

# Competency Based Training (CBT) Curriculum Guide for Finishing Carpenter

[Market Oriented Short Term (MOST), Modular Curriculum]

**Developed by**



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## 1. INTRODUCTION:

The TVET system has a large role to play in economic growth and social development as workforce provider to the labor market and as provider of skills to those who are looking for employment. In the case of Bangladesh, the TVET sector needs major reforms to ensure that issues of quality and capacity, relevance, and access are properly addressed.

This curriculum guide is designed and developed using competency based training (CBT) approach with the aim of producing skilled human resources for respective trade and occupation. This is based on the tasks to be performed for Finishing Carpentry occupation. The modules are included in course structure section of this curriculum guide. The training methodology is learner friendly where theoretical inputs, demonstration, guided and individual practices will be sufficiently provided to **master the skills at the industry standards**. Sufficient and updated tools and equipment will also be used during the training to provide hands on skills to the trainees. The curriculum guide is developed in consultation with the trainer, mid-level industry supervisors, and skilled workers. Training Institute for Technical Instruction (TITI) has been involved to develop the curriculum.

## 2. AIMS:

The main aim of this training program is to produce medium level skilled workforce (semi-skilled workers) required for the construction sector in the formal and informal sector and create better opportunities for employment and increased revenue.

## 3. OBJECTIVES:

At the end of the training course, the trainees will be able to:

- Practice Occupational Health and Safety (OHS) Procedure;
- Apply Fundamental Skills of Carpentry Works;
- Make Joints;
- Make Different Parts of Door and Wall Cabinet;
- Make Railing of stair.

## 4. DESCRIPTION:

This is a competency based training package for the unemployed and underemployed workforce of Bangladesh. The curriculum is based on the tasks to be performed in the finishing carpentry occupation and subsequently these tasks have been grouped to form various modules. This will provide flexibility for the trainees to learn one module at a time. The modules are included in the 'Course Structure' section of this curriculum guide. The training methodology will be **learner-centered** where theoretical input, demonstration, guided and individual practices will sufficiently be provided to the trainees to **master their skills at business and industry standards**. Sufficient tools, equipment and aids will also be used during the training to provide hands on skills to the trainees.

## 5. COURSE STRUCTURE:

Job title: Finishing Carpenter				Time (hrs.)		
S.N	Modules	Tasks	Nature	Th.	Pr.	Tot.
1	Practice Occupational Health and Safety (OHS) Procedure.	5	T+P	2.5	3.5	6.0
2	Apply Fundamental Skills of Carpentry Works;	6	T+P	6.5	56.0	62.5
3	Make Joints;	7	T+P	5.0	40.0	45.0
4	Make Different Parts of Door and Wall Cabinet;	5	T+P	4.5	40.0	44.5
5	Make Railing of staircase.	3	T+P	3.0	24.0	27.0
	<b>All total:</b>	<b>26</b>		<b>21.5</b>	<b>163.5</b>	<b>185.0</b>

Timings are finalized subject to verification during implementation of training.

It should further be noted that although Health and Safety is dealt with as a separate module, the principles should be integrated into each task. It should be seen as a way of life and not an activity to be done during training only.

## 6. DURATION:

Total duration of the training is **185 hours** excluding soft skills and On-the-Job Training (OJT)/Apprenticeship. The participants will be sent for wage employment after completion of the training. Only technical modules with occupational health and safety procedure have been considered under this duration.

## 7. TARGET GROUP:

The target group of this training course will be dropped out youths from the formal schooling, job seekers/underemployed young men or women, disadvantaged people. Male and female both are entitled to receive this training. The basic education for the trainees would be grade-V or equivalent. Above 18 years of age trainees will be enrolled in the training course.

## 8. GROUP SIZE:

A total of maximum 20 trainees will be placed in each group and provided adequate resources.

**9. TARGET LOCATION:**

The training will be implemented in partnership with private training providers and industry led training situated in the different areas of the country.

**10. MEDIUM OF INSTRUCTION:**

The medium of instruction for this course will be Bangla but the trainees will be oriented on technical terminology in English.

**11. PATTERN OF ATTENDANCE:**

At least 90% attendee will be required during the theory and practical classes to appear in the internal and final assessment.

**12. FOCUS OF THE PROGRAM:**

Since this course is a competency based training, the focus is given on the performance of the trainees rather than the theoretical input. Where practicable, at least 80% of the total training time is allocated for practical training and 20% for theory.

**13. ENTRY CRITERIA:**

The following criteria will be considered for the individual to enter into this training program:

- Education: Class 5 or equivalent
- Age: 18 years and above
- Physical and mental health

**14. FOLLOW UP SUGGESTION:**

The training institutes who implement CBT program will build rapport with the employers to link graduates with the industries for employment.

Placement: Within one month after completion of the training program, the graduates will be assisted in finding out appropriate and decent wage-based job relevant to the occupation concerned.

To measure the success in job, the follow up will be taken as below:

First follow-up- three months after placement of graduates in job and the next follow up six months after placement of graduates in job.

**15. CERTIFICATE REQUIREMENT:**

Training service provider and Industry Led Training will certify the graduates as a Semi-Skilled Finishing Carpenter only after successful completion of the training program through systematic skills testing. Certification can also be linked to the Bangladesh Technical and Education Board (BTEB) at the relevant NTVQF level through Recognition of Prior Learning (RPL).

#### **16. TRAINEES EVALUATION DETAILS:**

Module wise evaluation will be conducted to ensure the performance of the learners. Final evaluation will be conducted to evaluate the participants at the end of the training course. Trainees must secure 100% marks in practical and 80% marks in theoretical examination.

#### **17. TRAINERS' QUALIFICATION:**

Preference will be given to the trainer's having the following criteria:

- Minimum five years' experience in the respective occupation in the construction industry
- Working experience as an Instructor/Trainer
- Trade course/Diploma in Civil Engineering

#### **18. TRAINER – TRAINEES RATIO:**

- For theoretical class, trainer and trainee ratio should be 1:20.
- For practical class, trainer and trainee ratio should be 1:10.
- And for final practical assessment 1:1

#### **19. SUGGESTION FOR INSTRUCTION:**

Where practicable:

- At least 80% time of the course will be allocated for practical purpose
- Maximum 20% time of the course will be allocated for theoretical purpose
- Follow the safety rules
- Create a friendly learning environment
- Arrange the materials and equipment at the right place
- Trainer/Instructor will be available in the training classes/labs in time
- Take attendance of participants
- Learner centered training
- Encourage the participants to speak
- Arrange question and answer (Q&A) sessions
- Make plans for classroom / workshop instructions
- Prepare lesson plans for theoretical and practical classes

#### **20. LIST OF MODULES AND SUB MODULES:**

**Module: 1: Practice Occupational Health and Safety (OHS) Procedure.**

**Module: 2: Apply Fundamental Skills of Carpentry Works.**

**Module: 3: Make Joints.**

**Module: 4: Make Different Parts of Door and Wall Cabinet.**

**Module: 5: Make Railing of stair.**

#### **21. MODULE SEQUENCE:**



**22. DETAILS OF MODULES AND SUB MODULES:**

# Module 1: Practice Occupational Health and Safety (OHS) Procedure

22.1. Module- 1: Practice Occupational Health and Safety (OHS) Procedure						
	<b>Description:</b> It consists of skills and knowledge related to occupational health and safety applicable to the related performance.			Hours		
	<b>Module outcomes:</b> After completion of this module, trainees will be able to <ul style="list-style-type: none"> <li>• Follow safety sign and regulations;</li> <li>• Apply personal protective equipment;</li> <li>• Control house-keeping hazards;</li> <li>• Apply First Aid on minor injuries;</li> <li>• Control Electrical Fire Hazards.</li> </ul>			<b>Th.</b> 2.5	<b>Pr.</b> 3.5	<b>Tot.</b> 6.0
1.	<b>Task:</b> Follow safety sign and regulations.	<b>Terminal Performance Objective (TPO):</b>	Th. 0.5	Pr. 0.5	Tot. 1.0	
		<b>Given:</b> Simulated situation  <b>What:</b> Follow safety sign and regulations.  <b>How well:</b> <ul style="list-style-type: none"> <li>• All safety signs and regulations must be followed in the workplace.</li> </ul>				
	<b>Steps:</b> <ol style="list-style-type: none"> <li>1. Collect the safety sign, emergency exit plan and list of rules and regulation.</li> <li>2. Explain the application of safety sign and regulation.</li> <li>3. Follow the emergency exit plan.</li> <li>4. Comply with safety signs and regulations.</li> </ol>	<b>Enabling objectives:</b> <ul style="list-style-type: none"> <li>• Explain about the uses of safety sign and regulation.</li> <li>• Explain how to use the regulation.</li> <li>• Explain the types of the safety sign.</li> <li>• List the safety sign and regulation.</li> <li>• Use the all safety items and rules.</li> <li>• Explain the emergency exit way.</li> </ul>				
	<b>Tools/equipment/materials required:</b> Safety sign, visual aids, danger zone area indicators and regulation charts					
2.	<b>Task:</b> Apply personal protective equipment.	<b>Terminal Performance Objective (TPO):</b>	Th. 0.5	Pr. 1.0	Tot. 1.5	
		<b>Given:</b> Protective equipment				

		<p><b>What:</b> Apply personal protective equipment.</p> <p><b>How well:</b></p> <ul style="list-style-type: none"> <li>• The status of the protective equipment must be checked.</li> <li>• Safety goggle, helmet, gloves to be worn at all times during execution of tasks and safety belt must be tightened properly</li> </ul>			
	<p><b>Steps:</b></p> <ol style="list-style-type: none"> <li>1. Collect the personal protective equipment.</li> <li>2. Check the condition of protective equipment.</li> <li>3. Use the protective equipment.</li> <li>4. Maintain the protective equipment.</li> <li>5. Preserve the protective equipment in organized way at safe place.</li> </ol>	<p><b>Enabling objectives:</b></p> <ul style="list-style-type: none"> <li>• Explain about the uses of protective equipment.</li> <li>• Explain how to use the protective equipment.</li> <li>• Explain the protective equipment in hazards works.</li> <li>• Use the protective equipment properly.</li> <li>• Explain the positive and negative side of uses the protective equipment.</li> <li>• List the protective equipment.</li> </ul>			
	<p><b>Tools/equipment/materials required:</b> Hamlet, Life Jacket, Safety Goggles, Hand Gloves, Safety Belt and Safety shoes/Gumboot.</p>				
3.	<p><b>Task:</b> Control house-keeping hazards.</p>	<p><b>Terminal Performance Objective (TPO):</b></p> <p><b>Given:</b> Simulated situation</p> <p><b>What:</b> Control house-keeping hazards.</p> <p><b>How well:</b></p> <ul style="list-style-type: none"> <li>• Tools, equipment and safety materials of workplace must be placed in organized way.</li> <li>• The periodical maintenance of tools,</li> </ul>	Th. 0.5	Pr. 0.5	Tot. 1.0

		equipment and safety materials of workplace must be done.			
	<p><b>Steps:</b></p> <ol style="list-style-type: none"> <li>1. List the expected hazards exist in workplace.</li> <li>2. Place the tools and equipment in workplace following organized way.</li> <li>3. Follow up the periodic maintenance of tools and equipment.</li> <li>4. Handle the tools/equipment carefully.</li> <li>5. Follow up the maintenance of all the electrical fittings and fixtures.</li> <li>6. Identify the faulty tools/equipment.</li> <li>7. Dispose the wastage/outdated tools &amp; equipment from workplace.</li> </ol>	<p><b>Enabling objectives:</b></p> <ul style="list-style-type: none"> <li>• Define house-keeping hazards.</li> <li>• Identify the types of housekeeping hazards in finishing carpentry works.</li> <li>• Explain the necessity of keeping the house neat and clean (including dinning place, washroom/toilets, store and exit path).</li> <li>• Understand safety precautions to be taken for housekeeping hazards.</li> <li>• List the expected house-keeping hazards in the workplace.</li> </ul>			
<p><b>Tools/equipment/materials required:</b> Tools and equipment including safety materials.</p>					
4.	<p><b>Task:</b> Apply First Aid on minor injuries.</p>	<p><b>Terminal Performance Objective (TPO):</b></p> <p><b>Given:</b> Dummy of a simulated victim.</p> <p><b>What:</b> Apply First Aid on minor injuries.</p> <p><b>How well:</b></p> <ul style="list-style-type: none"> <li>• Injured person must be isolated from the crowd.</li> <li>• Information of accident must be given to the administration.</li> </ul>	Th. 0.5	Pr. 1.0	Tot. 1.5
	<p><b>Steps:</b></p> <ol style="list-style-type: none"> <li>1. Isolate the injured person.</li> <li>2. Collect first aid box with necessary medicine, materials and equipment.</li> </ol>	<p><b>Enabling objectives:</b></p> <ul style="list-style-type: none"> <li>• Define the minor injury.</li> <li>• Explain about the first aid treatment.</li> <li>• Describe the steps of dressing.</li> <li>• List out the first aid medicine, equipment and</li> </ul>			

	<ol style="list-style-type: none"> <li>3. Clean the injured area.</li> <li>4. Dress the injured portion properly.</li> <li>5. Use the necessary medicine and other materials as per requirement.</li> <li>6. Inform the administration.</li> <li>7. Restore the First Aid Box.</li> </ol>	materials.								
<b>Tools/equipment/materials required:</b> First Aid Box with required medicine and materials.										
5.	<b>Task:</b> Control Electrical Fire Hazards	<table border="1"> <thead> <tr> <th data-bbox="764 577 1170 653"><b>Terminal Performance Objective (TPO):</b></th> <th data-bbox="1170 577 1279 653">Th.</th> <th data-bbox="1279 577 1386 653">Pr.</th> <th data-bbox="1386 577 1490 653">Tot.</th> </tr> </thead> <tbody> <tr> <td data-bbox="764 653 1170 1199"> <b>Given:</b> Work place situation (real/simulation).   <b>What:</b> Control Electrical Fire Hazards.   <b>How well:</b> <ul style="list-style-type: none"> <li>• Firefighting aids must be checked periodically.</li> <li>• Emergency exit must be followed during evacuation.</li> </ul> </td> <td data-bbox="1170 653 1279 1199">0.5</td> <td data-bbox="1279 653 1386 1199">0.5</td> <td data-bbox="1386 653 1490 1199">1.0</td> </tr> </tbody> </table>	<b>Terminal Performance Objective (TPO):</b>	Th.	Pr.	Tot.	<b>Given:</b> Work place situation (real/simulation).  <b>What:</b> Control Electrical Fire Hazards.  <b>How well:</b> <ul style="list-style-type: none"> <li>• Firefighting aids must be checked periodically.</li> <li>• Emergency exit must be followed during evacuation.</li> </ul>	0.5	0.5	1.0
<b>Terminal Performance Objective (TPO):</b>	Th.	Pr.	Tot.							
<b>Given:</b> Work place situation (real/simulation).  <b>What:</b> Control Electrical Fire Hazards.  <b>How well:</b> <ul style="list-style-type: none"> <li>• Firefighting aids must be checked periodically.</li> <li>• Emergency exit must be followed during evacuation.</li> </ul>	0.5	0.5	1.0							
	<b>Steps:</b> <ol style="list-style-type: none"> <li>1. Check the availability of fire extinguishers, sands buckets/ reservoir.</li> <li>2. Wear safety device to work closed to the electrification area.</li> <li>3. Check the fire extinguisher.</li> <li>4. Apply fire extinguisher during small electric fire.</li> <li>5. Inform the police and fire station for mass electric fire.</li> </ol>	<b>Enabling objectives:</b> <ul style="list-style-type: none"> <li>• Describe the possible electrical fire hazards in workplace.</li> <li>• List the types of electrical hazards.</li> </ul>								
<b>Tools/equipment/materials required:</b> Safety materials like fire Extinguisher, Sands, Vacuum cleaner/hand blower etc.										

## Module 2: Apply Fundamental Skills of Carpentry Works

22.2. Module- 2: Apply Fundamental Skills of Carpentry Works							
	<p><b>Description:</b> This module covers basic skills and knowledge about carpentry works. It provides skills required to carry out basic measurement and calculation, interpret drawings and specifications. It also gives the idea to maintain tools and equipment.</p>				Hours		
	<p><b>Module outcomes:</b> After completion of this module, trainees will be able to:</p> <ul style="list-style-type: none"> <li>• Apply hand tools;</li> <li>• Apply power tools;</li> <li>• Interpret drawing &amp; specification;</li> <li>• Estimate materials required for finishing carpentry work;</li> <li>• Make work bench/table;</li> <li>• Maintain tools and equipment.</li> </ul>				<b>Th. 6.0</b>	<b>Pr. 54.0</b>	<b>Tot. 60.0</b>
1.	<p><b>Task:</b> Apply hand tools</p>	<p><b>Terminal Performance Objective (TPO):</b></p> <p><b>Given:</b> Simulated workplace and different types of hand tools.</p> <p><b>What:</b> Apply hand tools</p> <p><b>How well:</b></p> <ul style="list-style-type: none"> <li>• Safety precaution is taken while using hand tools.</li> <li>• Hand tools are identified based on nature of works.</li> <li>• Different types of hand tools (wooden saw, chisel, planer, bow drill) are applied according to the user's manual.</li> <li>• Right tools are selected for specific job.</li> </ul>	Th. 2.5	Pr. 22.0	Tot. 24.5		
	<p><b>Steps:</b></p> <ol style="list-style-type: none"> <li>1. Collect required hand tools for carpentry works.</li> <li>2. Place them separately on table.</li> </ol>	<p><b>Enabling objectives:</b></p> <ul style="list-style-type: none"> <li>• Make a list of different types of hand tools used for finishing carpentry works.</li> <li>• Explain the application of different types of hand tools.</li> </ul>					

	<p>3. Identify hand tools for carpentry work.</p> <p>4. Demonstrate each tools for specific work.</p> <p>5. Clean the tools after use.</p> <p>6. Clean the workplace.</p> <p>7. Restore the tools in safe place.</p>	<ul style="list-style-type: none"> <li>• Explain how to apply different types of hand tools (wooden saw, chisel, planer, bow drill)</li> </ul>			
<p><b>Tools/equipment/materials required:</b> Rip saw, cross cut saw, panel saw, back saw, tenon saw, flat chisel, paring chisel, mortise chisel, round chisel, hand planer, hand jointer planer, jack planer, smooth planer, spoke shave, rabbet planer, router planer, measuring tape, try square, flat screw driver, star screw driver, adjustable spanner, marking gauge, calipers, divider, ball peen hammer, claw hammer, mallet, pincher, vice, C-clamp, bar clamp, g-clamp, flat file, round file, half round file, tri angular file, bow drill, ratchet brace, gear handle, augur bit , twist bit, counter shank bit, screw driver bit, spirit level.</p> <p><b>PPE:</b> Apron, Hand gloves, Safety shoes, safety goggles, etc.</p>					
2.	<p><b>Task:</b> Apply power tools.</p>	<p><b>Terminal Performance Objective (TPO):</b></p> <p><b>Given:</b> Simulated workplace, user manual and different types of power tools for carpentry works.</p> <p><b>What:</b> Apply power tools.</p> <p><b>How well:</b></p> <ul style="list-style-type: none"> <li>• Safety precautions are taken while using power tools.</li> <li>• Power tools are identified based on nature of finishing carpentry works.</li> <li>• Power tools (Portable electrical hand drill, portable power saw, portable circular saw, portable planer, portable jig saw, portable router) are applied according to</li> </ul>	Th. 1.0	Pr. 12.0	Tot. 13.0

		the user's manual.			
	<p><b>Steps:</b></p> <ol style="list-style-type: none"> <li>1. Identify the nature of the job.</li> <li>2. Select the power tool as per the nature of the job.</li> <li>3. Prepare the power tool for as per nature of the job (Portable electrical hand drill, portable power saw, portable circular saw, portable planer, portable jig saw, portable router)..</li> <li>4. Connect the power cable with the power source.</li> <li>5. Switch ON the power tool.</li> <li>6. Apply power tools as per nature of the job.</li> <li>7. Switch OFF the power tool.</li> <li>8. Clean the power tools.</li> <li>9. Clean the work place.</li> <li>10. Restore the power tools.</li> </ol>	<p><b>Enabling objectives:</b></p> <ul style="list-style-type: none"> <li>• List out the name of power tools for carpentry works.</li> <li>• Explain the application of different types of power tools.</li> <li>• Explain how to apply different types of power tools (Portable electrical hand drill, portable power saw, portable circular saw, portable planer, portable jig saw and portable router).</li> </ul>			
	<p><b>Tools/equipment/materials required:</b> Portable electrical hand drill, portable power saw, portable circular saw, portable planer, portable jig saw, portable router.</p> <p><b>PPE:</b> Apron, Hand gloves, Safety shoes, safety goggles.</p>				
3.	<p><b>Task:</b> Interpret drawing &amp; specification</p>	<p><b>Terminal Performance Objective (TPO):</b></p> <p><b>Given:</b> Working drawing of carpentry works and specification.</p> <p><b>What:</b> Interpret drawing &amp; specification</p> <p><b>How well:</b></p> <ul style="list-style-type: none"> <li>• Specifications and abbreviations are identified and explained.</li> <li>• Signs and symbols are identified and explained.</li> </ul>	Th. 1.0	Pr. 8.0	Tot. 9.0
	<p><b>Steps:</b></p>	<p><b>Enabling objectives:</b></p>			

	<ol style="list-style-type: none"> <li>1. Collect working drawing and specification.</li> <li>2. Identify portion of working drawing and specification related to finishing carpentry.</li> <li>3. Identify the terms and abbreviations.</li> <li>4. Identify signs and symbols.</li> <li>5. Interpret the schedules, dimensions and other signs and symbols in the drawing and specification.</li> <li>6. Restore the drawings in a safe place.</li> </ol>	<ul style="list-style-type: none"> <li>• Define specification and working drawing.</li> <li>• State different types of signs, symbols used for carpentry works.</li> <li>• Explain how to interpret dimension, scale, signs and symbols.</li> </ul>								
<p><b>Tools/equipment/materials required:</b> Technical Specification and Drawing.</p>										
<p><b>PPE:</b> (If needed apron may be worn)</p>										
<p>4.</p>	<p><b>Task:</b> Estimate materials required for finishing carpentry work</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th data-bbox="764 846 1182 926" style="text-align: left;"><b>Terminal Performance Objective (TPO):</b></th> <th data-bbox="1182 846 1284 926" style="text-align: center;">Th.</th> <th data-bbox="1284 846 1386 926" style="text-align: center;">Pr.</th> <th data-bbox="1386 846 1490 926" style="text-align: center;">Tot.</th> </tr> </thead> <tbody> <tr> <td data-bbox="764 926 1182 1507"> <p><b>Given:</b> Working drawing, specification and estimation format.</p> <p><b>What:</b> Estimate materials required for finishing carpentry work</p> <p><b>How well:</b></p> <ul style="list-style-type: none"> <li>• The total requirement of materials are estimated as per the given drawing and specification.</li> </ul> </td> <td data-bbox="1182 926 1284 1507" style="text-align: center; vertical-align: top;">0.5</td> <td data-bbox="1284 926 1386 1507" style="text-align: center; vertical-align: top;">4.0</td> <td data-bbox="1386 926 1490 1507" style="text-align: center; vertical-align: top;">4.5</td> </tr> </tbody> </table>	<b>Terminal Performance Objective (TPO):</b>	Th.	Pr.	Tot.	<p><b>Given:</b> Working drawing, specification and estimation format.</p> <p><b>What:</b> Estimate materials required for finishing carpentry work</p> <p><b>How well:</b></p> <ul style="list-style-type: none"> <li>• The total requirement of materials are estimated as per the given drawing and specification.</li> </ul>	0.5	4.0	4.5
<b>Terminal Performance Objective (TPO):</b>	Th.	Pr.	Tot.							
<p><b>Given:</b> Working drawing, specification and estimation format.</p> <p><b>What:</b> Estimate materials required for finishing carpentry work</p> <p><b>How well:</b></p> <ul style="list-style-type: none"> <li>• The total requirement of materials are estimated as per the given drawing and specification.</li> </ul>	0.5	4.0	4.5							
	<p><b>Steps:</b></p> <ol style="list-style-type: none"> <li>1. Collect working drawing.</li> <li>2. Interpret the working drawing.</li> <li>3. List the required materials.</li> <li>4. List the required accessories.</li> <li>5. Insert all the dimension in estimation format.</li> <li>6. Find the total unit of the length in running meter/feet.</li> <li>7. Find the total unit of the area</li> </ol>	<ul style="list-style-type: none"> <li>• Describe the importance of estimation.</li> <li>• Explain different components of estimation format.</li> <li>• Explain the procedure of estimating the quantity of materials.</li> </ul>								

	<p>in square meter/feet.</p> <p>8. Find the total unit of volume in cubic meter/feet.</p> <p>9. Estimate the total requirement of materials.</p> <p>10. Restore the drawings in a safe place.</p>				
<p><b>Tools/equipment/materials required:</b> Technical Specification and Drawing, Estimation format, calculator, measuring tape, scale, pencil, paper, pen, eraser and file.</p> <p><b>PPE:</b> Apron, Safety Shoe</p>					
5.	<p><b>Task:</b> Make Work Bench/Table</p>	<p><b>Terminal Performance Objective (TPO):</b></p> <p><b>Given:</b> Measurement Sheet</p> <p><b>What:</b> Make work bench/Table</p> <p><b>How well:</b></p> <ul style="list-style-type: none"> <li>Working bench/table is made as per measurement sheet.</li> </ul>	Th. 0.5	Pr. 4.0	Tot. 4.5
<p><b>Steps:</b></p> <ol style="list-style-type: none"> <li>Collect tools and materials.</li> <li>Cut legs of table by cross-cut saw.</li> <li>Cut top and bottom rails by cross cut saw.</li> <li>Cut support rails by cross cut saw.</li> <li>Cut the top of table by cross cut saw.</li> <li>Assemble the top rails and bottom rails with GI Nails by claw hammer.</li> <li>Set the support nails to the leg at four sides with GI nails by Claw hammer</li> <li>Set the top of the working table with GI nail and Claw hammer.</li> <li>Clean the workplace</li> </ol>		<p><b>Enabling objectives:</b></p> <ul style="list-style-type: none"> <li>Explain the requirement of work bench</li> <li>Explain the procedure to assemble work bench.</li> <li>Explain the cutting process of cross-cut saw.</li> <li></li> <li></li> </ul>			

	10. Restore the tools & materials.	<p><b>Tools/equipment/materials required:</b> Cross cut saw, measuring tape, try square, pencil, claw hammer, wood, nail</p> <p><b>PPE:</b> Apron, Hand gloves, Safety shoes, safety goggles.</p>			
6.	<p><b>Task:</b> Maintain tools &amp; equipment</p>	<p><b>Terminal Performance Objective (TPO):</b></p> <p><b>Given:</b> Different types of tools &amp; equipment, maintenance chart/schedule</p> <p><b>What:</b> Maintain tools &amp; equipment</p> <p><b>How well:</b></p> <ul style="list-style-type: none"> <li>• Tools &amp; equipment are inspected, maintained and repaired periodically.</li> <li>• Maintenance is done as per maintenance chart/schedule</li> <li>• No damage made while maintaining tools and equipment.</li> </ul>	Th. 0.5	Pr. 4.0	Tot. 4.5
	<p><b>Steps:</b></p> <ol style="list-style-type: none"> <li>1. Collect tools and equipment.</li> <li>2. Check each tools and equipment individually.</li> <li>3. Sharpen the cutting tools.</li> <li>4. Remove dust and other unwanted materials from tools &amp; equipment.</li> <li>5. Wash the tools and materials with clean water (if required).</li> <li>6. Dry the tools and equipment.</li> <li>7. Check the faults of tools and equipment.</li> <li>8. Repair the minor faults.</li> <li>9. Segregate nonfunctional tools &amp; equipment from the store.</li> <li>10. Restore the tools &amp;</li> </ol>	<p><b>Enabling objectives:</b></p> <ul style="list-style-type: none"> <li>• Explain preventive maintenance methods, techniques and procedure.</li> <li>• Explain the necessity of maintaining the tools &amp; equipment.</li> <li>• Describe how to sharpen blade.</li> <li>• Explain the procedure for sharpening hand saw.</li> <li>• List the steps to replace circular saw blade.</li> <li>• Explain how to change belt of portable planer.</li> </ul>			

	equipment.	
	<p><b>Tools/equipment/materials required:</b> Rib saw, cross cut saw, panel saw, back saw, tenon saw, flat chisel, paring chisel, mortise chisel, round chisel, hand planer, hand jointer planer, jack planer, smooth planer, spoke shave, rabbet planer, router planer, measuring tape, try square, flat screw driver, star screw driver, adjustable spanner, marking gauge, calipers, divider, ball peen hammer, claw hammer, mallet, pincher, vice, C-clamp, bar clamp, g-clamp, flat file, round file, half round file, triangular file, bow drill, ratchet brace, gear handle, augur bit, twist bit, counter shank bit, screw driver bit, spirit level, portable electrical hand drill, portable power saw, portable circular saw, portable planer, portable jig saw, portable router</p> <p><b>PPE:</b> Apron, Hand gloves, Safety shoes, safety goggles.</p>	

## Module 3: Make Joints

22.3. Module- 3: Make Joints						
	<b>Description:</b> This module covers basic skills and knowledge required to make different joints such as corner butt joint, tenon-mortise joint, half lap cross joint, tongue and groove joint, nail joint, miter box and dovetail joints.			Hours		
	<b>Module outcomes:</b> After completion of this module, trainees will be able to: <ul style="list-style-type: none"> <li>• Make corner butt joint;</li> <li>• Make Tenon-Mortise Joint (Pocket Joint);</li> <li>• Make Half Lap Cross Joint;</li> <li>• Make Tongue and Groove Joint;</li> <li>• Make Nail Joint;</li> <li>• Make Miter Box Joints;</li> <li>• Make Dovetail Joint.</li> </ul>			<b>Th.</b> <b>5.0</b>	<b>Pr.</b> <b>40.0</b>	<b>Tot.</b> <b>45.0</b>
1.	<b>Task:</b> Make Corner Butt Joint.	<b>Terminal Performance Objective (TPO):</b>  <b>Given:</b> Drawing/Measurement sheet  <b>What:</b> Make corner Butt joint.  <b>How well:</b> <ul style="list-style-type: none"> <li>• Surface is uniform.</li> <li>• Angle of joint is <math>90^{\circ} \pm 15'</math></li> <li>• Joint is tight and the joint gap is maintained with <math>\pm 2</math> mm tolerance.</li> <li>• The joint surface is smooth.</li> </ul>	Th. 1.0	Pr. 8.0	Tot. 9.0	
	<b>Steps:</b> <ol style="list-style-type: none"> <li>1. Collect required tools and materials.</li> <li>2. Identify required wood piece.</li> <li>3. Cut the wood piece as per requirement.</li> <li>4. Plane the wood piece by planer.</li> </ol>	<b>Enabling objectives:</b> <ul style="list-style-type: none"> <li>• Differentiate among different types of joints (butt, tenon-mortise, half lap cross joint, groove, nail Miter box and dovetail joints)</li> <li>• Explain the purpose of using corner butt joint.</li> <li>• List tools and materials required to make corner butt joint.</li> <li>• Explain how to cut wood piece according to the</li> </ul>				

	<ol style="list-style-type: none"> <li>5. Join two piece of wood piece perpendicularly.</li> <li>6. Fix nail using hammer.</li> <li>7. Clean the workplace.</li> <li>8. Restore all tools and materials.</li> </ol>	<p>measurement.</p> <ul style="list-style-type: none"> <li>• Explain how to plane wood piece.</li> <li>• Explain how to fix nail using hammer.</li> <li>• Explain the procedure of making corner butt joint</li> </ul>	<p><b>Tools/equipment/materials required:</b> Measurement Sheet, Wood, nail, pencil, try square, measuring tape, cross cut saw, jack planer, ball peen hammer, claw hammer.</p> <p><b>PPE:</b> Apron, Safety Goggles, Safety Shoes.</p>		
2.	<p><b>Task:</b> Make Tenon-Mortise joint (Pocket Joint).</p>	<p><b>Terminal Performance Objective (TPO):</b></p> <p><b>Given:</b> Drawing/Measurement sheet</p> <p><b>What:</b> Make Tenon-Mortise joint (Pocket Joint).</p> <p><b>How well:</b></p> <ul style="list-style-type: none"> <li>• Surface is uniform.</li> <li>• Angle of joint is 90<sup>0</sup>.</li> <li>• Joint is tight.</li> <li>• The joint gap is maintained with ±2 mm tolerance.</li> <li>• Joint surface is smooth.</li> </ul>	Th. 0.5	Pr. 4.0	Tot. 4.5
<p><b>Steps:</b></p> <ol style="list-style-type: none"> <li>1. Collect required tools and materials.</li> <li>2. Identify required wood piece.</li> <li>3. Cut wood pieces as per requirement.</li> <li>4. Plane wood pieces by planer.</li> <li>5. Mark the wood piece by try square and pencil for tenon length.</li> <li>6. Mark the wood piece for tenon shoulder by marking gauge.</li> <li>7. Mark the length and breadth of the mortise on the second</li> </ol>		<p><b>Enabling objectives:</b></p> <ul style="list-style-type: none"> <li>• Define Tenon-Mortise joint.</li> <li>• Explain the purpose of using corner butt joint.</li> <li>• List the tools and materials required for making Tenon-Mortise joint.</li> <li>• Explain the procedure of making Tenon-Mortise joint.</li> </ul>			

	<p>piece of wood.</p> <p>8. Cut the tenon shoulder as per measurement.</p> <p>9. Cut the depth of mortise on the second piece of wood as per measurement.</p> <p>10. Pre-assemble the tenon and mortise.</p> <p>11. Check the angle with try square.</p> <p>12. Assemble tenon and mortise using nail.</p> <p>13. Clean the tools and workplace.</p> <p>14. Restore all tools and materials.</p>				
<p><b>Tools/equipment/materials required:</b> Measurement Sheet, wood piece, pencil, try square, measuring tape, rip cut saw, cross cut saw, mortise chisel, paring chisel, jack planer, marking gauge, mortise gauge, hammer and mallet.</p> <p><b>PPE:</b> Apron, Safety Goggles, Safety Shoes.</p>					
3.	<p><b>Task:</b> Make Half Lap Cross Joint.</p>	<p><b>Terminal Performance Objective (TPO):</b></p> <p><b>Given:</b> Drawing/Measurement Sheet.</p> <p><b>What:</b> Make Half Lap Cross Joint.</p> <p><b>How well:</b></p> <ul style="list-style-type: none"> <li>• Surface is uniform.</li> <li>• Angle of joint is 90°.</li> <li>• Joint is tight.</li> <li>• The joint gap is maintained with ±2mm.</li> <li>• Joint surface is smooth.</li> </ul>	Th. 0.5	Pr. 4.0	Tot. 4.5
<p><b>Steps:</b></p> <ol style="list-style-type: none"> <li>1. Collect required tools and materials.</li> <li>2. Identify required wood piece.</li> <li>3. Cut wood pieces as per requirement.</li> <li>4. Plane wood pieces by planer.</li> </ol>		<p><b>Enabling objectives:</b></p> <ul style="list-style-type: none"> <li>• List the tools and materials used for making Half Lap Cross Joint.</li> <li>• Define Half Lap Cross Joint.</li> <li>• Explain the purpose of using half lap cross joint.</li> <li>• Explain the procedure of making Half Lap</li> </ul>			

	<ol style="list-style-type: none"> <li>5. Mark the wood pieces according to the measurement.</li> <li>6. Cut the wood pieces at joining point by cross cut saw.</li> <li>7. Chisel the joining point to make the joint smooth.</li> <li>8. Assemble two pieces with glue.</li> <li>9. Fix nail using hammer.</li> <li>10. Plane it again for more smoothness.</li> <li>11. Clean the workplace</li> <li>12. Restore all tools and materials.</li> </ol>	Cross Joint.			
<p><b>Tools/equipment/materials required:</b> Measurement Sheet, Wood, Cross cut saw, paring chisel, try square, pencil, measuring tape, marking gauge, hammer, glue and nail.</p> <p><b>PPE:</b> Apron, Safety Goggles, Safety Shoes.</p>					
4.	<p><b>Task:</b> Make Tongue and Groove joint.</p>	<p><b>Terminal Performance Objective (TPO):</b></p> <p><b>Given:</b> Drawing/Measurement Sheet.</p> <p><b>What:</b> Make Tongue and Groove joint.</p> <p><b>How well:</b></p> <ul style="list-style-type: none"> <li>• Surface is uniform.</li> <li>• Joint is tight.</li> <li>• The joint gap is maintained with <math>\pm</math> 2mm.</li> <li>• Joint surface is smooth.</li> </ul>	Th. 0.5	Pr. 4.0	Tot. 4.5
<p><b>Steps:</b></p> <ol style="list-style-type: none"> <li>1. Collect required tools and materials.</li> <li>2. Identify required wood piece.</li> <li>3. Cut wood pieces as per requirement.</li> </ol>		<p><b>Enabling objectives:</b></p> <ul style="list-style-type: none"> <li>• Define Tongue and Groove joint.</li> <li>• List the tools and materials used for making Tongue and Groove joint.</li> <li>• Explain the purpose of using Tongue and Groove joint.</li> </ul>			

	<ol style="list-style-type: none"> <li>4. Plane wood pieces by planer.</li> <li>5. Mark the groove using marking gauge.</li> <li>6. Cut groove using router planer.</li> <li>7. Mark the second piece of wood using marking gauge to cut tongue.</li> <li>8. Make tongue using rabbet planer.</li> <li>9. Apply glue on the both piece of wood.</li> <li>10. Assemble tongue and groove together.</li> <li>11. Clean the workplace</li> <li>12. Restore all tools and materials.</li> </ol>	<ul style="list-style-type: none"> <li>• Explain the procedure of making Tongue and Groove joint.</li> </ul>								
<p><b>Tools/equipment/materials required:</b> Measurement Sheet, Wood, marking gauge, pencil, cross cut saw, jack planer, router planer, rabbet planer, glue, measuring tape, hammer and mallet.</p> <p><b>PPE:</b> Apron, Safety Goggles, Safety Shoes.</p>										
5.	<p><b>Task:</b> Make Nail joint.</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;"><b>Terminal Performance Objective (TPO):</b></th> <th style="text-align: center;">Th.</th> <th style="text-align: center;">Pr.</th> <th style="text-align: center;">Tot.</th> </tr> </thead> <tbody> <tr> <td style="padding: 5px;"> <p><b>Given:</b> Drawing/Measurement Sheet.</p> <p><b>What:</b> Make Nail joint.</p> <p><b>How well:</b></p> <ul style="list-style-type: none"> <li>• Surface is uniform.</li> <li>• Joint is tight.</li> <li>• No crack seen on nailed portion.</li> <li>• The joint gap is maintained with <math>\pm 2\text{mm}</math></li> <li>• Joint surface is smooth.</li> </ul> </td> <td style="text-align: center; vertical-align: top;">0.5</td> <td style="text-align: center; vertical-align: top;">4.0</td> <td style="text-align: center; vertical-align: top;">4.5</td> </tr> </tbody> </table>	<b>Terminal Performance Objective (TPO):</b>	Th.	Pr.	Tot.	<p><b>Given:</b> Drawing/Measurement Sheet.</p> <p><b>What:</b> Make Nail joint.</p> <p><b>How well:</b></p> <ul style="list-style-type: none"> <li>• Surface is uniform.</li> <li>• Joint is tight.</li> <li>• No crack seen on nailed portion.</li> <li>• The joint gap is maintained with <math>\pm 2\text{mm}</math></li> <li>• Joint surface is smooth.</li> </ul>	0.5	4.0	4.5
<b>Terminal Performance Objective (TPO):</b>	Th.	Pr.	Tot.							
<p><b>Given:</b> Drawing/Measurement Sheet.</p> <p><b>What:</b> Make Nail joint.</p> <p><b>How well:</b></p> <ul style="list-style-type: none"> <li>• Surface is uniform.</li> <li>• Joint is tight.</li> <li>• No crack seen on nailed portion.</li> <li>• The joint gap is maintained with <math>\pm 2\text{mm}</math></li> <li>• Joint surface is smooth.</li> </ul>	0.5	4.0	4.5							
	<p><b>Steps:</b></p> <ol style="list-style-type: none"> <li>1. Collect required tools and materials.</li> <li>2. Identify required wood piece.</li> <li>3. Cut wood pieces as per</li> </ol>	<p><b>Enabling objectives:</b></p> <ul style="list-style-type: none"> <li>• List the tools and materials used for making Nail joint.</li> <li>• Define Nail joint.</li> </ul>								

	<p>requirement.</p> <ol style="list-style-type: none"> <li>4. Plane wood pieces by planer.</li> <li>5. Mark on the wood piece to locate the nail point using marking gauge, try square and pencil.</li> <li>6. Cut the head of nail by pincher.</li> <li>7. Insert half portion of nail on the edge of wood piece.</li> <li>8. Place edge of second piece wood on the nail.</li> <li>9. Strike with the hammer on the wood piece.</li> <li>10. Clean the workplace</li> <li>11. Restore all tools and materials</li> </ol>	<ul style="list-style-type: none"> <li>• Explain the purpose of using nail joint.</li> <li>• Explain why it is necessary to cut the head of nail by pincher while making Nail joint.</li> <li>• Explain the procedure of making Nail joint.</li> </ul>			
<p><b>Tools/equipment/materials required:</b> Measurement Sheet, Wood, nail, pencil, marking gauge, try square, hammer, cross cut saw, jack planer, measuring tape.</p> <p><b>PPE:</b> Apron, Safety Goggles, Safety Shoes.</p>					
6.	<p><b>Task:</b> Make Miter joint.</p>	<p><b>Terminal Performance Objective (TPO):</b></p> <p><b>Given:</b> Drawing/Measurement Sheet.</p> <p><b>What:</b> Make Miter joint.</p> <p><b>How well:</b></p> <ul style="list-style-type: none"> <li>• The angle of joint is maintained as per drawing <math>\pm 30^\circ</math>.</li> <li>• The joint surface is maintained with <math>\pm 2</math> mm tolerance.</li> <li>• The joint surface is free from split.</li> <li>• The joint surface is smooth.</li> <li>• Joint is tight.</li> </ul>	Th. 1.0	Pr. 8.0	Tot. 9.0
<p><b>Steps:</b></p> <ol style="list-style-type: none"> <li>1. Collect required tools and</li> </ol>		<p><b>Enabling objectives:</b></p> <ul style="list-style-type: none"> <li>• Define Miter joint.</li> </ul>			

	<p>materials.</p> <ol style="list-style-type: none"> <li>2. Identify required wood piece.</li> <li>3. Measure the required work piece as per the drawing.</li> <li>4. Cut wood pieces as per requirement.</li> <li>5. Plane wood pieces by planer.</li> <li>6. Mark on both piece of wood at the given angle as per drawing (normally 45°).</li> <li>7. Cut across and along the grain on the mark with rip saw.</li> <li>8. Pre-assemble the joints.</li> <li>9. Make necessary adjustment if required.</li> <li>10. Assemble the joint by fixing both pieces by nail.</li> <li>11. Clean the workplace.</li> <li>12. Restore the tools and materials.</li> </ol>	<ul style="list-style-type: none"> <li>• Explain the purpose of making Miter joint.</li> <li>• List the tools and materials used for making Miter joint.</li> <li>• Explain the procedure of making Miter joint.</li> </ul>			
<p><b>Tools/equipment/materials required:</b> Measurement Sheet, wood, nail, bamboo/wooden wedge, pencil, marking gauge, try square, hammer, cross cut saw, jack planer, measuring tape.</p> <p><b>PPE:</b> Apron, Safety Goggles, Safety Shoes.</p>					
7.	<p><b>Task:</b> Make Dovetail joint.</p>	<p><b>Terminal Performance Objective (TPO):</b></p> <p><b>Given:</b> Drawing/Measurement Sheet</p> <p><b>What:</b> Make Dovetail joint</p> <p><b>How well:</b></p> <ul style="list-style-type: none"> <li>• Equal proportion of the joint is maintained.</li> <li>• The angle of joint is maintained 90°.</li> <li>• The joint surface is smooth and uniform.</li> <li>• Joint is tight.</li> </ul>	Th. 1.0	Pr. 8.0	Tot. 9.0
<p><b>Steps:</b></p> <ol style="list-style-type: none"> <li>1. Collect required tools and</li> </ol>		<p><b>Enabling objectives:</b></p> <ul style="list-style-type: none"> <li>• Define Dovetail joint.</li> </ul>			

	<p>materials.</p> <ol style="list-style-type: none"> <li>2. Identify required wood piece.</li> <li>3. Cut wood pieces as per requirement.</li> <li>4. Plane wood pieces by planer.</li> <li>5. Mark the tongue and socket by try square, pencil and marking gauge.</li> <li>6. Cut the tongue and socket by cross cut saw, rip saw.</li> <li>7. Chisel the tongue and socket.</li> <li>8. Assemble tongue and socket.</li> <li>9. Fix the joint by wedge.</li> <li>10. Clean the workplace</li> <li>11. Restore all tools and materials</li> </ol>	<ul style="list-style-type: none"> <li>• Explain the purpose of using Dovetail Joint</li> <li>• List the tools and materials used for Dovetail joint.</li> <li>• Describe wooden/bamboo wedge.</li> <li>• Explain the procedure of making Dovetail joint.</li> </ul>
<p><b>Tools/equipment/materials required:</b> Measurement Sheet, Wood, bamboo/wooden wedge, pencil, marking gauge, try square, hammer, cross cut saw, jack planer, measuring tape rip saw.</p> <p><b>PPE:</b> Apron, Safety Goggles, Safety Shoes.</p>		

## Module 4: Make Different Parts of Door and Wall Cabinet

## 22.4. Module- 4: Make Different Parts of Door and Wall Cabinet.

<b>Description:</b> This module deals with the skills and knowledge required to make different parts of door and wall cabinet.					
Hours					
	<b>Module outcomes:</b> After completion of this module, trainees will be able to- <ul style="list-style-type: none"> <li>Make Door Frame;</li> <li>Make Plain (Solid) Door Leaf (Palla);</li> <li>Install Plain (Solid) Door Leaf (Palla) with Door Frame;</li> <li>Make Glazed Door;</li> <li>Make Wall Cabinet.</li> </ul>	<b>Th.</b> <b>4.0</b>	<b>Pr.</b> <b>38.0</b>	<b>Tot.</b> <b>42.0</b>	
1.	<b>Task:</b> Make Door Frame.	<b>Terminal Performance Objective (TPO):</b>  <b>Given:</b> Working drawing or the measurement of the opening.  <b>What:</b> Make Door Frame.  <b>How well:</b> <ul style="list-style-type: none"> <li>Surface is uniform and smooth.</li> <li>Joints are tight.</li> <li>Angles are 90<sup>0</sup></li> <li>Top and bottom portion of the doorframe is same.</li> <li>Measurement error is <math>\pm</math> 2mm</li> <li>Door Frame is made as per drawing and measurement.</li> </ul>	Th. 1.0	Pr. 7.0	Tot. 8.0
	<b>Steps:</b> <ol style="list-style-type: none"> <li>1. Collect tools, equipment and materials.</li> <li>2. Cut the wood pieces according to the measurement.</li> <li>3. Plane the surfaces of wood pieces by jointer planer.</li> <li>4. Mark the rebate and open</li> </ol>	<b>Enabling objectives:</b> <ul style="list-style-type: none"> <li>List the required tools and material for making Door Frame.</li> <li>Explain the necessity of Jointer Planer and Rabbet Palner machine to make door frame.</li> <li>Explain the procedure of making Door Frame.</li> </ul>			

	<p>dovetail joint by try square, pencil and marking gauge.</p> <ol style="list-style-type: none"> <li>5. Cut the joints by rip saw and cross cut saw.</li> <li>6. Cut the excess portion of joint by flat chisel.</li> <li>7. Cut the rebate by rabbet planer.</li> <li>8. Tight the different portions by bar clamp.</li> <li>9. Fix two open dovetail joint.</li> <li>10. Clean the workplace</li> <li>11. Restore tools and equipment.</li> </ol>				
<p><b>Tools/equipment/materials required:</b> Wood, cross cut saw, rip saw, flat chisel, marking gauge, try square, pencil, jointer planer, smooth planer, rabbet planer, ball peen hammer, ratchet brace, angular bit, measuring tape.</p> <p><b>PPE:</b> Safety shoes, apron, safety goggles.</p>					
2.	<p><b>Task:</b> Make solid door leaf (palla).</p>	<p><b>Terminal Performance Objective (TPO):</b></p> <p><b>Given:</b> Working drawing or the measurement of the Door Frame.</p> <p><b>What:</b> Make solid door leaf (palla).</p> <p><b>How well:</b></p> <ul style="list-style-type: none"> <li>• Surface is uniform and smooth.</li> <li>• Joints are tight.</li> <li>• Angles are 90<sup>0</sup></li> <li>• Joint gaps are less than 2 mm.</li> <li>• The surface of door leaf is smoothen</li> </ul>	Th. 0.5	Pr. 11.0	Tot. 11.5
<p><b>Steps:</b></p> <ol style="list-style-type: none"> <li>1. Collect tools, materials and drawing.</li> <li>2. Cut wood pieces as per the measurement by cross cut saw and rip saw.</li> <li>3. Plane the surface of wood</li> </ol>		<p><b>Enabling objectives:</b></p> <ul style="list-style-type: none"> <li>• List the tools and materials for making door leaf (palla).</li> <li>• Explain ratchet brace.</li> <li>• Explain the procedure of making door leaf (palla)</li> </ul>			

	<p>pieces by jointer planer.</p> <ol style="list-style-type: none"> <li>4. Mark the joining portion by try square pencil and marking gauge.</li> <li>5. Cut the mortise by mortise chisel.</li> <li>6. Make duels on wood pieces same as mortise using rip saw and smooth planer.</li> <li>7. Tight two portions by bar clamp.</li> <li>8. Fix the duels in the mortise by ball peen hammer.</li> <li>9. Drill the joints by ratchet brace.</li> <li>10. Insert wedges in the hole of joints.</li> <li>11. Cut the excess portion of wedge by flat chisel.</li> <li>12. Smoothen the surface of door leaf by smooth planer.</li> <li>13. Clean the workplace.</li> <li>14. Restore tools and equipment.</li> </ol>					
<p><b>Tools/equipment/materials required:</b> Wood, Cross cut saw, rip saw, flat chisel, paring chisel, mortise chisel, marking gauge, try square, pencil, jointer planer, smooth planer, ball peen hammer, ratchet brace, augur bit, measuring tape/foot rule.</p> <p><b>PPE:</b> Safety shoes, apron, safety goggles</p>						
3.	<p><b>Task:</b> Install solid door leaf (palla) with Door Frame.</p>	<table border="1"> <tr> <td data-bbox="748 1234 1141 1900"> <p><b>Terminal Performance Objective (TPO):</b></p> <p><b>Given:</b> In an actual site</p> <p><b>What:</b> Install solid door leaf (palla) with Door Frame.</p> <p><b>How well:</b></p> <ul style="list-style-type: none"> <li>• Hinges and tower bolt are fixed firmly.</li> <li>• Clearance of door with floor is <math>12 \pm 2</math> mm</li> <li>• Height of hasp bolt is 3'6".</li> <li>• Groove is made on</li> </ul> </td> <td data-bbox="1141 1234 1250 1900">Th. 0.5</td> <td data-bbox="1250 1234 1359 1900">Pr. 4.0</td> <td data-bbox="1359 1234 1469 1900">Tot. 4.5</td> </tr> </table>	<p><b>Terminal Performance Objective (TPO):</b></p> <p><b>Given:</b> In an actual site</p> <p><b>What:</b> Install solid door leaf (palla) with Door Frame.</p> <p><b>How well:</b></p> <ul style="list-style-type: none"> <li>• Hinges and tower bolt are fixed firmly.</li> <li>• Clearance of door with floor is <math>12 \pm 2</math> mm</li> <li>• Height of hasp bolt is 3'6".</li> <li>• Groove is made on</li> </ul>	Th. 0.5	Pr. 4.0	Tot. 4.5
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		door and door drame to set the hinges using screw.			
	<p><b>Steps:</b></p> <ol style="list-style-type: none"> <li>1. Collect tools, materials and drawing.</li> <li>2. Place door leaf with the door frame.</li> <li>3. Check for excess portion of door leaf.</li> <li>4. Remove excess portion of leaf by jointer planer if required.</li> <li>5. Mark the location of hinge by try square and pencil.</li> <li>6. Cut grooves on door leaf to set hinges by flat chisel.</li> <li>7. Make screw hole by hand drill on door leaf.</li> <li>8. Set hinges using screw on door leaf by screw driver.</li> <li>9. Set door leaf with the door frame.</li> <li>10. Cut grooves on door frame by flat chisel.</li> <li>11. Tight the pieces by bar clamp.</li> <li>12. Make screw hole by hand drill on door frame.</li> <li>13. Insert screw on the screw hole of door frame.</li> <li>14. Mark the position of tower bolt.</li> <li>15. Make screw holes for tower bolt.</li> <li>16. Fix tower bolt using screw with door leaf.</li> <li>17. Fix clip with door frame to lock tower bolt.</li> <li>18. Mark the place of hasp bolt on the door leaf.</li> <li>19. Make bolt holes for hasp bolt by ratchet brace.</li> <li>20. Fix hasp bolt with bolts on door leaf (Outside)</li> <li>21. Make hole on door frame to lock hasp bolt.</li> </ol>	<p><b>Enabling objectives:</b></p> <ul style="list-style-type: none"> <li>• List the tools and materials for installing door leaf (palla) with door frame</li> <li>• Describe the procedure of fixing hinge.</li> <li>• Explain the procedure of fixing Tower Bolt.</li> <li>• Explain the procedure of fixing Hasp Bolt.</li> <li>• Explain the procedure of installing door leaf (palla) with Door Frame.</li> </ul>			

	<p>22. Clean the workplace. 23. Restore tools and equipment.</p>									
<p><b>Tools/equipment/materials required:</b> Joints planer, try square, pencil, hand drill, twist bit, augur bit, screw driver, flat chisel, measuring tape and hammer.</p> <p><b>PPE:</b> Safety shoes, apron, safety goggles.</p>										
4.	<p><b>Task:</b> Make wooden glazed door (leaf).</p>	<table border="1"> <thead> <tr> <th data-bbox="748 436 1143 512"><b>Terminal Performance Objective (TPO):</b></th> <th data-bbox="1143 436 1250 512">Th.</th> <th data-bbox="1250 436 1357 512">Pr.</th> <th data-bbox="1357 436 1461 512">Tot.</th> </tr> </thead> <tbody> <tr> <td data-bbox="748 512 1143 1142"> <p><b>Given:</b> Working drawing and Measurement sheet.</p> <p><b>What:</b> Make wooden glazed door (leaf).</p> <p><b>How well:</b></p> <ul style="list-style-type: none"> <li>• Wooden surface is uniform</li> <li>• Joints are tight</li> <li>• Angles are 90<sup>0</sup></li> <li>• Measurement error is ±2mm</li> <li>• Glass is firmly fixed with the wooden frame</li> </ul> </td> <td data-bbox="1143 512 1250 1142">1.0</td> <td data-bbox="1250 512 1357 1142">8.0</td> <td data-bbox="1357 512 1461 1142">9.0</td> </tr> </tbody> </table>	<b>Terminal Performance Objective (TPO):</b>	Th.	Pr.	Tot.	<p><b>Given:</b> Working drawing and Measurement sheet.</p> <p><b>What:</b> Make wooden glazed door (leaf).</p> <p><b>How well:</b></p> <ul style="list-style-type: none"> <li>• Wooden surface is uniform</li> <li>• Joints are tight</li> <li>• Angles are 90<sup>0</sup></li> <li>• Measurement error is ±2mm</li> <li>• Glass is firmly fixed with the wooden frame</li> </ul>	1.0	8.0	9.0
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	<p><b>Steps:</b></p> <ol style="list-style-type: none"> <li>1. Collect tools, materials and drawing.</li> <li>2. Cut wood pieces as per the measurement.</li> <li>3. Plane the surface of wood pieces by joints planer.</li> <li>4. Mark the joints by pencil, try square and marking gauge.</li> <li>5. Mark the rebate by marking gauge.</li> <li>6. Make butt mortise by mortise at top and bottom part of style.</li> <li>7. Cut tenon at both ends of top rail and bottom rail.</li> <li>8. Cut inside rebate by rebate planer on both style, top and bottom rail.</li> <li>9. Fix corner tenon-mortise joints</li> </ol>	<p><b>Enabling objectives:</b></p> <ul style="list-style-type: none"> <li>• List the tools and materials required to make wooden glazed door (leaf).</li> <li>• Explain how to make bamboo wedge.</li> <li>• Explain the procedure of making wooden glazed door (leaf).</li> </ul>								

	<p>with bar clamp.</p> <p>10. Drill the joining points by hand drill with twist bit.</p> <p>11. Make wedges by bamboo.</p> <p>12. Insert wedges in the drilling points of joints by ball peen hammer.</p> <p>13. Cut the extra part of wedges by flat chisel.</p> <p>14. Smoothen the whole frame by smooth planer.</p> <p>15. Set glass with the frame.</p> <p>16. Cut bit to hold the glass with frame.</p> <p>17. Fix the wooden bit by nail.</p> <p>18. Clean the workplace.</p> <p>19. Restore tools and equipment.</p>									
<p><b>Tools/equipment/materials required:</b> Wood, glass, cross cut saw, rip saw, flat chisel, mortise chisel, marking gauge, try square, pencil, jointer planer, smooth planer, rebate planer, ball peen hammer, measuring tape, hand drill with twist bit, bar clamp, nail.</p> <p><b>PPE:</b> Safety shoes, apron, safety goggles.</p>										
5.	<p><b>Task:</b> Make Wall Cabinet.</p>	<table border="1"> <thead> <tr> <th data-bbox="792 1041 1143 1115"><b>Terminal Performance Objective (TPO):</b></th> <th data-bbox="1143 1041 1250 1115">Th.</th> <th data-bbox="1250 1041 1357 1115">Pr.</th> <th data-bbox="1357 1041 1469 1115">Tot.</th> </tr> </thead> <tbody> <tr> <td data-bbox="792 1115 1143 1902"> <p><b>Given:</b> Working drawing and Specification.</p> <p><b>What:</b> Make Wall Cabinet</p> <p><b>How well:</b></p> <ul style="list-style-type: none"> <li>• Wooden surface is uniform</li> <li>• Joints are tight</li> <li>• Angles are <math>90^{\circ} \pm 1/2^{\circ}</math></li> <li>• Measurement error is <math>\pm 5\text{mm}</math></li> <li>• Door is firmly fixed.</li> <li>• Doors and drawers are easy to operate.</li> <li>• Smooth finishing.</li> <li>• Wall wooden cabinet is make as per the given</li> </ul> </td> <td data-bbox="1143 1115 1250 1902">1.0</td> <td data-bbox="1250 1115 1357 1902">8.0</td> <td data-bbox="1357 1115 1469 1902">9.0</td> </tr> </tbody> </table>	<b>Terminal Performance Objective (TPO):</b>	Th.	Pr.	Tot.	<p><b>Given:</b> Working drawing and Specification.</p> <p><b>What:</b> Make Wall Cabinet</p> <p><b>How well:</b></p> <ul style="list-style-type: none"> <li>• Wooden surface is uniform</li> <li>• Joints are tight</li> <li>• Angles are <math>90^{\circ} \pm 1/2^{\circ}</math></li> <li>• Measurement error is <math>\pm 5\text{mm}</math></li> <li>• Door is firmly fixed.</li> <li>• Doors and drawers are easy to operate.</li> <li>• Smooth finishing.</li> <li>• Wall wooden cabinet is make as per the given</li> </ul>	1.0	8.0	9.0
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		drawing and specification.			
	<p><b>Steps:</b></p> <ol style="list-style-type: none"> <li>1. Collect tools, materials and working drawing and specification.</li> <li>2. Cut different parts (wall covers, door leaves, parts of drawers, shelves and wooden bits) of the wall cabinet as per the given drawing and measurements.</li> <li>3. Plane the esges of each parts of the cabinet.</li> <li>4. Mark the position of wooden bit for wall cabinet as per the given drawing and location.</li> <li>5. Mark the drilling points at wall for fixing wooden bit.</li> <li>6. Make hole in the wall at marked points by hand drill with construction bit.</li> <li>7. Set Plastic Royal Plug in the holes</li> <li>8. Fix wooden bit by wood screw to the royal plug by screwdriver.</li> <li>9. Set the bits at wall coverings before fixing it to the wall.</li> <li>10. Set with screw the wall covering to previously fixed bits.</li> <li>11. Fix veneer tape to all open edges by adhesive.</li> <li>12. Mark all leaves for fixing “L” hinge.</li> <li>13. Set “L” hinge to the door leaves by wood screw.</li> <li>14. Set another part of “L” hinge to the wall covering by wood screw.</li> <li>15. Set knob/handle and lock to door leaves as per the given drawing and specification.</li> </ol>	<p><b>Enabling objectives:</b></p> <ul style="list-style-type: none"> <li>• State different components of wooden wall cabinet.</li> <li>• List materials, tools required to make wooden wall cabinet.</li> <li>• Explain the procedure of making wooden wall cabinet.</li> </ul>			

	<p>16. Fix the cabinet selves to wall coverings.</p> <p>17. Make the drawers according to size by adhesive and wood screw.</p> <p>18. Set drawer knob/handle and lock at drawers.</p> <p>19. Fix drawer channel/runner to the drawer by wood screw.</p> <p>20. Fix counter part of the Chanel/runner of the drawer to wall cover by wood screw.</p> <p>21. Clean the workplace.</p> <p>22. Restore tools and equipment.</p>	
<p><b>Tools/equipment/materials required:</b> Cross cut saw, Try square, Pencil, Ball Pin hammer, Measuring Tape, Hand drill with construction bit, work pieces (Veneered particle board, wood), Plastic Royal Plug, Wood Screw Wood Adhesive, Door Knob/Handle, Veneered Tape</p> <p><b>PPE:</b> Safety shoes, apron, safety goggles.</p>		

## Module 5: Make Railing of Stair

22.5. Module- 5: Make Railing of Stair						
	<b>Description:</b> This module deals with the skills and knowledge required to make railing of stair.			Hours		
	<b>Module outcomes:</b> After completion of this module, trainees will be able to- <ul style="list-style-type: none"> <li>• Make Baluster of Hand Rail of Stair;</li> <li>• Make Hand Rail of stair;</li> <li>• Join Hand Rail to Baluster.</li> </ul>			<b>Th.</b> <b>3.0</b>	<b>Pr.</b> <b>24.0</b>	<b>Tot.</b> <b>27.0</b>
1.	<b>Task:</b> Make Baluster of Hand Rail of Stair.	<b>Terminal Performance Objective (TPO):</b>  <b>Given:</b> Working Drawing.  <b>What:</b> Make Baluster of Hand Rail of Stair.  <b>How well:</b> <ul style="list-style-type: none"> <li>• Size is made according to the measurement.</li> <li>• Surface is smooth.</li> <li>• Hole is made at the center.</li> </ul>	Th. 1.0	Pr. 8.0	Tot. 9.0	
	<b>Steps:</b> <ol style="list-style-type: none"> <li>1. Collect tools, materials and drawing</li> <li>2. Cut wood pieces as per required measurement.</li> <li>3. Make shape of wood pieces according to the design.</li> <li>4. Make hole at the bottom end of baluster (Along Grain).</li> <li>5. Clean the work area.</li> <li>6. Restore tools and materials.</li> </ol>	<b>Enabling objectives:</b> <ul style="list-style-type: none"> <li>• List tools and materials required to make baluster.</li> <li>• Explain the steps to make baluster.</li> </ul>				
	<b>Tools/equipment/materials required:</b> Wood, cross cut saw, smooth planer, hand drill with twist bit, measuring tape, pencil.					
	<b>PPE:</b> Safety shoes, apron, safety goggles					
2.	<b>Task:</b> Make hand rail of stair.	<b>Terminal Performance Objective (TPO):</b>	Th. 1.0	Pr. 8.0	Tot. 9.0	

		<p><b>Given:</b> Working drawing.</p> <p><b>What:</b> Make hand rail of stair.</p> <p><b>How well:</b></p> <ul style="list-style-type: none"> <li>• Size is made according to the measurement</li> <li>• Groove is made uniform</li> <li>• Surface is smoothen</li> </ul>				
	<p><b>Steps:</b></p> <ol style="list-style-type: none"> <li>1. Collect tools, materials and drawing.</li> <li>2. Cut wood pieces according to the measurement.</li> <li>3. Make shape of wood pieces according to the design.</li> <li>4. Make groove at the bottom of hand rail by router planer.</li> <li>5. Clean the work place</li> <li>6. Restore tools and equipment.</li> </ol>	<p><b>Enabling objectives:</b></p> <ul style="list-style-type: none"> <li>• List tools and materials required to weld grill by z-bar/angle bar for window.</li> <li>• Describe the procedure to estimate cost for welding grill by z-bar/angle bar for window.</li> <li>• State the overall procedure to weld grill by z-bar/angle bar for window.</li> </ul>	<p><b>Tools/equipment/materials required:</b> Wood, cross cut saw, smooth planer, router planer, pencil, and ball peen hammer.  <b>PPE:</b> Safety shoes, apron safety goggles.</p>			
3.	<p><b>Task:</b> Join hand rail to baluster.</p>	<p><b>Terminal Performance Objective (TPO):</b></p> <p><b>Given:</b> Working drawing.</p> <p><b>What:</b> Join hand rail to baluster.</p> <p><b>How well:</b></p> <ul style="list-style-type: none"> <li>• Tenon-mortise joints are tight.</li> <li>• Measurement is according to the drawing.</li> <li>• Surface is uniform.</li> </ul>	Th. 1.0	Pr. 8.0	Tot. 9.0	

<p><b>Steps:</b></p> <ol style="list-style-type: none"> <li>1. Collect tools, materials and drawing.</li> <li>2. Set balusters with the steps of stair.</li> <li>3. Mark the alignment of top portion of balusters.</li> <li>4. Mark the locations of mortise points.</li> <li>5. Mark the tenon points of balusters.</li> <li>6. Mark mortise points of railing by marking gauge.</li> <li>7. Cut the tenon on marking points of baluster by cross cut saw, paring chisel and ball peen hammer.</li> <li>8. Cut the mortise at marking points of railing.</li> <li>9. Set the balusters on steps of stair.</li> <li>10. Set railing on balusters.</li> <li>11. Fix the tenon-mortise joints between baluster and hand rail.</li> <li>12. Drill the tenon-mortise joints by hand drill with twist bit.</li> <li>13. Insert bamboo wedges in the hole.</li> <li>14. Cut the excess part of wedges by paring chisel.</li> <li>15. Restore tools and materials.</li> <li>16. Clean the workplace.</li> </ol>	<p><b>Enabling objectives:</b></p> <ul style="list-style-type: none"> <li>• List tools and materials required to Join hand rail to baluster.</li> <li>• Explain the steps to join hand rail to the balusters.</li> </ul>
<p><b>Tools/equipment/materials required:</b> Wood balusters, wooden rail, cross cut saw, paring chisel, mortise chisel, marking gauge, try square, pencil, marking thread, measuring tape, ball peen hammer, hand drill with twist bit.  <b>PPE:</b> Safety shoes, apron, safety goggles.</p>	

### 23. LIST OF TOOLS, EQUIPMENT AND MATERIALS:

#### LIST OF TOOLS AND EQUIPMENT:

S. No	Name of the items	Specification	QTY.	Unit
1.	Rip saw	18" long	20	Pcs
2.	Flat chisel	1"	20	Pcs
3.	Paring chisel	1"	20	Pcs
4.	Mortise chisel	½ , ¾ inch	20-20	Pcs
5.	Round chisel	3/8 & 1"	10 + 10	Pcs
6.	Hand planer	18"	20	Pcs
7.	Spoke shave	2"	5	Pcs
8.	Measuring tape	5 m steel tape	20	set
9.	Try square	1'	20	set
10.	Flat screw driver	14" & 18"	10 & 10	Pcs
11.	Star screw driver	6", 14" & 18"	2, 5 & 3	Pcs
12.	Adjustable spanner	12"	2	Pcs
13.	Marking gauge		20	Pcs
14.	Inside calipers		20	Pcs
15.	Outside calipers		20	Pcs
16.	Ball peen hammer	1.5 Pound & 2 Pound	10 & 10	Pcs
17.	Mallet	Wooden	20	Pcs
18.	Pincher	8"	10	Pcs
19.	Flat file	1"	5	Pcs
20.	Round file	16"	3	Pcs
21.	Half round file	16"	3	Pcs
22.	Tri angular file	6"	24	Pcs
23.	Augur bit	Different size 24 Nos.	2	Set
24.	Twist bit	Different size 24 Nos.	3	Set
25.	Counter shank bit		5	Pcs
26.	Spirit level	4 feet long	2	Pcs

S. No	Name of the items	Specification	QTY.	Unit
27.	Portable Electrical Hand Drill Machine,		02	Pcs
28.	Portable Power Saw Machine,		02	Pcs
29.	Portable Circular Saw Machine,		02	Pcs
30.	Portable Planer Machine,		02	Pcs
31.	Portable Jig Saw Machine,		02	Pcs
32.	Portable Router Machine		02	Pcs

**LIST OF TRAINING MATERIALS:**

SI No	Name of the items	Specification	QTY.	Unit
1.	Wood	Mango or Rain Tree, Kadam or equivalent	60	cft.
2.	Board	8'X4'X3/4" (Veneer Board)	6	Pcs
3.	Knob/handle		12	Pcs
4.	Cabinet Lock		4	Pcs
5.	Wood Screw	1½"	22	Dozen
6.	L hinge		6	Pcs
7.	Hinge	4"	8	Pcs
8.	Tower Bolt	6"	4	Pcs
9.	Hasp Bolt	12" Long	2	Pcs
10.	GI Nail	1 ½ "	½	Kg
11.	Adhesive (Wood Solution)		1	Litter
12.	Veneer Tape	¾" width	70	RFT
13.	Bamboo	3'	1	Pcs
14.	Pumice Stone	10"X2"X1"	10	Pcs
15.	Glass		50	Sqft.
16.	Drawer Channel Set	18"	6	Sets

#### 24. PHYSICAL FACILITIES FOR 20 TRAINEES:

SI No	Name of the items	Specification	QTY.	Unit
1.	Working Place/Practical Room	40' X 30'	1	Room
2.	Stool	Plastic (RFL)	20	Pcs
3.	Instructor Chair Arm Less	Size: 18" X 16" X 36"	2	Pcs
4.	Working Table	Size: 8' X 3' X 3'	5	Pcs
5.	Class Room Table	Size: 24" X 30" X 36"	1	Pcs
6.	Display Board	4' X8' X3/4", Surface Cover With White Formica, Border bracing with 3/4 " Aluminum Angle	1	Pcs
7.	White Board	6'X4'X3/4" Surface Cover With White Formica, Border bracing with 3/4 " Aluminum Angle	1	Pcs
8.	Steel Rack	44" X 72" X 15" 20-22 SWG	2	Pcs
9.	First Aid Box with accessories		1	
10.	Steel Almirah	Standard Size , 20-22 SWG	2	Pcs
11.	White Board Marker	Red leaf	5	Dozen
12.	Water Filter	40 Ltr	1	Pcs
13.	Fire extinguisher	ABC	2	cylinder

#### 25. LIST OF TOOLS IN THE HAND TOOL BOX: (Need to work on this)

S. No	Name of the items	Specification	QTY.	Unit
1.	Rip saw	18" long	20	Pcs
2.	Cross cut saw	18" long	20	Pcs
3.	Tenon saw	14" long	10	Pcs
4.	Flat chisel	1"	20	Pcs
5.	Paring chisel	1"	20	Pcs

S. No	Name of the items	Specification	QTY.	Unit
6.	Mortise chisel	½ , ¾ inch	20-20	Pcs
7.	Round chisel	3/8 & 1"	10 + 10	Pcs
8.	Hand planer	18"	20	Pcs
9.	Hand jointer planer	24" & 30"	5 & 5	Pcs
10.	Jack planer	14"	5	Pcs
11.	Smooth planer	8"	10	Pcs
12.	Spoke shave	2"	5	Pcs
13.	Rabbet planer	8"	5	Pcs
14.	Router planer	18"	2	Pcs
15.	Measuring tape	5 m steel tape	20	set
16.	Try square	1'	20	set
17.	Flat screw driver	14" & 18"	10 & 10	Pcs
18.	Star screw driver	6", 14" & 18"	2, 5 & 3	Pcs
19.	Adjustable spanner	12"	2	Pcs
20.	Marking gauge		20	Pcs
21.	Inside calipers		20	Pcs
22.	Outside calipers		20	Pcs
23.	Divider		20	Pcs
24.	Ball peen hammer	1.5 Pound & 2 Pound	10 & 10	Pcs
25.	Claw hammer	1.5 Pound	10	Pcs
26.	Mallet	Wooden	20	Pcs
27.	Pincher	8"	10	Pcs
28.	Flat file	1"	5	Pcs
29.	Round file	16"	3	Pcs
30.	Half round file	16"	3	Pcs
31.	Tri angular file	6"	24	Pcs
32.	Augur bit	Different size 24 Nos.	2	Set
33.	Twist bit	Different size 24 Nos.	3	Set
34.	Counter shank bit		5	Pcs

S. No	Name of the items	Specification	QTY.	Unit
35.	Spirit level	4 feet long	2	Pcs

## 26. SUGGESTED REFERENCE BOOKS:

- Civil Engineering Materials -2 by Md. Abdul Matin Howlader. Published by Prakashon.

## 27. CURRICULUM TERMS AND DEFINITION:

<b>Competency</b>	Competency means a cluster of related abilities, commitments, knowledge, and skills that enable a trainees or person to act effectively in a job.
<b>Curriculum Guide</b>	A curriculum guide is a detail resource for trainers/instructors to conduct training programs effectively. The guide intends to add the trainers/instructors in developing lesson plan, handouts/learning materials, training manuals, and evaluation criteria etc, which are basic elements in the teaching learning process.
<b>Curriculum</b>	A plan for providing sets of learning opportunity to achieve broad goal and related specific objectives for the people by a single school center.
<b>DACUM/RJA</b>	Developing A Curriculum / Rapid Job Analysis. DACUM/RJA is a technique that is used to identify the competencies relevant to a particular occupation. Then the competencies of the DACUM/RJA have been formulated in details to build a curriculum guideline
<b>Duty</b>	Duty is an arbitrary clustering of related tasks in to broad functional area or general area of responsibility of trainees.
<b>Enabling Objective</b>	A statement expressing a knowledge, skills or attitudes those will enable the trainee to accomplish a terminal performance objective.
<b>Instructional Guide</b>	Instructional guide is a well-planned and structured document for the instructor to deliver effective instruction so that trainees can attain learning objectives as per training standards.
<b>Module</b>	A module is defined as a specific learning material. Modules are essentially self-contained. Self-instructional packages, with learning paced by each learner according to his/her individual ability and needs. A module covers either a single element of subject matter content or a group of content elements forming a discrete unit of subject matter or area of skills.
<b>Occupational Analysis</b>	Occupational analysis is a process used to identify the duties and tasks those are important to workers in any given occupation. A number of alternative and acceptable approaches to occupational analysis are available.
<b>Program guide</b>	A program guide is a comprehensive resource for trainers/instructors, planners, and top-level management for planning and implementation of any training programs.
<b>Program Objectives</b>	The objectives are set in a broad way to target to achieve mastery learning of the complete occupation.
<b>Skill</b>	The ability to perform on occupational task with the degree of proficiency required for a given occupation
<b>Step</b>	The smallest discrete or observable aspect of a task.
<b>Task</b>	Task analysis is the process of identifying and writing down the specific skills,

<b>Analysis</b>	knowledge and attitudes that distinguish someone who performs a task competently from someone who cannot perform the task at all.
<b>Task</b>	A unit of work complete in itself that forms a logical part of an occupation. It can be broken down into discrete steps.
<b>Terminal Performance Objective</b>	The objectives set to attain at the end of the training completion. It includes condition, unit of work and standard of teaching and learning.

## 28. CURRICULUM DEVELOPMENT TEAM:

SL #	Name	Designation	Organization	Contact Number
1.	Sonnaymat Rezaul Karim	Junior Instructor	Dhaka Politechnic Institute	01920-313414
2.	Md. Kutub Uddin Ahmed	Sr. Instructor Finishing Carpenter	Barisal Politechnic Institute	01718-720832
3.	Monwar Hossain	Engineer Finishing Carpenter	Industry Skills Council	01917621166
4.	Mamun Hossain	Supervisor Finishing Carpenter	Industry Skills Council	01918691804
5.	Iftakharul Alam Khan	Project Officer	SUDOKKHO	01913854349

Overall Supervision: Md. Anisuzzaman

Workshop Facilitator(s): Md. Anisuzzaman, Anoj Bhattarai and Akim Shrestha

Record and Documentation: Anoj Bhattarai and Akim Shrestha

## 29. REFERENCES (FOR DEVELOPING CURRICULUMS)

- SUDOKKHO (2015, May). Rapid Job Analysis of Finishing Carpenter. Dhaka Bangladesh.

## 30. LINKAGES OF SUDOKKHO CURRICULUM WITH BTEB COMPETENCY STANDARDS:

S.N.	SUDOKKHO Training Module	BTEB Competency Standards
1.	Practice Occupational Health and Safety (OHS) Procedure.	GN100312A : Practice workplace cleanliness GN100412A: Practice occupational health and safety (OHS) procedures
2.	Apply Fundamental Skills of Carpentry Works;	NA (No BTEB Competency Standards available)

S.N.	SUDOKKHO Training Module	BTEB Competency Standards
3.	Make Joints;	NA
4.	Make Different Parts of Door and Wall Cabinet;	NA
5.	Make Railing of staircase.	NA

**31. SPECIAL NOTE FOR TRAINING PROVIDERS:**

Since the technology is moving fast, if there will have any new demand/skills beyond the curriculum guide, please send the comments and suggestions to the address given in the curriculum. The project believes that the development has no boundaries.

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