

Knitting Machine Operator Flat Bed 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 Flat Bed 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/05304	Qualification Name of the existing/previous version: Knitting Machine Operator Flat Bed Knitting
4.	a. OEM Name b. Qualification Name (Wherever applicable)	NA NA	
5.	National Qualification Register (NQR) Code & Version	QG-02-TX-01946-2024-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 Flat Knitting operator is responsible to operate industrial 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.	

<p>9.</p>	<p>Eligibility Criteria for Entry for a Student/Trainee/Learner/Employee</p>	<p>a. Entry Qualification & Relevant Experience:</p> <table border="1" data-bbox="800 233 1801 412"> <thead> <tr> <th data-bbox="800 233 909 370">S. No.</th> <th data-bbox="909 233 1373 370">Academic/Skill Qualification (with Specialization - if applicable)</th> <th colspan="2" data-bbox="1373 233 1801 370">Relevant Experience (with Specialization - if applicable)</th> </tr> </thead> <tbody> <tr> <td data-bbox="800 370 909 412">1</td> <td data-bbox="909 370 1373 412">Ability to read and write</td> <td colspan="2" data-bbox="1373 370 1801 412">Nil</td> </tr> </tbody> </table> <p>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														
<p>10</p>	<p>Credits Assigned to this NOS- Qualification, Subject to Assessment (as per National Credit Framework (NCrF))</p>	<p>11 Credits</p>		<p>11. Common Cost Norm Category (I/II/III) (wherever applicable): I</p>												
<p>12</p>	<p>Any Licensing Requirements for Undertaking Training on This Qualification</p>	<p>Not Applicable</p>														
<p>13</p>	<p>Training Duration by Modes of Training Delivery (Specify Total Duration as per selected training delivery modes and as per requirement of the qualification)</p>	<p><input checked="" type="checkbox"/> Offline Only <input type="checkbox"/> Online Only <input type="checkbox"/> Blended</p> <table border="1" data-bbox="1073 911 1759 1159"> <thead> <tr> <th data-bbox="1073 911 1318 1052">Training Delivery Mode</th> <th data-bbox="1318 911 1472 1052">Theory (Hours)</th> <th data-bbox="1472 911 1625 1052">Practical (Hours)</th> <th data-bbox="1625 911 1759 1052">Total (Hours)</th> </tr> </thead> <tbody> <tr> <td data-bbox="1073 1052 1318 1122">Classroom (offline)</td> <td data-bbox="1318 1052 1472 1122">102</td> <td data-bbox="1472 1052 1625 1122">228</td> <td data-bbox="1625 1052 1759 1122">330</td> </tr> <tr> <td data-bbox="1073 1122 1318 1159">Online</td> <td data-bbox="1318 1122 1472 1159">-</td> <td data-bbox="1472 1122 1625 1159">-</td> <td data-bbox="1625 1122 1759 1159">-</td> </tr> </tbody> </table> <p>(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-2015/8152.06	
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 <input type="checkbox"/> 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 checked="" type="checkbox"/> No Colleges <input type="checkbox"/> Yes <input checked="" 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					Weightage (if applicable)
						Th.	Pr.	OJT. Man	OJT. Rec	Total	Th.	Pr.	Proj.	Viva	Total	
1	Taking charge of shift and handing over shift to Knitting Machine Operator –Flat Bed Knitting	TSC/N4105,V 3.0	Core	2	1	7.5	22.5			30	14	22		14	50	7
2	Operate the flat bed knitting machine	TSC/N4106,V 3.0	Core	2	3	30	60			90	52	86		62	200	30
3	Piecing the yarn and doffing the fabric roll in the knitting machine	TSC/N4107,V 3.0	Core	2	2	15	45			60	27	41		32	100	16
4	Repair yarn related faults in Flat Bed Knitting	TSC/N4108,V 3.0	Core	2	1	7.5	22.5			30	6	12		7	25	4
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	202	291		182	675	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) <i>(as per NCVET guidelines)</i>	<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/Q4102, v4.0 Knitting Machine Operator – Flat Bed Knitting, Minimum pass percentage 80 per cent
2.	Master Trainer's Qualification and experience in the relevant sector (in years) <i>(as per NCVET guidelines)</i>	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"/> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <i>(If "Yes", details to be provided in Annexure)</i>
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) <i>(as per NCVET guidelines)</i>	<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/Q4102, v3.0 Knitting Machine Operator Flat Bed Knitting, Minimum pass percentage 80 percent
2.	Proctor's Qualification and experience in relevant sector (in years) <i>(as per NCVET guidelines),</i>	UG in any field

	<i>(wherever applicable)</i>	
3.	Lead Assessor's/Proctor's Qualification and experience in relevant sector (in years) <i>(as per NCVET guidelines)</i>	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 <i>(Specify the assessment mode)</i>	Offline
5.	Tools and Equipment Required for Assessment	<input type="checkbox"/> Same as for training <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <i>(details to be provided in Annexure-if it is different for Assessment)</i>

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 <i>(Mandatory)</i>	Attached. Annexure 1
2.	Annexure: List of tools and equipment relevant for NOS <i>(Mandatory, except in case of online course)</i>	Attached. Annexure 2
3.	Annexure: Detailed Assessment Criteria (Mandatory)	Attached. Annexure 6
4.	Annexure: Assessment Strategy <i>(Mandatory)</i>	Attached. Annexure 6
5.	Annexure: Blended Learning <i>(Mandatory, in case selected Mode of delivery is Blended Learning)</i>	Attached. Annexure 5
6.	Annexure: Multiple Entry-Exit Details (Mandatory, in case qualification has multiple Entry-Exit)	No
7.	Annexure: Acronym and Glossary <i>(Optional)</i>	Attached. Annexure 8
8.	Supporting Document: Model Curriculum <i>(Mandatory – Public view)</i>	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
Professional Theoretical Knowledge/Process	Fundamental knowledge <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. 	<p>A flat bed knitting machine operator is responsible for operating industrial flat bed knitting machines; repair yarn-related faults at the knitting head and fabric press-offs; operate process machines ancillary to the knitting production. This operator works in familiar, work environment with predictable routine work involved in a typical knitting unit. The tasks are predictable, routine and involves range of knowledge for situations like taking charge of shift and handing over shift to knitting machine operator - flat bed knitting, ensure the yarns are run through correct yarn-paths at operating tensions according to machine-builder's instructions, ensure the yarn paths, eyelets, knitting heads, machines, and working environment are clean and free of contamination. For routine work, the choices are clear. For unprecedented situations, he has to report to the supervisor.</p> <p>Hence NSQF Level is 2</p>	NSQF Level 2

<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. 	<p>A flat bed knitting machine operator should have the technical skills about standard operating procedures with respect to process flow and material flow and safety standards in the knitting unit. Should know various defects in the fabric due to yarn, weaving or processing & their remedy. importance of fabric technical details (gsm, loop length, fabric details etc.) and safe working practices to be adopted in knitting unit.</p> <p>Hence NSQF Level is 2</p>	<p>NSQF Level 2</p>
<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 ● Understanding of safety, hygiene and environment, social, political and religious diversity. ● Have broader but basic Employability Skills including 	<p>A flat bed knitting machine operator should be able to write clear and short sentences in local/regional language for making daily work report, write grievance complaint application, comprehends written instructions, and communicates with the supervisor and others appropriately and convey information effectively. The operator applies basic arithmetic and algebraic functions to assess the flat bed knitting machine. The operator performs basic maintenance required during the production process for quality and uninterrupted output</p>	<p>NSQF Level 2</p>

	<p>basic self-employment/ entrepreneurial Mind-set for mini businesses</p> <ul style="list-style-type: none"> • Have understanding of use of Financial and Digital literacy, Aadhar and Mobile, digital payments etc. 	<p>within the limits of own responsibility, comprehends the regulations, natural, social and political environment of a typical processing unit.</p> <ul style="list-style-type: none"> • Hence NSQF Level is 2 	
Broad Learning Outcomes/ Core Skill	<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. • 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. 	<p>The Flat Bed Knitting Machine Operator recall practical skills like taking charge and handing over of the shift, patrolling the machine and ensuring quality production. The operator should be able to demonstrate range of tasks like operating flat bed knitting machine, importance of piecing and doffing, guidelines for carrying out doffing activity and knowledge of different functions in display panel and procedure to operate the knitting machine. The operator makes sure the machine is kept clean at all times. Demonstrates repetitive skills like identify the normal defects in fabric and actions needed to correct them and procedure to carryout basic maintenance activities in flat bed knitting machine</p> <ul style="list-style-type: none"> • Hence NSQF Level is 2 	NSQF Level 2
Responsibility	<p>Assistant</p> <ul style="list-style-type: none"> • Works mostly under instruction and supervision. 	<p>The flat bed knitting machine operator takes charge of the shift and handle over shift to other operator to ensure continuous production and is responsible for operating flat bed</p>	NSQF Level 2

	<ul style="list-style-type: none"> Limited responsibility for delivery and quality of work. For self-help group members, micro-entrepreneurs (JSS) end to end responsibility of production and marketing in local markets. 	<p>knitting machine and to do the specified job of piecing. Doffing the yarns to ensure quality production. Know the operations of the machine & ensure the production is monitored for faults and variations notified. The operator is responsible for carrying out his specified task and keeps the machine running and contributes in making the workplace healthy, safe and secure and follows the industry & organizational compliance. Under close supervision the operator is responsible for own work within defined limit.</p> <p>Hence NSQF Level is 2</p>	
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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.	Flat Bed 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 - N o	Organizati on Name	Representati ve Name	Designatio n	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	30	27	26	13	NA. Data Requested from NSDC	NA. Data Requested from NSDC	NA. Data Requested from NSDC	NA. Data Requested from NSDC	-	-	-	-
1	2021	0	0	0	0	NA. Data Requested from NSDC	NA. Data Requested from NSDC	NA. Data Requested from NSDC	NA. Data Requested from NSDC	-	-	-	-
1	2020	0	0	0	0	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 · N o ·	Select the Components of the NOS	List Recommended Tools – for all Selected Components	Offlin e: Onli ne 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/N4105: Taking charge of shift and handing over shift to Knitting Machine Operator Flat Bed Knitting	Taking charge of shift from Knitting machine operator Flat bed knitting	7	9	-	7
	1.reach atleast 10-15 minutes early to the work place	1	1	-	1
	2. bring the necessary operational tools to the department	1	1	-	1
	3. meet the previous shift operator and collect the information regarding the count, process, issues faced in quality & current fabric production followed in the knitting department.	1	2	-	1
	4. be updated on information regarding the current order such as it is, for which company and other details.	1	1	-	1
	5. ensure proper functioning of machine and problems if any should be reported to the supervisor and maintenance incharge.	1	2	-	1
	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
	Handing Over Shift to Knitting machine operator- Flat bed knitting	7	13	-	7
	8. clean the machine and department before handing over the shift.	1	2	-	1
	9. hand over the necessary operational tools if any.	1	2	-	1
	10. 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	2	-	1
11. note the production details for the current shift	1	2	-	1	

	12. ensure proper functioning of the machine and problems if any, should be reported to the supervisor and maintenance incharge.	1	2	-	1
	13. give details to the next shift operator about the current order quality, quantity and balance quantity.	1	2	-	1
	14. convey information regarding new order fabric details and quantity.	1	1	-	1
	NOS Total	14	22	-	14
Module	Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
TSC/N4106: Operate the flat bed knitting machine	Operate the knitting machine	26	43	-	32
	1. start the machine	1	2	-	1
	2. operate the control switches for starting and stopping the knitting machine	1	2	-	1
	3. follow the signal lamps used in machines	1	2	-	2
	4. ensure proper functioning of the knitting machine by verifying the display panel	1	2	-	1
	5. ensure the machines are operated in accordance with workplace procedures.	1	2	-	1
	6. ensure the yarns are run through correct yarn- paths at operating tensions according to machine- builder's instructions	2	2	-	2
	7. ensure the production is monitored for faults, and variations notified, in accordance with workplace procedures.	1	3	-	2
	8. ensure the machines are monitored for continuous functioning of all systems, and variations notified, in accordance with workplace procedures.	1	2	-	2
	9. ensure the production is removed from machines in accordance with workplace procedures.	1	2	-	2
	10. ensure the documentation of production is completed in accordance with workplace procedures.	2	2	-	2
11. ensure the machines are lubricated as directed in the machine manual	1	2	-	2	

12. ensure the yarn paths, eyelets, knitting heads, machines, and working environment are clean and free of contamination.	2	2	-	2
13. check whether the yarns are properly fed in the knitting machine	2	4	-	2
14. knot the yarn in case of breakage	1	2	-	1
15. doff the full fabric roll	1	2	-	2
16. view the display panel or signal and identify the reasons for machine stoppages if any	2	4	-	2
17. ensure the knitting machine is running in the set speed by viewing the display panel	2	2	-	2
18. ensure the working area is clean	2	3	-	2
19. ensure proper functioning of machine	1	1	-	1
Repair yarn related faults at the knitting head and fabric press-offs	6	11	-	9
20. rethread incorrectly-positioned yarns in accordance with workplace procedures.	1	2	-	2
21. join broken yarns or new ends	1	2	-	2
22. fix fabric press-offs	1	1	-	1
23. reset machines for restart	1	2	-	1
24. Arrange after fault correction, style changes, and pattern changes	1	2	-	2
25. ensure the feeder is working properly and yarn is uniformly fed into the feeder.	1	2	-	1
Carry out maintenance activities	7	14	-	8
26. support the fitter for carrying out maintenance activities	1	2	-	1
27. ensure the gsm, loop length variation is within the limits and if it's abnormal report it to superiors.	1	2	-	1
28. inform the supervisor and maintenance incharge in case of a jam	1	2	-	1
29. support the fitter during minor breakdown	1	2	-	1
30. ancillary process machines are operated in accordance with machine-builder's instructions	1	2	-	1
31. safety precautions that comply with workplace procedures are observed.	1	2	-	2

	32. the working environment is kept clean and free of contamination	1	2	-	1
	Material handling and safety at workplace	4	7	-	4
	33. ensure proper material handling of yarn, cone and empty cone	1	2	-	1
	34. ensure using proper material handling of tools and equipments	1	2	-	1
	35. ensure safety while operating the machine.	1	2	-	1
	36. using of safety gadgets like caps, masks, ear plugs and shoes and verifying the safety stop motions	1	1	-	1
	Other tenting responsibilities	9	11	-	9
	37. ensure the fabric produced is free from outside damages	1	1	-	1
	38. collect usable waste to be weighed at shift end and to be placed in the specified area	1	1	-	1
	39. inform superiors immediately, if any break down or fault in the machine is noticed	1	1	-	1
	40. ensure the proper functioning of signal lamps	1	1	-	1
	41. ensure that machine is always working properly, if any deviations inform superiors immediately	2	3	-	2
	42. identify yarn wastes by fibre content and sorted according to workplace procedures	1	1	-	1
	43. identify fabric wastes are identified and sorted according to workplace procedures.	1	1	-	1
	44. provide all relevant information of the current working process to the next shift operator before relieving	1	2	-	1
	NOS Total	52	86	-	62
Module	Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
TSC/N4107: Piecing the yarn and doffing the fabric roll in the	Attending the machine on yarn breakage	3	5	-	3
	1. identify the machine stoppage by viewing the signal lamps and in display panel	1	1	-	1
	2. identify the reasons for yarn breakage	1	2	-	1

knitting machine	3. ensure minimum time is taken for attending the yarn breakage in carding department	1	2	-	1
	Piecing the yarn	9	13	-	11
	4. unwind the yarn from the cone	1	1	-	1
	5. ensure proper piecing	1	1	-	1
	6. draw the yarn through the guide, guide rollers and pass it through the stop motion into the feeder in the delivery zone	1	2	-	2
	7. ensure proper functioning of knitting machine post piecing	1	2	-	2
	8. collect the waste collected during piecing and store the waste at respective waste box	1	1	-	1
	9. segregate the reusable wastes and weigh and record them in a register	1	1	-	1
	10. ensure standard piecing procedure is adopted and quality of piecing is as per standards	1	2	-	1
	11. ensure minimum time is taken for piecing the yarn.	1	2	-	1
	12. ensure safety while carrying out piecing activity	1	1	-	1
	Check the quality of piecing	3	4	-	3
	13. verify the quality of piecing done in the yarn	1	1	-	1
	14. ensure yarn tension in the creeling section is appropriate	1	1	-	1
	15. ensure proper functioning of the machine	1	2	-	1
	Carry out doffing	9	16	-	12
	16. collect the empty cones from creel and replace with a full cone	1	2	-	1
	17. ensure whether the fabric roll is ready for doffing by viewing the details in display panel or by manual	1	2	-	2
	18. keep the empty fabric roller ready for replacement	1	2	-	2
	19. to keep the empty fabric roll near the knitting machine in manual doffing	1	2	-	2
	20. to doff the full fabric roll in case of manual doffing	1	2	-	1
21. ensure proper doffing procedure is followed	1	2	-	1	

	22. ensure doffing is carried out properly	1	2	-	1
	23. move the fabric roll to the storage area	1	1	-	1
	24. ensure the knitting machine is properly restarted after doffing	1	1	-	1
	Post doffing responsibilities	3	3	-	3
	25. ensure proper functioning of knitting machine post doffing	1	1	-	1
	26. ensure proper material handling of yarn, cone and empty cone	1	1	-	1
	27. ensure proper material handling of tools and equipments	1	1	-	1
	NOS Total	27	41	-	32
Module	Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
TSC/N4108: Repair yarn related faults in Flat Bed Knitting	Attending the yarn related faults	6	12	-	7
	1. rethread incorrectly-positioned yarns in accordance with workplace procedures	1	2	-	2
	2. identify the reasons for yarn breakage	2	4	-	2
	3. broken yarns or new ends are joined in accordance with workplace procedures.	1	2	-	1
	4. machines are reset for restart in accordance with workplace procedures after fault correction, style changes, and pattern changes.	2	4	-	2
	NOS Total	6	12	-	7
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

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.