



Knitting Machine Operator Circular Knitting

- Short Term Training (STT) Long Term Training (LTT) Apprenticeship
 Upskilling Dual/Flexi Qualification For ToT For ToA
 General Multi-skill (MS) Cross Sectoral (CS) Future Skills OEM

NCrF/NSQF Level: 2

Submitted By:

Textile Sector Skill Council

Contact Details:

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COO & Officiating CEO,
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Section 1: Basic Details

1.	Qualification Name	Knitting Machine Operator Circular Knitting	
2.	Sector/s	Textile & Handlooms	
3.	Type of Qualification <input type="checkbox"/> New <input checked="" type="checkbox"/> Revised <input type="checkbox"/> Has Electives/ Options <input type="checkbox"/> OEM	NQR Code & version of the existing /previous qualification: 2022/TEXT/TSC/05303	Qualification Name of the existing/previous version: Knitting Machine Operator Circular Knitting
4.	a. OEM Name b. Qualification Name (Wherever applicable)	NA NA	
5.	National Qualification Register (NQR) Code & Version	QG-02-TX-01945-2024-V2-TSC	6. NCrF/NSQF Level: 2
7.	Award (Certificate/Diploma/Advance Diploma/ Any Other) (Wherever applicable specify multiple entry/exits also & provide details in annexure)	Certificate	
8.	Brief Description of the Qualification	A Circular knitting machine operator is responsible for operating industrial Circular knitting machines, repair yarn related faults at the knitting head and fabric press-offs, operate process machines ancillary to the knitting production, identify and sort wastes, and demonstrate knowledge of yarn-related faults in knitted fabrics. This job requires the individual to have thorough knowledge in process flow and material flow in a knitting machine for fabric production and should know the important functions and operations of knitting machines.	

9.	Eligibility Criteria for Entry for a Student/Trainee/Learner/Employee	<p align="center">a. Entry Qualification & Relevant Experience:</p> <table border="1" data-bbox="791 233 1789 412"> <thead> <tr> <th data-bbox="791 233 896 370">S. No.</th> <th data-bbox="903 233 1360 370">Academic/Skill Qualification (with Specialization - if applicable)</th> <th data-bbox="1367 233 1789 370">Relevant Experience (with Specialization - if applicable)</th> </tr> </thead> <tbody> <tr> <td data-bbox="791 375 896 412">1</td> <td data-bbox="903 375 1360 412">Ability to read and write</td> <td data-bbox="1367 375 1789 412">Nil</td> </tr> </tbody> </table> <p align="center">18 Years</p>				S. No.	Academic/Skill Qualification (with Specialization - if applicable)	Relevant Experience (with Specialization - if applicable)	1	Ability to read and write	Nil						
S. No.	Academic/Skill Qualification (with Specialization - if applicable)	Relevant Experience (with Specialization - if applicable)															
1	Ability to read and write	Nil															
10	Credits Assigned to this NOS- Qualification, Subject to Assessment (as per National Credit Framework (NCrF))	11 Credits	11. Common Cost Norm Category (I/II/III) (wherever applicable): I														
12.	Any Licensing Requirements for Undertaking Training on This Qualification	Not Applicable															
13	Training Duration by Modes of Training Delivery (Specify Total Duration as per selected training delivery modes and as per requirement of the qualification)	<p align="center"><input checked="" type="checkbox"/>Offline Only <input type="checkbox"/> Online Only <input type="checkbox"/> Blended</p> <table border="1" data-bbox="1073 886 1759 1101"> <thead> <tr> <th data-bbox="1073 886 1318 992">Training Delivery Mode</th> <th data-bbox="1325 886 1472 992">Theory (Hours)</th> <th data-bbox="1478 886 1625 992">Practical (Hours)</th> <th data-bbox="1631 886 1759 992">Total (Hours)</th> </tr> </thead> <tbody> <tr> <td data-bbox="1073 997 1318 1062">Classroom (offline)</td> <td data-bbox="1325 997 1472 1062">102</td> <td data-bbox="1478 997 1625 1062">228</td> <td data-bbox="1631 997 1759 1062">330</td> </tr> <tr> <td data-bbox="1073 1066 1318 1101">Online</td> <td data-bbox="1325 1066 1472 1101">-</td> <td data-bbox="1478 1066 1625 1101">-</td> <td data-bbox="1631 1066 1759 1101">-</td> </tr> </tbody> </table> <p align="center">(Refer Blended Learning Annexure for details)</p>				Training Delivery Mode	Theory (Hours)	Practical (Hours)	Total (Hours)	Classroom (offline)	102	228	330	Online	-	-	-
Training Delivery Mode	Theory (Hours)	Practical (Hours)	Total (Hours)														
Classroom (offline)	102	228	330														
Online	-	-	-														

14.	Aligned to NCO/ ISCO Code/s (if no code is available mention the same)	NCO-2015/8152.09	
15.	Progression Path After Attaining the Qualification, wherever applicable <i>(Please show Professional and Academic progression)</i>	Assistant Fitter - Knitting	
16.	Other Indian languages in which the Qualification & Model Curriculum are being submitted	Hindi	
17.	Is similar NOS available on NQR-if yes, justification for this qualification	Yes <input checked="" type="checkbox"/> No URLs of similar Qualifications:	
18.	Is the NOS Amenable to Persons with Disability	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If “Yes”, specify applicable type of Disability:	
19.	How participation of women will be encouraged?	This Qualification/NOS is made suitable for all categories of learners including the individuals, Students, professionals with the prescribed entry qualification.	
20.	Are Greening/ Environment Sustainability Aspects Covered (Specify the NOS/Module which covers it)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
21	Is Qualification Suitable to be Offered in Schools/Colleges	Schools <input type="checkbox"/> Yes <input type="checkbox"/> No Colleges <input type="checkbox"/> Yes <input type="checkbox"/> No	
22	Name and Contact Details Submitting / Awarding Body SPOC <i>(In case of CS or MS, provide details of both Lead AB & Supporting ABs)</i>	Name: Mr. Vignesh Raja Email: raja@texskill.in Contact No.: 7502954383 Website: https://texskill.in/	
23.	Final Approval Date by NSQC: 31.01.2024	24. Validity Duration: 3 Years	25. Next Review Date: 31.01.2027

Section 2: Module Summary

NOS/s of Qualifications

(In exceptional cases these could be described as components)

Mandatory NOS/s:

Specify the training duration and assessment criteria at NOS/ Module level. For further details refer curriculum document.

Th.-Theory **Pr.**-Practical **OJT**-On the Job **Man.**-Mandatory Training **Rec.**-Recommended Proj.-Project

S. no	NOS Module Name	NOS/Module Code & Version (if applicable)	Core/ Non Core	NCrF/ NSQF Level	Credit as per NCrF	Training Duration					Assessment Marks					
						Th.	Pr.	OJT. Man	OJT. Rec	Total	Th.	Pr.	Proj.	Viva	Total	Weightage (if applicable)
1	Taking charge of shift and handing over shift to Knitting Machine Operator -Circular Knitting	TSC/N4101,V 3.0	Core	2	1	7.5	22.5			30	21	26		28	75	11
2	Operate the Circular Knitting machine	TSC/N4102,V 3.0	Core	2	3	30	60			90	46	74		60	180	25
3	Knotting the yarn and taking off the fabric roll from the circular knitting machine	TSC/N4103,V 3.0	Core	2	2	15	45			60	27	47		26	100	15
4	Repair yarn related faults in Circular Knitting	TSC/N4104,V 3.0	Core	2	1	7.5	22.5			30	12	19		14	45	6
5	Maintain work area, tools and machines	TSC/N9001,V 3.0	Non Core	3	0.5	5	10			15	17	20		13	50	7
6	Working in a team	TSC/N9002,V 6.0	Non Core	3	0.5	5	10			15	19	20		11	50	7
7	Maintain health, safety and security at workplace	TSC/N9003,V 5.0	Non Core	3	1.5	15	30			45	32	40		28	100	15
8	Comply with industry and organizational requirement	TSC/N9004,V 3.0	Non Core	3	0.5	5	10			15	15	20		15	50	7
9	Employability Skills	DGT/VSQ/N0101,V 1.0	Non Core	3	1	12	18			30	20	30			50	7
Duration (in Hours) / Total Marks					11	102	228			330	209	296		195	700	100

Elective NOS/s:

S. No	NOS/Module Name	NOS/Module Code & Version (if applicable)	Core/ Non-Core	NCrF/NSQF Level	Credits as per NCrF	Training Duration (Hours)					Assessment Marks				
						Th.	Pr.	OJT-Man.	OJT-Rec.	Total	Th.	Pr.	Proj.	Viva	Total
1.	NA														
2.	NA														
Duration (in Hours) / Total Marks															

Optional NOS/s:

S. No	NOS/Module Name	NOS/Module Code & Version (if applicable)	Core/ Non-Core	NCrF/NSQF Level	Credits as per NCrF	Training Duration (Hours)					Assessment Marks				
						Th.	Pr.	OJT-Man.	OJT-Rec.	Total	Th.	Pr.	Proj.	Viva	Total
1.	NA														
2.	NA														
Duration (in Hours) / Total Marks															

Assessment - Minimum Qualifying Percentage

Please specify any one of the following:

Minimum Pass Percentage – Aggregate at qualification level: **50%**

(Every Trainee should score specified minimum aggregate passing percentage at qualification level to successfully clear the assessment.)

Section 3: Training Related

1.	Trainer's Qualification and experience in the relevant sector (in years) (as per NCVET guidelines)	<ul style="list-style-type: none"> Ability to read & and write with 5 years of relevant experience (Min 1 year in production + Min 4 years as trainer (or) Grade 8 with two years of (NTC/ NAC) with Successfully passed Trainer Qualification MEP/Q2601, v2.0– Trainer, Minimum pass percentage 80 percent and TSC/Q4101, v4.0 Knitting Machine Operator – Circular Knitting, Minimum pass percentage 80 per cent
2.	Master Trainer's Qualification and experience in the relevant sector (in years) (as per NCVET guidelines)	Diploma/Degree/Masters/PhD in textile with at least 15/10/8/5 years of experience in textile sector with minimum 8/5/4/3 years in teaching/conducting training in Textile Research Associations, CoEs, Govt Textile organizations/ SIMA/ running textile mill
3.	Tools and Equipment Required for the Training	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No (If "Yes", details to be provided in Annexure)
4.	In Case of Revised NOS, details of Any Upskilling Required for Trainer	Not Applicable

Section 4: Assessment Related

1.	Assessor's Qualification and experience in relevant sector (in years) (as per NCVET guidelines)	<ul style="list-style-type: none"> Diploma (10th Class + 3 years) in the relevant trade with 4 years of relevant experience (or) Diploma (12th Class +2 years) in the relevant trade with 3 years of relevant experience (or) UG (3-years) in the relevant trade with 2 years of relevant experience with successfully passed MEP/Q2701, v2.0 – Assessor, Minimum pass percentage 80 percent and TSC/Q4101, v3.0 Knitting Machine Operator Circular Knitting, Minimum pass percentage 80 percent
2.	Proctor's Qualification and experience in relevant sector (in years) (as per NCVET guidelines), (wherever applicable)	UG in any field

3.	Lead Assessor's/Proctor's Qualification and experience in relevant sector (in years) (as per NCVET guidelines)	Diploma/Degree/Masters/PhD in textile with at least 15/10/8/5 years of experience in textile sector with minimum 8/5/4/3 years in teaching/conducting training in Textile Research Associations, CoEs, Govt Textile organizations/ SIMA/ running textile mill
4.	Assessment Mode (Specify the assessment mode)	Offline
5.	Tools and Equipment Required for Assessment	<input type="checkbox"/> Same as for training <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (details to be provided in Annexure-if it is different for Assessment)

Section 5: Evidence of the Need for the Qualification

Provide Annexure/Supporting documents name.

1.	Latest Skill Gap Study (not older than 2 years) (Yes/No): Yes. Link - https://texskill.in/map_22/map.html
2.	Latest Market Research Reports or any other source (not older than 2 years) (Yes/No): Yes Link - https://texskill.in/map_22/map.html
3.	Government /Industry initiatives/ requirement (Yes/No): Yes
4.	Number of Industry validation provided: 5
5.	Estimated number of people to be trained: 1000
6.	Evidence of Concurrence/Consultation with Line/State Departments (In case of regulated sectors): (Yes/No): Yes If "No", why:

Section 6: Annexure & Supporting Documents Check List

Specify Annexure Name / Supporting document file name

1.	Annexure: NCrf/NSQF level justification based on NCrf/NSQF descriptors (Mandatory)	Attached. Annexure 1
2.	Annexure: List of tools and equipment relevant for NOS (Mandatory, except in case of online course)	Attached. Annexure 2
3.	Annexure: Detailed Assessment Criteria (Mandatory)	Attached. Annexure 6
4.	Annexure: Assessment Strategy (Mandatory)	Attached. Annexure 6
5.	Annexure: Blended Learning (Mandatory, in case selected Mode of delivery is Blended Learning)	Attached. Annexure 5
6.	Annexure: Multiple Entry-Exit Details (Mandatory, in case qualification has multiple Entry-Exit)	No
7.	Annexure: Acronym and Glossary (Optional)	Attached. Annexure 8
8.	Supporting Document: Model Curriculum (Mandatory – Public view)	Attached. Annexure 9
9.	Supporting Document: Career Progression (Mandatory - Public view)	Attached. Annexure 10
10.	Supporting Document: Occupational Map (Mandatory)	Attached. Annexure 11
11.	Supporting Document: Assessment SOP (Mandatory)	Attached. Annexure 7
12.	Any other document you wish to submit:	NA

Annexure 1: Evidence of Level

NCrF/NSQF Level Descriptors	Key requirements of the job role/ outcome of the qualification	How the job role/ outcomes relate to the NCrF/NSQF level descriptor	NCrF/NSQF Level
<p>Professional Theoretical Knowledge/Process</p>	<p>Fundamental knowledge</p> <ul style="list-style-type: none"> ● Basic working/ operational knowledge in the area of work. ● Understands basic materials, tools, applications in a limited context. ● For self-help group member/ micro-entrepreneur basic working knowledge of business activity, raw material, finished product/ service, and local market. ● Able to understand and perform repetitive tasks under instructions and supervision. ● Understand the basic quality, safety and general hygiene norms. Familiarity with environmental aspects. 	<ul style="list-style-type: none"> ● This operator possesses knowledge involving a defined range of standard procedures employed in routine contexts with predictable routine work involved in a typical knitting unit. ● The operator must come at least 10 - 15 minutes earlier to the work spot, he must understand the basic concept of timely delivery and Quality. ● bring the necessary operational tools to the department ● ensure proper functioning of machine and problems if any should be reported to the supervisor and maintenance in- charge. he must be able to interpret the available information & communicate the same. ● Must have basic knowledge of collecting and organizing information for problem identification and solution like meet the next shift operator and give the information regarding the count, GSM, loop length, process, issues faced in quality, and current 	<p>NSQF Level 2</p>

		<p>fabric production followed in the knitting department.</p> <ul style="list-style-type: none"> • Uses limited discretion and judgement over a range of known responses to familiar problems meet the next shift operator and give the information regarding the count, GSM, loop length, process, issues faced in quality, and current fabric production followed in the knitting department. • Understands the basic financial and handle materials, machinery, equipment and tools with care and use them in the correct way. 	
<p>Professional and Technical Skills/ Expertise/ Professional Knowledge</p>	<p>Limited finite skills</p> <ul style="list-style-type: none"> • Limited related skills in predefined context. • Performs structured tasks in a limited range of functional roles. • Uses known solutions to familiar problems. • Skill to identify and use relevant tools and materials in a limited context of work and quality. • For self-help group members, micro-entrepreneurs working skills for making or manufacturing (handicraft, traditional items, etc) service & marketing etc. 	<ul style="list-style-type: none"> • A circular knitting machine operator should have a range of skills and technical capabilities about standard operating procedures with respect to process flow and material flow and safety standards in the knitting unit. • The ability to gain, and where relevant apply a range of knowledge, skills and understanding like an operator is responsible for operating industrial circular knitting machines; repair yarn-related faults at the knitting head and fabric press-offs; operate process machines ancillary to the knitting production. • Must possess skills to identify the relevant materials like understanding the importance of yarn, types of yarn, yarn count, types of fabric, loop length, GSM, importance of yarn and fabric quality. 	<p>NSQF Level 2</p>

		<ul style="list-style-type: none"> • Has the required skills for Identification of the problem and issues within the range of familiar contexts and generate possible solution like operating circular knitting machine, importance of knotting, sop of knotting, different types of yarns and it quality • Skills to identify the relevant tools and materials in a given context like functions of control switches and signal lamps in circular knitting machine • Must possesses operational knowledge and understanding of the work/ job like procedure to collect the yarn from creel zone and condense through the guides, positive feeders for fabric formation. • Must have skills to deliver job/work with reasonable precision like importance of material handling and types of material handling equipment used and knowledge of waste collection system & equipment used. 	
<p>Employment Readiness & Entrepreneurship Skills & Mind-set/Professional Skill</p>	<p>Employment readiness</p> <ul style="list-style-type: none"> • Ability to read and write and do simple computational math – numeracy and literacy. • Receive and transmit written and oral messages/ communication clearly. • Works within a team as assistant 	<ul style="list-style-type: none"> • The circular knitting machine operator must be working as a member of a team/ within a team and performing activities like taking charge and handing over of the shift, patrolling the machine ensuring quality production. • Basic knowledge of functions of different parts of an The circular 	<p>NSQF Level 2</p>

	<ul style="list-style-type: none"> • Understanding of safety, hygiene and environment, social, political and religious diversity. • Have broader but basic Employability Skills including basic self-employment/ entrepreneurial Mind-set for mini businesses • Have understanding of use of Financial and Digital literacy, Aadhar and Mobile, digital payments etc. 	<p>knitting machine operator, functions and methodology for operating different material handling tools.</p> <ul style="list-style-type: none"> • Must possess good skills in written and oral communication with some clarity, basic knowledge of Language to support such communication like documentation and reporting formats • The circular knitting machine operator must have intermediate literacy and numeracy skills to write clear and short sentences for making daily work report, write grievance complaint application, comprehends written instructions, and communicates with the supervisor and others appropriately . • Can use digital tools, has basic financial and digital literacy, Aadhar and Mobile. Must be able to adapt the new innovations in the existing machinery. • Must have broader Employability Skills including self-employment and mini- entrepreneurship skills creating job for more than 1 person. • The operator applies basic arithmetic functions to assess the and to execute production based calculations. 	
<p>Broad Learning Outcomes/ Core Skill</p>	<p>Carry out the Predefined tasks</p> <ul style="list-style-type: none"> • The candidate may carry out a job requiring limited range of routine and predictable activities. 	<ul style="list-style-type: none"> • The operator should be able to perform practical skills for routine operations like understanding functions of control switches and signal lamps in circular knitting machine. 	<p>NSQF Level 2</p>

	<ul style="list-style-type: none"> • Tasks are mostly performed under instructions and supervision • Focus on practice of skill and work, both predefined and new. • For self-help group members, micro- entrepreneurs (JSS) end to end clear understanding of process and delivery. • Understands basic safety and general hygiene norms. 	<ul style="list-style-type: none"> • The operator must focus on range of application of standard procedures or operations in production/ services like performing basic cleaning activities required during the process for uninterrupted output, • The operator must perform tasks by himself and require little instructions and supervision like procedure for operating different material handling tools and equipment and their maintenance. • Understands all safety & general hygiene norms and environmental aspects, together with risks like comprehending the regulations, natural, social and political environment of a typical spinning unit. • He must be able to identify/ anticipate the problems and possible range of solutions in production/ services like procedures for carrying out preventive maintenance activities and proper material handling of cleaning equipment. 	
<p>Responsibility</p>	<p>Assistant</p> <ul style="list-style-type: none"> • Works mostly under instruction and supervision. • Limited responsibility for delivery and quality of work. • For self-help group members, micro-entrepreneurs (JSS) end 	<ul style="list-style-type: none"> • The operator must take responsibility for delivery and quality of own work and tangible output like bringing the necessary operational tools to the department, taking charge of shift , patrolling the machine and ensuring quality production. • At level 3.0 the candidate works as a skilled worker/ technician and 	<p>NSQF Level 2</p>

	to end responsibility of production and marketing in local markets.	<p>perform tasks like procedure for segregating the different types of fabric and yarn</p> <ul style="list-style-type: none"> • He must take work from the helpers or assistants and collaboratively work with junior technician to ensure that minimum time is taken for for segregating the different types of wastes and the different types of fabric and yarn. • Must be able to assist in the planning of the routine and predictable tasks like operating circular knitting machine, importance of knotting, sop of knotting, different types of yarns and it quality, importance of fabric technical details (gsm, loop length, fabric details etc.) and procedure to collect the yarn from creel zone and condense through the guides, positive feeders for fabric formation. 	
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Annexure 2: Tools and Equipment

List of Tools and Equipment

Sr. No	Equipment Name	Minimum number of Equipment required (per batch of 30 trainees)
1.	Circular Knitting Machine	2
2.	Yarn Package Of Cone Or Cheese	10

Batch Size: 30

Classroom Aids

The aids required to conduct sessions in the classroom are:

1. Charts
2. Posters
3. Projector
4. Writing Board
5. Seating capacity for 30 candidates
6. Computer/ Laptop Specification
7. Scanner
8. Printer

Annexure 3: Industry Validations Summary

S. No	Organization Name	Representative Name	Designation	Contact Address	Contact Phone No	E-mail ID	LinkedIn Profile (if available)
1	The South Indian Textile Research Association	S Sounderraj	Senior Scientific Officer	Tamil Nadu	0422-4215325	wvg@sitra.org.in	
2	Shri Ram Khadi Bhandar	Rajji		Haryana		-	
3	BTRA	Vijay A gawde	Senior Scientific Officer	Maharastra	9821257127	tsd@btraindia.com	
4	NITRA	Dr Arindam Basu	Director General	Uttar Pradesh	0120 2783638	mail@nitratextile.org	
5	NIFT-TEA Knit Wear Fashion Institute	C B Sentil Kumar	Head, Centre for Apparel Research and Education	Tamil Nadu	967749511	care@niftea.in	

Annexure 4: Training & Employment Details

Year	Estimated Training # of Total Candidates	Estimated training # of Women	Estimated training # of People with Disability
2023-24	300	48	NA

2024-25	300	48	NA
2025-26	400	64	NA

Training, Assessment, Certification, and Placement Data for previous versions of qualifications:

Qualification Version	Year	Total Candidates				Women				People with Disability			
		Trained	Assessed	Certified	Placed	Trained	Assessed	Certified	Placed	Trained	Assessed	Certified	Placed
2	2022	42	38	36	18	NA. Data Requested from NSDC	NA. Data Requested from NSDC	NA. Data Requested from NSDC	NA. Data Requested from NSDC	-	-	-	-
1	2021	154	139	132	66	NA. Data Requested from NSDC	NA. Data Requested from NSDC	NA. Data Requested from NSDC	NA. Data Requested from NSDC	-	-	-	-
1	2020	16	14	14	7	NA. Data Requested from NSDC	NA. Data Requested from NSDC	NA. Data Requested from NSDC	NA. Data Requested from NSDC	-	-	-	-

Applicable for revised qualifications only, data to be provided year-wise for past 3 years.

List Schemes in which the previous version of Qualification was implemented:

1. PMKVY
2. Digital India Corporation. Ministry of Electronics and Information Technology

Content availability for previous versions of qualifications:

Participant Handbook Facilitator Guide Digital Content Qualification Handbook Any Other:

Languages in which Content is available: English

Annexure 5: Blended Learning - NA

Blended Learning Estimated Ratio & Recommended Tools:

Not Applicable

Refer NCVET “Guidelines for Blended Learning for Vocational Education, Training & Skilling” available on:

<https://ncvet.gov.in/sites/default/files/Guidelines%20for%20Blended%20Learning%20for%20Vocational%20Education,%20Training%20&%20Skill%20i%20ng.pdf>

S. No.	Select the Components of the NOS	List Recommended Tools – for all Selected Components	Offline: Online Ratio
1	<input type="checkbox"/> Theory/ Lectures - Imparting theoretical and conceptual knowledge	Computer, CAD Software, Graph Paper, Fabric Sample, Sketch Pens	20:80
2	<input type="checkbox"/> Imparting Soft Skills, Life Skills and Employability Skills /Mentorship to Learners	Computer, Projector	20:80
3	<input type="checkbox"/> Showing Practical Demonstrations to the learners	Computer, Projector	20:80
4	<input type="checkbox"/> Imparting Practical Hands-on Skills/ Lab Work/ workshop/ shop floor training	Computer, Projector	20:80
5	<input type="checkbox"/> Tutorials/ Assignments/ Drill/ Practice	Computer, CAD Software, Graph Paper, Fabric Sample, Sketch Pens	20:80
6	<input type="checkbox"/> Proctored Monitoring/ Assessment/ Evaluation/ Examinations	Computer, CAD Software, Graph Paper, Fabric Sample, Sketch Pens	20:80
7	<input type="checkbox"/> On the Job Training (OJT)/ Project Work Internship/ Candidate Training	Computer, CAD Software, Graph Paper, Fabric Sample, Sketch Pens	20:80

Annexure 6: Detailed Assessment Criteria

Module	Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
TSC/N4101: Taking charge of shift and handing over shift to Knitting Machine Operator -Circular Knitting	Taking charge of shift from Knitting Machine Operator-circular Knitting	11	14	-	13
	1. reach atleast 10 - 15 minutes early to the work place	1	1	-	2
	2. bring the necessary operational tools to the department	1	2	-	2
	3. meet the previous shift operator and collect the information regarding the yarn count, process, issues faced in quality, and current beam production followed in the knitting department.	2	3	-	2
	4. be updated on information regarding the current order such, as it is for which company and other details.	2	2	-	2
	5. ensure proper functioning of machine and problems if any should be reported to the supervisor and maintenance in-charge.	2	2	-	2
	6. understand and be informed about the current order quantity and balance quantity.	1	1	-	1
	7. be updated on the new order fabric details and quantity.	1	1	-	1
	8. contribute in over all department cleanliness.	1	2	-	1
	Handing Over of Shift to Knitting Machine operator- circular Knitting	10	12	-	15
	9. clean the machine and department before handing over the shift.	1	1	-	2
	10. hand over the necessary operational tools if any.	1	1	-	1
11. meet the next shift operator and give the information regarding the count, GSM, loop length, process, issues faced in quality, and current fabric production followed in the knitting department.	1	1	-	1	
12. note the production details for the current shift	1	1	-	2	

	13. Ensure proper functioning of the machine and problems if any, should be reported to the supervisor and maintenance incharge.	2	2	-	3
	14. give details to the next shift operator about the current order quality, quantity and balance quantity.	2	4	-	2
	15. convey information regarding new order fabric details and quantity.	2	2	-	4
	NOS Total	21	26	-	28
Module	Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
TSC/N4102: Operate the Circular Knitting machine	Operate the Circular knitting machine	24	37	-	34
	1. start the machine	1	2	-	1
	2. operate the control switches for starting and stopping the knitting machine	1	2	-	2
	3. follow the signal lamps used in machines	1	1	-	2
	4. ensure proper functioning of the knitting machine by verifying in the display panel	2	2	-	2
	5. ensure the machines are operated in accordance with workplace procedures.	2	4	-	2
	6. ensure the yarns are run through correct yarn- paths at operating tensions according to machine- builders instructions	2	3	-	2
	7. ensure the yarns are creeled and ends joined in accordance with workplace procedures.	2	2	-	2
	8. ensure the production is monitored for faults, and variations notified	1	2	-	1
	9. ensure the machines are monitored for continuous functioning of all systems, and variations notified	1	2	-	2
	10. ensure the doff is removed from machine as soon as it is full	1	1	-	2
	11. ensure the documentation of production is completed in accordance with workplace procedures.	2	2	-	2
12. ensure the machines are lubricated as directed in machine manual.	1	2	-	2	

13. ensure the yarn paths; eyelets, knitting heads, machine parts and working environment is clean and free of contamination.	1	2	-	2
14. check whether the yarns are properly fed in the knitting machine	1	2	-	2
15. knot the yarn during breakage	1	1	-	2
16. view the display panel or signal and identify the reasons for machine stoppages if any	1	1	-	2
17. ensure the knitting machine is running in the set speed by viewing the display panel	2	4	-	2
18. ensure the working area is clean	1	2	-	2
Repair yarn related faults at the knitting head and fabric press-offs	3	5	-	3
19. re-thread incorrectly-positioned yarns, broken yarns or new ends and joining in accordance with workplace procedures	1	2	-	1
20. fix fabric press-off in accordance with machine-type and workplace procedures.	1	1	-	1
21. reset machines for restart after fault correction, style changes, and pattern changes	1	2	-	1
Carry out maintenance activities	6	11	-	7
22. support the fitter for carrying out maintenance activities	1	2	-	1
23. support the fitter for carrying out maintenance activities	1	2	-	1
24. ensure the GSM, loop length variation is within the limits and if it is abnormal report it to superiors.	1	2	-	1
25. inform the supervisor and maintenance incharge in case of a jam	1	2	-	1
26. support the fitter during minor breakdown	1	2	-	1
27. ensure ancillary process machines are operated in accordance with machine builder's instructions and workplace procedures.	1	1	-	2
Material handling and safety at workplace	4	8	-	4
28. ensure proper material handling of yarn, cone and empty cones	2	4	-	2

	29. ensure proper material handling of tools and equipments	1	2	-	1
	30. ensure safety while operating the knitting machine	1	2	-	1
	Other tenting responsibilities	9	13	-	12
	31. ensure the fabric produced is free from outside damages	1	1	-	1
	32. weigh collected usable waste at shift end and place it in the specified area	1	2	-	1
	33. inform superiors immediately, if any break down or fault in the machine is noticed	1	2	-	1
	34. ensure the proper functioning of signal lamps	1	2	-	2
	35. ensure that machine is always working properly, if any deviation, inform superiors immediately	2	3	-	4
	36. Identify yarn wastes by fibre content and sort it according to workplace procedures	2	1	-	1
	37. Identify fabric wastes and sort it according to workplace procedures.	1	2	-	2
	NOS Total	46	74	-	60
Module	Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
TSC/N4103: Knotting the yarn and taking off the fabric roll from the circular knitting machine	Attending the machine on yarn breakage	6	8	-	6
	1. identify reason for the machine stoppage by viewing the signal lamps and display panel	2	2	-	2
	2. identify the reasons for yarn breakage	2	4	-	2
	3. ensure minimum time is taken for attending the yarn breakage.	2	2	-	2
	Knot the broken yarn	13	25	-	12
	4. unwind the yarn from cone	1	2	-	1
	5. ensure proper knotting	1	2	-	1
	6. draw the yarn through the guide, guide rollers and pass it through the stop motion, positive feeder in delivery zone	2	4	-	2
7. ensure proper functioning of knitting machine post knotting	2	2	-	2	

	8. collect the waste generated during knotting and store the waste at respective waste box	1	2	-	1
	9. segregate the reusable wastes and weigh and record them in a register	2	3	-	1
	10. ensure standard knotting procedure is adopted and quality of knotting is as per standards	2	4	-	2
	11. ensure safety while carrying out knotting activity	1	4	-	1
	12. ensure the machines are lubricated as directed in machine manual.	1	2	-	1
	Check the quality of knotting	4	8	-	4
	13. verify the quality of knotting done in the yarn	2	4	-	2
	14. ensure yarn tension in the creeling section is appropriate	1	2	-	1
	15. ensure proper functioning of the machine	1	2	-	1
	Post fabric take off responsibilities	4	6	-	4
	16. ensure proper functioning of knitting machine post fabric take off	2	2	-	2
	17. ensure proper material handling of yarn, cone and empty cone	1	2	-	1
	18. ensure proper material handling of tools and equipments	1	2	-	1
	NOS Total	27	47	-	26
Module	Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
TSC/N4104: Repair yarn related faults in Circular Knitting	Attending the yarn related faults	8	12	-	8
	1. re-thread the incorrectly-positioned yarns in accordance with workplace procedures	3	3	-	3
	2. Identify the reasons for yarn breakage	2	5	-	3
	3. join the broken yarns or new ends in accordance with workplace procedures.	3	4	-	2
	Repair fabric press-offs	4	7	-	6
4. fix fabric press-offs are in accordance with machine-type and workplace procedures.	3	3	-	3	

	5. reset machine for restart after fault correction, style changes, pattern changes	1	4	-	3
	NOS Total	12	19	-	14
Module	Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
TSC/N9001: Maintain work area, tools and machines	Maintaining the work area, tools and machines	17	20	-	13
	1. handle materials, machinery, equipment and tools with care and use them in the correct way	2	2	-	1
	2. use correct lifting and handling procedures	1	2	-	1
	3. use materials to minimize waste	2	1	-	1
	4. maintain a clean and hazard free working area	1	1	-	1
	5. maintain tools and equipment	2	1	-	1
	6. carry out running maintenance within agreed schedules	1	2	-	1
	7. carry out maintenance and/or cleaning within ones responsibility	1	2	-	1
	8. report unsafe equipment and other dangerous occurrences	1	2	-	-
	9. ensure that the correct machine guards are in place	1	1	-	1
	10. work in a comfortable position with the correct posture	1	1	-	1
	11. use cleaning equipment and methods appropriate for the work to be carried out	1	1	-	1
	12. dispose of waste safely in the designated location	1	2	-	1
	13. store cleaning equipment safely after use	1	1	-	1
	14. carry out cleaning according to schedules and limits of responsibility	1	1	-	1
	NOS Total	17	20	-	13
Module	Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
TSC/N9002: Working in a team	Commitment and trust	5	4	-	2
	1. be accountable to the own role in whole process	2	1	-	1

	2. perform all roles with full responsibility	2	1	-	1
	3. be effective and efficient at workplace	1	2	-	-
	Communication	6	7	-	4
	4. properly communicate about company policies	1	2	-	1
	5. report all problems faced during the process	1	2	-	1
	6. talk politely with other team members and colleagues	2	1	-	1
	7. submit daily report of own performance	2	2	-	1
	Adaptability	5	4	-	3
	8. adjust in different work situations	1	1	-	1
	9. give due importance to other's point of view	2	1	-	1
	10. avoid conflicting situations	2	2	-	1
	Creative freedom	3	5	-	2
	11. develop new ideas for work procedures	1	3	-	1
	12. improve upon the existing techniques to increase process efficiency	2	2	-	1
	NOS Total	19	20	-	11
Module	Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
TSC/N9003: Maintain health, safety and security at workplace	Comply with health, Safety and security requirements at work	27	35	-	23
	1. comply with health and safety related instructions applicable to the workplace	2	2	-	2
	2. use and maintain personal protective equipment such as ear plug, nose mask , head cap etc., as per protocol	2	2	-	2
	3. carry out own activities in line with approved guidelines and procedures	2	2	-	2
	4. maintain a healthy lifestyle and guard against dependency on intoxicants	2	2	-	2
	5. follow environment management system related procedures	2	2	-	2
	6. identify and correct (if possible) malfunctions in machinery and equipment	2	2	-	1

7. report any service malfunctions that cannot be rectified	2	2	-	1
8. store materials and equipment in line with organisational requirements	2	2	-	1
9. safely handle and remove waste	2	2	-	1
10. minimize health and safety risks to self and others due to own actions	1	2	-	1
11. seek clarifications, from supervisors or other authorized personnel in case of perceived risks	1	2	-	2
12. monitor the workplace and work processes for potential risks and threat	1	2	-	1
13. carry out periodic walk-through to keep work area free from hazards and obstructions, if assigned	1	2	-	1
14. report hazards and potential risks/ threats to supervisors or other authorized personnel	1	2	-	1
15. participate in mock drills/ evacuation procedures organized at the workplace	1	2	-	-
16. undertake first aid, fire-fighting and emergency response training, if asked to do so	1	2	-	1
17. take action based on instructions in the event of fire, emergencies or accidents	1	2	-	1
18. follow organisation procedures for shutdown and evacuation when required	1	1	-	1
Recognizing the hazards	2	2	-	2
19. identify different kinds of possible hazards (environmental, personal, ergonomic, chemical) of the industry	1	1	-	1
20. recognise other possible security issues existing in the workplace	1	1	-	1
Planning the safety techniques Implementing the programs	3	3	-	3
21. recognise different measures to curb the hazards	1	1	-	1
22. communicate the safety plan to everyone	1	1	-	1
23. attach disciplinary rules with the implementation	1	1	-	1
NOS Total	32	40	-	28

Module	Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
TSC/N9004: Comply with industry and organizational requirement	Self development	5	9	-	7
	1. perform own duties effectively	1	2	-	2
	2. take responsibility for own actions	1	2	-	2
	3. be accountable towards the job role and assigned duties	1	2	-	1
	4. take initiative and innovate the existing methods	1	1	-	1
	5. focus on self-learning and improvement	1	2	-	1
	Team work	3	5	-	4
	6. co-ordinate with all the team members and colleagues	1	2	-	1
	7. communicate politely	1	1	-	2
	8. avoid conflicts and miscommunication	1	2	-	1
	Organisational standards	3	4	-	3
	9. know the organisational standards	1	1	-	1
	10. implement them in your performance	1	2	-	1
	11. motivate others to follow them	1	1	-	1
	Industry standards	4	2	-	1
12. monitor the workplace and work processes for potential risks and threat	2	1	-	-	
13. align them with organisation standards	2	1	-	1	
	NOS Total	15	20	-	15
DGT/VSQ/N0101 – Employability Skills	Introduction to Employability Skills	1	1	-	-
	understand the significance of employability skills in meeting the job requirements				
	Constitutional values – Citizenship	1	1	-	-
	identify constitutional values, civic rights, duties, personal values and ethics and environmentally sustainable practices.				
	Becoming a Professional in the 21st Century	1	3	-	-
	explain 21st Century Skills such as Self-Awareness, Behavior Skills, Positive attitude, self-motivation, problem-solving, creative thinking, time management, social and cultural awareness,				

	emotional awareness, continuous learning mindset etc.				
	Basic English Skills	2	3	-	-
	speak with others using some basic English phrases or sentences				
	Communication Skills	1	1	-	-
	follow good manners while communicating with others				
	work with others in a team				
	Diversity & Inclusion	1	1	-	-
	communicate and behave appropriately with all genders and PwD				
	report any issues related to sexual harassment				
	Financial and Legal Literacy	3	4	-	-
	use various financial products and services safely and securely				
	calculate income, expenses, savings etc.				
	approach the concerned authorities for any exploitation as per legal rights and laws				
	Essential Digital Skills	4	6	-	-
	operate digital devices and use its features and applications securely and safely				
	use internet and social media platforms securely and safely				
	Entrepreneurship	3	5	-	-
	identify and assess opportunities for potential business				
	identify sources for arranging money and associated financial and legal challenges				
	Customer Service	2	2	-	-
	identify different types of customers				
	identify customer needs and address them appropriately.				
	follow appropriate hygiene and grooming standards.				
	Getting ready for apprenticeship & Jobs	1	3	-	-
	create a basic biodata				
	search for suitable jobs and apply				
	identify and register apprenticeship opportunities as per requirement				
	NOS Total	20	30	-	-

Annexure 7: Assessment Strategy

This section includes the processes involved in identifying, gathering, and interpreting information to evaluate the Candidate on the required competencies of the program.

Mention the detailed assessment strategy in the provided template.

1. Assessment System Overview:

- Batches assigned to the assessment agencies for conducting the assessment on SDMS/SIP or email
- Assessment agencies send the assessment confirmation to VTP/TC looping SSC
- Assessment agency deploys the ToA certified Assessor for executing the assessment
- SSC monitors the assessment process & records

2. Testing Environment:

- Confirm that the centre is available at the same address as mentioned on SDMS or SIP
- Check the duration of the training.
- Check the Assessment Start and End time to be as 10 a.m. and 5 p.m.
- If the batch size is more than 30, then there should be 2 Assessors.
- Check that the allotted time to the candidates to complete Theory & Practical Assessment is correct.
- Check the mode of assessment—Online (TAB/Computer) or Offline (OMR/PP).
- Confirm the number of TABs on the ground are correct to execute the Assessment smoothly.
- Check the availability of the Lab Equipment for the particular Job Role.

3. Assessment Quality Assurance levels / Framework:

- Question papers created by the Subject Matter Experts (SME)
- Question papers created by the SME verified by the other subject Matter Experts
- Questions are mapped with NOS and PC
- Question papers are prepared considering that level 1 to 3 are for the unskilled & semi-skilled individuals, and level 4 and above are for the skilled, supervisor & higher management
- Assessor must be ToA certified & trainer must be ToT Certified

- Assessment agency must follow the assessment guidelines to conduct the assessment

4. Types of evidence or evidence-gathering protocol:

- Time-stamped & geotagged reporting of the assessor from assessment location
- Centre photographs with signboards and scheme specific branding
- Biometric or manual attendance sheet (stamped by TP) of the trainees during the training period
- Time-stamped & geotagged assessment (Theory + Viva + Practical) photographs & videos

5. Method of verification or validation:

- Surprise visit to the assessment location
- Random audit of the batch
- Random audit of any candidate

6. Method for assessment documentation, archiving, and access

- Hard copies of the documents are stored
- Soft copies of the documents & photographs of the assessment are uploaded / accessed from Cloud Storage
- Soft copies of the documents & photographs of the assessment are stored in the Hard Drives

Annexure 8: Acronym and Glossary

Acronym

Acronym	Description
AA	Assessment Agency
AB	Awarding Body
NCrF	National Credit Framework
NOS	National Occupational Standard(s)
NQR	National Qualification Register

NSQF	National Skills Qualifications Framework
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Glossary

Term	Description
National Occupational Standards (NOS)	NOS define the measurable performance outcomes required from an individual engaged in a particular task. They list down what an individual performing that task should know and also do.
Qualification	A formal outcome of an assessment and validation process which is obtained when a competent body determines that an individual has achieved learning outcomes to given standards
Qualification File	A Qualification File is a template designed to capture necessary information of a Qualification from the perspective of NSQF compliance. The Qualification File will be normally submitted by the awarding body for the qualification.
Sector	A grouping of professional activities on the basis of their main economic function, product, service or technology.