

**DRAFT SYLLABUS FOR THE TRADE OF WEAVING OF SILK & WOOLEN FABRICS**  
**(SEMESTER PATTERN) UNDER CRAFTSMEN TRAINING SCHEME (CTS)**

**GENERAL INFORMATION**

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|--------------------------------|---|--|
| 1. Name of the Trade           | : | WEAVING OF SILK & WOOLEN FABRICS   |
| 2. N.C.O. Code No.             | : |  |
| 3. Duration                    | : | One Year (2 Semester)  |
| 4. Power norms                 | : | 17 kw  |
| 5. Space norms                 | : | 144 Sq mtr   |
| 6. Entry Qualification         | : | Pass in 8 <sup>th</sup> class examination  |
| 7. Unit strength               | : | 16 Trainees  |
| 8. Instructor's Qualification: |   | Degree in the relevant (weaving) field with one year<br>Experience<br>Or<br>Diploma in the relevant (weaving) with two years<br>experience<br>Or<br>NCT certificate in the relevant (weaving) field with three<br>years experience |
| 9. Desirable qualification     | : | Preference to be given CIC (Craft instructor Certificate)<br>holders.  |

Note: At least one Instructor must have Degree / Diploma in relevant field

**Draft Syllabus for the Trade of “WEAVING OF SILK & WOOLEN FABRICS”**  
**Under C.T.S.**

**First Semester: (Duration : Six Months)**

<b>Week no.</b>	<b>Trade Practical</b>	<b>Trade Theory</b>
1.	Familiarization with weaving machines, their uses, safety precautions to be observed while attending the operation on each machine.	<i>Description of weaving machines, safety measures while working with the machines and attending the operations on each machine.</i>
2.	Identification of different types of fibres and their collections.	Description of textile fibres and <i>their classifications</i> , identification, characteristic and their uses. Their physical & chemical properties. Commercial forms of yarn as per IS : 667-1055.
3.	<i>Identification of different types of silk and wool materials and their collections.</i>	Raw silk testing and Quality Control. Grading of Wool with official standards, fineness, length, evaluation of shrinkage, felting of wool. Woolen and Worsted.
4.	Identification of different types of yarn and formation of knots.	Familiarization with the technical terms pertaining to yarn, count of yarn, reed, healds, lea etc.
5.	Methods of finding out counts of heald and reed.	Familiarization with the technical terms hank, knot, bundle, bale, end, pick, warp and weft.
6.	<i>Different parts of handlooms</i> , parts of pit loom and frame loom. Practice on the looms.	Types of hand looms like pit looms, frame loom, multiple tape loom, newer loom and carpet loom.
7.	<i>Different parts of throw shuttle and fly shuttle looms and frame loom. Practice on the frame looms.</i>	Relative advantages and disadvantages of throw shuttles and fly shuttle looms. Construction, description of parts of frame looms. Uses of frame loom.
8.	Familiarization with different parts of slay and their uses.	Types of Slays, Construction and uses of slays.
9.	Familiarization with different types of shuttles, parts and uses.	Types of shuttles. Construction and uses of shuttles.
10.	<i>Preparation and practice of bobbin and cones, practice of preparing good packages, Practice of knotting broken ends</i>	<i>Preparatory processes; winding, doubling, Description of each process.</i>
11.	<i>Preparation and practice of creeling and warping, beaming</i>	<i>Familiarization with different warping methods.</i>
12.	<i>Preparation and practice of drafting, denting and gaiting up of looms.</i>	<i>Preparatory appliances, their type and gaiting up of loom. Construction of appliances and their uses.</i>
13.	<i>Practice on size mixing.</i>	Sizing, Size mixture and sizing methods.

14.	Practice on sizing by hands.	Ingredients of sizing for different textile fibres, description of each ingredient and uses.
15.	Different parts of primary motion and secondary motion of the looms and practice.	Weaving of fabrics its principle processes. Primary motion and Secondary motion of loom, Description of each motion.
16.	Preparation of different designs for silk and woolen fabrics.	Description and classification of Silk & woolen fabrics, grade , texture and weave.
17.	Finding out defects in fabrics and Understanding remedial measures.	Defects in Silk & woolen fabrics , their identification , causes and remedies of each defect.
18.	Familiarization with warp reed , yarn assorting balance , yarn and cloth quadrants.	Testing of yarn. Its importance and test's procedure adopted.
19.	Familiarization with warp reed , yarn assorting balance , yarn and cloth quadrants.	<i>Description of Warp REED, yarn assorting balance yarn and cloth quadrants.</i>
20.	Familiarization with single yarn tester and practice.	Description of instruments used for testing of yarn, single yarn tester, yarn tester, for evenness.
21.	Analysis of silk and woolen fabrics.	Analysis of different patterns adopted in weaving of the silk and woolen fabrics.
22.	Degumming of silk and Dyeing.	Silk Throwing and twisting. Degumming of silk and Dyeing.
23.	Finishing and dyeing of woolen fabrics.	Finishing and dyeing of woolen fabrics.
24.	Printing of Woolen fabrics.	Printing of woolen fabrics. Styles of Printing.
25.	Project work / Industrial Visit (optional)	
26.	Examination	

**Note: The portions of Engg. Drawing and Workshop Calculations & Science exist as per the previous syllabus.**

**Draft Syllabus for the Trade of “WEAVING OF SILK & WOOLEN FABRICS”**  
**Under C.T.S.**

**Second Semester: (Duration : Six Months)**

<b>Week no.</b>	<b>Trade Practical</b>	<b>Trade Theory</b>
1.	Understanding simple design like plain weave, twill & satin with their draft & peg plan .	Designing of plain weave and its Ornamentation, Derivatives of plain weave such as warp and weft rib.
2.	Preparation of different designs on graph papers.	Derivatives of plain weave, matt or hop sack weave, combination of weft ribs.
3.	-do-	Derivatives of plain weave continued, regular pointed zig zag, herring-bone and broken twill etc.
4.	Calculation regarding silk and woolen yarns.	Counting system and calculation involved.
5.	-do-	Counting system in spun silk rayon raw silk, woolen yarn and union yarn.
6.	-do-	Determination of counts , weight of short length of yarn , count of short length of yarn.
7.	-do-	Determination of counts of folded yarn (Resultant count) of same length.
8.	Calculation and conversion of different yarns.	Calculation involved to determine cost of folded yarn adopting IS : 3689 - 1966. Conversion factors and calculation of conversion table for yarn counts.
9.	Familiarization with finishing methods.	Finishing methods used for different cloths. Hand milling, calendaring, stamping, marketing methods.
10.	Familiarization with different parts of power loom.	Constructional feature of the power loom, various components of the power loom and their function.
11.	Familiarization with special features of power loom and tuning of loom for woolen fabrics.	Constructional and functional features of woolen loom. Tuning of power loom.
12.	Familiarization with different parts of weft fork motion and seven weave take up motion.	Study of working of primary motion, weft fork motion and seven wheel take up motion.
13.	Familiarization with different types of dobbies and preparation of doobby chain.	Dobbies used in weaving such as chain and single lift and their working mechanism.
14.	Familiarization with the jacquard and its working.	Working jacquard used and their uses, single lift cylinder jacquard , its parts and working mechanism.
15.	-do-	Study of various sizes of jacquard used in weaving.
16.	Preparation of jacquard design on graph papers and harness mounting and card	Card cutting from design. Lacing, harness ties and different harness

	cutting.	drafts.
17.	Preparation of design on graph papers using satin weaves.	Construction of satin weaves, regular and irregular.
18.	-do-	Satin diaqardice and figured design.
19.	Preparation of design on graph papers using different weaves such as broken corkscrew and combine twill. Production and efficiency calculation of machine. Familiarization of shuttleless looms and different types of weft insertion system.	Broken corkscrew and combined twills.
20.	Familiarization with the analysis of woolen fabrics.	Determination of picks and ends for woolen yarns.
21.	Practice on finishing of silk.	Finishing methods of silk fabrics.
22.	Practice on finishing of woolen fabrics.	Finishing methods of woolen fabrics.
23.	Familiarization with hand milling and calendaring.	Hand milling.
24.	-do-	Calendaring , stamping and marketing.
25.	Revision and Industrial Visits.	
26.	Examination	

**Note: The portions of Engg. Drawing and Workshop Calculations & Science exist as per the previous syllabus.**

## LIST OF TOOLS & EQUIPMENT

### TRADE: Weaving Technician for Silk & Woollen Fabrics

#### A. TRAINEES TOOL KIT FOR 16 + ONE TRAINEES

**Trainees Kit – (As per the below table)**

Sl. No.	Name and Description of the Item	Quantity
1	Winding wheels with swift and stand	8 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.	16 Nos.
	(b) Shuttles furlined for hand loom silk weaving .	8 Nos.
	(c) Shuttles roller for woollen fabrics .	8 Nos.
	(d)shuttles for power loom ordinary and furlined (4 Each) .	8 Nos.
10	Prins for hand looms and power loom.	1000 Nos.
11	Heald hooks.	32 Nos.
12	Weaver’s comb	16 Nos.
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	8 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	8 Nos.
26	Reed bamboo of various counts and sizes	8 Nos.
27	Wrap reel	1 No.
28	Spanner set , hammers ,chisels , screw driver , pliers , pincer.	4 Sets
29	Scissors 20 cms. And 25 cms. (2 Each).	4 Nos.
30	Measuring tapes 2 meters	35 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	16 Nos.

35	Almirahs	2 Nos.
36	Durries 3 meters x4 metters	2 Nos.
37	Yarn sizing table (75 cms x75 cms xcms)	2 Nos.
38	Fire oven	2 Sets
39	Kundi cottage	1 Set
40	Black board with graphy	1 Set
41	Instructors desk/table and chair.	1 Set
42	Trainees table and stools	16 Nos.
43	Drafting frames	4 Nos.