

Syllabus for the trade
of
CANE, WILLOW & BAMBOO WORKER
(SEMESTER PATTERN)
UNDER
CRAFTSMAN TRAINING SCHEME

Designed in: 2013

By

Government of India
CENTRAL STAFF TRAINING AND RESEARCH INSTITUTE
Directorate General of Employment & Training
Ministry of Labour & Employment
EN 81, SECTOR – V, SALT LAKE CITY,
Kolkata – 700 091.

List of members attended the Workshop to finalize the syllabi of existing CTS into Semester Pattern held from 6th to 10th May'2013 at CSTARI, Kolkata.

Sl. No.	Name & Designation	Organisation	Remarks
1.	R.N. Bandyopadhyaya, Director	CSTARI, Kolkata-91	Chairman
2.	K. L. Kuli, Joint Director of Training	CSTARI, Kolkata-91	Member
3.	K. Srinivasa Rao, Joint Director of Training	CSTARI, Kolkata-91	Member
4.	L.K. Mukherjee, Deputy Director of Training	CSTARI, Kolkata-91	Member
5.	Ashoke Rarhi, Deputy Director of Training	ATI-EPI, Dehradun	Member
6.	N. Nath, Assistant Director of Training	CSTARI, Kolkata-91	Member
7.	S. Srinivasu, Assistant Director of Training	ATI-EPI, Hyderabad-13	Member
8.	Sharanappa, Assistant Director of Training	ATI-EPI, Hyderabad-13	Member
9.	Ramakrishne Gowda, Assistant Director of Training	FTI, Bangalore	Member
10.	Goutam Das Modak, Assistant Director of Trg./Principal	RVTI, Kolkata-91	Member
11.	Venketesh. Ch. , Principal	Govt. ITI, Dollygunj, Andaman & Nicobar Island	Member
12.	A.K. Ghate, Training Officer	ATI, Mumbai	Member
13.	V.B. Zumbre, Training Officer	ATI, Mumbai	Member
14.	P.M. Radhakrishna pillai, Training Officer	CTI, Chennai-32	Member
15.	A.Jayaraman, Training officer	CTI Chennai-32,	Member
16.	S. Bandyopadhyay, Training Officer	ATI, Kanpur	Member
17.	Suriya Kumari .K , Training Officer	RVTI, Kolkata-91	Member
18.	R.K. Bhattacharyya, Training Officer	RVTI, Trivandrum	Member
19.	Vijay Kumar, Training Officer	ATI, Ludhiana	Member
20.	Anil Kumar, Training Officer	ATI, Ludhiana	Member
21.	Sunil M.K. Training Officer	ATI, Kolkata	Member
22.	Devender, Training Officer	ATI, Kolkata	Member
23.	R. N. Manna, Training Officer	CSTARI, Kolkata-91	Member
24.	Mrs. S. Das, Training Officer	CSTARI, Kolkata-91	Member
25.	Jyoti Balwani, Training Officer	RVTI, Kolkata-91	Member
26.	Pragna H. Ravat, Training Officer	RVTI, Kolkata-91	Member
27.	Sarbojit Neogi, Vocational Instructor	RVTI, Kolkata-91	Member
28.	Nilotpal Saha, Vocational Instructor	I.T.I., Berhampore, Murshidabad, (W.B.)	Member
29.	Vijay Kumar, Data Entry Operator	RVTI, Kolkata-91	Member

GENERAL INFORMATION

1. **Name of the Trade** : CANE, WILLOW & BAMBOO WORKER
2. **NCO Code No.** :
3. **Duration** : 1 Year (2 semesters)
4. **Power Norms** : 3.5 KW
5. **Space Norm** : 80 Sq. M.
6. **Entry Qualification** : Passed 8th class examination
7. **Unit Strength** : 16 Trainees
8. **Instructor's/Trainer's Qualification** : Degree in the relevant field
with one year experience
(or)
Diplomain the relevant field
with one two experience
9. **Desirable qualification** : Preference will be given to a candidate with Craft
Instructor Certificate

Note: At least one Instructor must have degree /Diploma in Relevant field

SYLLABUS FOR THE TRADE OF CANE, WILLOW & BAMBOO

WORKER UNDER C.T.S

Duration: Six Month

First Semester

Semester Code: CWW: SEM I

Week	Trade Practical	Trade Theory	Engineering drawing	Workshop Cal. & science
1 to 6	<p>i) Practice of cleaning and scraping cane, willow, bamboo and other fibres basketry materials</p> <p>ii) Practice of cutting and splitting cane, willow & bamboo etc.(with the consideration to use these in jobs subsequently).</p> <p>iii) Practice to identify the different kinds of cane willow, bamboo and other raw materials for different type of work.</p> <p>iv) Practice of using common hand tools.</p> <p><u>Jobs to be produced during this period :</u></p> <p>a) Map pointer (time- 2 Hours).</p> <p>b) Scale-30 cm (6- hours).</p> <p>c) Pen stand (8- hours).</p> <p>d) Bird simple (8- hours).</p> <p>e) Bamboo flower (8- hours).</p> <p>f) Simple weave with bamboo strips (12 – hours)</p>	<p><u>Introduction to the Trade and craft:</u></p> <p><u>Introduction to main raw materials and simple hand tools:</u></p> <p>i) Cane Willow, Bamboo etc. their description, classifications, properties and uses. Their natural and commercial sizes, sources and distributions. Selection of raw materials for different kinds of work.</p> <p>ii) <u>Tools :</u> Hand dao with stand, hand saw, knife, scissor, vice, Measuring tape and 4 fold wooden rule etc.</p>	<p><u>Drawing</u> Free hand sketching of straight lines rectangles, squares circles and polygon</p>	<p><u>simple calculations involving</u> Additions, subtraction ,multiplication and divisions.</p>
7 to 12	<p>i) Practice the operations of machineries & equipment, Sharpening of handcutting tools.</p> <p>ii) Practice the technique of making strips of cane ,bamboo of different width and thickness for assorted items (To be used in jobs subsequently).</p> <p>iii) Practising the preparation of fine splits for weaving.</p> <p><u>Jobs to be undertaken during this period:</u></p> <p>i) Waste Paper basket : 12 Hours.</p> <p>ii) Folding bamboo tray: 12</p>	<p>Introduction to machineries and tools –their names ,description ,use, care , maintenance, safety precautions, first aids.</p> <p><u>Machineries:</u> Jig saw machine,ball press, drilling machine, sewing machine etc.</p> <p><u>TOOLS:</u></p> <p>i) <u>Measuring Tools:</u> Tape,scale,divider,outside caliper,inside caliper,try square,wire gauge.</p> <p>ii) <u>Markings Tools:</u> Marking awl, compass,marking gauge.</p> <p>iii) <u>Cutting Tools:</u> Hand dao, chisels,hand saw,knife,scissor,iron jack</p>	<p><u>Drawing:</u> Free hand sketching of simple perspectives.</p>	<p><u>Simple Calculation:</u> Common fractions: Reduction of common fractions to decimals, conversions of decimals to common fractions:</p>

	<p>Hours.</p> <p>iii) Cup rest : 18 Hours</p> <p>iv) Horse (Randing type weave) : 4 Hours</p> <p>v) Beat from Bamboo (Solid) : 8 Hours</p>	<p>plane,multi blade bamboo splitter.</p> <p>iv) <u>Boring Tools:</u> Hand drill , gimlet etc.</p> <p>v) <u>Impelling Tools:</u> Mallet,hammer.</p> <p>vi) <u>cramping Tools:</u> Bench vice,bench hold fast , plier , pincer.</p> <p>vii) <u>Banding Tools:</u> Blow lamp. Banding from (Temp late) of different size and shape etc.</p> <p>viii) <u>Abrading Tools:</u> Files, stone.</p> <p>ix) <u>Varnishing Tools:</u> Brushes, enamel bow,mug,shoe brush.</p>		
13 to 16	<p>i) Practice the method of preservation to prevent insects and fungus attack.</p> <p>ii) Practice to bend and twist cane , bamboo etc. by heating and other processes.</p> <p>iii) Practice the technique of different dasketry joint.</p> <p>iv) Practice of varnishing and painting jobs done in Unit 1 and2.</p> <p>Jobs to be under taken during this period: 1.Marketing Bag: 32 Hours.</p>	<p>Seasoning, preservation including chemical treatment of cane, willow, bamboo, wood and other raw materials used for different products to prevent insect attack and mould (fungas) attach.</p> <p>Equipment for treatment their description, chemicals for treatment , preparation of solutions, Procedure for different treatment processes. Uses of varnishes, paints, thinner , colour etc.</p> <p>Description of common operation pertaining to the trade : Selection, measuring, marking, sawing, splitting, cutting , peeling, sizing, skying, smoothening, Jointing, drilling, heating, bending, nailing , varnishing, colouring, dyeing, clazing etc.</p>	Free hand sketching of simple objects : plan , elevations and side views of simple objects.	Matric system: Metric Weight and measurement units conversion problems.
17 to 24	<p>i) Practice the different methods of weaving.</p> <p>ii) practice to press bamboo weaven mats into different shapes and sizes using hand operated press and dies .</p> <p>iii) Practice the preparation of baskets of simple design .</p> <p><u>Jobs to be under taken during the period :</u> 1. Flower basket:30 Hours 2.Pressed Plate(bamboo) : 20 Hours.</p>	<p>I.Common Weaves: Plaiting.</p> <p>a) Randing.</p> <p>b) Rib Randing.</p> <p>c) Slowing.</p> <p>d) Franch Randing.</p> <p>e) Simple PAIRRING.</p> <p>f) Reversible Pairing.</p> <p>g) Chain Pairing.</p> <p>h) Whling.</p> <p>i) Reversible Waling.</p> <p>j) Chain Waling or Indian arrow.</p> <p>k) Ring weave.</p> <p>l) Three way Holes weave.</p> <p>m) Two tone four way holes weave.</p>		

		<p>n) Two after two weave . o) Three after three weave. p) Lace making weave . q) Diamond type weave. r) Hexagonal type weave. s) Sun weave.</p> <p>II. Coiling: a) Simple over sewn coil. b) Figure of "8" c) Lazy square.</p> <p>III. <u>Technical Terms:</u> Back, Belly, Butt, Tip, Skein, peeled cane or reed, weaver, Basket, Basketry, Base, Lid, Lapping, Border, Stick, Stake, Bye stake, Liner, Fitching, fitch pairing, Foot, Hoop, Scallom, Up sett./Pricking up, League, Lege, Listing, Trunk Cove., Stroke, Slype, Slath, Round, Picking up, Rod, With, Spale, Gram, Bow or Bow Row, Bow mark, Trac, Slew, Spale, Gram.</p> <p>IV. <u>Introduction to templates and dies :</u> A-2 : Simple Calculations : Percentage and its application, ratio & proportion, A-3 : Drawing: Reading of simple drawing , views of simple hollow and solid bodies .</p>		
25	Project work / Industrial visit (optional)			
26	Examination			

SYLLABUS FOR THE TRADE OF CANE, WILLOW & BAMBOO
WORKER UNDER C.T.S

Duration: Six Month

Second Semester

Semester Code: CWW: SEM II

Week	Trade Practical	Trade Theory	Engineering drawing	Workshop Cal. & science
1 to 4	<p>i) Practice the technique or different types of border and bindings. ii) Making baskets and other traditional item. iii) Making furniture frames using cane and bamboo.</p> <p>Jobs to be under taken during this period: 1. Mora : 70 Hours.</p>	<p><u>Description of fitting materials for cane work and their uses :</u> Such as cane made loops ,hings , hasps, ties, baqnds, button, clips. <u>Subsidery raw materials :</u> Such as rexing, leather, thread, cloth, different types of adhesive, sand paper, rivets, pins, nails, button, hings, screw etc. Description of borders and their uses : Such as plain border, track border, plated border ,rope border , scallop border, designed borders , two way weave border , three way weave border, ring weave border and common regional border and end bindings.</p>	Simple isometric drawing, free hand sketching or different operations, products etc.	Mensuration : Areas of rectangles, squares, triangles, circles and regulars polygons.
5 to 10	<p>Jobs to be completed in this period: i) Cane chair : 72 Hours. ii) Cane table : 62 Hours. iii)Cane bamboo screen : 34 Hours.</p>	<p><u>Description of manufacturing process of cane furniture:</u> Such as chair, table, tea pot, their design and construction. Factors involving strength and shape, legs, crosses, cross runners, arms, arm-runners, back pitch, arm pitch, hoop, hoop inside, stretcher etc. Introduction to functional design and selection of suitable design.</p>	Dimensioned drawing of different products.	Calculation or volumes and weights of simple bodies.
11 to 14	<p><u>Job to be produced in this period</u> 1. Hand bag : 28 Hours. 2. Picnic Basket:56 Hours 3. Cycle Carrier Basket: 50Hours.</p>	<p><u>Description of handles and their uses:</u> Such as plain handle, cross handle, rope handle, bow handle, combined handle, twisted handle, lapped handle, double and single rod handle, D-handle and moving handle.</p> <p>Construction of baskets for different uses. Their design and Strength and Shape - round, oval, square, rectangular.</p> <p>Description of manufacturing process of school bag, marketing, bag, handbag, picnic basket, cycle</p>	Dimensioned drawing of products.	Simple estimations of raw materials of particular product.

		carrier, basket, hamper.		
15 to 19	<p>I. Practice of making chick and chick products. II. Practice of making applique work. III. Practice of making products out of bamboo mat.</p> <p><u>Job to be produced during this period:</u> 1. Chick : 44 hours. 2. Hand ran (round & half round) : 8 hours. 3. Lamp shed with stand : 50 hours 4. Scroll (appliqué work) : 10 hours.</p>	<p><u>Description of manufacturing process of non-weaving type work;</u> Such as toys , trays , pen stand, date calendar, fruit tray, cage, lamp stand, boat etc. Description of making bamboo chicks and mat products.</p>	Reading. Of drawings, blue prints and designs.	Estimation of materials for Particular product, costing of raw materials and finished articles. Maintenance of job cards.
20 to 24	<p>I. Practice of making desing on bamboo with polar work. II. Practice of repairing work articles. III. Visit to different local units for on-the-job training in different production center- 2 weeks.</p> <p><u>Jobs to be undertaken in this period :</u> 1. Bamboo tray (solid type) with poker design : 36 hours. 2. Tray with woven desing (cane) : 100 hours. 3. Bamboo wall panel : 24 hours. 4. Bamboo wall plaque : 8 hours.</p> <p><u>SOCIAL STUDIES AND ENTREPRENEURSHIP :</u> The syllabus has already been approved and is same for all the trades.</p> <p><u>FINAL ACHEVDEMENT:</u> After completion of the course the trainees should be able to</p> <ol style="list-style-type: none"> 1. Identify, select, process-up, dye main & subsidiary raw materials required for different types of basketry ware. 2. Use properly the hand tools and operate standard equipments of the trade Independently. 3. Read drawing, blue print 	General layout and management of a workshop- maintenance & care of machineries and tools. Code making .storing of raw materials and finished to products. Packing and forwarding of product .introduction to marketing channels.	Drawing and desing of products.	Detailed estimation and costing of products.

	<p>and draw dimensioned drawings and designs of products.</p> <p>4. Manufacture/Repair independently common basketry ware such as:-</p> <ul style="list-style-type: none"> a) Bamboo flower. b) Waste paper basket. c) Cup rest. d) Flower basket. e) Fruit basket. f) Hand fan (round/half round). g) Marketing bag. h) Pressed plate. i) Bamboo tray. j) Mora. k) Chair. l) Table etc. <p>5. Calculate cast of products and identify marketing channels for raw material and finished products.</p>			
25	Revision			
26	Final Examination			

TRADE: CANE, WILLOW & BAMBOO WORKER
LIST OF TOOLS & EQUIPMENT

A. MACHINERIES

SL.NO.	PARTICULARS	QTY. IN NOS.
1.1	Jig saw -60 cm Arm length	1 No.
1.2	Foot fret saw –standard size.	1 No.
1.3	Electric drill -13 mm dia.capacity	1 No.
1.4	Foot sewing machine industrial type.	1 No.
1.5	Pokcer machine-standard size	1 No.

B. MEASURING TOOL:

SL.NO.	PARTICULARS	QTY. IN NOS.
2.1	Fold wooden rule-60 cm	16 Nos
2.2	Tailoring tape-153 cm.	16 Nos
2.3	Steel tape-3 mtrs .	4 Nos
2.4	Cotton tape -15 mtrs.	2 Nos
2.5	Wooden scale inch/mm-30 cm.	16 Nos
2.6	Divider – 15 cm.	8 Nos
2.7	Outside caliper(Flying nut type -15 cm.).	8 Nos
2.8	Inside caliper spring type-15 cm.	8 Nos
2.9	Standard wire gauge.	2 Nos
2.10	Try square – 15cm .	8 Nos
2.11	Try square bevel -15 cm.	4 Nos

C. MARKING TOOL:

SL.NO.	PARTICULARS	QTY. IN NOS.
3.1	Pencil compass -15 cm	8 Nos
3.2	Marking awal 3 mm dia x 15 cm.	8 Nos
3.3	Marking gauge –wooden 15 cm.	8 Nos

D. CUTTING TOOL:

SL.NO.	PARTICULARS	QTY. IN NOS.
4.1	Hand dao/Local cutter standard size.	16 Nos
4.2	D.E. Knife –blade 10 cm.	16 Nos
4.3	Farmer chisel.	2 set
4.4	Gauge chisel.	1 set
4.5	Pairing chisel.	1 set
4.6	Chisel bevel edge.	1 set
4.7	Chisel mortise.	1 set
4.8	Handsaw – 30 cm.	6 Nos
4.9	Rip saw -45 cm.	6 Nos
4.10	Tennon saw -30 cm.	4 Nos
4.11	Cross cut saw -40 cm.	4 Nos
4.12	Coping saw – 30 cm.	4 Nos
4.13	Hacksaw frame adjustable 30 cm.	4 Nos

4.14	Scissor – 25 cm.	1 No.
4.15	Multiblade bamboo splitter	1 No.
4.16	Iron jack plane 5 cm x 25 cm.	3 Nos
4.17	Wooden smoothing plane 3.75 cm x 20 cm.	3 Nos
4.18	Spoke shave 3.75 x 15 cm.	6 Nos

E. BORING TOOL:

SL.NO.	PARTICULARS	QTY. IN NOS.
5.1	Hand drill capacity 0-6 mm.	8 Nos
5.2	Gimlet 3 mm. – 10 mm x 1 mm.	2 sets
5.3	Angar – 6,10,15 mm dia.	2 each
5.4	Bodkin-standard size.	16 Nos

F. IMPELLING TOOL:

SL.NO.	PARTICULARS	QTY. IN NOS.
6.1	Wooden mallet standard size	8 nos each
6.2	Hammer B.P.100,250,454 gms	8 nos each
6.3	Hammer cross pane 100 gms.	8 nos each

G. CRAMPING TOOL :

SL.NO.	PARTICULARS	QTY. IN NOS.
7.1	Bench vice 10 cm jaw.	4 Nos
7.2	Carpenters vice 25 cm. jaw.	2 Nos
7.3	Saw sharpening vice	1 No.
7.4	'G' clamp – 15 cm. dia.	8 Nos
7.5	Cramp 1.8 mtrs.	4 Nos
7.6	Combination plier -20 cm.	6 Nos
7.7	Round nose plier – 15 cm.	6 Nos
7.8	Sde cutting plier – 15 cm.	6 Nos
7.9	Reed cutter -15 cm.	6 Nos
7.10	Pincer -20 cm.	6 Nos
7.11	Ball press -50 kg. capacity	1 No.
7.12	M.S. flat tong – standerd size.	8 Nos
7.13	M.s flat round tong standard size.	8 Nos
7.14	Saw set standard size.	2 Nos

H. BENDING TOOL :

SL.NO.	PARTICULARS	QTY. IN NOS.
8.1	3 low lamp 2 pint capacity	2 nos
8.2	Template/Bending forma for manufacturing frames etc.	As required

I. SCRAPING TOOL :

SL.NO.	PARTICULARS	QTY. IN NOS.
9.1	File flat 15 ,30cm. 2 nd cut .	8 nos each
9.2	File half round 15 ,30 cm. 2 nd cut.	8 Nos

9.3	File rasp 30 cm.	8 Nos
9.4	File triangular-15,20 cm...	8 Nos
9.5	File round 16 , 30 cm. 2 nd cut.	8 Nos
9.6	File saw sharpening 10 cm fine.	6 Nos
9.7	File knife -15 cm.	8 Nos
9.8	Sharpening stone rough/ smooth 15 x 5 x2.5 cm.	6 Nos

J. PRESERVATION & DYING EQUIPEMENTS

SL. NO.	PARTICULARS	QTY. IN NOS.
1	Treatment tank G.I. sheet with lid size 30 x 60 x 30 cms. With handles.	2 Nos
2	Treatment tank G.I. sheet with lid size : 210 x 35 x 30 cms.	1 Nos
3	Measuring cylinder or jugs (animal)-l.	5 Nos
4	Buckets -7 litres capacity .	4 Nos
5	Balance for measuring chemicals double pan gross balance -5 kgs. Capacity with weight box from 0.5 gm to 1 kg.	1 No
6	Chemicals- borax , boric , acid , sodium pentachlorophenats , all Commercial grade .	As required

K. DYEING:

SL. NO.	PARTICULARS	QTY. IN NOS.
1	Enamel vat -3 its . capacity.	4 Nos
2	Enamel jug -1 lts . capacity .	4 Nos
3	Pippet -1 cc. capacity .	6 Nos
4	Acetic acid .	As required
5	Dye stuff .	As required
6	Equipment for heating .	As required
7	Painting brush flat head -12 , 20 ,25 mm.	6 nos each
8	Round head brush no. 0-10.	8 sets
9	Shoe brush -10 ,15 ,20 cm.	6 nos each

L. Recommended list of manufacturing articles:

1. CANE WEAVING WORK :

- a) Waste paper basket.
- b) Marketing bag .
- c) Flower basket.
- d) Ladies bag. (Coiling work).
- e) Fruit basket (Coiling work).
- f) Cup rest.

2. BAMBOO SOLID TYPE WORK :

- a) Map pointer.
- b) Scale 12 “
- c) Bird.
- d) Pen stand.

- e) Bamboo flower.
- f) Fruit tray.
- g) Peacock lamp (small).
- h) Boat.

3. MIXED WORK :

- a) Tray.
- b) Suit case.
- c) Table lamp.
- d) Hanging lamp.
- e) Plant pot holder.
- f) Bird cage.
- g) Wall panel.
- h) Pressed plate.

4. BASKETS:

Linen basket, magazine basket , picnic basket , cycle carrier basket , hand bag.

5. BAMBOO MAT PRODUCTS :

- a) Fan (round).
- b) Fan(half round).
- c) Pasting work on scroll.
- d) Table lamp (racket).
- e) Ornament box.
- f) Scroll (Appliqué work).

6. TURNING WORK :

- a) Flower base.
- b) Candle stand.
- c) Bamboo made glass.
- d) Bamboo cup.

7. FURNITURE WORK :

- a) Chair.
- b) Table.
- c) Mora screen etc.