</li> <li>Identify and know unique functions of hand tools like cleaning hook, cleaning stick, bag, etc.</li> <li>Handling equipments</li> <li>Perform maintenance activities for handling equipments</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>
2	<p><b>Working in a team in handloom sector</b></p> <p><b>Theory Duration</b> (hh:mm) 05:00</p> <p><b>Practical Duration</b> (hh:mm) 10:00</p> <p><b>Corresponding NOS Code</b> TSC/N9006</p>	<ul style="list-style-type: none"> <li>Understanding the team work and its importance</li> <li>Knowing 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>
3	<p><b>Maintain health, safety and security at work place in handloom sector</b></p> <p><b>Theory Duration</b> (hh:mm) 15:00</p> <p><b>Practical Duration</b> (hh:mm) 30:00</p> <p><b>Corresponding NOS Code</b> TSC/N9007</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 equipments 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> <li>gain knowledge on waste</li> </ul>	<p>1. <u>A sample of following items for each trainee:</u> apron, head cap, nose mask, ear plug, shoe,</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 with a screen and projector</p>

4	<p><b>Comply with industry and organizational requirements for handloom</b></p> <p><b>Theory Duration</b> (hh:mm) 05:00</p> <p><b>Practical Duration</b> (hh:mm) 10:00</p> <p><b>Corresponding NOS Code</b> <b>TSC/N9008</b></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</li> </ul>	<p><b>Class room requirements:</b> <u>25 people seating capacity with a screen and projector</u></p>
5	<p><b>Employability Skills (30 Hours)</b></p> <p><b>Theory Duration</b> (hh:mm) 12:00</p> <p><b>Practical Duration</b> (hh:mm) 18:00</p>	<ul style="list-style-type: none"> <li>Discuss the importance of Employability Skills in meeting the job requirements.</li> <li>Explain constitutional values, civic rights, duties, citizenship, responsibility towards society etc. that are required to be followed to become a responsible citizen.</li> <li>Show how to practice different environmentally sustainable practices</li> <li>Discuss 21st century skills.</li> <li>Display positive attitude, self-motivation, problem solving, time management skills and continuous learning mindset in different situations.</li> <li>Use appropriate basic English sentences/phrases while speaking</li> <li>Demonstrate how to communicate in a well-mannered way with others.</li> <li>Demonstrate working with others in a team</li> <li>Show how to conduct oneself appropriately with all genders and PwD</li> <li>Discuss the significance of reporting sexual harassment issues in time</li> <li>Discuss the significance of using financial products and services safely and securely.</li> <li>Explain the importance of managing expenses, income, and savings.</li> <li>Explain the significance of approaching the concerned authorities in time for any exploitation as per legal rights and laws</li> <li>Show how to operate digital devices and use the associated applications and features, safely and securely</li> <li>Discuss the significance of using internet for browsing, accessing social media platforms, safely and securely.</li> </ul>	<p><b>Class room requirements:</b> 25 people seating capacity with a screen and projector</p>

		<ul style="list-style-type: none"> <li>• Discuss the need for identifying opportunities for potential business, sources for arranging money and potential legal and financial challenges.</li> <li>• Differentiate between types of customers</li> <li>• Explain the significance of identifying customer needs and addressing them</li> <li>• Discuss the significance of maintaining hygiene and dressing appropriately.</li> <li>• Create a biodata</li> <li>• Use various sources to search and apply for jobs</li> <li>• Discuss the significance of dressing up neatly and maintaining hygiene for an interview</li> <li>• Discuss how to search and register for apprenticeship opportunities.</li> </ul>	
	<p><b>COMPULSORY NOS:</b></p> <p><b>Total Duration</b></p> <p><b>Theory Duration</b> 42:00</p> <p><b>Practical Duration</b>  78:00</p>	<p><b>Unique Equipment Required:</b></p> <p>Apron, head cap, nose mask, earplug cleaning brush, cleaning stick, sweep stick, pen/pencil, lapping cleaning hook, and hip bag.</p>	

## ELECTIVES (Mandatory to select atleast one title)

### ELECTIVE 1: Traditional Charkha

1	<p><b>Undertake traditional charkha spinning operations</b></p> <p><b>Theory Duration</b> (hh:mm) 60:00</p> <p><b>Practical Duration</b> (hh:mm) 150:00</p> <p><b>OJT Duration</b> (hh:mm) 60:00</p> <p><b>Corresponding NOS Code</b> TSC/N7901</p>	<ul style="list-style-type: none"> <li>• Gain knowledge on Fiber separation and paralleling</li> <li>• Slivering of cotton using wooden stick</li> <li>• Gain knowledge on drafting, twisting and winding</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>
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<p><b>ELECTIVE 1 : Total Duration</b></p> <p><b>Theory Duration</b> (hh:mm) 60:00</p> <p><b>Practical Duration</b> (hh:mm) 150:00</p> <p><b>OJT Duration</b> (hh:mm) 60:00</p>	<p><b>Unique Equipment Required:</b></p> <p>Apron, head cap, nose mask, earplug cleaning brush, cleaning stick, sweep stick, pen/pencil, lapping cleaning hook, and hip bag.</p>
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**ELECTIVE : 2 New Model Charka (NMC)**

1	<p><b>Undertake spinning process by using new model charkha (NMC)</b></p> <p><b>Theory Duration</b> (hh:mm) 60:00</p> <p><b>Practical Duration</b> (hh:mm) 150:00</p> <p><b>OJT Duration</b> (hh:mm) 60:00</p> <p><b>Corresponding NOS Code</b> TSC/N 7902</p>	<ul style="list-style-type: none"><li>• Gain knowledge on drafting, twisting and winding</li><li>• Usage of traveler, ring, aprons. Cots etc.</li><li>• Identify right traveler, ring, top arm weight for suitable count</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>ELECTIVE 2 : Total Duration</b></p> <p><b>Theory Duration</b> (hh:mm) 60:00</p> <p><b>Practical Duration</b> (hh:mm) 150:00</p> <p><b>OJT Duration</b> (hh:mm) 60:00</p>	<p><b>Unique Equipment Required:</b></p> <p>Apron, head cap, nose mask, earplug cleaning brush, cleaning stick, sweep stick, pen/pencil, lapping cleaning hook, and hip bag.</p>	



### Option 1: Solar Power Drive

1	<p><b>Operation and Maintenance of solar attachment</b></p> <p><b>Theory Duration</b> (hh:mm) 07:30</p> <p><b>Practical Duration</b> (hh:mm) 22:30</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>1. common for every batch: poster/video visuals for work method</p> <p>2. Class room requirements: 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> (hh:mm) 07:30</p> <p><b>Practical Duration</b> (hh:mm) 22:30</p>	<p><b>Unique Equipment required:</b></p> <p>Apron, head cap, nose mask, earplug cleaning brush, cleaning stick, sweep stick, pen/pencil, lapping cleaning hook, and hip bag.</p>	

	<b>Total Duration:</b>  <b>Theory Duration</b> <b>102:00</b>  <b>Practical Duration</b> <b>228:00</b>  <b>OJT Duration</b> <b>60:00</b>	
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**Grand Total Course Duration: 390 Hours, 0 Minutes**

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

## Trainer Prerequisites for Job role: “Hand Spinning Operator” mapped to Qualification Pack: “Hand Spinning Operator, TSC/ Q 7901, Version 3.0”

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>Hand Spinning Operator, TSC/Q 7901, Version 3.0</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
3	<b>Minimum Educational Qualification</b>	Basic Literacy and Numeracy
4a	<b>Domain Certification</b>	Certified for Job Role: “ <u>Hand Spinning Operator</u> ” mapped to QP: “ <u>Hand Spinning Operator, TSC/Q 7901, Version 3.0</u> ”. Minimum accepted score 80%.
4b	<b>Platform Certification</b>	Required that the Trainer is certified for MEP/Q2601 Job Role: “Trainer” with atleast 80% score
5	<b>Experience</b>	Minimum 6 years of experience as a Hand Spinning Operator

## 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"> <li>• have good communication skills</li> <li>• be well versed in English</li> <li>• have digital skills</li> <li>• have attention to detail</li> <li>• be adaptable</li> <li>• have willingness to learn</li> </ul>
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)					

## **CRITERIA FOR ASSESSMENT OF TRAINEES**

**Job Role** Hand Spinning Operator

**Qualification Pack** TSC/Q7901

**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 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 50% in aggregate marks to successfully clear the assessment
7. In case of unsuccessful completion, the trainee may seek reassessment on the Qualification Pack.

**Compulsory:**

Total Marks : 250		Compulsory NOS		Marks Allocation	
Assessable Outcomes	Assessment Criteria	Total Marks	Out of	Theory	Skills Practical
TSC/N9005 Maintain work area and tools in handloom sector	PC1. handle materials and tools safely and correctly	50	5	2	3
	PC2. use correct lifting and handling procedures		3	1	2
	PC3. use materials in a manner to minimize waste		3	1	2
	PC4. maintain a clean and hazard free working area		3	1	2
	PC5. maintain the tools and equipment used for winding		5	2	3
	PC6. carry out maintenance and/or cleaning within one's responsibility		5	2	3
	PC7. identify damaged tools and materials and take action according to the standards followed		5	2	3
	PC8. ensure that the correct tools and yarn required are in place		3	1	2
	PC9. work in the correct posture		3	1	2
	PC10. use cleaning equipment and methods appropriate for the work to be carried out		3	1	2
	PC11. dispose of waste safely in the designated location		4	2	2
	PC12. store cleaning equipment safely after use		3	1	2
	PC13. carry out cleaning according to schedule and limits of responsibility		5	2	3
		<b>Total</b>	<b>50</b>	<b>19</b>	<b>31</b>
TSC/N9006 Working in a team in	PC1. perform own duties effectively		5	2	3
	PC2. take responsibility for own actions		5	2	3

Total Marks : 250		Compulsory NOS		Marks Allocation	
Assessable Outcomes	Assessment Criteria	Total Marks	Out of	Theory	Skills Practical
handloom sector	PC3. be accountable towards the job role and assigned duties	50	5	2	3
	PC4. take initiative and innovate the existing methods		3	1	2
	PC5. focus on self-learning and improvement		5	2	3
	PC6. co-ordinate with all team members and colleagues		5	2	3
	PC7. communicate politely		5	2	3
	PC8. avoid conflicts and miscommunication		5	2	3
	PC9. know the organizational standards		5	2	3
	PC10. implement them in your performance		5	2	3
	PC11. motivate others to follow them		2	1	1
		<b>Total</b>	<b>50</b>	<b>20</b>	<b>30</b>
TSC/N9007 Maintain health, safety and security at work place in handloom sector	PC1. comply with health and safety related instructions applicable to the workplace	100	6	2	4
	PC2. use and maintain personal protective equipment as per protocol		6	2	4
	PC3. carry out own activities in line with approved guidelines and procedures		4	1	3
	PC4. maintain a healthy lifestyle and guard against dependency on intoxicants		4	1	3
	PC5. follow environment management system related procedures		4	1	3
	PC6. store materials and tools in line with manufacturer's and Cooperative Society/NGO/SHG requirements		4	2	2
	PC7. safely handle and move waste and debris		4	2	2
	PC8. minimize health and safety risks to self and others due to own actions		6	2	4
	PC9. monitor the work place and work		6	2	4

Total Marks : 250		Compulsory NOS		Marks Allocation	
Assessable Outcomes	Assessment Criteria	Total Marks	Out of	Theory	Skills Practical
	processes for potential risks and threats				
	PC10. carry out periodic walk-through to keep work area free from hazards and obstructions, if assigned		6	2	4
	PC11. participate in mock drills/ evacuation procedures organized at the workplace		4	2	2
	PC12. undertake first aid, fire-fighting and emergency response training, if asked to do so		6	2	4
	PC13. take action based on instructions in the event of fire, emergencies or accidents		6	2	4
	PC14. follow Cooperative Society/NGO/SHG procedures for evacuation when required		4	1	3
	PC15. identify different kinds of possible hazards (environmental, personal, ergonomic and chemical) of the industry		4	1	3
	PC16. recognize other possible security issues existing in the workplace		4	1	3
	PC17. plan the safety techniques		5	2	3
	PC18. recognize different measures to curb the hazards		4	1	3
	PC19. implement the programs		5	2	3
	PC20. communicate the safety plans to everyone		4	1	3
	PC21. attach disciplinary rules with the implementation		4	1	3
		<b>Total</b>	<b>100</b>	<b>33</b>	<b>67</b>
TSC/N9008 Comply with work place requirements in handloom	PC1. be accountable to one's own role in the whole process		6	2	4
	PC2. perform all roles with full responsibility		5	1	4
	PC3. be effective and efficient at workplace		4	2	2

Total Marks : 250	Compulsory NOS			Marks Allocation	
Assessable Outcomes	Assessment Criteria	Total Marks	Out of	Theory	Skills Practical
sector	PC4. properly communicate about work place policies	50	5	2	3
	PC5. talk politely with other team members and colleagues		5	2	3
	PC6. submit daily report of own performance		6	2	4
	PC7. adjust in different work situations		5	2	3
	PC8. give due importance to others' point of view		5	2	3
	PC9. avoid conflicting situations		5	2	3
	PC10. improve upon the existing techniques to increase process efficiency		4	2	2
		<b>Total</b>	<b>50</b>	<b>19</b>	<b>31</b>
<b>DGT/VSQ/N0101 – Employability Skills</b>	<b>Introduction to Employability Skills</b>			1	1
	1. understand the significance of employability skills in meeting the job requirements				
	<b>Constitutional values – Citizenship</b>			1	1
	2. identify constitutional values, civic rights, duties, personal values and ethics and environmentally sustainable practices.				
	<b>Becoming a Professional in the 21st Century</b>			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.				
	<b>Basic English Skills</b>			2	3
	4. speak with others using some basic English phrases or sentences				



	<b>Communication Skills</b>		1	1
	5. follow good manners while communicating with others			
	6. work with others in a team			
	<b>Diversity &amp; Inclusion</b>		1	1
	7. communicate and behave appropriately with all genders and PwD			
	8. report any issues related to sexual harassment			
	<b>Financial and Legal Literacy</b>		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			
	<b>Essential Digital Skills</b>		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			
	<b>Entrepreneurship</b>		3	5
	14. identify and assess opportunities for potential business			
	15. identify sources for arranging money and associated financial and legal challenges			
	<b>Customer Service</b>		2	2
	16. identify different types of customers			
	17. identify customer needs and address them appropriately.			
	18. follow appropriate hygiene and grooming standards.			
	<b>Getting ready for apprenticeship &amp; Jobs</b>		1	3
	19. create a basic biodata			
	20. search for suitable jobs and apply			
	21. identify and register apprenticeship opportunities as per requirement			
	<b>NOS Total</b>	<b>50</b>	<b>20</b>	<b>30</b>
	<b>Grand Total</b>	<b>500</b>	<b>171</b>	<b>329</b>

## ELECTIVES

### Elective 1. Traditional Charkha

**Total Marks: 200**

**Marks Allotted**

Assessable Outcomes	Assessment Criteria	Total Marks	Out of	Theroy	Skills Practical
TSC/N7901 Undertake traditional charkha spinning operations	PC1. identify and select from various types of fibers for charkha spinning	200	10	3	7
	PC2. comb the kapas to aerate the fiber smoothly by hand using fish jaw brush/to separate all other fibers use suitable combing device such as metal comb.		20	6	14
	PC3. undertake ginning process of the kapas manually using an iron rod		20	6	14
	PC4. clean and fluff out ginned cotton using handmade bow		10	3	7
	PC5. perform parallization of fibers manually		20	6	14
	PC6. perform separation of the fibers using manually operated carding machine		10	3	7
	PC7. carry out slivering of the fibers using a tapered wooden stick		10	3	7
	PC8. roll the sliver suitably to carry out spinning		10	3	7
	PC9. calculate the desired yarn count		10	3	7
	PC10. add leader to the spindle to start the spinning process		10	3	7
	PC11. identify the different basic positions for spindle spinning		10	3	7
	PC12. wind the thread on the spindle tip		10	3	7

	PC13. add twist to strengthen and compress the drafted yarn into thin strand		10	3	7
	PC14. spin the yarn under supervision at a comfortable rate until the fibers lock together		10	3	7
	PC15. draft the cotton off the leader		10	3	7
	PC16. Convert the spun yarn into hank		10	3	7
	PC16. wind in a criss-cross winding pattern using hand and feet to prepare the hank		10	3	7
	<b>Total</b>		<b>200</b>	<b>60</b>	<b>140</b>
<b>ELECTIVES</b>					
<b>Elective 2. New Model Charkha</b>					
<b>Total Marks: 200</b>				<b>Marks Allotted</b>	
<b>Assessable Outcomes</b>	<b>Assessment Criteria</b>	<b>Total Marks</b>	<b>Out of</b>	<b>Theory</b>	<b>Skills Practical</b>
TSC/N7902 Undertake spinning process by using new model charkha (NMC)	PC1. ensure that the drive belt in the new model charkha allows the flyer to move freely	200	15	3	12
	PC2. adjust the break (draw-in) to rest on the bobbin		10	3	7
	PC3. ensure that the size of the wheel is inversely proportional to the diameter of the whorl for faster movement of the flyer		15	5	10
	PC4. identify and select from various types of fibers for charkha spinning		15	5	10
	PC5. fluff out commercial cotton roving to aerate the fiber smoothly		10	3	7
	PC6. Perform the creeling of roving bobbin		10	3	7
	PC7. calculate the desired yarn count		10	3	7
	PC8. wind the thread on the spindle tip		10	3	7

	PC9. adjust the cot and apron to provide uniform pressure on the fibre strand to facilitate efficient drafting		15	5	10
	PC10. check aprons have better grip & control on fibres particularly floating fibres		10	3	7
	PC11. use the ring to guide the circular run of the traveller		10	3	7
	PC12. ensure the traveller twist the drafted strand of fibres, winds yarn onto the bobbin, maintains winding tension of the yarn by the frictional resistance between the ring and traveller		15	5	10
	PC13. check the creel holds the roving bobbin over a roller beam within a convenient height to easily handle the roving		10	3	7
	PC14. ensure the spindle holds the bobbin tight enough to prevent any slippage, and winds the twisted thread on the bobbin with the help of ring and traveller		15	4	11
	PC15. add twist per inch if thread keeps drifting apart (breaking)		10	3	7
	PC16. ensure the twist does not get into the drafting area		10	3	7
	PC17. change the hooks frequently to avoid thread pile up in one spot on the bobbin		10	3	7
		<b>Total</b>	<b>200</b>	<b>60</b>	<b>140</b>

## ELECTIVES

### Option 1. Solar Power Drive

**Total Marks: 250**

**Marks Allotted**

Assessable Outcomes	Assessment Criteria	Total Marks	Out of	Theroy	Skills Practical
TSC/N7904 Operation and Maintenance of solar attachment	PC1. Prepare Solar powered Handloom/ Khadi machine for operation	200	3	1	2
	PC2. Switch on the main motor and start the machine for production		3	1	2
	PC3. Ensure the Charge controller, Batteries are working properly as instructed		3	1	2
	PC4. Clean the surface of the solar panel for dust with wet sponge/cloth		4	1	3
	PC5. Clear the weed/ Grass near the solar panels if any		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>





### **Textile Sector Skill Council**

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