QUALIFICATIONS PACK - OCCUPATIONAL STANDARDS FOR TEXTILE INDUSTRY

What are Occupational Standards(OS)?

- OS describe what individuals need to do, know and understand in order to carry out a particular job role or function
- OS are performance standards that individuals must achieve when carrying out functions in the workplace, together with specifications of the underpinning knowledge and understanding

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Introduction

Qualifications Pack-Hand Spinning Operator

(Traditional Charkha/ New Model Charkha (NMC)/ Solar Operated New Model Charkha)

SECTOR/S: TEXTILE

SUB-SECTOR: Khadi

OCCUPATION: Spinning

REFERENCE ID: TSC/Q7901

ALIGNED TO:NCO-2015/7318.4200

Brief Job Description: The hand spinning operator is responsible for spinning fibers under supervision by maintaining health, safety and security, and complying with the workplace requirements in the khadi sector.

Electives:

Traditional Charkha :

The Traditional Charkha Operator is responsible for spinning cotton fibers under supervision by maintaining health, safety and security, and complying with the workplace requirements in the Khadi sector by using traditional charkha

New Model Charkha :

The New Model Charkha Operator is responsible for spinning cotton fibers under supervision by maintaining health, safety and security, and complying with the workplace requirements in the Khadi sector by using New Model Charkha (NMC).

Solar Operated New Model Charkha :

The Solar Operated New Model Charkha Operator is responsible for spinning cotton fibers under supervision by maintaining health, safety and security, and complying with the workplace requirements in the Khadi sector by using Solar Operated New Model Charkha.

Personal Attributes: Needs to have basic knowledge of fibers,different positions of spindle spinning, patience,precision, an eye for detail, and an alert mind.

Job Details

Qualifications Pack Code	**TSC/Q7901**		
Job Role	**Hand Spinning Operator [Applicable to National Scenarios]**		
Credits	**TBD**	**Version number**	**1.0**
Sector	**Textile**	**Drafted on**	**03/05/17**
Sub-sector	**Khadi**	**Last reviewed on**	**03/05/17**
Occupation	**Spinning**	**Next review date**	**03/05/19**
NSQC Clearance on			

Job Role	**Hand Spinning Operator**
Role Description	The job holder is responsible for spinning fibers under supervision by maintaining health, safety and security, and complying with the workplace requirements in the khadi sector
NSQF level	3
Minimum Educational Qualifications	5th Standard pass, preferably
Maximum Educational Qualifications	NA
Prerequisite License or Training	NA
Minimum Job Entry Age	16 years
Experience	NA
Applicable National Occupational Standards (NOS)	**Compulsory:** 1. TSC/N9005 Maintain work area and tools in handloom sector 2. TSC/N9006Working in a team in handloom sector 3. TSC/N9007Maintain health, safety and security at work place in handloom sector 4. TSC/N9008 Comply with work place requirements in handloom sector **Electives (mandatory to select any one):** **Elective 1- Traditional Charkha** 1. TSC/N7901 Undertake spinning process by traditional charkha **Elective 2-New Model Charkha** 1. TSC/N7902 Undertake spinning process by using new model charkha (NMC) **Elective 3-Solar Operated New Model Charkha** 1. TSC/N7902 Undertake spinning process by using new model charkha (NMC) 2. TSC/N7904 Operation and Maintenance of solar attachment
Performance Criteria	As described in the relevant OS units

Definitions

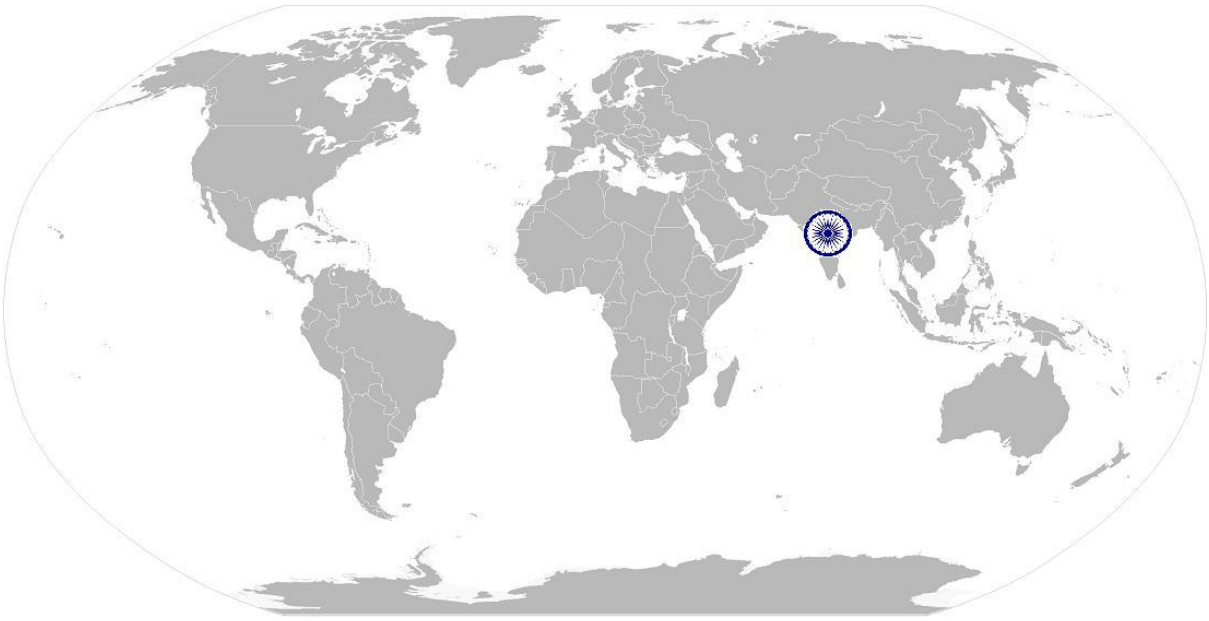
Keywords /Terms	Description
Sector	Sector is a conglomeration of different business operations having similarbusinesses and interests. It may also be defined as a distinct subset of the economy whose components share similar characteristics and interests.
Sub-Sector	Sub-sector is derived from a further breakdown based on the characteristics and interests of its components.
Occupation	Occupation is a set of job roles, which perform similar/related set of functions in an industry.
Job role	Job role defines a unique set of functions that together form a unique employment opportunity in an organization.
Occupational Standards (OS)	OS specify the standards of performance an individual must achieve when carrying out a function in the workplace, together with the knowledge and understanding they need to meet that standard consistently. Occupational Standards are applicable both in the Indian and global contexts.
Performance Criteria	Performance Criteria are statements that together specify the standard of performance required when carrying out a task.
National Occupational Standards (NOS)	NOS are Occupational Standards which apply uniquely in the Indian context
Qualifications Pack(QP)	Qualifications Pack comprises the set of NOS, together with the educational, training and other criteria required to perform a job role. A Qualifications Pack is assigned a unique qualification pack code.
Electives	Electives are NOS/set of NOS that are identified by the sector as contributive to specialization in a job role. There may be multiple electives within a QP for each specialized job role. Trainees must select at least one elective for the successful completion of a QP with Electives.
Options	Options are NOS/set of NOS that are identified by the sector as additional skills. There may be multiple options within a QP. It is not mandatory to select any of the options to complete a QP with Options.
Unit Code	Unit code is a unique identifier for an Occupational Standard, which is denoted by an 'N'
Unit Title	Unit title gives a clear overall statement about what the incumbent should be able to do.
Description	Description gives a short summary of the unit content. This would be helpful to any one searching on a database to verify that this is the appropriate OS they are looking for.
Scope	Scope is the set of statements specifying the range of variables that an individual may have to deal with in carrying out the function which have a critical impact on the quality of performance required.
Knowledge and Understanding	Knowledge and Understanding are statements which together specify the technical, generic, professional and organizational specific knowledge that an individual needs in order to perform to the required standard.
Organisational Context	Organisational Context includes the way the organization is structured and how it operates, including the extent of operative knowledge managers have of their relevant areas of responsibility.
Technical Knowledge	Technical Knowledge is the specific knowledge needed to accomplish specific designated responsibilities.

Core Skills/Generic Skills	Core skills orgeneric skills are a group of skills that are the key to learning and working in today's world. These skills are typically needed in any work environment in today's world. In the context of the OS, these include communication related skills that are applicable to most job roles.
Function	Function is an activity necessary for achieving the key purpose of the sector, occupation, or area of work, which can be carried out by a person or a group of persons. Functions are identified through functional analysis and form the basis of NOS.
Qualifications Pack Code	Qualifications Pack Code is a unique reference code that identifies a qualifications pack.
Sub-functions	Sub-functions are sub-activities essential to fulfil the achieving the objectives of the function.
Vertical	Vertical may exist within a sub-sector representing different domain areas or the client industries served by the industry.

Acronyms

Keywords/Terms	Description
NOS	National OccupationalStandard(s)
NSQF	National SkillsQualifications Framework
QP	QualificationsPack
OS	Occupational Standards
TSC	Textile Sector Skill Council
TBD	To be decided

National Occupational Standard



Overview

This unit provides performance criteria, knowledge, understanding, skills and abilities required to organize/maintain work area and activities to ensure tools used for winding are maintained as per norms.

National Occupational Standard

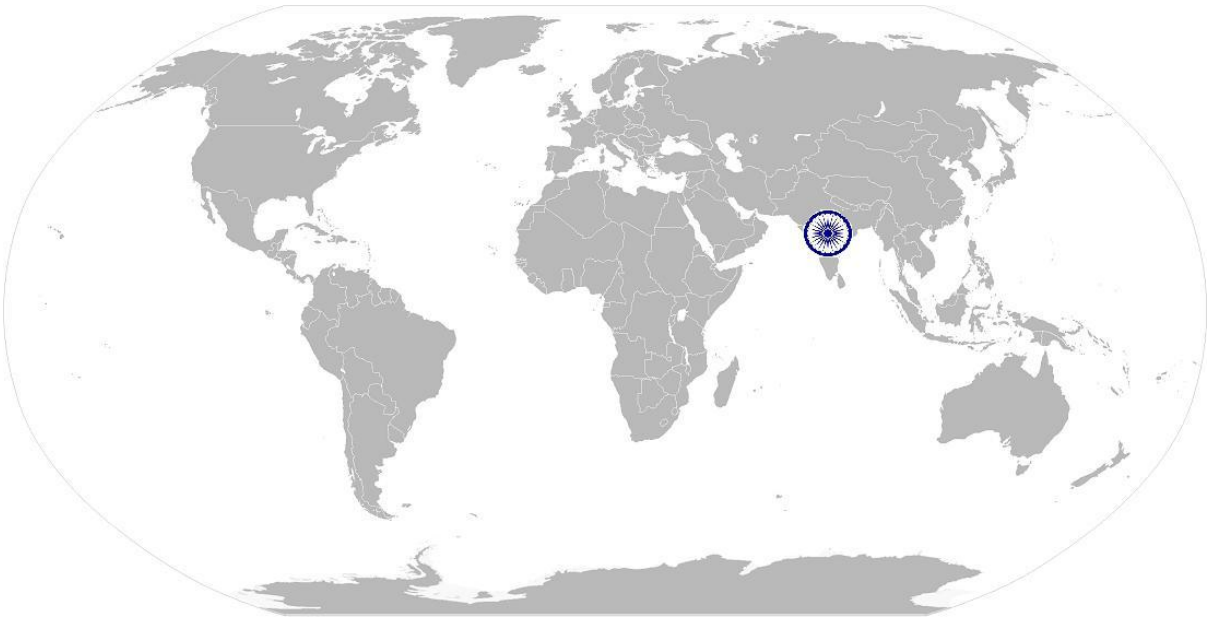
Unit Code	TSC/N9005
Unit Title (Task)	Maintain work area and tools in handloom sector
Description	This unit provides performance criteria, knowledge, understanding, skills and abilities required to organize/maintain work area and activities to ensure tools used for winding are maintained as per norms
Scope	This unit/task covers the following: • Maintain the work area,tools and machines

Performance Criteria (PC) w.r.t the Scope	
Element	**Performance Criteria**
Maintain the work area, tools and machines	To be competent, the user/individual on the job must be able to: PC1. handle materials and tools safely and correctly PC2. use correct lifting and handling procedures PC3. use materials in a manner to minimize waste PC4. maintain a clean and hazard free working area PC5. maintain the tools and equipment used for winding PC6. carry out maintenance and/or cleaning within one's responsibility PC7. identify damaged tools and materials and take action according to the standards followed PC8. ensure that the correct tools and yarn required are in place PC9. work in the correct posture PC10. use cleaning equipment and methods appropriate for the work to be carried out PC11. dispose of waste safely in the designated location PC12. store cleaning equipment safely after use PC13. carry out cleaning according to schedule and limits of responsibility

Knowledge and Understanding (K)	
A. Organizational Context (Knowledge of the company/ organization and its processes)	The user/individual on the job needs to know and understand: KA1. personal hygiene KA2. safe working practices and Cooperative Society/NGO/SHG/cluster procedures KA3. limits of your own responsibility KA4. ways of resolving problems within the work area KA5. production process and the specific work activities that relate to the whole process KA6. importance of effective communication with colleagues KA7. lines of communication, authority and reporting procedures KA8. cooperative Society/NGO/SHG/cluster rules, codes and guidelines (including time keeping)

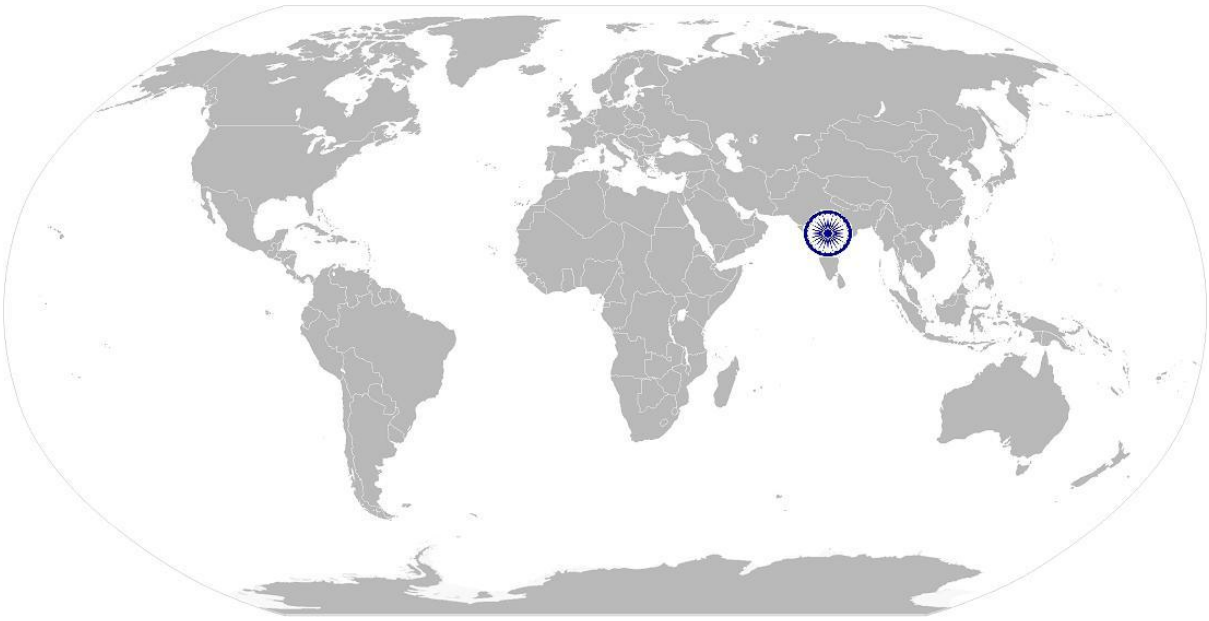
	KA9. company's quality standards KA10. importance of complying with written instructions
B. Technical Knowledge	The user/individual on the job needs to know and understand: KB1. work instructions and specifications and interpret them accurately KB2. relation between work role and the overall manufacturing process KB3. importance of taking action when problems are identified KB4. different ways of minimizing waste KB5. effects of contamination on products KB6. common faults and the methods to rectify them KB7. tools maintenance procedures KB8. hazards likely to be encountered when conducting routine maintenance KB9. different types of cleaning substances and their use KB10. safe working practices for cleaning and the methods of carrying them out
Skills (S)	
A. Core Skills/ Generic Skills	**Writing Skills**
	The user/individual on the job needs to know and understand how to: SA1. write in local language
	Reading Skills
	The user/individual on the job needs to know and understand how to: SA2. read and comprehend written instructions
	Oral Communication (Listening and Speaking skills)
	The user/individual on the job needs to know and understand how to: SA3. listen effectively and orally communicate information accurately SA4. ask for clarification and advice from others
B. Professional Skills	**Decision Making**
	The user/individual on the job needs to know and understand how to: SB1. follow rule-based decision-making processes SB2. make decisions on a suitable course of action or response
	Plan and Organize
	The user/individual on the job needs to know and understand how to: SB3. plan and organize your work to achieve targets and deadlines
	Customer Centricity
	The user/individual on the job needs to know and understand how to: SB4. avoid absenteeism SB5. be punctual SB6. work in discipline SB7. act objectively, rather than impulsively or emotionally when faced with difficult/stressful or emotional situations

	Problem Solving
	The user/individual on the job needs to know and understand how to: SB8. apply problem-solving approaches in different situations SB9. seek clarification on problems from others
	Analytical Thinking
	The user/individual on the job needs to know and understand how to: SB10. analyze data and activities SB11. pass on relevant information to others
	Critical Thinking
	The user/individual on the job needs to know and understand how to: SB12. provide opinions on work in a detailed and constructive way SB13. apply balanced judgments to different situations

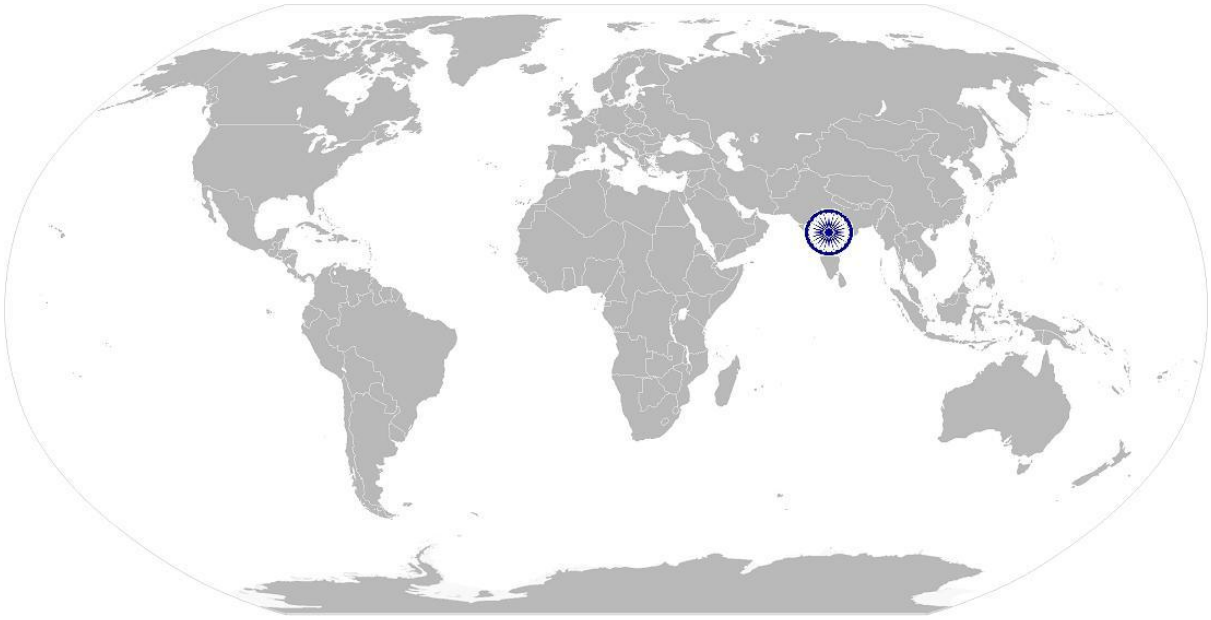


NOS Version Control

NOS Code	TSC/N9005		
Credits	TBD	Version number	1.0
Industry	Textiles Sector	Drafted on	03/05/17
Industry Sub-sector	Handloom	Last reviewed on	03/05/17
Occupation	Generic	Next review date	03/05/19



National Occupational Standard



Overview

This unit is about working in a team in a handloom sector.

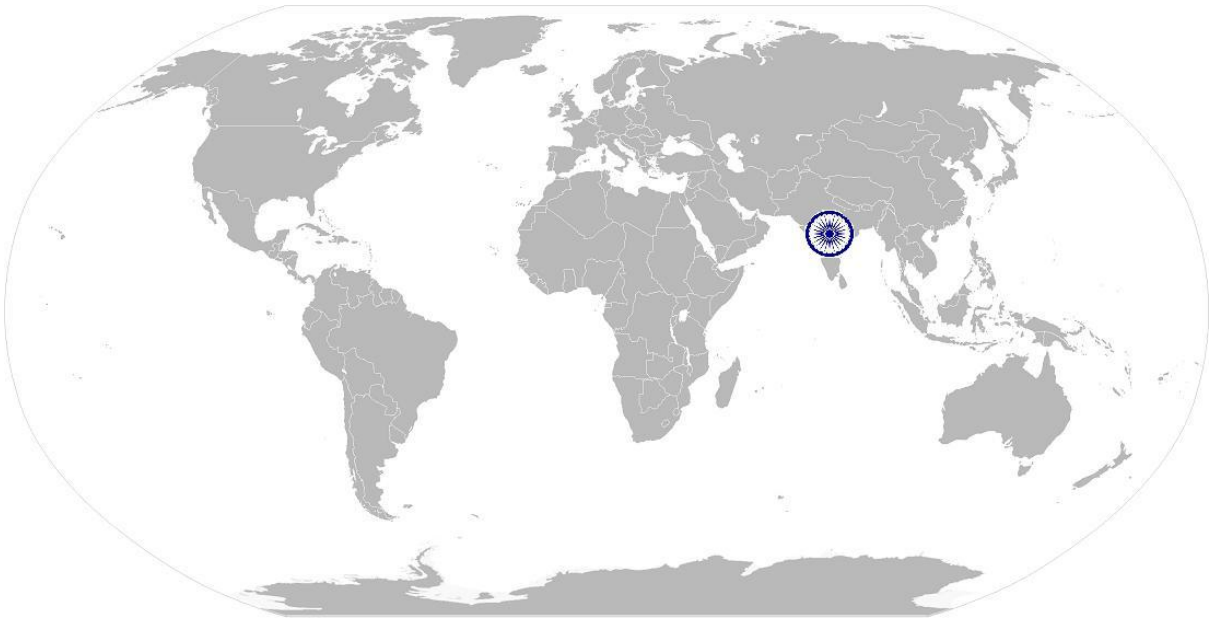
National Occupational Standard

Unit Code	TSC/N9006
Unit Title (Task)	Working in a team in handloom sector
Description	This unit is about working as a team member.
Scope	This unit/task covers the following: • Self-development • Team work • Organizational standards
Performance Criteria (PC) w.r.t the Scope	
Element	**Performance Criteria**
Self- development	To be competent, the user/individual on the job must be able to: PC1. perform own duties effectively PC2. take responsibility for own actions PC3. be accountable towards the job role and assigned duties PC4. take initiative and innovate the existing methods PC5. focus on self-learning and improvement
Team Work	To be competent, the user/individual on the job must be able to: PC6. co-ordinate with all team members and colleagues PC7. communicate politely PC8. avoid conflicts and miscommunication
Organizational standards	To be competent, the user/individual on the job must be able to: PC9. know the organizational standards PC10. implement them in your performance PC11. motivate others to follow them
Knowledge and Understanding (K)	
A. Organizational Context(Knowledge of the company/ organization and its processes)	The user/individual on the job needs to know and understand: KA1. standard Operating Procedures (SOP) and regulations in the Cooperative Society/NGO/SHG KA2. knowledge of workplace standards
B. Technical Knowledge	The user/individual on the job needs to know and understand: KB1. importance of self-development KB2. importance of team work KB3. importance of understanding and complying with organizational standards
Skills (S)	
A. Core Skills/ Generic Skills	**Writing Skills**
	The user/individual on the job needs to know and understand how to: SA1. write in local language
	Reading Skills

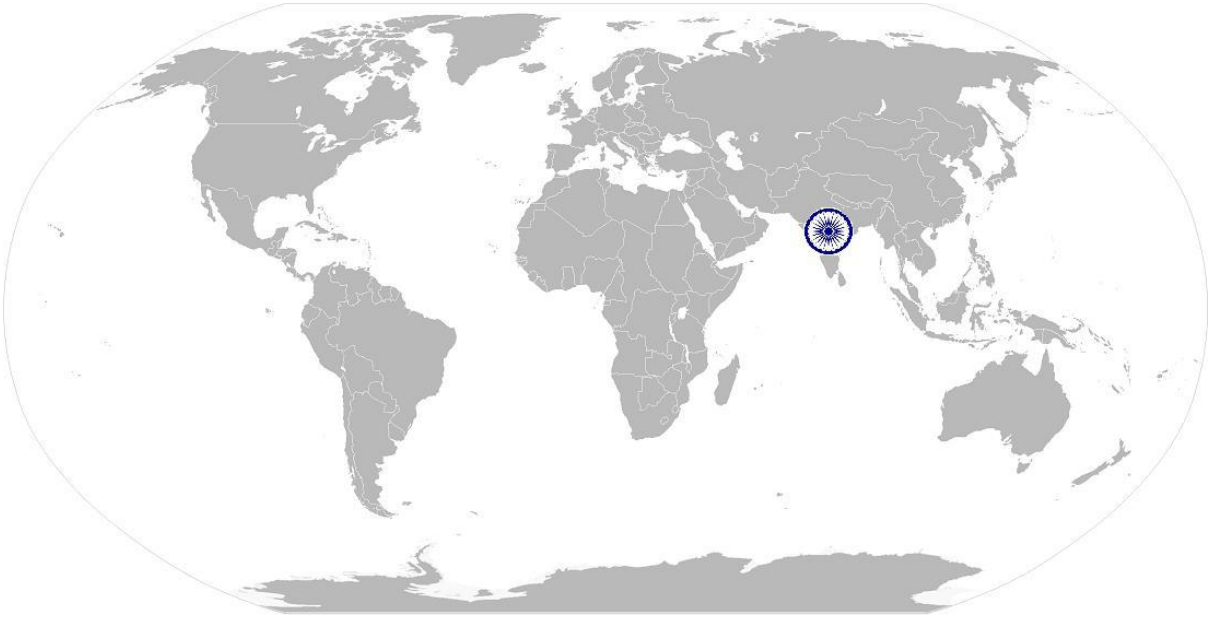
	The user/individual on the job needs to know and understand how to: SA2. read and comprehend written instructions
	Oral Communication (Listening and Speaking skills)
	The user/individual on the job needs to know and understand how to: SA3. listen effectively and orally communicate information accurately SA4. ask for clarification and advice from others
B. Professional Skills	**Decision Making**
	The user/individual on the job needs to know and understand how to: SB1. follow rule-based decision-making processes SB2. make decisions on a suitable course of action or response
	Plan and Organize
	The user/individual on the job needs to know and understand how to: SB3. plan and organize your work to achieve targets and deadlines
	Customer Centricity
	The user/individual on the job needs to know and understand how to: SB4. avoid absenteeism SB5. be punctual SB6. work in Discipline SB7. act objectively, rather than impulsively or emotionally when faced with difficult/stressful or emotional situations
	Problem Solving
	The user/individual on the job needs to know and understand how to: SB8. apply problem-solving approaches in different situations SB9. seek clarification on problems from others
	Analytical Thinking
	The user/individual on the job needs to know and understand how to: SB10. analyze data and activities SB11. pass on relevant information to others
	Critical Thinking
	The user/individual on the job needs to know and understand how to: SB12. provide opinions on work in a detailed and constructive way SB13. apply balanced judgments to different situations

NOS Version Control

NOS Code	TSC/N9006		
Credits	TBD	Version number	1.0
Industry	Textiles Sector	Drafted on	03/05/17
Industry Sub-sector	Handloom	Last reviewed on	03/05/17
Occupation	Generic	Next review date	03/05/19



National Occupational Standard



Overview

This unit provides performance criteria, knowledge, understanding, skills and abilities required to comply with health, safety and security requirements at the workplace and covers procedures to prevent, control and minimize risk to self and others

National Occupational Standard

Unit Code	TSC/N9007
Unit Title (Task)	Maintain health, safety and security at workplace in handloom sector
Description	This unit provides performance criteria, knowledge, understanding, skills and abilities required to comply with health, safety and security requirements at the workplace and covers procedures to prevent, control and minimize risk to self and others.
Scope	This unit/task covers the following: • Comply with health, safety and security requirements at work • Recognize and address the hazards

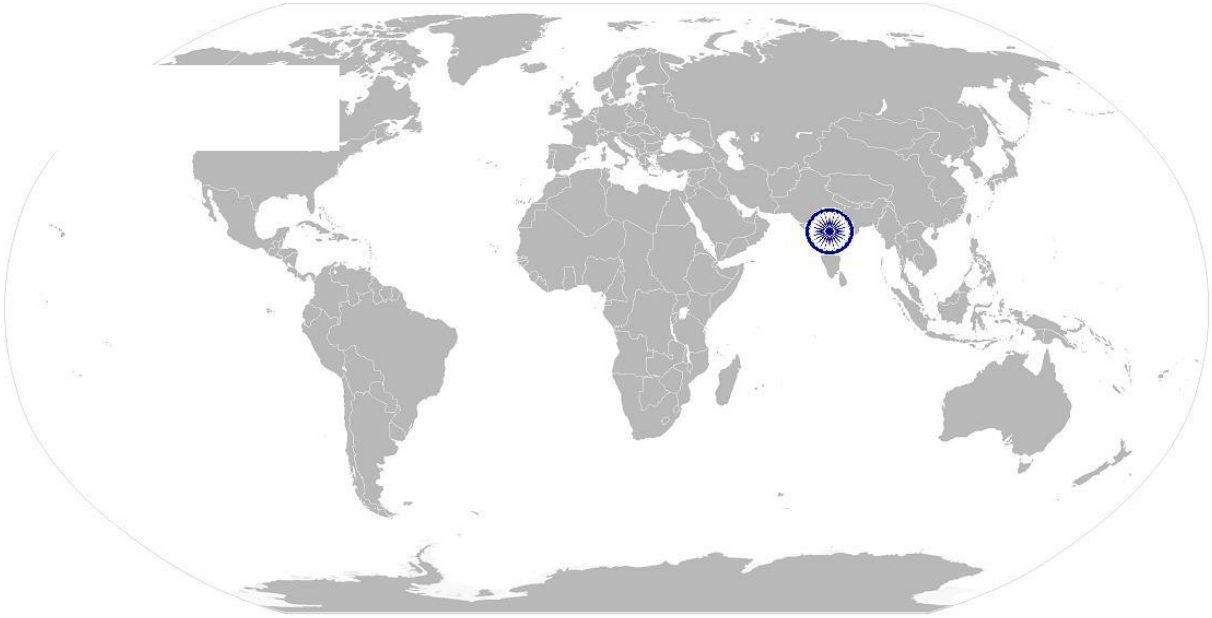
Performance Criteria (PC) w.r.t the Scope	
Element	**Performance Criteria**
Comply with health, safety and security requirements at work	To be competent, the user/individual on the job must be able to: PC1. comply with health and safety related instructions applicable to the workplace PC2. use and maintain personal protective equipment as per protocol PC3. Carry out own activities in line with approved guidelines and procedures PC4. Maintain a healthy life style and guard against dependency on in toxicants PC5. Follow environment management system related procedures PC6. store materials and tools in line with manufacturer's and Cooperative Society/NGO/SHG requirements PC7. Safely handle and move waste and debris PC8. Minimize health and safety risks to self and others dueto own actions PC9. Monitor the workplace and work processes for potential risks and threats PC10. Carryout periodic walk-through to keep work area free from hazards and obstructions, if assigned PC11. Participate in mock drills/ evacuation procedures organized at the workplace PC12. undertakefirstaid,fire-fightingandemergencyresponsetraining,ifasked to do so PC13. take action based on instructions in the event of fire, emergencies or accidents PC14. follow Cooperative Society/NGO/SHG procedures for evacuation when required
Recognize and address the hazards	To be competent, the user/individual on the job must be able to: PC15. identify different kinds of possible hazards (environmental, personal, ergonomic and chemical) of the industry PC16. recognize other possible security issues existing in the workplace PC17. plan the safety techniques PC18. recognize different measures to curb the hazards PC19. implement the programs

	PC20. communicate the safety plans to everyone PC21. attach disciplinary rules with the implementation
Knowledge and Understanding (K)	
A. Organizational Context (Knowledge of the company/ organization and its processes)	The user/individual on the job needs to know and understand: KA1. health and safety related practices applicable at the workplace KA2. potential hazards, risks and threats based on nature of operations KA3. cooperative Society/NGO/SHG procedures for safe handling of tools KA4. potential risks due to own actions and methods to minimize these KA5. environmental management system related procedures at the workplace KA6. potential accidents and emergencies and response to these scenarios KA7. documentation formats, if any KA8. knowledgeof personnel trained in first aid, fire-fighting and emergency response
B. Technical Knowledge	The user/individual on the job needs to know and understand: KB1. occupational health and safety risks and methods KB2. personal protective equipment and method of use KB3. identification, handling and storage of hazardous substances KB4. proper disposal system for waste and by-products KB5. signage related to health and safety and their meaning KB6. importance of sound health, hygiene and good habits KB7. ill- effects of alcohol, tobacco and drugs
Skills (S)	
A. Core Skills/ Generic Skills	**Writing Skills**
	The user/individual on the job needs to know and understand how to: SA1. write in local language
	Reading Skills
	The user/individual on the job needs to know and understand how to: SA2. read and comprehend written instructions
	Oral Communication (Listening and Speaking skills)
	The user/individual on the job needs to know and understand how to: SA3. listen effectively and orally communicate information accurately SA4. ask for clarification and advice from others
B. Professional Skills	**Decision Making**
	The user/individual on the job needs to know and understand how to: SB1. follow rule-based decision-making processes SB2. make decisions on a suitable course of action or response

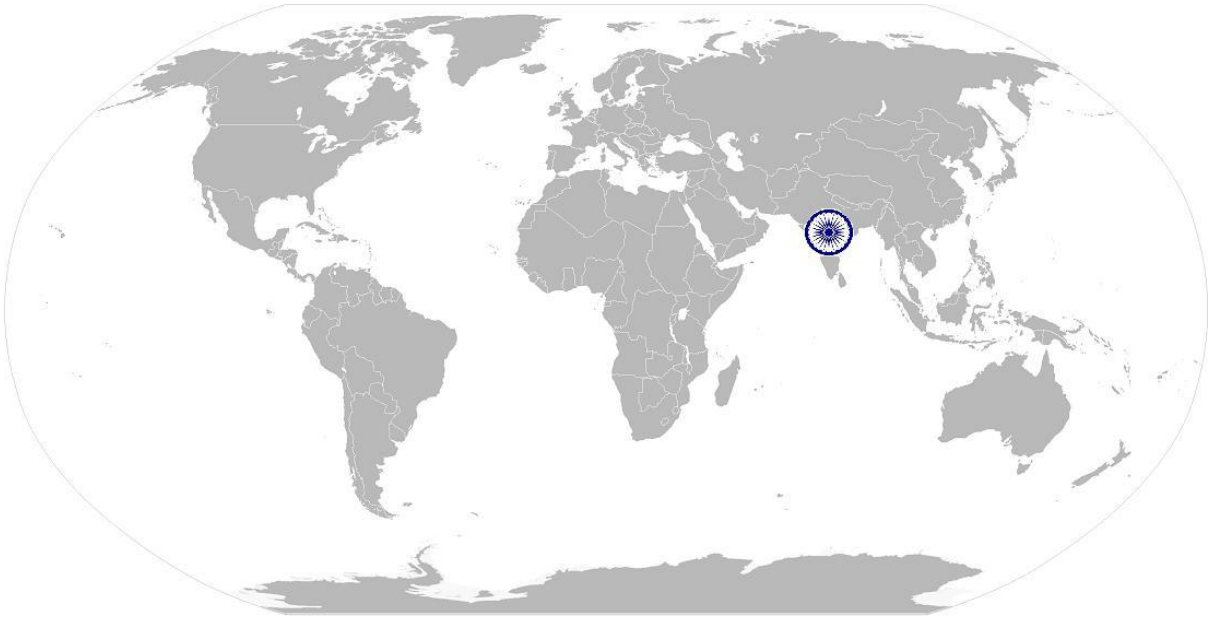
	Plan and Organize
	The user/individual on the job needs to know and understand how to: SB3. plan and organize your work to achieve targets and deadlines
	Customer Centricity
	The user/individual on the job needs to know and understand how to: SB4. avoid absenteeism SB5. be punctual SB6. work in Discipline SB7. act objectively, rather than impulsively or emotionally when faced with difficult/stressful or emotional situations
	Problem Solving
	The user/individual on the job needs to know and understand how to: SB8. apply problem-solving approaches in different situations SB9. seek clarification on problems from others
	Analytical Thinking
	The user/individual on the job needs to know and understand how to: SB10. analyze data and activities SB11. pass on relevant information to others
	Critical Thinking
	The user/individual on the job needs to know and understand how to: SB12. provide opinions on work in a detailed and constructive way SB13. apply balanced judgment to different situations

NOS Version Control

NOS Code	TSC/N9007		
Credits	TBD	Version number	1.0
Industry	Textiles Sector	Drafted on	03/05/17
Industry Sub-sector	Handloom	Last reviewed on	03/05/17
Occupation	Generic	Next review date	03/05/19



National Occupational Standard



Overview

This unit is about knowing, understanding and complying with work place requirements in handloom sector.

TSC/N9008 Comply with work place requirements in handloom sector

National Occupational Standard

Unit Code	TSC/N9008
Unit Title (Task)	Comply with work place requirements in handloom sector
Description	This unit is about knowing, understanding and complying with work place requirements in handloom sector
Scope	This unit/task covers the following: • Commitment and trust • Communication • Adaptability • Creative freedom
Performance Criteria (PC) w.r.t the Scope	
Element	**Performance Criteria**
Commitment and trust	To be competent, the user/individual on the job must be able to: PC1. be accountable to one's own role in the whole process PC2. perform all roles with full responsibility PC3. be effective and efficient at workplace
Communication	To be competent, the user/individual on the job must be able to: PC4. properly communicate about work place policies PC5. talk politely with other team members and colleagues PC6. submit daily report of own performance
Adaptability	To be competent, the user/individual on the job must be able to: PC7. adjust in different work situations PC8. give due importance to others' point of view PC9. avoid conflicting situations
Creative freedom	To be competent, the user/individual on the job must be able to: PC10. improve upon the existing techniques to increase process efficiency
Knowledge and Understanding (K)	
A. Organizational Context (Knowledge of the company / organization and its processes)	The user/individual on the job needs to know and understand: KA1. standard operating procedures(SOP) and regulations in the cooperative society/NGO/SHG KA2. procedure followed to get the final output in the Cooperative Society/NGO/SHG KA3. safe working practices to be adopted in the Cooperative Society/NGO/SHG

TSC/N9008 **Comply with work place requirements in handloom sector**

B. Technical Knowledge	The user/individual on the job needs to know and understand: KB1. importance of commitment and trust KB2. importance of proper communication KB3. importance of adaptability KB4. importance of creative freedom
Skills (S)	
A. Core Skills/ Generic Skills	**Writing Skills**
	The user/individual on the job needs to know and understand how to: SA1. write in local language
	Reading Skills
	The user/individual on the job needs to know and understand how to: SA2. read and comprehend written instructions
	Oral Communication (Listening and Speaking skills)
	The user/individual on the job needs to know and understand how to: SA3. listen effectively and orally communicate information accurately SA4. ask for clarification and advice from others
B. Professional Skills	**Decision Making**
	The user/individual on the job needs to know and understand how to: SB1. follow rule-based decision-making processes SB2. make decisions on a suitable course of action or response
	Plan and Organize
	The user/individual on the job needs to know and understand how to: SB3. plan and organize your work to achieve targets and deadlines
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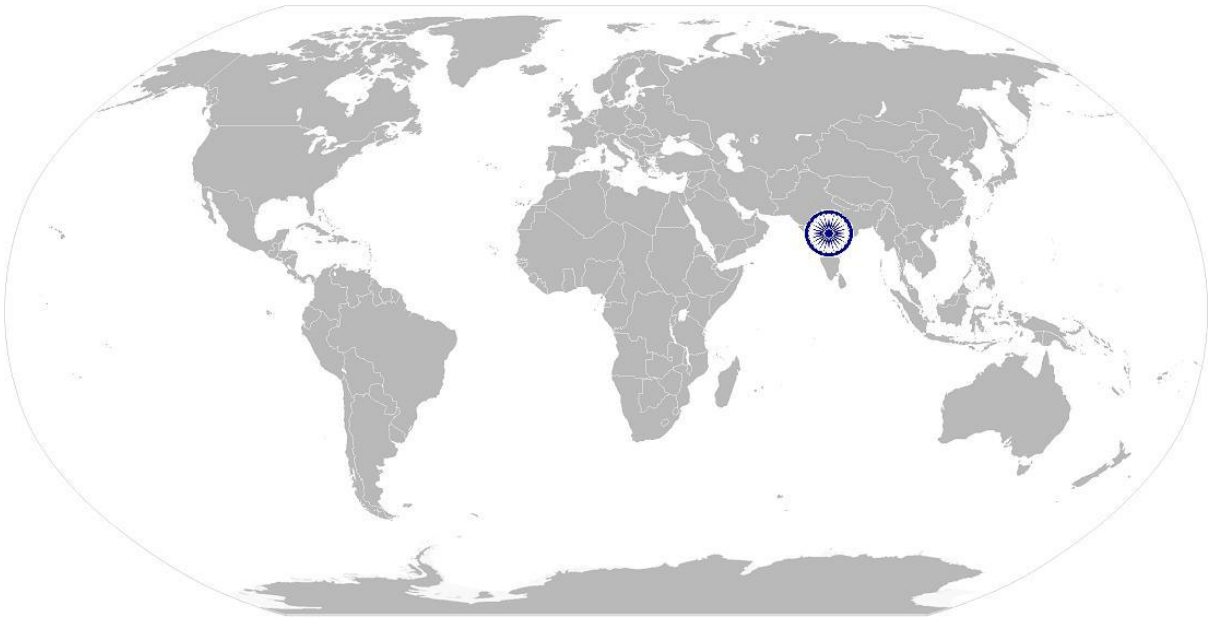
	The user/individual on the job needs to know and understand how to: SB4. avoid absenteeism SB5. be punctual SB6. work in discipline SB7. act objectively, rather than impulsively or emotionally when faced with difficult/stressful or emotional situations
	Problem Solving
	The user/individual on the job needs to know and understand how to: SB8. apply problem-solving approaches in different situations SB9. seek clarification on problems from others
	Analytical Thinking
	The user/individual on the job needs to know and understand how to: SB10. analyze data and activities SB11. pass on relevant information to others

TSC/N9008 Comply with work place requirements in handloom sector

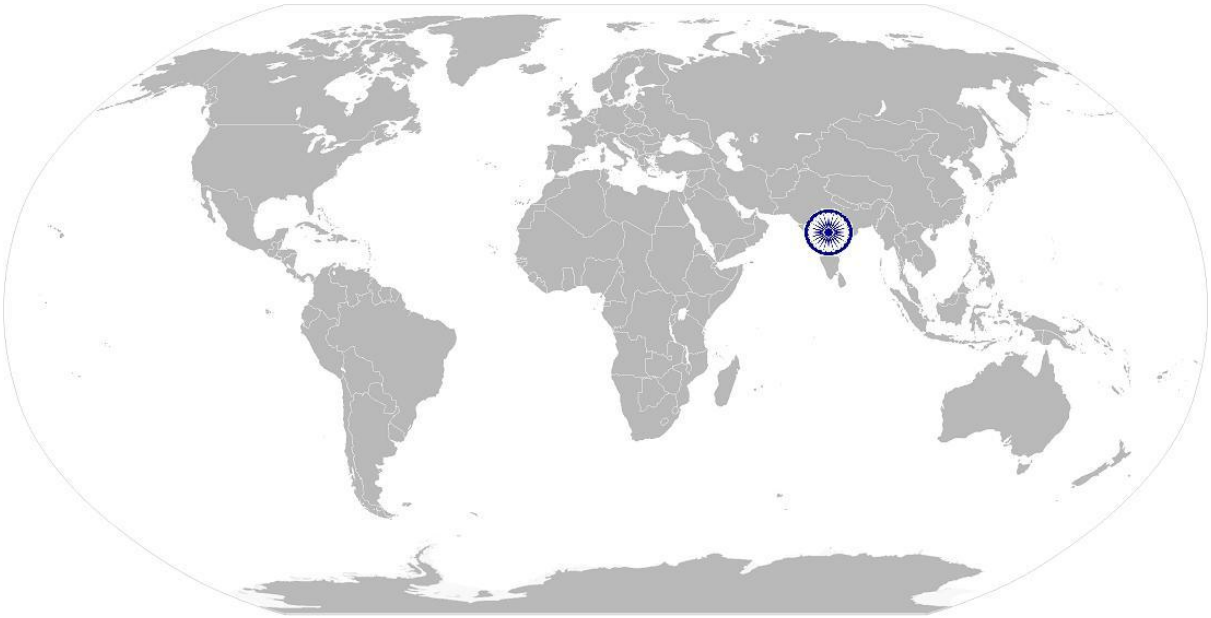
	Critical Thinking
	The user/individual on the job needs to know and understand how to: SB12. provide opinions on work in a detailed and constructive way SB13. apply balanced judgment to different situations



NOS Version Control

NOS Code	TSC/N9008		
Credits	TBD	Version number	1.0
Industry	Textiles Sector	Drafted on	03/05/17
Industry Sub-sector	Handloom	Last reviewed on	03/05/17
Occupation	Generic	Next review date	03/05/19

National Occupational Standard



Overview

This unit refers to the necessary skills, knowledge and attributes required by a traditional charkha spinning operator for spinning fibers.

National Occupational Standard

TSC/N7901 Undertake traditional charkha spinning operations

Unit Code	**TSC/N7901**
Unit Title (Task)	**Undertake traditional charkha spinning operations**
Description	The unit deals with necessary skills, knowledge and attributes required by a traditional charkha spinning operator
Scope	This unit/task covers the following: • Carry out pre-spinning activities • Ensure proper spinning activities

Performance Criteria(PC) w.r.t. the Scope

Element	Performance Criteria
Carry out pre-spinning activities	To be competent, the user/individual on the job must be able to: PC1. identify and select from various types of fibers for charkha spinning Types: Upland, long-stapled cotton, cashmere, camel down, angora etc 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. PC3. undertake ginning process of the kapas manually using an iron rod PC4. clean and fluff out ginned cotton using handmade bow PC5. perform parallization of fibers manually PC6. perform separation of the fibers using manually operated carding machine PC7. carry out slivering of the fibers using a tapered wooden stick PC8. roll the sliver suitably to carry out spinning PC9. calculate the desired yarn count
Ensure proper spinning activities	To be competent, the user/individual on the job must be able to: PC10. add leader to the spindle to start the spinning process PC11. identify the different basic positions for spindle spinning Positions: Hand in front of spindle, hand above spindle, and hand at an angle PC12. wind the thread on the spindle tip PC13. add twist to strengthen and compress the drafted yarn into thin strand PC14. spin the yarn under supervision at a comfortable rate until the fibers lock together PC15. draft the cotton off the leader PC16. convert the spun yarn into hank PC17. wind in a criss-cross winding pattern using hand and feet to prepare the hank

Knowledge and Understanding (K)

A. Organizational Context (Knowledge of the company / organization and its processes)	The user/individual on the job needs to know and understand: KA1. policies and procedures followed in the handloom sector relevant to own employment and performance conditions KA2. relevant health and safety requirements applicable in the work place KA3. importance of following health, hygiene, safety and quality standards and the impact of non-compliance of the standards on consumers and the business KA4. own job role and responsibilities and sources for information pertaining to employment terms, compensation, job role and responsibilities KA5. relevant people and their responsibilities within the work area

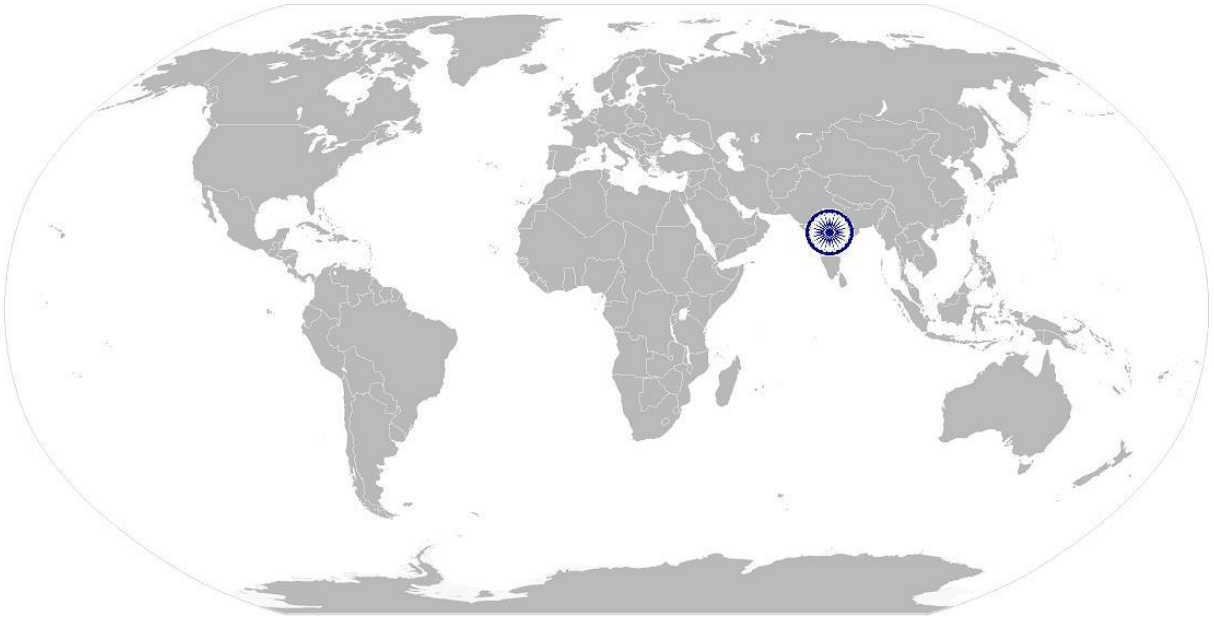
TSC/N7901 Undertake traditional charkha spinning operations

B. Technical Knowledge	The user/individual on the job needs to know and understand: KB1. various types of fibers KB2. hand combing and ginning process KB3. manual carding and paralleling methods KB4. spindle spinning process KB5. different position of spindle spinning KB6. drafting and twisting method KB7. yarn count and its different method—indirect and direct
Skills (S)	
A. Core Skills/ Generic Skills	**Writing Skills**
	The user/ individual on the job needs to know and understand how to: SA1. write local or English language for recording production, quality related information, numbering, and maintenance of related information and materials, etc.
	Reading Skills
	The user/individual on the job needs to know and understand how to: SA2. read to differentiate the various materials used in the process SA3. read and correctly interpret own notes written in local or English language
	Oral Communication (Listening and Speaking skills)
	The user/individual on the job needs to know and understand how to: SA4. communicate with co-workers appropriately SA5. listen carefully SA6. talk effectively to convey information succinctly and unequivocally
B. Professional Skills	**Decision Making**
	NA
	Plan and Organize
	The user/individual on the job needs to know and understand how to: SB1. plan and organize own work in a way that all activities are completed in time and as per specifications
	Customer Centricity
	The user/individual on the job needs to know and understand how to: SB2. interpret work requirements correctly SB3. deliver quality output and maintain long term business relationship with customers
	Problem Solving
	The user/individual on the job needs to know and understand how to: SB4. determine timely correction of errors to prevent redoing of work
	Analytical Thinking
	NA
	Critical Thinking
	NA

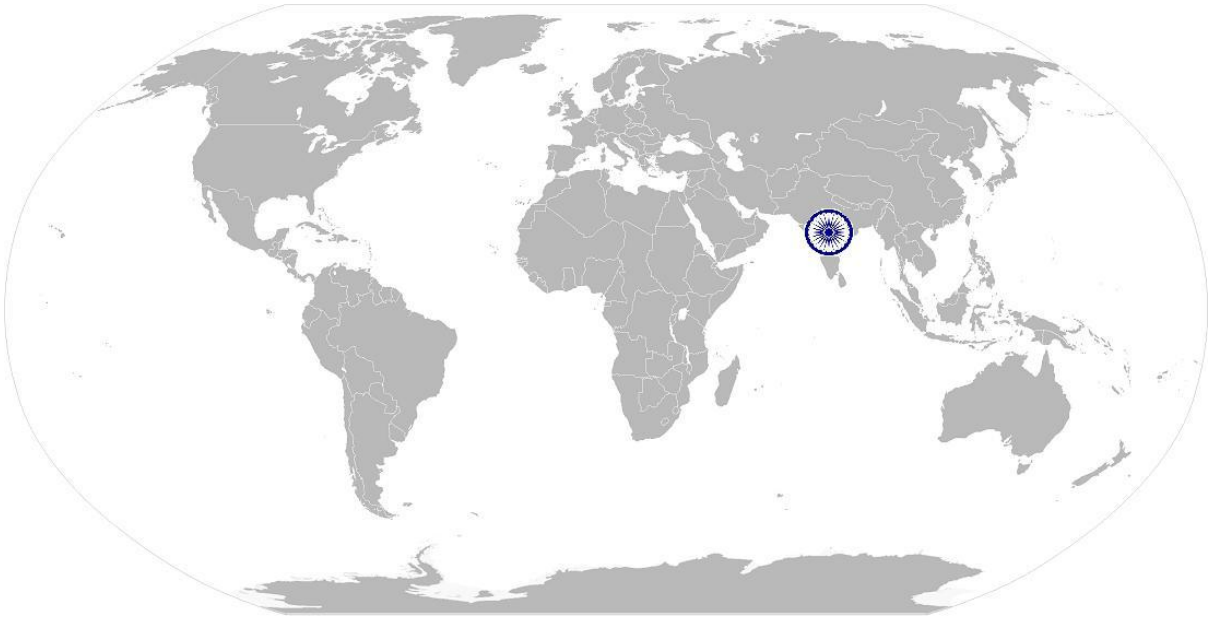
TSC/N7901 Undertake traditional charkha spinning operations

NOS Version Control

NOS Code	TSC/N7901		
Credits	TBD	Version number	1.0
Industry	Textile	Drafted on	03/05/17
Industry Sub-sector	Handloom	Last reviewed on	03/05/17
Occupation	Spinning	Next review date	03/05/19



National Occupational Standard



Overview

This unit refers to the necessary skills, knowledge and attributes required by a spinning operator to spin fibers using new model charkha (NMC).

TSC/N7902 Undertake spinning process by using new model charkha (NMC)

National Occupational Standard

Unit Code	TSC/N7902
Unit Title (Task)	Undertake spinning process by using new model charkha (NMC)
Description	The unit deals with necessary skills, knowledge and attributes required by a new model charkha (NMC) spinning operator
Scope	This unit/task covers the following: • Carry out pre-spinning activities • Ensure proper spinning activities

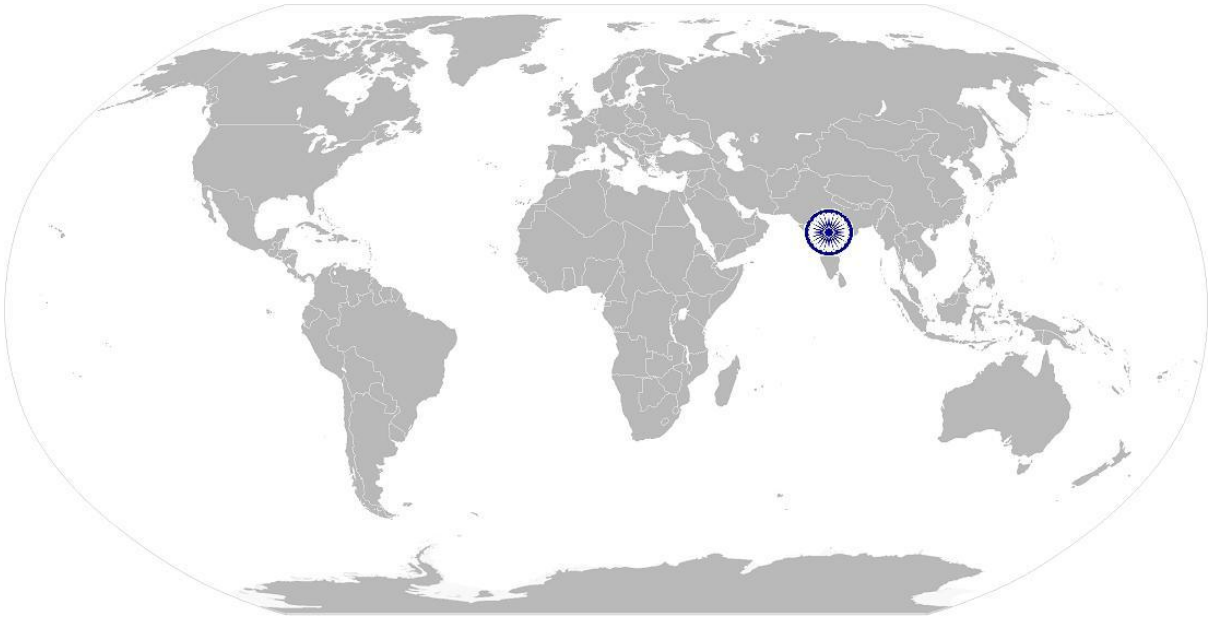
Performance Criteria(PC) w.r.t. the Scope	
Element	**Performance Criteria**
Carry out pre-spinning activities	To be competent, the user/individual on the job must be able to: PC1. ensure that the drive belt in the new model charkha allows the flyer to move freely PC2. adjust the break (draw-in) to rest on the bobbin PC3. ensure that the size of the wheel is inversely proportional to the diameter of the whorl for faster movement of the flyer PC4. identify and select from various types of fibers for charkha spinning Types: Upland, long-stapled cotton, cashmere, camel down, angora, ultrafine merino, etc. PC5. fluff out commercial cotton roving bobbin to aerate the fiber smoothly PC6. perform the cleaning of roving bobbin PC7. calculate the desired yarn count
Ensure proper spinning activities	To be competent, the user/individual on the job must be able to: PC8. wind the thread on the spindle tip PC9. adjust the cot and apron to provide uniform pressure on the fibre strand to facilitate efficient drafting PC10. check aprons have better grip & control on fibres particularly floating fibres PC11. use the ring to guide the circular run of the traveller 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 PC13. check the creel holds the roving bobbin over a roller beam within a convenient height to easily handle the roving 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 PC15. add twist per inch if thread keeps drifting apart (breaking) PC16. ensure the twist does not get into the drafting area PC17. change the hooks frequently to avoid thread pile up in one spot on the bobbin

Knowledge and Understanding (K)	
A. Organizational Context	The user/individual on the job needs to know and understand: KA1. policies and procedures followed in the handloom sector relevant to own employment and performance conditions

(Knowledge of the company / organization and its processes)	KA2. relevant health and safety requirements applicable in the work place KA3. importance of following health, hygiene, safety and quality standards and the impact of non-compliance of the standards on consumers and the business KA4. own job role and responsibilities and sources for information pertaining to employment terms, compensation, job role and responsibilities KA5. relevant people and their responsibilities within the work area KA6. various categories of people that one is required to communicate and co-ordinate within the organization
B. Technical Knowledge	The user/individual on the job needs to know and understand: KB1. various types of fiber KB2. cotton roving KB3. carding and sliving KB4. spindle spinning process KB5. drafting and twisting method KB6. yarn count and its different method—indirect and direct KB7. factors considered for the selection of traveller Factors: Yarn count, spindle speed, ring diameter, empty bobbin diameter, lift of bobbin, and cross section of traveller KB8. specifications of traveller Specifications: Traveller number, cross section of wire and shape, flange number, surface finish, and type of material
Skills (S)	
A. Core Skills/ Generic Skills	**Writing Skills**
	The user/ individual on the job needs to know and understand how to: SA1. write local or English language for recording production, quality related information, numbering, and maintenance of related information and materials, etc.
	Reading Skills
	The user/individual on the job needs to know and understand how to: SA2. read to differentiate the various materials used in the process SA3. read and correctly interpret own notes written in local or English language
	Oral Communication (Listening and Speaking skills)
	The user/individual on the job needs to know and understand how to: SA4. communicate with co-workers appropriately SA5. listen carefully SA6. talk effectively to convey information succinctly and unequivocally
B. Professional Skills	**Decision Making**
	NA
	Plan and Organize
	The user/individual on the job needs to know and understand how to: SB1. plan and organize own work in a way that all activities are completed in time and as per specifications

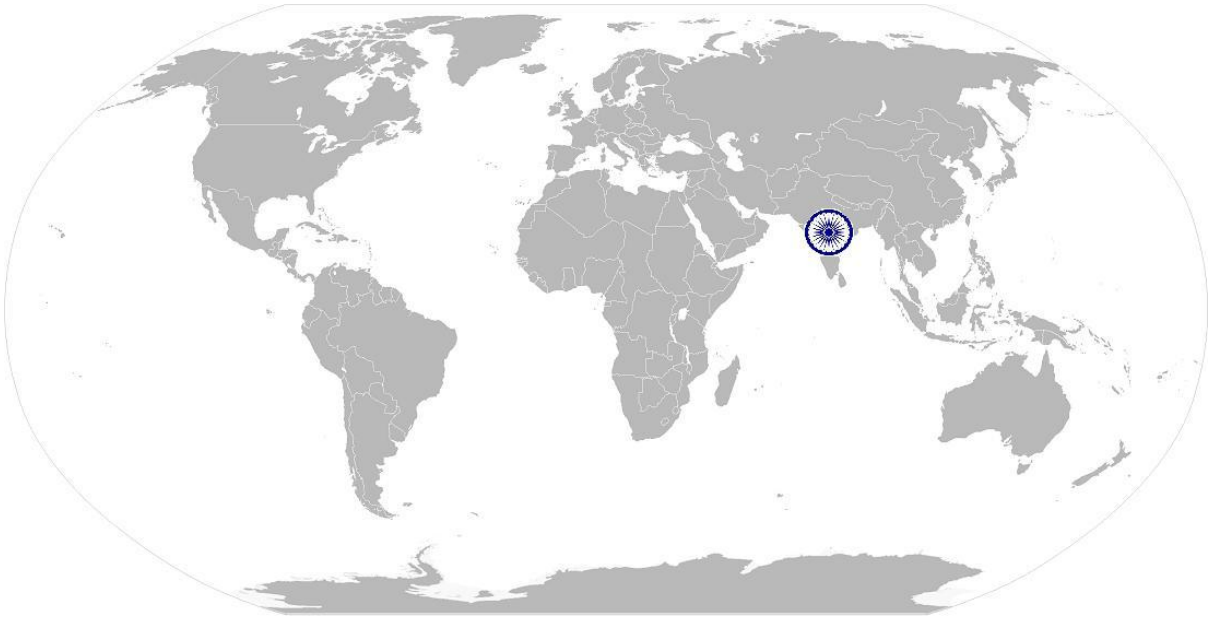
TSC/N7902 **Undertake spinning process by using new model charkha (NMC)**

	Customer Centricity
	The user/individual on the job needs to know and understand how to: SB2. interpret work requirements correctly SB3. deliver quality output and maintain long term business relationship with customers
	Problem Solving
	The user/individual on the job needs to know and understand how to: SB4. determine timely correction of errors to prevent redoing of work
	Analytical Thinking
	NA
	Critical Thinking
	NA

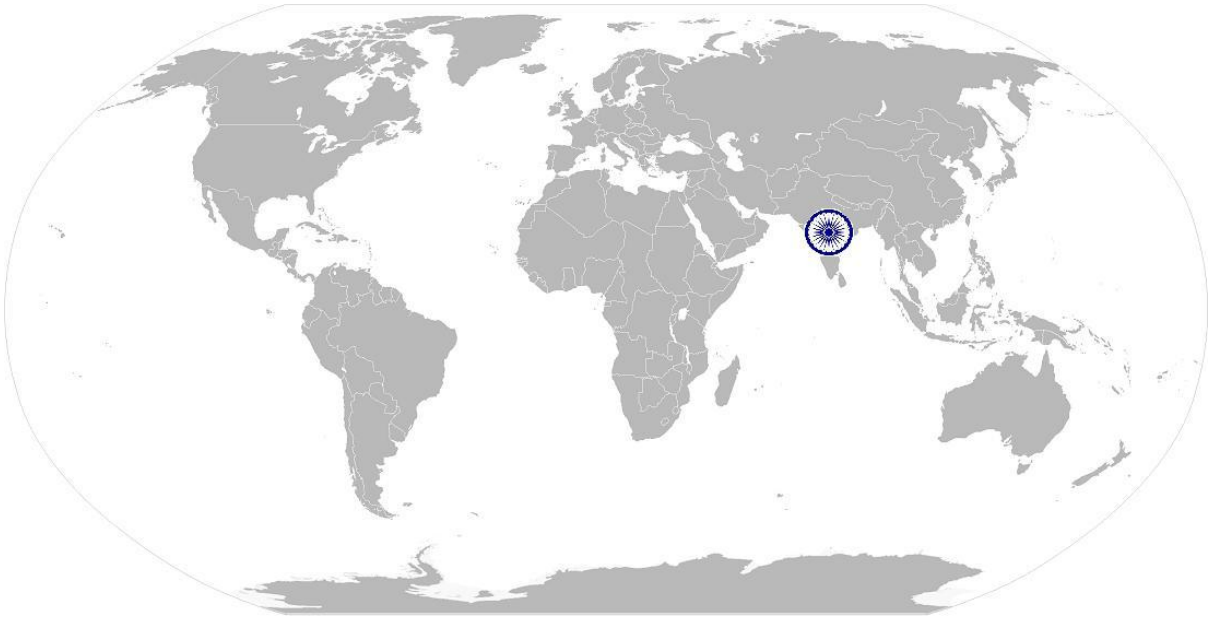


NOS Version Control

NOS Code	TSC/N7902		
Credits	TBD	Version number	1.0
Industry	Textile	Drafted on	03/05/17
Industry Sub-sector	Handloom	Last reviewed on	03/05/17
Occupation	Spinning	Next review date	03/05/19



National Occupational Standard



Overview

This unit refers to the necessary skills, knowledge and attributes required by a spinning operator to spin fibers using new model charkha (NMC).

TSC/N7902 Undertake spinning process by using new model charkha (NMC)

National Occupational Standard

Unit Code	TSC/N7902
Unit Title (Task)	Undertake spinning process by using new model charkha (NMC)
Description	The unit deals with necessary skills, knowledge and attributes required by a new model charkha (NMC) spinning operator
Scope	This unit/task covers the following: • Carry out pre-spinning activities • Ensure proper spinning activities

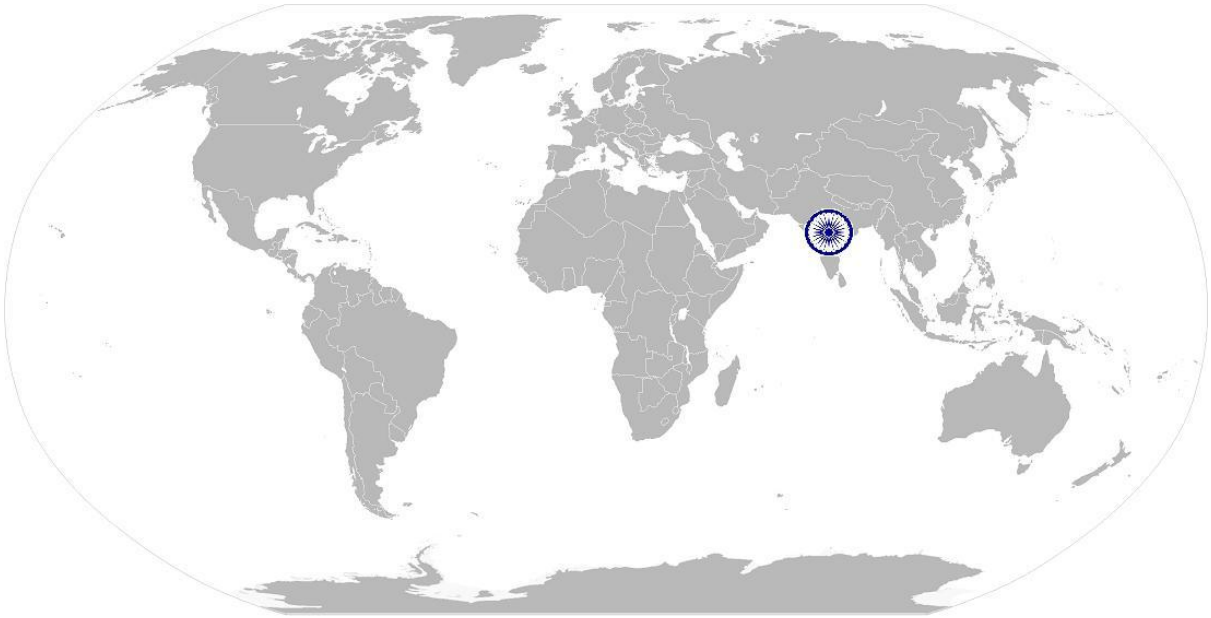
Performance Criteria(PC) w.r.t. the Scope	
Element	**Performance Criteria**
Carry out pre-spinning activities	To be competent, the user/individual on the job must be able to: PC1. ensure that the drive belt in the new model charkha allows the flyer to move freely PC2. adjust the break (draw-in) to rest on the bobbin PC3. ensure that the size of the wheel is inversely proportional to the diameter of the whorl for faster movement of the flyer PC4. identify and select from various types of fibers for charkha spinning Types: Upland, long-stapled cotton, cashmere, camel down, angora, ultrafine merino, etc. PC5. fluff out commercial cotton roving bobbin to aerate the fiber smoothly PC6. perform the cleaning of roving bobbin PC7. calculate the desired yarn count
Ensure proper spinning activities	To be competent, the user/individual on the job must be able to: PC8. wind the thread on the spindle tip PC9. adjust the cot and apron to provide uniform pressure on the fibre strand to facilitate efficient drafting PC10. Check aprons have better grip & control on fibres particularly floating fibres PC11. use the ring to guide the circular run of the traveller 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 PC13. check the creel holds the roving bobbin over a roller beam within a convenient height to easily handle the roving 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 PC15. add twist per inch if thread keeps drifting apart (breaking) PC16. ensure the twist does not get into the drafting area PC17. change the hooks frequently to avoid thread pile up in one spot on the bobbin

Knowledge and Understanding (K)	
A. Organizational Context	The user/individual on the job needs to know and understand: KA1. policies and procedures followed in the handloom sector relevant to own employment and performance conditions

(Knowledge of the company / organization and its processes)	KA2. relevant health and safety requirements applicable in the work place KA3. importance of following health, hygiene, safety and quality standards and the impact of non-compliance of the standards on consumers and the business KA4. own job role and responsibilities and sources for information pertaining to employment terms, compensation, job role and responsibilities KA5. relevant people and their responsibilities within the work area KA6. various categories of people that one is required to communicate and co-ordinate within the organization
B. Technical Knowledge	The user/individual on the job needs to know and understand: KB1. various types of fiber KB2. cotton roving KB3. carding and sliving KB4. spindle spinning process KB5. drafting and twisting method KB6. yarn count and its different method—indirect and direct KB7. factors considered for the selection of traveller Factors: Yarn count, spindle speed, ring diameter, empty bobbin diameter, lift of bobbin, and cross section of traveller KB8. specifications of traveller Specifications: Traveller number, cross section of wire and shape, flange number, surface finish, and type of material
Skills (S)	
A. Core Skills/ Generic Skills	**Writing Skills**
	The user/ individual on the job needs to know and understand how to: SA1. write local or English language for recording production, quality related information, numbering, and maintenance of related information and materials, etc.
	Reading Skills
	The user/individual on the job needs to know and understand how to: SA2. read to differentiate the various materials used in the process SA3. read and correctly interpret own notes written in local or English language
	Oral Communication (Listening and Speaking skills)
	The user/individual on the job needs to know and understand how to: SA4. communicate with co-workers appropriately SA5. listen carefully SA6. talk effectively to convey information succinctly and unequivocally
B. Professional Skills	**Decision Making**
	NA
	Plan and Organize
	The user/individual on the job needs to know and understand how to: SB1. plan and organize own work in a way that all activities are completed in time and as per specifications

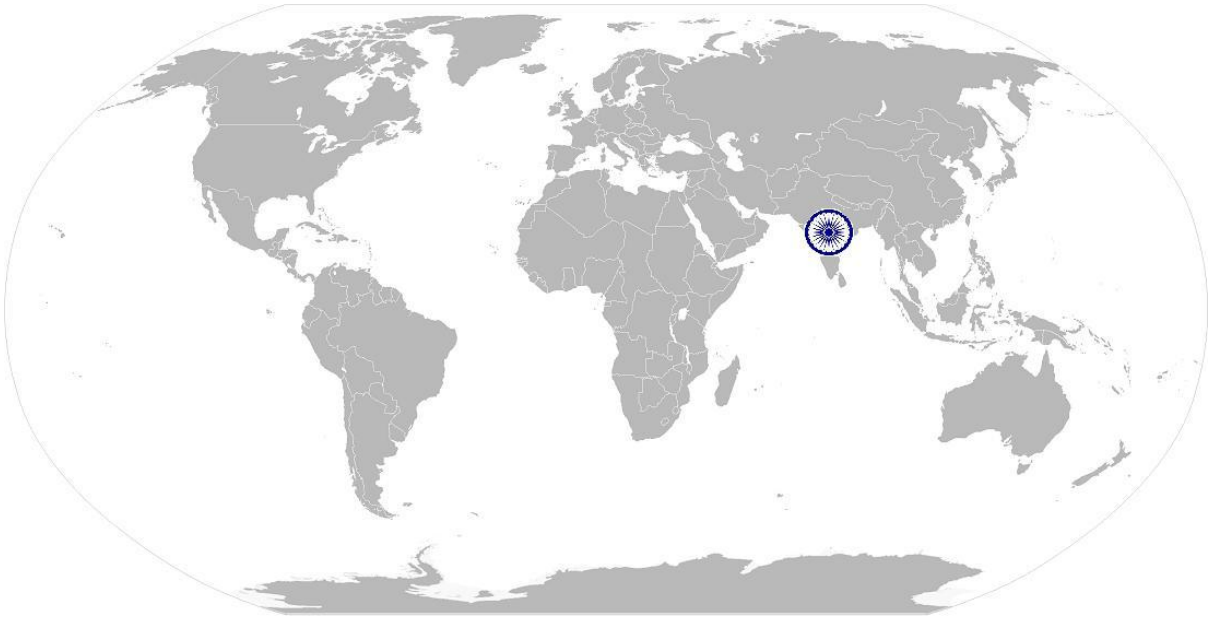
TSC/N7902 **Undertake spinning process by using new model charkha (NMC)**

	Customer Centricity
	The user/individual on the job needs to know and understand how to: SB2. interpret work requirements correctly SB3. deliver quality output and maintain long term business relationship with customers
	Problem Solving
	The user/individual on the job needs to know and understand how to: SB4. determine timely correction of errors to prevent redoing of work
	Analytical Thinking
	NA
	Critical Thinking
	NA

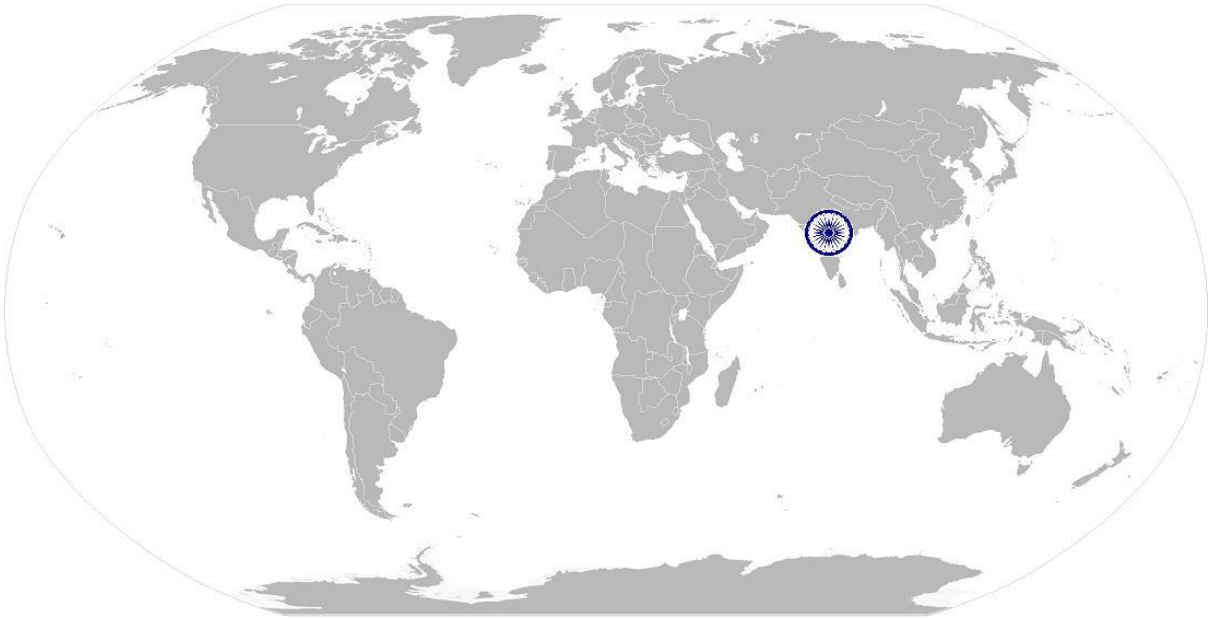


NOS Version Control

NOS Code	TSC/N7902		
Credits	TBD	Version number	1.0
Industry	Textile	Drafted on	03/05/17
Industry Sub-sector	Handloom	Last reviewed on	03/05/17
Occupation	Spinning	Next review date	03/05/19



National Occupational Standard



Overview

This unit refers to the necessary skills, knowledge and attributes required by an operator to run the machine equipped with solar power drive.

National Occupational Standard

Unit Code	TSC/N7904
Unit Title (Task)	Operation and Maintenance of solar attachment
Description	The unit deals with necessary skills, knowledge and attributes required by an operator to run the machine equipped with solar power drive
Scope	This unit/task covers the following: • Preparing the machine for operation • Ensure proper maintenance of solar attachment

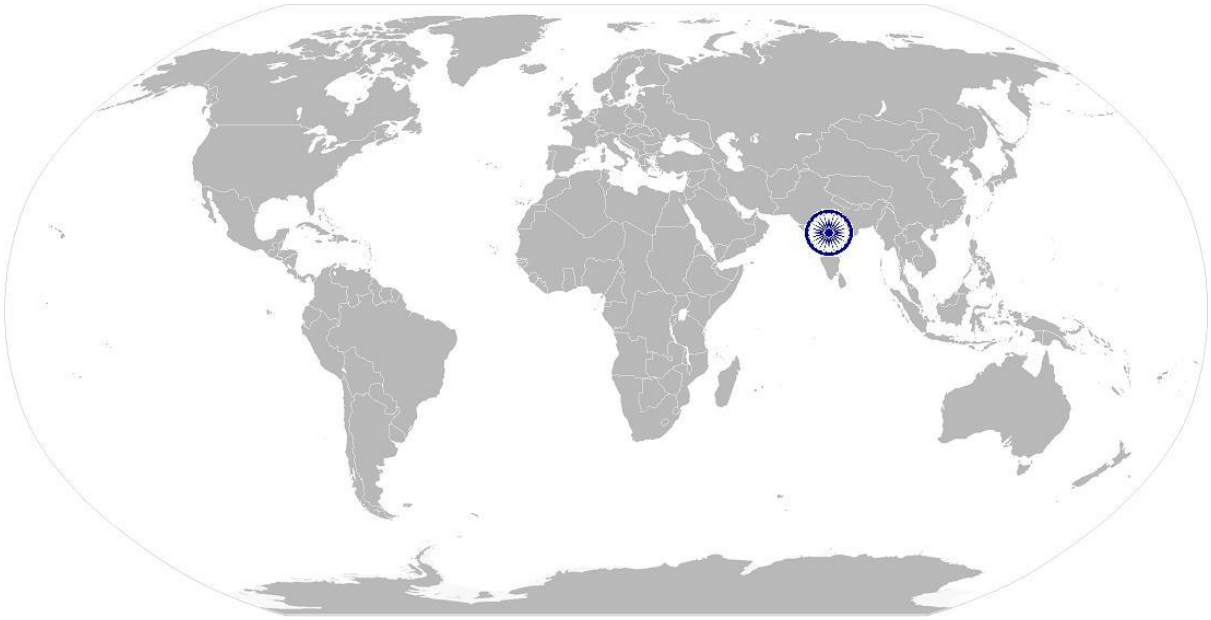
Performance Criteria(PC) w.r.t. the Scope	
Element	**Performance Criteria**
Preparing the machine for operation	To be competent, the user/individual on the job must be able to: PC1. clear the weed/ Grass near the solar panels if any PC2. clean the surface of the solar panel for dust with wet sponge/cloth PC3. ensure the charge controller, batteries are working properly as instructed PC4. prepare solar powered machine for operation PC5. switch on the main motor and start the machine for production
Ensuring proper maintenance of solar attachment	To be competent, the user/individual on the job must be able to: PC6. check periodically for the working of light indicators and display panel for voltage fluctuation PC7. ensure that the battery is kept at a dry place PC8. check the electrolyte level of battery and top up the electrolyte whenever required PC9. check for electrolyte/ distilled water leak from batteries PC10. clean the battery at prescribed intervals for fluff accumulation PC11. clean the inverter, battery charger and charge controller for fiber dust PC12. inspect and ensure the cleanliness of solar panel and terminal boxes PC13. use PPEs while topping up of distilled water and cleaning PC14. use appropriate tools such as cloth, brush for cleaning various parts of the power system

Knowledge and Understanding (K)	
A. Organizational Context (Knowledge of the company / organization and its processes)	The user/individual on the job needs to know and understand: KA1. policies and procedures followed in the workplace relevant to own employment and performance conditions KA2. relevant health and safety requirements applicable in the work place KA3. importance of following health, hygiene, safety and quality standards and the impact of non-compliance of the standards on consumers and the business KA4. own job role and responsibilities and sources for information pertaining to employment terms, compensation, job role and responsibilities KA5. relevant people and their responsibilities within the work area KA6. various categories of people that one is required to communicate and co-ordinate within the organization

B. Technical Knowledge	The user/individual on the job needs to know and understand: KB1. various types of batteries with their capacity ratings KB2. main components of solar power system like solar panel, charge controller, battery, inverter etc KB3. AC and DC power supply KB4. maintenance schedules of solar panel and other components KB5. wiring and power terminals KB6. buzzers, alarms and their indications KB7. Personal Protective Equipments (PPE) and their importance KB8. electrolyte, distilled water and its uses KB9. different ways of minimizing waste KB10. common faults and the methods to rectify the solar components KB11. hazards likely to be encountered when conducting routine maintenance KB12. different types of cleaning substances and their use KB13. safe working practices for cleaning and the methods of carrying them out
Skills (S)	
A. Core Skills/ Generic Skills	**Writing Skills**
	The user/ individual on the job needs to know and understand how to: SA1. write instructions for communication, production data entry etc.
	Reading Skills
	The user/individual on the job needs to know and understand how to: SA2. read technical specifications and instructions of the solar powered machine
	Oral Communication (Listening and Speaking skills)
	The user/individual on the job needs to know and understand how to: SA3. talk to others and convey the information effectively
B. -Professional Skills	**Decision Making**
	NA
	Plan and Organize
	The user/individual on the job needs to know and understand how to: SB1. plan and perform the maintenance activity of solar power system/ machine
	Customer Centricity
	NA
	Problem Solving
	The user/individual on the job needs to know and understand how to: SB2. Repair the minor problems within the level of responsibility
	Analytical Thinking
	NA
	Critical Thinking
	NA

NOS Version Control

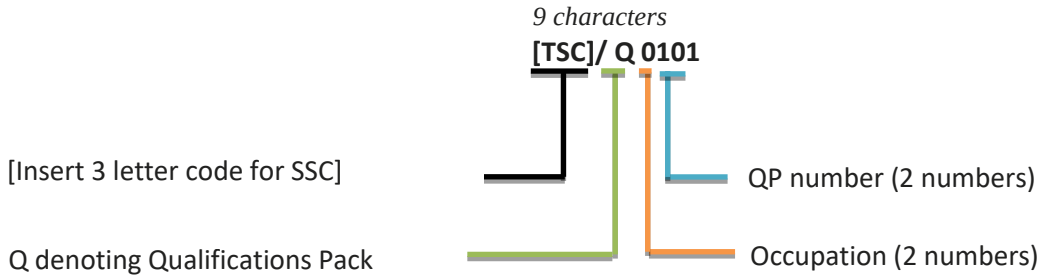
NOS Code	TSC/N7904		
Credits	TBD	Version number	1.0
Industry	Textile	Drafted on	03/05/17
Industry Sub-sector	Handloom	Last reviewed on	03/05/17
Occupation	Maintenance	Next review date	03/05/19



Annexure

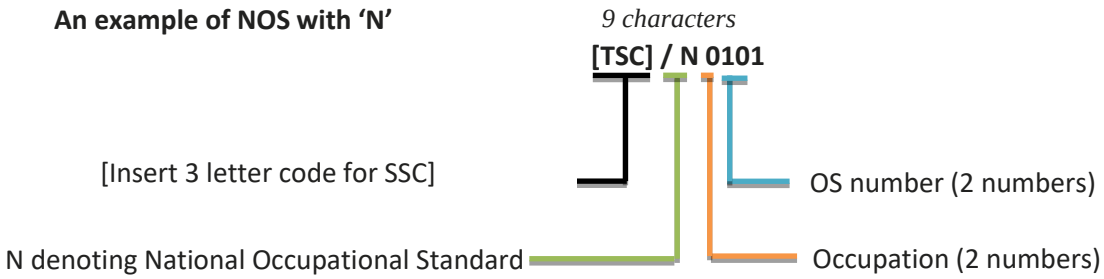
Nomenclature for QP and NOS

Qualifications Pack



Occupational Standard

An example of NOS with 'N'



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The following acronyms/codes have been used in the nomenclature above:

Sub-sector	Range of Occupation numbers
Spinning	01-20
Weaving	21-40
Knitting	41-50
Processing	51-70
Handlooms	71-79
Technical Textiles	80-89
Common	90-99

Sequence	Description	Example
Three letters	Textile Sector Skill Council	TSC
Slash	/	/
Next letter	Whether **Q**P or **N**OS	N
Next two numbers	Occupation code	01
Next two numbers	OS number	01

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 70% 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**	**Theroy**	**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

Total Marks : 250	Compulsory NOS			Marks Allocation	
Assessable Outcomes	**Assessment Criteria**	**Total Marks**	**Out of**	**Theroy**	**Skills Practical**
	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
		Total	**50**	**19**	**31**
TSC/N9006 Working in a team in handloom sector	PC1. perform own duties effectively	50	5	2	3
	PC2. take responsibility for own actions		5	2	3
	PC3. be accountable towards the job role and assigned duties		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
		Total	**50**	**20**	**30**
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

Total Marks : 250	Compulsory NOS			Marks Allocation	
Assessable Outcomes	**Assessment Criteria**	**Total Marks**	**Out of**	**Theroy**	**Skills Practical**
	PC9. monitor the work place and work processes for potential risks and threats		6	2	4
	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
		Total	**100**	**33**	**67**
TSC/N9008 Comply with work place requirements in handloom sector	PC1. be accountable to one's own role in the whole process	50	6	2	4
	PC2. perform all roles with full responsibility		5	1	4
	PC3. be effective and efficient at workplace		4	2	2
	PC4. properly communicate about work place policies		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

Total Marks : 250	Compulsory NOS			Marks Allocation	
Assessable Outcomes	**Assessment Criteria**	**Total Marks**	**Out of**	**Theroy**	**Skills Practical**
	PC10. improve upon the existing techniques to increase process efficiency		4	2	2
		Total	**50**	**19**	**31**

ELECTIVES **Elective 1. Traditional Charkha Operator**					
Total Marks: 200				**Marks Allocted**	
Assessable Outcomes	**Assessment Criteria**	**Total Marks**	**Out of**	**Theroy**	**Skills Practical**
TSC/N7901 Undertake spinning process by traditional charkha	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		10	3	7

	drafted yarn into thin strand				
	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
		Total	**200**	**60**	**140**

ELECTIVES

Elective 2. New Model Charkha Operator

Total Marks: 200				**Marks Allocted**	
Assessable Outcomes	**Assessment Criteria**	**Total Marks**	**Out of**	**Theroy**	**Skills Practical**
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		15	5	10

	resistance between the ring and traveller				
	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
		Total	**200**	**60**	**140**

ELECTIVES

Elective 3. Solar Operated New Model Charkha

Total Marks: 250				**Marks Allocted**	
Assessable Outcomes	**Assessment Criteria**	**Total Marks**	**Out of**	**Theroy**	**Skills Practical**
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
		Total	**200**	**60**	**140**
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 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 cleaning various parts of the power system		3	1	2
		Total	**50**	**17**	**33**