GOVERNMENT OF INDIA
MINISTRY OF SKILL DEVELOPMENT & ENTREPRENEURSHIP
DIRECTORATE GENERAL OF TRAINING

COMPETENCY BASED CURRICULUM

WEAVING TECHNICIAN FOR SILK & WOOLEN FABRICS

(Duration: One Year)

CRAFTSMEN TRAINING SCHEME (CTS)

NSQF LEVEL- 3

SECTOR –TEXTILE AND HANDLOOM

Directorate General of Training

WEAVING TECHNICIAN
FOR
SILK & WOOLEN FABRICS

(Non-Engineering Trade)

(Revised in 2019)

Version: 1.2

CRAFTSMEN TRAINING SCHEME (CTS)

NSQF LEVEL - 3

Developed By

Ministry of Skill Development and Entrepreneurship

Directorate General of Training

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1. COURSE INFORMATION

During the one-year duration of "Weaving Technician for Silk &Woolen Fabrics" trade, a candidate is trained on Professional Skill, Professional Knowledge and Employability Skills related to job role. In addition to this, a candidate is entrusted to undertake project work, extracurricular activities and on-the-job training to build up confidence. The broad components covered under Professional Skill subject are as below:

In one year duration the trainees will identify the types of operation of the weaving machine used in the industry with the raw materials used. They will also identify the different types of fibre, yarn and its characteristics. They will be trained to select the parts of loom, practice and monitor the operation. They will be able to prepare bobbin and cone and carry out the operation of drafting, denting, gaiting up of looms. They will also operate primary motions, secondary motions and auxiliary motions in weaving machines. They will identify the causes and remedies in woven fabric defects. They assist in analyzing the different patterns adopted in weaving of silk and woolen fabrics. They will also apply methods for finishing silk and woolen fabrics. During the training, the trainees will assist to plan, design plain weave, twill and satin with the draft and peg plan. They will assist in estimation of cost of folded yarn and calculation of conversion table for yarn count. They will identify different parts of power loom, salient features of power loom and tuning of loom for woolen fabrics. They can also Identify and select working of various dobby and jacquard motion. They will be able to prepare jacquard design on graph papers and harness mounting and card cutting to produce different structure of woven fabric. They will also be able to prepare different types of weft insertion system for various shuttle less loom. They will identify the defects, causes and remedies of silk and woolen fabrics. They can carry out finishing of silk and woolen fabrics.

2. TRAINING SYSTEM

2.1 GENERAL

The Directorate General of Training (DGT) under Ministry of Skill Development & Entrepreneurship offers a range of vocational training courses catering to the need of different sectors of the economy/ labour market. The vocational training programs are delivered under the aegis of Directorate General of Training (DGT). Craftsman Training Scheme (CTS) with variants and Apprenticeship Training Scheme (ATS) are two pioneer programs of DGT for propagating vocational training.

'Weaving Technician for Silk & Woolen Fabrics' trade under CTS is one of the courses delivered nationwide through a network of ITIs. The course is of one year duration. It mainly consists of Domain area and Core area. The Domain area (Trade Theory & Practical) imparts professional skills and knowledge, while the Core area (Employability Skill) imparts requisite core skills, knowledge, and life skills. After passing out the training program, the trainee is awarded National Trade Certificate (NTC) by DGT which is recognized worldwide.

Candidates broadly need to demonstrate that they are able to:

- Read and interpret technical parameters/documents, plan and organize work processes, identify necessary materials and tools;
- Perform tasks with due consideration to safety rules, accident prevention regulations and environmental protection stipulations;
- Apply professional skill, knowledge & employability skills while performing jobs.
- Document the technical parameters related to the task undertaken.

2.2 PROGRESSION PATHWAYS

- Can join industry as Technician and will progress further as Senior Technician, Supervisor and can rise up to the level of Manager.
- Can become Entrepreneur in the related field.
- Can join Apprenticeship programs in different types of industries leading to a National Apprenticeship certificate (NAC).
- Can join Crafts Instructor Training Scheme (CITS) in the trade for becoming an instructor in ITIs.
- Can join as weaving master in the industry.
- Can join Advanced Diploma (Vocational) courses under DGT as applicable.

2.3 COURSE STRUCTURE

Table below depicts the distribution of training hours across various course elements during a period of one year: -

S No.	Course Element	Notional Training Hours
1.	Professional Skill (Trade Practical)	1200
2.	Professional Knowledge (Trade Theory)	240
3.	Employability Skills	160
	Total	**1600**

2.4 ASSESSMENT & CERTIFICATION

The trainee will be tested for his skill, knowledge and attitude during the period of course through formative assessment and at the end of the training programme through summative assessment as notified by the DGT from time to time.

a) The Continuous Assessment (Internal) during the period of training will be done by **Formative Assessment Method** by testing for assessment criteria listed against learning outcomes. The training institute has to maintain individual *trainee portfolio* as detailed in assessment guideline. The marks of internal assessment will be as per the formative assessment template provided on www.bharatskills.gov.in.

b) The final assessment will be in the form of summative assessment. The All India Trade Test for awarding NTC will be conducted by Controller of examinations, DGT as per the guidelines. The pattern and marking structure is being notified by DGT from time to time. **The learning outcome and assessment criteria will be basis for setting question papers for final assessment. The examiner during final examination will also check** individual trainee's profile as detailed in assessment guideline before giving marks for practical examination.

2.4.1 PASS REGULATION

For the purposes of determining the overall result, weightage of 100% is applied for six months and one year duration courses and 50% weightage is applied to each examination for two years courses. The minimum pass percent for Trade Practical and Formative assessment is 60% & for all other subjects is 33%. There will be no Grace marks.

2.4.2 ASSESSMENT GUIDELINE

Appropriate arrangements should be made to ensure that there will be no artificial barriers to assessment. The nature of special needs should be taken into account while undertaking the assessment. Due consideration should be given while assessing for teamwork, avoidance/reduction of scrap/wastage and disposal of scrap/waste as per procedure, behavioral attitude, sensitivity to the environment and regularity in training. The sensitivity towards OSHE and self-learning attitude are to be considered while assessing competency.

Assessment will be evidence based comprising the following:

- Job carried out in labs/workshop
- Record book/ daily diary
- Answer sheet of assessment
- Viva-voce
- Progress chart
- Attendance and punctuality
- Assignment
- Project work

Evidences and records of internal (Formative) assessments are to be preserved until forthcoming examination for audit and verification by examining body. The following marking pattern to be adopted while assessing:

Performance Level	Evidence
(a) Weightage in the range of 60%-75% to be allotted during assessment	
For performance in this grade, the candidate should produce work which demonstrates attainment of an acceptable standard of craftsmanship with occasional guidance, and due regard for safety procedures and practices	• Demonstration of good skills and accuracy in the field of work/ assignments. • A fairly good level of neatness and consistency to accomplish job activities. • Occasional support in completing the task/ job.
(b)Weightage in the range of 75%-90% to be allotted during assessment	
For this grade, a candidate should produce work which demonstrates attainment of a reasonable standard of craftsmanship, with little guidance, and regard for safety procedures and practices	• Good skill levels and accuracy in the field of work/ assignments. • A good level of neatness and consistency to accomplish job activities. • Little support in completing the task/job.

(c) Weightage in the range of more than 90% to be allotted during assessment	
For performance in this grade, the candidate, with minimal or no support in organization and execution and with due regard for safety procedures and practices, has produced work which demonstrates attainment of a high standard of craftsmanship.	• High skill levels and accuracy in the field of work/ assignments. • A high level of neatness and consistency to accomplish job activities. • Minimal or no support in completing the task/ job.

3. JOB ROLE

Weaving Master; assists in organizing and controlling weaving of clothes, calendaring and process preparatory to weaving such as winding, warping, sizing, etc. Instructs Jobbers for proper winding, warping and sizing of yarn. Ensures that required degree of temperature and humidity in various weaving sections is maintained. Visits sections periodically and supervises work of men in charge. Ensures that quality of cloth produced conforms to prescribed standard and suggests alterations and improvements wherever necessary. Gets machines repaired or replaced as necessary for restoration of work. Maintains quality and quantity of production and keeps machines, looms and equipment in good working order. Controls staff and maintains discipline. May introduce new methods and devices to improve quality of cloth. May conduct research for better methods of production.

Reference NCO-2015:

a) 2141.1500 – Weaving Master

4. GENERAL INFORMATION

Name of the Trade	**Weaving Technician for Silk & Woolen Fabrics**
Trade Code	DGT/1100
NCO - 2015	2141.1500
NSQF Level	Level-3
Duration of Craftsmen Training	One Year (1600 Hours)
Entry Qualification	Passed 8th class examination
Minimum Age	14 years as on first day of academic session.
Eligibility for PwD	LD,CP,LC,DW,AA,LV,DEAF,HH,AUTISM,ID,SLD
Unit Strength (No. of Student)	20(There is no separate provision of supernumerary seats)
Space Norms	144 Sq. m
Power Norms	17 KW
Instructors Qualification for:	
(i) Weaving Technician for Silk & Woolen Fabrics Trade	B.Voc/ Degree in Textile/ Weaving from UGC recognized university with one year experience in the relevant field. **OR** Diploma (Minimum 2 years) in textile/ weaving from a recognized board of education or relevant Advanced Diploma (Vocational) from DGT with two-year experience in the relevant field. **OR** NTC/ NAC passed in the "Weaving Technician for Silk & Woolen Fabrics" trade with three-year experience in the relevant field. **<u>Essential Qualification:</u>** Relevant National Craft Instructor Certificate (NCIC) in any of the variants under DGT. ***NOTE: Out of two Instructors required for the unit of 2(1+1), one must have Degree/Diploma and other must have NTC/NAC qualifications. However both of them must possess NCIC in any of its variants.***
(ii) Employability Skill	MBA/ BBA / Any Graduate/ Diploma in any discipline with Two years'

	experience with short term ToT Course in Employability Skills from DGT institutes. (Must have studied English/ Communication Skills and Basic Computer at 12th / Diploma level and above) OR Existing Social Studies Instructors in ITIs with short term ToT Course in Employability Skills from DGT institutes.
(iii) Minimum Age for Instructor	21 Years
List of Tools and Equipment	As per Annexure – I

Distribution of training on hourly basis: (Indicative only)

Total Hrs/ Week	Trade Practical	Trade Theory	Employability Skills
40 Hours	30 Hours	6 Hours	4 Hours

5. LEARNING OUTCOME

Learning outcomes are a reflection of total competencies of a trainee and assessment will be carried out as per the assessment criteria.

5.1 LEARNING OUTCOMES (TRADE SPECIFIC)

1. Identify the types of operation of the weaving machine used in the industry with the raw materials used following safety precaution.
2. Identify the different types of fibre, yarn and its characteristics.
3. Identify and select the parts of loom, Perform and monitor the operation.
4. Prepare and work on bobbin and cone and carry out the operation of drafting, denting, gaiting up of looms.
5. Identify and operate primary motions, secondary motions and auxiliary motions in weaving machines.
6. Identify the causes and remedies in woollen fabric defects.
7. Assist in analyzing the different patterns adopted in weaving of silk and woolen fabrics.
8. Apply the methods of finishing, dyeing and printing of silk and woolen fabrics.
9. Assist in plan, design plain weave, twill and satin with the draft and peg plan.
10. Assist to estimate the cost of folded yarn and calculation of conversion table for yarn count.
11. Identify different parts of power loom, salient features of power loom and tuning of loom for woollen fabrics.
12. Identify & select working of various dobby and jacquard motion.
13. Prepare jacquard design on graph papers and harness mounting and card cutting to produce different structure of woolen fabric.
14. Prepare different types of weft insertion system for various shuttleless loom.
15. Identify the defects, causes and remedies of silk and woollen fabrics.
16. Carry out finishing of silk and woollen fabrics.

6. ASSESSMENT CRITERIA

LEARNING OUTCOMES	ASSESSMENT CRITERIA
1. Identify the types of operation of the weaving machine used in the industry with the raw materials used following safety precaution.	Identify all parts like pirn, shuttle, cone, picker, swell, sley, picking stick, race board, reed, heald frame, heald eye, heald wire, shedding tappet, picking tappet, bottom shaft, crank shaft in a weaving machinery. Select yarn count, cone weight, pirn weight, length tolerance, various types of knots and splices.
	Cleaning the weaving machine.
	Operate the machinery.
	Frequently check the machine condition.
	Identify basic faults of machinery and rectify.
	Follow up of continuous maintenance schedule.
2. Identify the different types of fibre, yarn and its characteristics.	Identify all types of fibres and their physical and chemical properties.
	Familiarizing with the technical terms pertaining to yarn and yarn count.
	Knowing the testing equipments for yarn testing.
	Testing the count of different types of yarn and their properties.
3. Identify and select the parts of loom, perform and monitor the operation.	Monitor & Evaluate the reed count and heald count
	Identify and select various parts of different looms.
	Perform on various frame loom.
	Identify different types of shuttles, parts and uses.
4. Prepare and work on bobbin, cone and carry out the operation of drafting, denting, gaiting up of looms.	Follow safety precautions.
	Identify all packages like bobbin, cone and beam.
	Explain facts of defects and their remedies in bobbin, cone and beam.
	Prepare knotting and tying devices.
	Work on warping machine parts like creel, expandable comb, tensioning devices, stop motions and beam winding.
	Identify the parts of sizing machine like creel, size box, drying cylinders, leasing rods, reed and headstock.
	Clean of the warping and sizing machine.
	Operate the warping and sizing machine.
	Check the machines condition.
	Identify basic faults of machinery and rectify.

	Follow up of continuous maintenance schedule.
	Engage the beam through drafting, denting and gaiting up with loom.
	Identify and select the sizing ingredients.
	Select the size recipe according to the nature of fibre.
5. Identify and operate primary motions, secondary motions and auxiliary motions in weaving machines.	Identify the parts involved in primary motions, secondary motions and auxiliary motions in weaving machines.
	Perform and demonstrate various motions in weaving machines.
	Prepare different designs for silk and woolen fabrics.
6. Identify the causes and remedies in woolen fabric defects.	Find various defects arising in woven fabrics.
	Find out causes of defects in fabrics.
	Carry out the remedial measures to avoid the defective fabrics.
	Select and apply remedial measures.
	Testing of yarn. Its importance and test's procedure adopted.
	Identify instruments used for testing of yarn, single yarn tester, yarn tester, for evenness.
7. Assist in analyzing the different patterns adopted in weaving of silk and woolen fabrics.	Identify different patterns adopted in weaving of silk and woolen fabrics.
	Apply different patterns adopted in weaving of silk and woolen fabrics.
	Analyze different patterns adopted in weaving of the silk and woolen fabrics.
	Follow &Observe safety precaution.
8. Apply the methods of finishing, dyeing and printing of silk and woolen fabrics.	Select and apply the suitable finishing process required for silk and woolen fabrics.
	Practice Degumming of silk and Dyeing.
	Practice Printing of Woolen fabrics.
9. Assist in plan, design plain weave, twill and satin with the draft and peg plan.	Identify, select and prepare simple design like plain weave, twill & satin with their draft & peg plan
	Prepare different designs on graph papers.
	Design plain weave and its Ornamentation.
	Show derivatives of plain weave continued, regular pointed zig zag, herring-bone and broken twill etc.

10. Assist to estimate the cost of folded yarn and calculation of conversion table for yarn count.	Calculate cost of folded yarn adopting IS : 3689 - 1966. Conversion factors and calculation of conversion table for yarn counts.
	Identify Counting system and calculation involved.
	Explain Counting system in spun silk rayon raw silk, woolen yarn and union yarn.
	Determine counts, weight of short length of yarn, count of short length of yarn.
	Determine counts of folded yarn (Resultant count) of same length.
11. Identify different parts of power loom, salient features of power loom and tuning of loom for woolen fabrics.	Identify all parts like pirn, shuttle, cone, picker, swell, sley, picking stick, race board, reed, heald frame, heald eye, heald wire, shedding tappet, picking tappet, bottom shaft, crank shaft in a weaving machinery.
	Identify and select various components of the power loom and their function.
	Compare special features of power loom.
	Perform tuning of loom for woolen fabrics.
	Identify the parts involved in primary motions, secondary motions and auxiliary motions in weaving machines.
12. Identify & select working of various dobby and jacquard motion.	Describe Principles of dobby and their different types.
	Explain principles of preparing the dobby chain and pegs insertion in the wooden lags and demonstrate working of various dobby.
	Identify different types of Jacquard and their uses.
	Demonstrate working of Jacquard.
13. Prepare jacquard design on graph papers and harness mounting and card cutting to produce different structure of woolen fabric.	Apply principles of jacquard and identify its different types.
	Plan and Prepare jacquard design on graph papers and harness mounting and card cutting.
	Prepare design on graph papers using satin weaves.
	Construction of satin weaves, regular and irregular.
14. Prepare different types of weft insertion system for various	Explain production calculation and the parameters influencing the efficiency of the weaving machines.
	Prepare and design on graph papers using different weaves such as

shuttle less loom.	broken corkscrew and combine twill.
	Estimate the Production and efficiency calculation of machine.
	Maintain the shuttle less looms and different types of weft insertion system
	Apply air jet, water jet, rapier, projectile and multiphase weft insertion principles.
15. Identify the defects, causes and remedies of silk and woolen fabrics.	Identify and Check various defects arising in woven fabrics.
	Carry out the remedial measures to avoid the defective fabrics.
	Apply finishing methods of silk fabrics.
16. Carry out finishing of silk and woolen fabrics.	Perform finishing of woolen fabrics
	Demonstrate use of hand milling and calendaring.

7. TRADE SYLLABUS

SYLLABUS -WEAVING TECHNICIAN FOR SILK & WOOLEN FABRICS			
Duration: One year			
Duration	**Reference Learning Outcome**	**Professional Skills (Trade Practical) With Indicative Hours**	**Professional Knowledge (Trade Theory)**
Professional Skill 60 Hrs; Professional Knowledge 12 Hrs	Identify the types of operation of the weaving machine used in the industry with the raw materials used following safety precaution.	1. Familiarization with weaving machines, their uses, safety precautions to be observed while attending the operation on each machine. (30 hrs) 2. Identification of different types of silk and wool materials and their collections. (30 hrs)	Description of weaving machines, safety measures while working with the machines and attending the operations on each machine. Raw silk testing and Quality Control. Grading of Wool with official standards, fineness, length, evaluation of shrinkage, felting of wool. Woolen and Worsted. (12 hrs)
Professional Skill 60 Hrs; Professional Knowledge 12 Hrs	Identify the different types of fibre, yarn and its characteristics.	3. Identification of different types of fibres and their collections. (30 hrs)	Description of textile fibres and their classifications, identification, characteristic and their uses. Their physical &chemical properties. Commercial forms of yarn as per IS : 667-1055. (06 hrs)
		4. Identification of different types of yarn and formation of knots. (30 hrs)	Familiarization with the technical terms pertaining to yarn, count of yarn, reed, healds ,lea etc. (06 hrs)
Professional Skill 120 Hrs; Professional Knowledge 24 Hrs	Identify and select the parts of loom, Perform and monitor the operation.	5. Methods of finding out counts of heald and reed. (30 hrs)	Familiarization with the technical terms hank, knot, bundle, bale, end, pick, warp and weft. (06 hrs)
		6. Different parts of handlooms, parts of pit loom and frame loom. (15 hrs)	Types of hand looms like pit looms, frame loom, multiple tape loom, newer loom and carpet loom. (06 hrs)

		7. Perform on the looms. (15 hrs)	
		8. Different parts of throw shuttle and fly shuttle looms and frame loom. (15 hrs) 9. Practice on the frame looms. (15 hrs)	Relative advantages and disadvantages of throw shuttles and fly shuttle looms. Construction, description of parts of frame looms. Uses of frame loom. (06 hrs)
		10. Familiarization with different parts of slay and their uses. (15 hrs) 11. Familiarization with different types of shuttles, parts and uses. (15 hrs)	Types of Slays, Construction and uses of slay. Types of shuttles. Construction and uses of shuttles. (06 hrs)
Professional Skill 150 Hrs; Professional Knowledge 30 Hrs	Prepare and work on bobbin and cone and carry out the operation of drafting, denting, gaiting up of looms.	12. Preparation and practice of bobbin and cone. (10 hrs) 13. Practice of preparing good packages. (10 hrs) 14. Practice of knotting broken ends. (10 hrs)	Preparatory processes; winding, doubling, Description of each process. (06 hrs)
		15. Preparation and practice of creeling and warping, beaming. (30 hrs)	Familiarization with different warping methods. (06 hrs)
		16. Preparation and practice of drafting, denting and gaiting up of looms. (30 hrs)	Preparatory appliances, their type and gaiting up of loom. Construction of appliances and their uses. (06 hrs)
		17. Practice on size mixing. (30 hrs)	Sizing, Size mixture and sizing methods. (06 hrs)
		18. Practice on sizing by hands. (30 hrs)	Ingredients of sizing for different textile fibres, description of each ingredient and uses. (06 hrs)
Professional Skill 60 Hrs; Professional Knowledge 12 Hrs	Identify and operate primary motions, secondary motions and auxiliary motions in	19. Different parts of primary motion and secondary motion of the looms and practice. (30 hrs)	Weaving of fabrics its principle processes. Primary motion and Secondary motion of loom, Description of each motion.(06 hrs)
		20. Preparation of different	Description and classification

	weaving machines.	designs for silk and woolen fabrics. (30 hrs)	of Silk & woolen fabrics, grade, texture and weave. (06 hrs)
Professional Skill 120 Hrs; Professional Knowledge 24Hrs	Identify the causes and remedies in Woolen fabric defects	21. Finding out defects in fabrics. (15 hrs) 22. Understanding remedial measures. (15 hrs)	Defects in Silk & woolen fabrics, their identification, causes and remedies of each defect. (06 hrs)
		23. Familiarization with warp reed, yarn assorting balance, yarn and cloth quadrants. (30 hrs)	Testing of yarn. Its importance and test's procedure adopted. (06 hrs)
		24. Familiarization with warp reed, yarn assorting balance, yarn and cloth quadrants. (30 hrs)	Description of Warp REED, yarn assorting balance yarn and cloth quadrants. (06 hrs)
		25. Familiarization with single yarn tester and practice. (30 hrs)	Description of instruments used for testing of yarn, single yarn tester, yarn tester, for evenness. (06 hrs)
Professional Skill 30 Hrs; Professional Knowledge 06 Hrs	Assst in analyzing the different patterns adopted in weaving of silk and woolen fabrics.	26. Analysis of silk and woolen fabrics. (30 hrs)	Analysis of different patterns adopted in weaving of the silk and woolen fabrics. (06 hrs)
Professional Skill 30 Hrs; Professional Knowledge 06 Hrs	Apply the methods of finishing, dyeing and printing of silk and woolen fabrics.	27. Degumming of silk and Dyeing. (10 hrs) 28. Finishing and dyeing of woolen fabrics. (10 hrs) 29. Printing of Woolen fabrics. (10 hrs)	Silk Throwing and twisting. Degumming of silk and Dyeing. Finishing and dyeing of woolen fabrics. Printing of woolen fabrics. Styles of Printing. (06 hrs)
Professional Skill 60 Hrs; Professional Knowledge 12 Hrs	Assist in plan, design plain weave, twill and satin with the draft and peg plan.	30. Understanding simple design like plain weave, twill & satin with their draft & peg plan. (30 hrs)	Designing of plain weave and its Ornamentation, Derivatives of plain weave such as warp and weft rib. (06 hrs)
		31. Preparation of different designs on graph papers. (30 hrs)	Derivatives of plain weave, matt or hop sack weave, combination of weft ribs. Derivatives of plain weave

			continued, regular pointed zig zag, herring-bone and broken twill etc. (06 hrs)
Professional Skill 120 Hrs; Professional Knowledge 24 Hrs	Assist to estimate the cost of folded yarn and calculation of conversion table for yarn count.	32. Calculation regarding silk and woolen yarns.(60 hrs)	Counting system and calculation involved. Counting system in spun silk rayon raw silk, woolen yarn and union yarn. Determination of counts, weight of short length of yarn, count of short length of yarn. Determination of counts of folded yarn (Resultant count) of same length. (12 hrs)
		33. Calculation and conversion of different yarns. (30 hrs)	Calculation involved to determine cost of folded yarn adopting IS: 3689 - 1966. Conversion factors and calculation of conversion table for yarn counts. (06 hrs)
		34. Familiarization with finishing methods. (30 hrs)	Finishing methods used for different cloths. Hand milling, calendaring, stamping, marketing methods. (06 hrs)
Professional Skill 90 Hrs; Professional Knowledge 18 Hrs	Identify different parts of power loom, salient features of power loom and tuning of loom for woolen fabrics.	35. Familiarization with different parts of power loom. (30 hrs)	Constructional feature of the power loom, various components of the power loom and their function. (06 hrs)
		36. Familiarization with special features of power loom and tuning of loom for woolen fabrics. (30 hrs)	Constructional and functional features of woolen loom. Tuning of power loom. (06 hrs)
		37. Familiarization with different parts of weft fork motion and seven weave take up motion. (30 hrs)	Study of working of primary motion, weft fork motion and seven wheel take up motion. (06 hrs)
Professional Skill 90 Hrs;	Identify & select working of various	38. Familiarization with different types of dobbies	Dobbies used in weaving such as chain and single lift and

Professional Knowledge 18 Hrs	dobby and jacquard motion.	and preparation of dobby chain. (30 hrs)	their working mechanism. (06 hrs)
		39. Familiarization with the jacquard and its working. (30 hrs)	Working jacquard used and their uses, single lift cylinder jacquard, its parts and working mechanism. (06 hrs)
		40. Familiarization with the jacquard and its working. (30 hrs)	Study of various sizes of jacquard used in weaving. (06 hrs)
Professional Skill 90 Hrs; Professional Knowledge 18 Hrs	Prepare jacquard design on graph papers and harness mounting and card cutting to produce different structure of woolen fabric.	41. Preparation of jacquard design on graph papers and harness mounting and card cutting. (30 hrs)	Card cutting from design. Lacing, harness ties and different harness. (06 hrs)
		42. Preparation of design on graph papers using satin weaves. (30 hrs)	Construction of satin weaves, regular and irregular. (06 hrs)
		43. Preparation of design on graph papers using satin weaves. (30 hrs)	Satin diaqardice and figured design. (06 hrs)
Professional Skill 60 Hrs; Professional Knowledge 12 Hrs	Prepare different types of weft insertion system for various shuttleless loom.	44. Preparation of design on graph papers using different weaves such as broken corkscrew and combine twill. (10 hrs) 45. Production and efficiency calculation of machine. (10 hrs) 46. Familiarization of shuttle less looms and different types of weft insertion system. (10 hrs)	Broken corkscrew and combined twills. (06 hrs)
		47. Familiarization with the analysis of woolen fabrics. (30 hrs)	Determination of picks and ends for woolen yarns. (06 hrs)
Professional Skill 30 Hrs; Professional Knowledge	Identify the defects, causes and remedies of silk and woolen fabrics.	48. Practice on finishing of silk. (30 hrs)	Finishing methods of silk fabrics. (06 hrs)

06 Hrs			
Professional Skill 30 Hrs; Professional Knowledge 06 Hrs	Carry out finishing of silk and woolen fabrics.	49. Practice on finishing of woolen fabrics. (10 hrs) 50. Familiarization with hand milling and calendaring. (10 hrs) 51. Familiarization with hand milling and calendaring. (10 hrs)	Finishing methods of woolen fabrics. Hand milling. Calendaring, stamping and marketing. (06 hrs)
Project work/ Industrial visit			

SYLLABUS FOR CORE SKILLS
1. Employability Skills (Common for all CTS trades) (160 Hrs.)

Learning outcomes, assessment criteria, syllabus and Tool List of Core Skills subjects which is common for a group of trades, provided separately inwww.bharatskills.gov.in.

ANNEXURE-I

LIST OF TOOLS & EQUIPMENT			
WEAVING TECHNICIAN FOR SILK &WOOLEN FABRICS (For the batch of 20 Candidates)			
S No.	**Name of the Tools and Equipment**	**Specification**	**Quantity**
1.	Winding wheels with swift and stand		10 Nos.
2.	Wrappers bobbins.		100 Nos.
3.	Warping drum complete with reel and beaming arrangement for Woolen and silken warps.		2 Nos.
4.	Frame looms for Woolen fabrics.		4 Nos.
5.	Frame looms silken fabrics		4 Nos.
6.	Pit loom for Woolen and silken fabrics (2 Each)		4 Nos.
7.	Power looms plain with twill tappets	54" R.S.	2 Nos.
8.	Power looms for silk weaving	60 R.S.	2 Nos.
9.	a) Shuttle plain.		20 Nos.
	b) Shuttles furlined for hand loom silk weaving.		10 Nos.
	c) Shuttles roller for Woolen fabrics.		10 Nos.
	d) Shuttles for power loom ordinary and furlined (4 Each) .		10 Nos.
10.	Prins for hand looms and power loom		1000 Nos.
11.	Heald hooks.		40 Nos.
12.	Weaver's comb		20Nos.
13.	Dobbies single lift	8 lever and 26 lever (1 Each)	1 Set
14.	Card punching plate		1 No.
15.	Piano card cutting machine		1 No.
16.	Jacquard	100 hooks	1 No.
17.	Wire heald frames of 4 frames each		10 Sets
18.	Jacquard	200 hooks	1 No.
19.	Cottage milling machine		1 Set
20.	Fabrics sample cutting machine		1 Set
21.	Yarn strength tester		1 No.
22.	Microscope		1 No.
23.	Twist tester		1 No.
24.	Reed steel of various counts and sizes.		4 Nos.

25.	Reed brass of various counts and sizes		10 Nos.
26.	Reed bamboo of various counts and sizes		10 Nos.
27.	Wrap reel		1 No.
28.	Spanner set , hammers ,chisels , screw driver , pliers , pincer.		4 Sets
29.	Scissors	20 cmand 25 cm (2 Each).	4 Nos.
30.	Measuring tapes	2 meters	21 Nos.
31.	Counting glasses	1" square and 25 mm square	2 Nos.
32.	Yarn stand.		2 Nos.
33.	Balance ordinary with weights	50gms. To 5 kgs	2 Nos.
34.	Kit boxes		20Nos.
35.	Almirahs		2 Nos.
36.	Durries	3 meters x 4 meters	2 Nos.
37.	Yarn sizing table	75 cm x75 cm xcm	2 Nos.
38.	Fire oven		2 Sets
39.	Kundi cottage		1 Set
40.	White board		1 No
41.	Instructor’s desk/table and chair.		1 Set
42.	Trainees table and stools		20Nos.
43.	Drafting frames		4 Nos.

Note: -

1. *Internet facility is desired to be provided in the class room.*

ANNEXURE-II

The DGT sincerely acknowledges contributions of the Industries, State Directorates, Trade Experts, Domain Experts, trainers of ITIs, NSTIs, faculties from universities and all others who contributed in revising the curriculum. Special acknowledgement is extended by DGT to the following expert members who had contributed immensely in this curriculum.

List of expert member participated to finalize the course curriculum of Weaving Technician for Silk & Woolen Fabrics.

S No.	Name & Designation Sh/Mr/Ms	Organization	Remarks
1.	Dr.Darlie Koshy Director General and CEO	IAM & ATDC Apparel Export Promotion, Council Gurgaon	Chairman
2.	S. Venkatesh, Head HR & Admin	Raymond	Member
3.	Sanjeev Mohanty Managing Director	Bennetton India Pvt. Ltd., Gurgaon	Member
4.	Animesh Saxena	Udyog Vihar Industries Association, Gurgaon B-40, Phase 5, Udyog Vihar Gurgaon-122017	Member
5.	Arindam Das	National Institute of Fashion Technology, New Delhi	Member
6.	Dr. Kushal Sen Professor	D/o Textile Technology IIT Delhi	Member
7.	Bhatacharya. G HOD Textiles Department	Institute for Textile Technology, Choudwar	Member
8.	Poonam Thakur Professor & Academic Head	NIIFT, Mohali	Member
9.	L.N. Meena, Lecturer	Arya Bhatt Polytechnic, Delhi	Member
10.	Prabhas Kashyap , General Manager-Planning & Production Co-ordination	Gokaldas Export Ltd., Bangalore	Member
11.	Bishwanath Ganguly	Madura Fashion & Retail, Aditya Birla Centre for Retail Excellence (A B C R E)	Member
12.	K.N. Chatterjee, HOD Fashion and Apparel Engineering	The technological inst. Of textile & sciences, Bhiwani, Haryana, India-127021.	Member
13.	Tapas Kumar Adhikari, Sr. Manager	Reliance Industries Ltd.	Member
14.	Vikas Verma, Asst. Vice	Welspun India Ltd.	Member

	President		
15.	Navjot Walia, Vice President	Maral Overseas Ltd., Noida	Member
16.	Rajeev Mehani, Vice President	Vardhaman Textiles	Member
Mentor			
17.	R.P. Dhingra, Director (P)	DGE&T	Mentor
Core Group			
18.	Subhankar Bhowmik, DPA Gr. B	NIMI, Chennai	NIMI Representative
19.	Rajendra Kumar, JDT(WT)	DGE&T	Member
20.	D. Shanthi, ADT	RVTI, Trivendrum	Member
21.	Abha Rastogi, TO	RVTI, Panipat	Member
22.	Chitra, TO	RVTI, Panipat	Member
23.	Rinku Soni, TO	RVTI, Jaipur	Member
24.	Babita, TO	NVTI, Noida	Member
25.	Bhagyashree, TO	RVTI, Indore	Member
26.	L. R. Ramesh Babu, TO	RVTI, Trivendrum	Member
27.	S.S. Meena, TO	NVTI, Noida	Member
28.	Bhavin Kumar M. Solanki	ITI, Jambughoda,Gujarat	Member
29.	Divya, TO	RVTI, Bangalore	Member

ABBREVIATIONS

CTS	Craftsmen Training Scheme
ATS	Apprenticeship Training Scheme
CITS	Craft Instructor Training Scheme
DGT	Directorate General of Training
MSDE	Ministry of Skill Development and Entrepreneurship
NTC	National Trade Certificate
NAC	National Apprenticeship Certificate
NCIC	National Craft Instructor Certificate
LD	Locomotor Disability
CP	Cerebral Palsy
MD	Multiple Disabilities
LV	Low Vision
HH	Hard of Hearing
ID	Intellectual Disabilities
LC	Leprosy Cured
SLD	Specific Learning Disabilities
DW	Dwarfism
MI	Mental Illness
AA	Acid Attack
PwD	Person with disabilities


कौशलं बलम्