

Qualification Pack



Hand Spinning Operator

Electives: Traditional Charkha/ New Model Charkha/ Solar Operated New Model Charkha

QP Code: TSC/Q7901

Version: 1.0

NSQF Level: 3

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TSC/Q7901: Hand Spinning Operator

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.

Personal Attributes

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

Applicable National Occupational Standards (NOS)

Compulsory NOS:

1. [TSC/N9005: Maintain work area and tools in handloom sector](#)
2. [TSC/N9006: Working in a team in handloom sector](#)
3. [TSC/N9007: Maintain 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 at least one):

Elective 1: 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.

1. [TSC/N7901: Undertake traditional charkha spinning operations](#)

Elective 2: 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.

1. [TSC/N7902: Undertake spinning process by using new model charkha \(NMC\)](#)

Elective 3: 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.

1. [TSC/N7902: Undertake spinning process by using new model charkha \(NMC\)](#)

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2. [TSC/N7904: Operation and Maintenance of solar attachment](#)

Qualification Pack (QP) Parameters

| | |
|---|--|
| Sector | Textile |
| Sub-Sector | Handloom & Khadi |
| Occupation | Handloom Preparatory |
| Country | India |
| NSQF Level | 3 |
| Aligned to NCO/ISCO/ISIC Code | NCO-2015/7318.42 |
| Minimum Educational Qualification & Experience | Basic Literacy and Numeracy (Preferably) |
| Minimum Level of Education for Training in School | |
| Pre-Requisite License or Training | NA |
| Minimum Job Entry Age | 16 Years |
| Last Reviewed On | 03/05/2017 |
| Next Review Date | 03/05/2021 |
| Deactivation Date | 03/05/2021 |
| NSQC Approval Date | 22/08/2019 |
| Version | 1.0 |

Qualification Pack

TSC/N9005: Maintain work area and tools in handloom sector

Description

This unit provides performance criteria, knowledge, understanding, skills and abilities required to organise/maintain work areas and activities to ensure tools used for warping are maintained as per norms

Scope

This unit/task covers the following:

- Maintain the work area, tools and machines

Elements and Performance Criteria

Maintain the work area, tools and machines

To be competent, the user/individual on the job must be able to:

1. Handle materials and tools safely and correctly
2. Use correct lifting and handling procedures
3. Use materials in a manner to minimize waste
4. Maintain a clean and hazard free working area
5. Maintain the tools and equipment used for warping
6. Carry out maintenance and/or cleaning within ones responsibility
7. Identify damaged tools and materials and take action according to the standards followed
8. Ensure that the correct tools and yarn required are in place
9. Work with the correct posture
10. Use cleaning equipment and methods appropriate for the work to be carried out
11. Dispose of waste safely in the designated location
12. Store cleaning equipment safely after use
13. Carry out cleaning according to schedule and limits of responsibility

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** Personal hygiene
- KU2.** Safe working practices and Cooperative Society/NGO/SHG/cluster procedures
- KU3.** Limits of your own responsibility
- KU4.** Ways of resolving problems within the work area
- KU5.** The production process and the specific work activities that relate to the whole process
- KU6.** The importance of effective communication with colleagues
- KU7.** The lines of communication, authority and reporting procedures

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- KU8.** The Cooperative Society/NGO/SHG/cluster rules, codes and guidelines (including time keeping)
- KU9.** The company's quality standards
- KU10.** The importance of complying with written instructions
- KU11.** Work instructions and specifications and interpret them accurately
- KU12.** Method to make use of the information detailed in specifications and instructions
- KU13.** Relation between work role and the overall manufacturing process
- KU14.** The importance of taking action when problems are identified
- KU15.** Different ways of minimising waste
- KU16.** Effects of contamination on products
- KU17.** Common faults and the methods to rectify them
- KU18.** Tools maintenance procedures
- KU19.** Hazards likely to be encountered when conducting routine maintenance
- KU20.** Different types of cleaning substances and their use
- KU21.** Safe working practices for cleaning and the methods of carrying them out

Generic Skills (GS)

User/individual on the job needs to know how to:

- GS1.** Write in local language
- GS2.** Read and comprehend written instructions
- GS3.** Listen effectively and orally communicate information accurately
- GS4.** Ask for clarification and advice from others
- GS5.** Follow rule-based decision-making processes
- GS6.** Make decisions on a suitable course of action or response
- GS7.** Plan and organize your work to achieve targets and deadlines
- GS8.** Avoid absenteeism
- GS9.** Be punctual
- GS10.** Work in Discipline
- GS11.** Act objectively, rather than impulsively or emotionally when faced with difficult/stressful or emotional situations
- GS12.** Apply problem-solving approaches in different situations
- GS13.** Seek clarification on problems from others
- GS14.** Analyze data and activities
- GS15.** Pass on relevant information to others
- GS16.** Provide opinions on work in a detailed and constructive way
- GS17.** Apply balanced judgment to different situations

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Assessment Criteria

| Assessment Criteria for Outcomes | Theory Marks | Practical Marks | Project Marks | Viva Marks |
|---|--------------|-----------------|---------------|------------|
| <i>Maintain the work area, tools and machines</i> | 19 | 31 | - | - |
| 1. Handle materials and tools safely and correctly | 2 | 3 | - | - |
| 2. Use correct lifting and handling procedures | 1 | 2 | - | - |
| 3. Use materials in a manner to minimize waste | 1 | 2 | - | - |
| 4. Maintain a clean and hazard free working area | 1 | 2 | - | - |
| 5. Maintain the tools and equipment used for warping | 2 | 3 | - | - |
| 6. Carry out maintenance and/or cleaning within ones responsibility | 2 | 3 | - | - |
| 7. Identify damaged tools and materials and take action according to the standards followed | 2 | 3 | - | - |
| 8. Ensure that the correct tools and yarn required are in place | 1 | 2 | - | - |
| 9. Work with the correct posture | 1 | 2 | - | - |
| 10. Use cleaning equipment and methods appropriate for the work to be carried out | 1 | 2 | - | - |
| 11. Dispose of waste safely in the designated location | 2 | 2 | - | - |
| 12. Store cleaning equipment safely after use | 1 | 2 | - | - |
| 13. Carry out cleaning according to schedule and limits of responsibility | 2 | 3 | - | - |
| NOS Total | 19 | 31 | - | - |

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National Occupational Standards (NOS) Parameters

| | |
|----------------------------|---|
| NOS Code | TSC/N9005 |
| NOS Name | Maintain work area and tools in handloom sector |
| Sector | Textile |
| Sub-Sector | Handloom & Khadi |
| Occupation | Textile Hand loom sector |
| NSQF Level | 4 |
| Credits | TBD |
| Version | 1.0 |
| Last Reviewed Date | 14/09/2015 |
| Next Review Date | 13/09/2016 |
| NSQC Clearance Date | 19/02/2016 |

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TSC/N9006: Working in a team in handloom sector

Description

This unit provides performance criteria, knowledge, understanding, skills and abilities required to working as part of team

Scope

This unit/task covers the following:

- Commitment and trust
- Communication
- Adaptability
- Creative freedom

Elements and Performance Criteria

Commitment and trust

To be competent, the user/individual on the job must be able to:

1. Be accountable to one's own role in the whole process
2. Perform all roles with full responsibility
3. Be effective and efficient at workplace

Communication

To be competent, the user/individual on the job must be able to:

4. Properly communicate about workplace policies
5. Talk politely with other team members and colleagues
6. Submit daily report of own performance

Adaptability

To be competent, the user/individual on the job must be able to:

7. Adjust in different work situations
8. Give due importance to others' point of view
9. Avoid conflicting situations

Creative freedom

To be competent, the user/individual on the job must be able to:

10. Improve upon the existing techniques to increase process efficiency

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** Standard Operating Procedures (SOP) and regulations in the Cooperative Society/NGO/SHG
- KU2.** Procedure followed to get the final output in the Cooperative Society/NGO/SHG
- KU3.** Safe working practices to be adopted in the Cooperative Society/NGO/SHG

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- KU4.** Consulting the supervisor and taking relevant actions against any grievances faced
- KU5.** Importance of commitment and trust
- KU6.** Importance of proper communication
- KU7.** Importance of adaptability
- KU8.** Importance of creative freedom

Generic Skills (GS)

User/individual on the job needs to know how to:

- GS1.** Write in local language
- GS2.** Read and comprehend written instructions
- GS3.** Listen effectively and orally communicate information accurately
- GS4.** Ask for clarification and advice from others
- GS5.** Follow rule-based decision-making processes
- GS6.** Make decisions on a suitable course of action or response
- GS7.** Plan and organize your work to achieve targets and deadlines
- GS8.** Avoid absenteeism
- GS9.** Be punctual
- GS10.** Work in Discipline
- GS11.** Act objectively, rather than impulsively or emotionally when faced with difficult/stressful or emotional situations
- GS12.** Apply problem-solving approaches in different situations
- GS13.** Seek clarification on problems from others
- GS14.** Analyze data and activities
- GS15.** Pass on relevant information to others
- GS16.** Provide opinions on work in a detailed and constructive way
- GS17.** Apply balanced judgment to different situations

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Assessment Criteria

| Assessment Criteria for Outcomes | Theory Marks | Practical Marks | Project Marks | Viva Marks |
|---|--------------|-----------------|---------------|------------|
| <i>Commitment and trust</i> | 6 | 9 | - | - |
| 1. Be accountable to one's own role in the whole process | 2 | 4 | - | - |
| 2. Perform all roles with full responsibility | 2 | 3 | - | - |
| 3. Be effective and efficient at workplace | 2 | 2 | - | - |
| <i>Communication</i> | 6 | 10 | - | - |
| 4. Properly communicate about workplace policies | 2 | 3 | - | - |
| 5. Talk politely with other team members and colleagues | 2 | 3 | - | - |
| 6. Submit daily report of own performance | 2 | 4 | - | - |
| <i>Adaptability</i> | 6 | 9 | - | - |
| 7. Adjust in different work situations | 2 | 3 | - | - |
| 8. Give due importance to others' point of view | 2 | 3 | - | - |
| 9. Avoid conflicting situations | 2 | 3 | - | - |
| <i>Creative freedom</i> | 2 | 2 | - | - |
| 10. Improve upon the existing techniques to increase process efficiency | 2 | 2 | - | - |
| NOS Total | 20 | 30 | - | - |

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National Occupational Standards (NOS) Parameters

| | |
|----------------------------|--------------------------------------|
| NOS Code | TSC/N9006 |
| NOS Name | Working in a team in handloom sector |
| Sector | Textile |
| Sub-Sector | Handloom & Khadi |
| Occupation | Textile Hand loom sector |
| NSQF Level | 4 |
| Credits | TBD |
| Version | 1.0 |
| Last Reviewed Date | 14/09/2015 |
| Next Review Date | 13/09/2016 |
| NSQF Clearance Date | 19/02/2016 |

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TSC/N9007: Maintain health, safety and security at work place in handloom sector

Description

This unit provides performance criteria, knowledge and understanding and 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
- Recognizing and addressing the hazards

Elements and Performance Criteria

Comply with health, safety and security requirements at work

To be competent, the user/individual on the job must be able to:

1. Comply with health and safety related instructions applicable to the workplace
2. Use and maintain personal protective equipment as per protocol
3. Carry out own activities in line with approved guidelines and procedures
4. Maintain a healthy lifestyle and guard against dependency on in toxicants
5. Follow environment management system related procedures
6. Store materials and tools in line with manufacturers and Cooperative Society/NGO/SHG requirements
7. Safely handle and move waste and debris
8. Minimize health and safety risks to self and others due to own actions
9. Monitor the work place and work processes for potential risks and threats
10. Carry out periodic walk-through to keep work area free from hazards and obstructions, if assigned
11. Participate in mock drills/ evacuation procedures organized at the workplace
12. Undertake first aid, fire-fighting and emergency response training, if asked to do so
13. Take action based on instructions in the event of fire, emergencies or accidents
14. Follow Cooperative ociety/NGO/SHG procedures for evacuation when required

Recognizing and addressing the hazards

To be competent, the user/individual on the job must be able to:

15. Identify different kinds of possible hazards (environmental, personal, ergonomic and chemical) of the industry
16. Recognize other possible security issues existing in the workplace
17. Plan the safety techniques
18. Recognize different measures to curb the hazards

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19. Implement the programs
20. Communicate the safety plans to everyone
21. Attach disciplinary rules with the implementation

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** Health and safety related practices applicable at the workplace
- KU2.** Potential hazards, risks and threats based on nature of operations
- KU3.** Cooperative Society/NGO/SHG procedures for safe handling of tools
- KU4.** Potential risks due to own actions and methods to minimize these
- KU5.** Environmental management system related procedures at the workplace
- KU6.** Layout of the plant and details of emergency exits, escape routes, emergency equipment and assembly points
- KU7.** Potential accidents and emergencies and response to these scenarios
- KU8.** Documentation formats
- KU9.** Details of personnel trained in first aid, fire-fighting and emergency response
- KU10.** Occupational health and safety risks and methods
- KU11.** Personal protective equipment and method of use
- KU12.** Identification, handling and storage of hazardous substances
- KU13.** Proper disposal system for waste and by-products
- KU14.** Signage related to health and safety and their meaning
- KU15.** Importance of sound health, hygiene and good habits
- KU16.** Ill- effects of alcohol, tobacco and drugs

Generic Skills (GS)

User/individual on the job needs to know how to:

- GS1.** Write in local language
- GS2.** Read and comprehend written instructions
- GS3.** Listen effectively and orally communicate information accurately
- GS4.** Ask for clarification and advice from others
- GS5.** Follow rule-based decision-making processes
- GS6.** Make decisions on a suitable course of action or response
- GS7.** Plan and organize your work to achieve targets and deadlines
- GS8.** Avoid absenteeism
- GS9.** Be punctual
- GS10.** Work in Discipline
- GS11.** Act objectively, rather than impulsively or emotionally when faced with difficult/stressful or emotional situations

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- GS12.** Apply problem-solving approaches in different situations
- GS13.** Seek clarification on problems from others
- GS14.** Analyze data and activities
- GS15.** Pass on relevant information to others
- GS16.** Provide opinions on work in a detailed and constructive way
- GS17.** Apply balanced judgment to different situations

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Assessment Criteria

| Assessment Criteria for Outcomes | Theory Marks | Practical Marks | Project Marks | Viva Marks |
|---|--------------|-----------------|---------------|------------|
| <i>Comply with health, safety and security requirements at work</i> | 24 | 46 | - | - |
| 1. Comply with health and safety related instructions applicable to the workplace | 2 | 4 | - | - |
| 2. Use and maintain personal protective equipment as per protocol | 2 | 4 | - | - |
| 3. Carry out own activities in line with approved guidelines and procedures | 1 | 3 | - | - |
| 4. Maintain a healthy lifestyle and guard against dependency on in toxicants | 1 | 3 | - | - |
| 5. Follow environment management system related procedures | 1 | 3 | - | - |
| 6. Store materials and tools in line with manufacturers and Cooperative Society/NGO/SHG requirements | 2 | 2 | - | - |
| 7. Safely handle and move waste and debris | 2 | 2 | - | - |
| 8. Minimize health and safety risks to self and others due to own actions | 2 | 4 | - | - |
| 9. Monitor the work place and work processes for potential risks and threats | 2 | 4 | - | - |
| 10. Carry out periodic walk-through to keep work area free from hazards and obstructions, if assigned | 2 | 4 | - | - |
| 11. Participate in mock drills/ evacuation procedures organized at the workplace | 2 | 2 | - | - |
| 12. Undertake first aid, fire-fighting and emergency response training, if asked to do so | 2 | 4 | - | - |
| 13. Take action based on instructions in the event of fire, emergencies or accidents | 2 | 4 | - | - |
| 14. Follow Cooperative ociety/NGO/SHG procedures for evacuation when required | 1 | 3 | - | - |

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| Assessment Criteria for Outcomes | Theory Marks | Practical Marks | Project Marks | Viva Marks |
|--|--------------|-----------------|---------------|------------|
| <i>Recognizing and addressing the hazards</i> | 9 | 21 | - | - |
| 15. Identify different kinds of possible hazards (environmental, personal, ergonomic and chemical) of the industry | 1 | 3 | - | - |
| 16. Recognize other possible security issues existing in the workplace | 1 | 3 | - | - |
| 17. Plan the safety techniques | 2 | 3 | - | - |
| 18. Recognize different measures to curb the hazards | 1 | 3 | - | - |
| 19. Implement the programs | 2 | 3 | - | - |
| 20. Communicate the safety plans to everyone | 1 | 3 | - | - |
| 21. Attach disciplinary rules with the implementation | 1 | 3 | - | - |
| NOS Total | 33 | 67 | - | - |

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National Occupational Standards (NOS) Parameters

| | |
|----------------------------|---|
| NOS Code | TSC/N9007 |
| NOS Name | Maintain health, safety and security at work place in handloom sector |
| Sector | Textile |
| Sub-Sector | Handloom & Khadi |
| Occupation | Textile Hand loom sector |
| NSQF Level | 4 |
| Credits | TBD |
| Version | 1.0 |
| Last Reviewed Date | 14/09/2015 |
| Next Review Date | 31/03/2018 |
| NSQC Clearance Date | 19/02/2016 |

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

Description

This unit provides performance criteria, knowledge and understanding and skills and abilities required to comply with the requirements of the workplace

Scope

This unit/task covers the following:

- Self-development
- Team work
- Organizational standards

Elements and Performance Criteria

Self development

To be competent, the user/individual on the job must be able to:

1. Perform own duties effectively
2. Take responsibility for own actions
3. Be accountable towards the job role and assigned duties
4. Take initiative and innovate the existing methods
5. Focus on self-learning and improvement

Team Work

To be competent, the user/individual on the job must be able to:

6. Co-ordinate with all team members and colleagues
7. Communicate politely
8. Avoid conflicts and miscommunication

Organizational standards

To be competent, the user/individual on the job must be able to:

9. Know the organizational standards
10. Implement them in your performance
11. Motivate others to follow them

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** Standard Operating Procedures (SOP) and regulations in the Cooperative Society/NGO/SHG
- KU2.** Knowledge of workplace standards
- KU3.** Importance of self-development
- KU4.** Importance of team work

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KU5. Importance of understanding and complying with organizational standards

Generic Skills (GS)

User/individual on the job needs to know how to:

- GS1.** Write in local language
- GS2.** Read and comprehend written instructions
- GS3.** Listen effectively and orally communicate information accurately
- GS4.** Ask for clarification and advice from others
- GS5.** Follow rule-based decision-making processes
- GS6.** Make decisions on a suitable course of action or response
- GS7.** Plan and organize your work to achieve targets and deadlines
- GS8.** Avoid absenteeism
- GS9.** Be punctual
- GS10.** Work in Discipline
- GS11.** Act objectively, rather than impulsively or emotionally when faced with difficult/stressful or emotional situations
- GS12.** Apply problem-solving approaches in different situations
- GS13.** Seek clarification on problems from others
- GS14.** Analyze data and activities
- GS15.** Pass on relevant information to others
- GS16.** Provide opinions on work in a detailed and constructive way
- GS17.** Apply balanced judgment to different situations

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Assessment Criteria

| Assessment Criteria for Outcomes | Theory Marks | Practical Marks | Project Marks | Viva Marks |
|--|--------------|-----------------|---------------|------------|
| <i>Self development</i> | 9 | 14 | - | - |
| 1. Perform own duties effectively | 2 | 3 | - | - |
| 2. Take responsibility for own actions | 2 | 3 | - | - |
| 3. Be accountable towards the job role and assigned duties | 2 | 3 | - | - |
| 4. Take initiative and innovate the existing methods | 1 | 2 | - | - |
| 5. Focus on self-learning and improvement | 2 | 3 | - | - |
| <i>Team Work</i> | 6 | 9 | - | - |
| 6. Co-ordinate with all team members and colleagues | 2 | 3 | - | - |
| 7. Communicate politely | 2 | 3 | - | - |
| 8. Avoid conflicts and miscommunication | 2 | 3 | - | - |
| <i>Organizational standards</i> | 5 | 7 | - | - |
| 9. Know the organizational standards | 2 | 3 | - | - |
| 10. Implement them in your performance | 2 | 3 | - | - |
| 11. Motivate others to follow them | 1 | 1 | - | - |
| NOS Total | 20 | 30 | - | - |

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National Occupational Standards (NOS) Parameters

| | |
|----------------------------|--|
| NOS Code | TSC/N9008 |
| NOS Name | Comply with work place requirements in handloom sector |
| Sector | Textile |
| Sub-Sector | Handloom & Khadi |
| Occupation | Textile Hand loom sector |
| NSQF Level | 4 |
| Credits | TBD |
| Version | 1.0 |
| Last Reviewed Date | 14/09/2015 |
| Next Review Date | 13/03/2018 |
| NSQC Clearance Date | 19/02/2016 |

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TSC/N7901: 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

Elements and Performance Criteria

Carry out pre-spinning activities

To be competent, the user/individual on the job must be able to:

1. identify and select from various types of fibers for charkha spinning, Types: Upland, long-stapled cotton, cashmere, camel down, angora etc
2. 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.
3. undertake ginning process of the kapas manually using an iron rod
4. clean and fluff out ginned cotton using handmade bow
5. perform parallization of fibers manually
6. perform separation of the fibers using manually operated carding machine
7. carry out slivering of the fibers using a tapered wooden stick
8. roll the sliver suitably to carry out spinning
9. calculate the desired yarn count

Ensure proper spinning activities

To be competent, the user/individual on the job must be able to:

10. add leader to the spindle to start the spinning process
11. identify the different basic positions for spindle spinning Positions: Hand in front of spindle, hand above spindle, and hand at an angle
12. wind the thread on the spindle tip
13. add twist to strengthen and compress the drafted yarn into thin strand
14. spin the yarn under supervision at a comfortable rate until the fibers lock together
15. draft the cotton off the leader
16. convert the spun yarn into hank
17. wind in a criss-cross winding pattern using hand and feet to prepare the hank

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

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- KU1.** policies and procedures followed in the handloom sector relevant to own employment and performance conditions
- KU2.** relevant health and safety requirements applicable in the work place
- KU3.** importance of following health, hygiene, safety and quality standards and the impact of non-compliance of the standards on consumers and the business
- KU4.** own job role and responsibilities and sources for information pertaining to employment terms, compensation, job role and responsibilities
- KU5.** relevant people and their responsibilities within the work area National Occupational
- KU6.** various types of fibers
- KU7.** hand combing and ginning process
- KU8.** manual carding and paralleling methods
- KU9.** spindle spinning process
- KU10.** different position of spindle spinning
- KU11.** drafting and twisting method
- KU12.** yarn count and its different method indirect and direct

Generic Skills (GS)

User/individual on the job needs to know how to:

- GS1.** write local or English language for recording production, quality related information, numbering, and maintenance of related information and materials, etc.
- GS2.** read to differentiate the various materials used in the process
- GS3.** read and correctly interpret own notes written in local or English language
- GS4.** communicate with co-workers appropriately
- GS5.** listen carefully
- GS6.** talk effectively to convey information succinctly and unequivocally
- GS7.** plan and organize own work in a way that all activities are completed in time and as per specifications
- GS8.** interpret work requirements correctly
- GS9.** deliver quality output and maintain long term business relationship with customers
- GS10.** determine timely correction of errors to prevent redoing of work

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Assessment Criteria

| Assessment Criteria for Outcomes | Theory Marks | Practical Marks | Project Marks | Viva Marks |
|--|--------------|-----------------|---------------|------------|
| <i>Carry out prespinning activities</i> | 36 | 84 | - | - |
| 1. identify and select from various types of fibers for charkha spinning, Types: Upland, long-stapled cotton, cashmere, camel down, angora etc | 3 | 7 | - | - |
| 2. 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. | 6 | 14 | - | - |
| 3. undertake ginning process of the kapas manually using an iron rod | 6 | 14 | - | - |
| 4. clean and fluff out ginned cotton using handmade bow | 3 | 7 | - | - |
| 5. perform parallization of fibers manually | 6 | 14 | - | - |
| 6. perform separation of the fibers using manually operated carding machine | 3 | 7 | - | - |
| 7. carry out slivering of the fibers using a tapered wooden stick | 3 | 7 | - | - |
| 8. roll the sliver suitably to carry out spinning | 3 | 7 | - | - |
| 9. calculate the desired yarn count | 3 | 7 | - | - |
| <i>Ensure proper spinning activities</i> | 24 | 56 | - | - |
| 10. add leader to the spindle to start the spinning process | 3 | 7 | - | - |
| 11. identify the different basic positions for spindle spinning Positions: Hand in front of spindle, hand above spindle, and hand at an angle | 3 | 7 | - | - |
| 12. wind the thread on the spindle tip | 3 | 7 | - | - |
| 13. add twist to strengthen and compress the drafted yarn into thin strand | 3 | 7 | - | - |

Qualification Pack

| Assessment Criteria for Outcomes | Theory Marks | Practical Marks | Project Marks | Viva Marks |
|--|--------------|-----------------|---------------|------------|
| 14. spin the yarn under supervision at a comfortable rate until the fibers lock together | 3 | 7 | - | - |
| 15. draft the cotton off the leader | 3 | 7 | - | - |
| 16. convert the spun yarn into hank | 3 | 7 | - | - |
| 17. wind in a criss-cross winding pattern using hand and feet to prepare the hank | 3 | 7 | - | - |
| NOS Total | 60 | 140 | - | - |

Qualification Pack

National Occupational Standards (NOS) Parameters

| | |
|----------------------------|---|
| NOS Code | TSC/N7901 |
| NOS Name | Undertake traditional charkha spinning operations |
| Sector | Textile |
| Sub-Sector | Handloom & Khadi |
| Occupation | Handloom Preparatory |
| NSQF Level | 3 |
| Credits | TBD |
| Version | 1.0 |
| Last Reviewed Date | 03/05/2017 |
| Next Review Date | 03/05/2019 |
| NSQC Clearance Date | |

Qualification Pack

TSC/N7902: 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

Elements and Performance Criteria

Carry out prespinning activities

To be competent, the user/individual on the job must be able to:

1. ensure that the drive belt in the new model charkha allows the flyer to move freely
2. adjust the break (draw-in) to rest on the bobbin
3. ensure that the size of the wheel is inversely proportional to the diameter of the whorl for faster movement of the flyer
4. identify and select from various types of fibers for charkha spinning, Types: Upland, long-stapled cotton, cashmere, camel down, angora, ultrafine merino, etc.
5. fluff out commercial cotton roving bobbin to aerate the fiber smoothly
6. perform the cleaning of roving bobbin
7. calculate the desired yarn count

Ensure proper spinning activities

To be competent, the user/individual on the job must be able to:

8. wind the thread on the spindle tip
9. adjust the cot and apron to provide uniform pressure on the fibre strand to facilitate efficient drafting
10. check aprons have better grip & control on fibres particularly floating fibres
11. use the ring to guide the circular run of the traveller
12. 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
13. check the creel holds the roving bobbin over a roller beam within a convenient height to easily handle the roving
14. 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. add twist per inch if thread keeps drifting apart (breaking)
16. ensure the twist does not get into the drafting area
17. change the hooks frequently to avoid thread pile up in one spot on the bobbin

Qualification Pack

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** policies and procedures followed in the handloom sector relevant to own employment and performance conditions
- KU2.** relevant health and safety requirements applicable in the work place
- KU3.** importance of following health, hygiene, safety and quality standards and the impact of non-compliance of the standards on consumers and the business
- KU4.** own job role and responsibilities and sources for information pertaining to employment terms, compensation, job role and responsibilities
- KU5.** relevant people and their responsibilities within the work area
- KU6.** various categories of people that one is required to communicate and coordinate within the organization
- KU7.** various types of fiber
- KU8.** cotton roving
- KU9.** carding and sliving
- KU10.** spindle spinning process
- KU11.** drafting and twisting method
- KU12.** yarn count and its different method indirect and direct
- KU13.** 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
- KU14.** specifications of traveller, Specifications: Traveller number, cross section of wire and shape, flange number, surface finish, and type of material

Generic Skills (GS)

User/individual on the job needs to know how to:

- GS1.** write local or English language for recording production, quality related information, numbering, and maintenance of related information and materials, etc
- GS2.** read to differentiate the various materials used in the process
- GS3.** read and correctly interpret own notes written in local or English language
- GS4.** communicate with co-workers appropriately
- GS5.** listen carefully
- GS6.** talk effectively to convey information succinctly and unequivocally
- GS7.** plan and organize own work in a way that all activities are completed in time and as per specifications
- GS8.** interpret work requirements correctly
- GS9.** deliver quality output and maintain long term business relationship with customers
- GS10.** determine timely correction of errors to prevent redoing of work

Assessment Criteria

| Assessment Criteria for Outcomes | Theory Marks | Practical Marks | Project Marks | Viva Marks |
|--|--------------|-----------------|---------------|------------|
| <i>Carry out prespinning activities</i> | 25 | 60 | - | - |
| 1. ensure that the drive belt in the new model charkha allows the flyer to move freely | 3 | 12 | - | - |
| 2. adjust the break (draw-in) to rest on the bobbin | 3 | 7 | - | - |
| 3. ensure that the size of the wheel is inversely proportional to the diameter of the whorl for faster movement of the flyer | 5 | 10 | - | - |
| 4. identify and select from various types of fibers for charkha spinning, Types: Upland, long-stapled cotton, cashmere, camel down, angora, ultrafine merino, etc. | 5 | 10 | - | - |
| 5. fluff out commercial cotton roving bobbin to aerate the fiber smoothly | 3 | 7 | - | - |
| 6. perform the cleaning of roving bobbin | 3 | 7 | - | - |
| 7. calculate the desired yarn count | 3 | 7 | - | - |
| <i>Ensure proper spinning activities</i> | 35 | 80 | - | - |
| 8. wind the thread on the spindle tip | 3 | 7 | - | - |
| 9. adjust the cot and apron to provide uniform pressure on the fibre strand to facilitate efficient drafting | 5 | 10 | - | - |
| 10. check aprons have better grip & control on fibres particularly floating fibres | 3 | 7 | - | - |
| 11. use the ring to guide the circular run of the traveller | 3 | 7 | - | - |
| 12. 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 | 5 | 10 | - | - |

Qualification Pack

| Assessment Criteria for Outcomes | Theory Marks | Practical Marks | Project Marks | Viva Marks |
|--|--------------|-----------------|---------------|------------|
| 13. check the creel holds the roving bobbin over a roller beam within a convenient height to easily handle the roving | 3 | 7 | - | - |
| 14. 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 | 4 | 11 | - | - |
| 15. add twist per inch if thread keeps drifting apart (breaking) | 3 | 7 | - | - |
| 16. ensure the twist does not get into the drafting area | 3 | 7 | - | - |
| 17. change the hooks frequently to avoid thread pile up in one spot on the bobbin | 3 | 7 | - | - |
| NOS Total | 60 | 140 | - | - |

Qualification Pack

National Occupational Standards (NOS) Parameters

| | |
|----------------------------|---|
| NOS Code | TSC/N7902 |
| NOS Name | Undertake spinning process by using new model charkha (NMC) |
| Sector | Textile |
| Sub-Sector | Handloom & Khadi |
| Occupation | Handloom Preparatory |
| NSQF Level | 3 |
| Credits | TBD |
| Version | 1.0 |
| Last Reviewed Date | 03/05/2017 |
| Next Review Date | 03/05/2019 |
| NSQC Clearance Date | |

Qualification Pack

TSC/N7904: 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

Elements and Performance Criteria

Preparing the machine for operation

To be competent, the user/individual on the job must be able to:

1. clear the weed/ Grass near the solar panels if any
2. clean the surface of the solar panel for dust with wet sponge/cloth
3. ensure the charge controller, batteries are working properly as instructed
4. prepare solar powered handloom/ khadi machine for operation
5. 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:

6. check periodically for the working of light indicators and display panel for voltage fluctuation
7. ensure that the battery is kept at a dry place
8. check the electrolyte level of battery and top up the electrolyte whenever required
9. check for electrolyte/ distilled water leak from batteries
10. clean the battery at prescribed intervals for fluff accumulation
11. clean the inverter, battery charger and charge controller for fiber dust
12. inspect and ensure the cleanliness of solar panel and terminal boxes
13. use PPEs while topping up of distilled water and cleaning
14. use appropriate tools such as cloth, brush for cleaning various parts of the power system

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** policies and procedures followed in the workplace relevant to own employment and performance conditions
- KU2.** relevant health and safety requirements applicable in the work place
- KU3.** importance of following health, hygiene, safety and quality standards and the impact of non-compliance of the standards on consumers and the business

Qualification Pack

- KU4.** own job role and responsibilities and sources for information pertaining to employment terms, compensation, job role and responsibilities
- KU5.** relevant people and their responsibilities within the work area
- KU6.** various categories of people that one is required to communicate and coordinate within the organization
- KU7.** various types of batteries with their capacity ratings
- KU8.** main components of solar power system like solar panel, charge controller, battery, inverter etc.
- KU9.** AC and DC power supply
- KU10.** maintenance schedules of solar panel and other components
- KU11.** wiring and power terminals
- KU12.** buzzers, alarms and their indications
- KU13.** Personal Protective Equipment (PPE) and their importance
- KU14.** electrolyte, distilled water and its uses
- KU15.** different ways of minimizing waste
- KU16.** common faults and the methods to rectify the solar components
- KU17.** hazards likely to be encountered when conducting routine maintenance
- KU18.** different types of cleaning substances and their use
- KU19.** safe working practices for cleaning and the methods of carrying them out

Generic Skills (GS)

User/individual on the job needs to know how to:

- GS1.** write instructions for communication, production data entry etc.
- GS2.** read technical specifications and instructions of the solar powered machine
- GS3.** talk to others and convey the information effectively
- GS4.** plan and perform the maintenance activity of solar power system/ machine
- GS5.** Repair the minor problems within the level of responsibility

Qualification Pack

Assessment Criteria

| Assessment Criteria for Outcomes | Theory Marks | Practical Marks | Project Marks | Viva Marks |
|---|--------------|-----------------|---------------|------------|
| <i>Preparing the machine for operation</i> | 5 | 11 | - | - |
| 1. clear the weed/ Grass near the solar panels if any | 1 | 2 | - | - |
| 2. clean the surface of the solar panel for dust with wet sponge/cloth | 1 | 2 | - | - |
| 3. ensure the charge controller, batteries are working properly as instructed | 1 | 2 | - | - |
| 4. prepare solar powered handloom/ khadi machine for operation | 1 | 3 | - | - |
| 5. switch on the main motor and start the machine for production | 1 | 2 | - | - |
| <i>Ensuring proper maintenance of solar attachment</i> | 12 | 22 | - | - |
| 6. check periodically for the working of light indicators and display panel for voltage fluctuation | 2 | 3 | - | - |
| 7. ensure that the battery is kept at a dry place | 1 | 3 | - | - |
| 8. check the electrolyte level of battery and top up the electrolyte whenever required | 2 | 3 | - | - |
| 9. check for electrolyte/ distilled water leak from batteries | 2 | 3 | - | - |
| 10. clean the battery at prescribed intervals for fluff accumulation | 1 | 2 | - | - |
| 11. clean the inverter, battery charger and charge controller for fiber dust | 1 | 2 | - | - |
| 12. inspect and ensure the cleanliness of solar panel and terminal boxes | 1 | 2 | - | - |
| 13. use PPEs while topping up of distilled water and cleaning | 1 | 2 | - | - |
| 14. use appropriate tools such as cloth, brush for cleaning various parts of the power system | 1 | 2 | - | - |

| Assessment Criteria for Outcomes | Theory Marks | Practical Marks | Project Marks | Viva Marks |
|----------------------------------|--------------|-----------------|---------------|------------|
| NOS Total | 17 | 33 | - | - |

Qualification Pack

National Occupational Standards (NOS) Parameters

| | |
|----------------------------|---|
| NOS Code | TSC/N7904 |
| NOS Name | Operation and Maintenance of solar attachment |
| Sector | Textile |
| Sub-Sector | Handloom & Khadi |
| Occupation | Handloom Weaving |
| NSQF Level | 4 |
| Credits | TBD |
| Version | 1.0 |
| Last Reviewed Date | 09/08/2017 |
| Next Review Date | 09/08/2020 |
| NSQC Clearance Date | |

Assessment Guidelines and Assessment Weightage

Assessment Guidelines

1. Criteria for assessment for each Qualification Pack will be created by the Sector Skill Council. Each Element/ 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 Element/ 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 these criteria.
6. To pass the Qualification Pack assessment, every trainee should score the Recommended Pass % aggregate for the QP.
7. In case of unsuccessful completion, the trainee may seek reassessment on the Qualification Pack.

Minimum Aggregate Passing % at QP Level : 50

(Please note: Every Trainee should score a minimum aggregate passing percentage as specified above, to successfully clear the Qualification Pack assessment.)

Assessment Weightage

Compulsory NOS

| National Occupational Standards | Theory Marks | Practical Marks | Project Marks | Viva Marks | Total Marks | Weightage |
|---|--------------|-----------------|---------------|------------|-------------|-----------|
| TSC/N9005.Maintain work area and tools in handloom sector | 19 | 31 | - | - | 50 | 11 |
| TSC/N9006.Working in a team in handloom sector | 20 | 30 | - | - | 50 | 11 |
| TSC/N9007.Maintain health, safety and security at work place in handloom sector | 33 | 67 | - | - | 50 | 22 |

Qualification Pack

| National Occupational Standards | Theory Marks | Practical Marks | Project Marks | Viva Marks | Total Marks | Weightage |
|--|--------------|-----------------|---------------|------------|-------------|-----------|
| TSC/N9008.Comply with work place requirements in handloom sector | 20 | 30 | - | - | 50 | 11 |
| Total | 92 | 158 | - | - | 250 | 55 |

Elective: 1 Traditional Charkha

| National Occupational Standards | Theory Marks | Practical Marks | Project Marks | Viva Marks | Total Marks | Weightage |
|---|--------------|-----------------|---------------|------------|-------------|-----------|
| TSC/N7901.Undertake traditional charkha spinning operations | 60 | 140 | - | - | 200 | 45 |
| Total | 60 | 140 | - | - | 200 | 45 |

Elective: 2 New Model Charkha

| National Occupational Standards | Theory Marks | Practical Marks | Project Marks | Viva Marks | Total Marks | Weightage |
|---|--------------|-----------------|---------------|------------|-------------|-----------|
| TSC/N7902.Undertake spinning process by using new model charkha (NMC) | 60 | 140 | - | - | 200 | 45 |
| Total | 60 | 140 | - | - | 200 | 45 |

Elective: 3 Solar Operated New Model Charkha

| National Occupational Standards | Theory Marks | Practical Marks | Project Marks | Viva Marks | Total Marks | Weightage |
|---|--------------|-----------------|---------------|------------|-------------|-----------|
| TSC/N7902.Undertake spinning process by using new model charkha (NMC) | 60 | 140 | - | - | 200 | 45 |
| TSC/N7904.Operation and Maintenance of solar attachment | 17 | 33 | - | - | 50 | 45 |

Qualification Pack

| National Occupational Standards | Theory Marks | Practical Marks | Project Marks | Viva Marks | Total Marks | Weightage |
|---------------------------------|--------------|-----------------|---------------|------------|-------------|-----------|
| Total | 77 | 173 | - | - | 250 | 90 |

Acronyms

| | |
|-------------|---|
| NOS | National Occupational Standard(s) |
| NSQF | National Skills Qualifications Framework |
| QP | Qualifications Pack |
| TVET | Technical and Vocational Education and Training |

Qualification Pack

Glossary

| | |
|--|--|
| Sector | Sector is a conglomeration of different business operations having similar business 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 organisation. |
| 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 (KU) they need to meet that standard consistently. Occupational Standards are applicable both in the Indian and global contexts. |
| Performance Criteria (PC) | Performance Criteria (PC) 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) | QP comprises the set of OS, together with the educational, training and other criteria required to perform a job role. A QP is assigned a unique qualifications pack code. |
| 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 anyone searching on a database to verify that this is the appropriate OS they are looking for. |
| Scope | Scope is a 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 quality of performance required. |

Qualification Pack

| | |
|---|--|
| Knowledge and Understanding (KU) | Knowledge and Understanding (KU) are statements which together specify the technical, generic, professional and organisational specific knowledge that an individual needs in order to perform to the required standard. |
| Organisational Context | Organisational context includes the way the organisation 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 (GS) | Core skills or Generic Skills (GS) 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. These skills are typically needed in any work environment. In the context of the OS, these include communication related skills that are applicable to most job roles. |
| 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. |