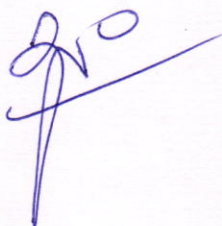

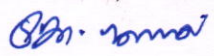
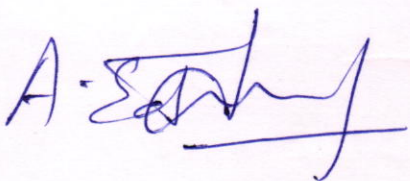
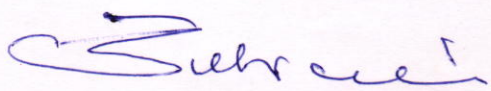



LIST OF COMMITTEE MEMBERS FOR THE

TRADE CARPENTRY AND WOOD WORKING

Sl.No.	Members and Experts	Signature
1.	K. Panneerselvam, Regional Joint Director of Training Chennai Region Guindy, Chennai	
2.	B. Musthafa, Deputy Director/Principal, Govt. Industrial Training Institute, North Chennai, Chennai 600 021	
3.	G. Elumalai Asst. Trg. Officer, Govt. Industrial Training Institute, North Chennai.	
4.	A. Edwin Andrew, Instructor, Intermission Industrial School Pallavaram	
5.	Subramaniam Trg. Officer Katpadi Industrial School, Katpadi	
6.	G. Angappan, Instructor, Thakkar Bapa Industrial School, T. Nagar	

COURSE DETAILS

Name of the trade	Carpentry and Wood Working
Qualification	VIII pass
Age	14-40 yrs
Duration	1 Year
No. of Trainees	20
No. of Practical Hours	32 hrs. per week
No. of Theory Hours	8 hrs. per week
W/s Cal & Sci	2 hrs. per Week
Engg . Drg	2 hrs. per week
Space Required	
Workshop	1500 Sq.ft
Theory	300 Sq.ft
Power required in Kilo watt	3 KW

# CARPENTRY & WOOD WORK

## Theory

S.No.	Topic
1	Importance of the trade in the development of Industrial Economy of the country Importance of Safety and general precautions observed in the institute and in the section.
2	What is related instruction subjects to be taught achievement to be made.
3	Introduction to the Trade and craft scope in the industry.
4	General Safety – Safety precaution observed in wood working, workshop Discipline – First Aid.
5	Classification of Tools Introducing the tools in each group.
6	Brief Description of hand tools and their names, from which made and use Grinding and Sharpening the tools and care and maintenance.
7	Measuring Tools and the types and its uses. Explaining about the various type of marking & Testing Tools and purpose and its uses.
8	Cutting Tools, Various Types of cutting Tools used in Carpentry Description and maintenance.
9	Planning Tools ( Difference types of planes Description and maintenance.
10	Holding and Supporting tolls and Description.
11	Striking tools - Different types of Hammers, mallets, and its uses .

- 12 Driving Tools and Description.
- 13 Growth of free cross section of Tree common Indian Timber and the classification Identification source and usage.
- 14 Seasoning of woods – Definition method of seasoning.
- 15 Seasoning of woods – definition, Methods of seasoning – Advantages and Disadvantages, Seasoning – Structure of wood.
- 16 Preservation of wood – definition advantages – methods Preservations qualities of good preservations.
- 17 Defects and Disease of wood – causes and remedies – distortions in wood.
- 18 Conversion of timber – method – necessity. Factors to be considered before conversion.
- 19 Market forms of timber – Commercial sizes, terms, characteristics of wood.
- 20 Properties of Timber Good qualities of wood.
- 21 Selection of wood for specific job.
- 22 Grains, Texture – colour etc.,
- 23 Calculation of Requirement of wood bill of material
- 24 Classification of Joints
- 25 Types of joints used in Carpentry
- 26 -27 Angle Joint and Their uses
- 28-29 Bridle joint and their uses.
- 30 Dovetail joints and their uses.

- 31-32 Lengthening joint – types of lengthening joint and their uses.
- 33 Explain about the machine
- 34-38 Band saw and circular saw machine and their uses care and maintenance
- 36-37 Thickness Planner and surface planner and the uses of the machine.
- 38-39 Turning lathe and case and maintenance
- 40-41 Hardwares nails and bolts types and parts and sizes.
- 42-43 Plywoods, types of plywood, Blackboard types of wood used for manufacture plywood.
43. Adhesive Glue Types of Glue used for Carpentry wood
44. Laminates and its uses, advantage of laminate sheet, uses of Laminate sheet and fashion the Laminate sheet.
46. Door & Window types of door frame and window frame – Types of doors types of window shutters.
- 47-48 Roof Classification of Roof and Parts of the roof.
49. Types of wooden floor and wooden staircase
- 50-51 Finishing materials types of materials and their uses and preparing of the Surface for painting or polishing
- 52 Revision & Test

# CARPENTRY & WOOD WORKING

## PRACTICAL

- 1 Induction Training  
Familiarization with the Institute  
Importance of trade – Training, Machinery  
Type of job – Safety – Fire lighting – First Aid.
- 2 PRACTICE ON SAWING  
Ripping – Cross Cutting, curve Cutting – oblique sawing  
with saw horses.
- 3 Practice on saw sharpening of setting etc.,
- 4 PRACTICE ON PLANNING  
Setting of Plane – setting of back iron. Manner of holding  
the plane – Position of feet Application
- 5 Face Side and Face edge planning – Application of marking  
gauge – checking Flatness, straight edge etc.,
- 6 Cross Planning – planning of convex & concave surface  
grinding sharpening of plane blades.
- 7 PRACTICE OF TENONING  
Marking of Tenon & Mortices with marking & Mortice  
gauge. Use Tenon saw with job holding of piece in vice.
- 8 PRACTICE ON MORTICING  
Marking Mortices with Mortice gauge, Try Square use of  
Mortice chisel Firms chisel with mallet – holding of piece  
with bench hold fast.
- 9 Single Through Mortice & Tenon Joint

- 10 Double through Mortice & Tenan joint
- 11 Haunched tenan & Mortice Simple and for rebate
- 12 Corner bridle joint – “T” Bridle joint
- 13 Mitre corner Bridle joint - Oblique bridle joint
- 14 Single Dovetail joint
- 15 Common dovetail joint
- 16 Lapped dovetail joint
- 17 Secret and Mitered dovetail joint
- 18 Open tenoned and housed joint  
Stepped tenoned and housed joint  
Sliding dovetail joint
- 19 Broadening joints  
Butt joint – simple, doweled, rebated,
- 20 Tongue & grooved, pocket screwing secret screwing joint
- 21 Scarf & Joints ( lengthening )  
Table scarf with wedge
- 22 Compression or Tension Scarf joint
- 23 Revision
- 24 Making jobs such as office tray and taper tray use common dovetail and splay dovetail joint.
- 25 Making of straight legged stool
- 26 Making Jobs such as Table – book rack involving lapped and dovetail stopped joint.

- 27 Making jobs such as office file rack involving trenching joints.
- 28 Making of taper legged stool ( slope stool )
- 29 Making short Bench
- 30 Uses of files
- 31 Making long bench
- 32 Making writing Desk for Babies
- 33 Making student Table
- 34 Making armless chair
- 35 Making armed chair
- 36 Making single drawer table
- 37 Making office table
- 38 Single Cot
- 39 Making Single/ Double cot wood turning practice
- 40 Making chairs for dining table - wood turning practice
- 41 Making Cupboard with chest of drawer
- 42 Making - black board with easel
- 43 Making Door frame - with patten door and frame & paneled door
- 44 Revision
- 45 King Post and queen post – Roof tresses, Lay out marking and manufacturing.



- 46 Maintenance of old furniture – reconditioning
- 47 Maintenance work of machineries and tools work bench etc.,
- 48 Uses of circular saw machine
- 49 Uses of Band saw
- 50 Uses of Surface, Thicknesser, Spindle Moulder
- 51 Uses of Blade Sharpening machine
- 52 Revision , Test

## CARPENTRY & WOOD WORK

### WORK SHOP CALCULATION

- 1-4 Addition, Subtraction, Multiplication conversion and decimals, Common Fraction and Shop Problem.
- 5-8 Reduction Common fractions to decimal fraction.
- 9-12 Metric system – Metric weight and measurement.
- 13-16 Square root – the square root of perfect square.
- 17-20 Percentage and its Application.
- 21-24 Calculation of volume and weight of simple solid bodies cubes squares and hexagonal.
- 25-28 Geometry/ Proportion of line Angles, triangle and Circle.
- 29-32 Simple Problem on Lines, angles, triangle and circle.  
Simple Estimated and Preparation of bill of materials etc.,
- 33-36 Simple Estimation for Repair work.
- 36-40 Calculation on volume and weight of articles with circular – pentagon section.
- 41-44 Ratio- Proportion – shop problem.
- 45-48 Reduction common fractions to decimal fractions – shop problem.
- 49-52 Revision Test

## CARPENTRY & WOOD WORK

### ENGINEERING DRAWING

- 1-4 Use of different types of lines and symbols for drawing.
- 5-8 Lettering number and alphabets.
- 9-12 Free hand sketching of straight lines, rectangles, squares, circles, polygons etc.,
- 13-16 Free hand sketching with dimension of simple solids such as cubes, rectangular blocks, cylinders etc.
- 17-20 Sketching of view of simple solids bodies as mentioned above when viewed perpendicular to their surfaces and axes.
- Free hand sketching of nuts and bolts with dimensions from samples.
- 21-24 Free hand sketching of rivets and washers with dimensions from samples.
- 25-28 Free hand sketching of keys and screw threads with dimensions from samples.
- Explanation of simple orthographic projection 1<sup>st</sup> angle.
- 29-32 Simple isometric drawing – isometric views of simple object – such as square, rectangles, cubes, rectangular blocks.

- 33-36 Free hand isometric sketching of simple objects with dimensions.
- 37-40 Free hand sketching of plan, Elevation of simple objects.
- 41-44 Free hand sketching of simple objects related to the trade and preparation of simple working drawing from the sketches.
- 45-48 View of simple solid and hollow bodies cut by section plan
- 49-50 Revision
- 51-52 Test

## CARPENTRY & WOOD WORKING

### TOOLS

S.No.	DESCRIPTION	QUANTITY
1	Rule Six 1 meter ( inch and mm ) 3m Tape	20
2	Carpenter Square 200mm	20
3	Square, bevel 50mm	20
4	Carpenter marking Guage	20
5	Caprenter mortice gauge	20
6	Saw hand 450 mm	20
7	Saw Tenon 300 mm	20
8	Plane, jack metal 335 mm x 5mm cutter	20
9	Plane Smoothing, metal 200mm x 50mm cutter	20
10	Chisel, firmer ( bevel edge )6,10,15,20 and 25mm width	20
11	Chisel, mortice 6,10,15mm	20
12	Screw Driver 300mm ( Cabinet maker )	20
13	Mallet medium Size	20
14	Hammer, Claw ( 500 gm)	20
15	Oil Stone ( Carborundum) universal silicon carbide combination rough and fine ) 200 x 50 x 25mm	20
16	Hand brush for bench cleaning 450mm	20
17	Measuring tape 3 meter	1
18	Contraction scale 1 meter	2
19	Spring caliper inside 150mm	1
20	Spring caliper outside	1
21	Wing compass 300mm	1

22	Trammel	1
23	Spirit level 300mm	1
24	Rip saw 600mm	1
25	Cross cut saw 600mm	1
26	Compass saw 350mm	2
27	Adze 15kg	2
28	Plane Adjustable circular 250mm	1
29	Router plane	1
30	Moulding plane set	1
31	Gauge Chisel, setting, 6,10,12,16,20mm	1
32	Gauge chisel, setting 6,10,12,16,20mm	1
33	Ball pein hammer 600gm	4
34	Screw Driver 450 mm	2
35	Screw Driver 250mm	2
36	Pincer 50mm	4
37	File Half round 2 <sup>nd</sup> cut 250mm	1
38	File half round wood rasn bastard 300mm	4
39	File Slim taper 100mm	10
40	File Slim taper 150mm	10
41	Card File ( Steel ) wire brush for File	1
42	Hand drill 6mm capacity	2
43	Country drill 6mm capacity	2
44	Ratchet Brace 250mm Swap	4
45	Centre bit sets 6,8,10,12mm	2 sets
46	Twist drill bits 6,8,10,12mm	2 Sets
47	Breast drill 6mm capacity	1
48	Centre Punch 5	4
49	Combination side cutting plier	2

50	Plunger saw set/pistol grip type	2
51	Round crow bar with chisel and claw end 1070 x 25mm	1
52	"G" Clamp 250mm	2
53	"T" Bar Cramp 1.25 meter	4
54	Carpenter vice 250mm jaws	6
55	Saw sharpening vice 250 jaws	2
56	Goggles pair	2
57	Glass cutter	1
58	Nail punch	4
59	Surface plate 600 x 600 mm x	1
60	A Carpenter's work Bench 2400 x900 x800mm height	4
61	Oil can	4
62	Steel lockers, 8 compartments with individual locks 1980 x 480mm depth	2
63	Steel Almirah with shelves 1980 x 910 x 480mm depth	1
64	Instructor table( half secretariate )	1
65	Instructor chair	1
66	Stool	1
67	Chalk board with casel	1
68	Material Rack	
69	Circular saw machine 300mm dia	1
70	"Lathe, wood turning". 150mm height of centers 1.75meter bed, motorized complete with a set of turning tools	2
71	Set of Turning tools for above lathe	1 sets

72	Bench Grinder 200mm wheel D.E. pedestal	1
73	Drill machine 12mm capacity	1
74	Portable electric Drill 6mm capacity (wolf type )	1
75	Drill chuck 12mm capacity	1
76	Portable disc sander 400mm dia	1
77	Band saw machine with provision of jointing the saw ( Narrow type )	1
78	Fire extinguisher	2
79	Fire buckets	4
80	Portable power jack plane	1
81	Portable circular saw cutting machine 4"	1
82	Portable Zig saw machine	1