Model Curriculum

QP Name: Wooden Furniture Maker

QP Code: STC- INT/2022/1202, V2

QP Version: 2.0

NSQF Level: 3

Model Curriculum Version: 2.0

West Bengal State Council of Technical & Vocational Education and Skill Development, Karigari Bhavan, (5th Floor), Plot-B/7, Action Area-III, New Town, Kolkata-700160

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Training Parameters

Sector	**Wood & Carpentry**
Sub-Sector	Carpentry
Occupation	Wooden Furniture Maker
Country	India
NSQF Level	3
Aligned to NCO/ISCO/ISIC Code	*NCO-2015/7522.1000*
Minimum Educational Qualification and Experience	1. Class 8 pass and pursuing continuous regular schooling, OR 2. Class 8 Pass with 1 year experience, OR 3. Class 8 Pass + ITI, OR 4. Class 10 Pass OR 5. Previous relevant qualification of NSQF Level 2 with 1 yr experience
Pre-Requisite License or Training	NIL
Minimum Job Entry Age	18 years
Last Reviewed On	31-08-2023
Next Review Date	30-08-2026
Version	2.0
NSQC Approval Date	31-08-2023
Model Curriculum Creation Date	31-08-2023
Model Curriculum Valid Up to Date	30-08-2026
Model Curriculum Version	2.0
Minimum Duration of the Course	390 hours
Maximum Duration of the Course	390 hours

Program Overview

This section summarizes the end objectives of the program along with its duration.

Training Outcomes

At the end of the program, the participants will be able to:

- Apply Safe Working Practices
- Identify timber/ wood & apply measuring, marking and testing instrument and holding & supporting hand tools.
- Identify and apply various saws and portable power saw machines for ripping, cross cutting, oblique sawing and curve cutting etc.
- Analyze the surface finish with exact sizing by planning operation, identify and apply various shaving tools, pairing tools or portable power planning machine.
- Identify and classify various types of joints, analyze and prepare correct joint at correct position, related with strength and appearance.
- Demonstrate ripping, cross cutting, curve cutting etc. on jig or scroll saw and circular saw machine.
- Demonstrate working on pedestal/potable drilling machine, wood turning lathe in correct location on woodwork.
- Prepare various type of wooden floor, partition wall, roof truss, door and windows frame and shutters, assembling &fixing (wooden/ aluminium or PVC).
- Produce component involving different operations of fitting work and make small wooden job, model as per drawing with schedule sizes of timber or alternatives of timber i.e. plywood, sunmica, block board etc.
- Work in real job situation with special emphasis on basic safety and hazards in this domain

Compulsory Modules

The table lists the modules and their duration corresponding to the Compulsory NOS of the QP.

NOS and Module Details	Theory Duration	Practical Duration	On-the-Job Training Duration (Mandatory)	On-the-Job Training Duration (Recommended)	Total Duration
INT/1202/OC1 Apply Safe Working Practices NOS Version No.: 2.0 NSQF Level: 3	**10:00 Hours**	**20:00 Hours**	**00:00Hours**	**00:00Hours**	**30:00 Hours**
Module1: Apply Safe Working Practices	10:00 Hours	20:00 Hours	00:00Hours	00:00Hours	30:00 Hours
INT/1202/OC2 Identify timber/ wood & apply measuring, marking and testing instrument and holding & supporting hand tools. NOS Version No. :2.0 NSQF Level:3	**10:00 Hours**	**20:00 Hours**	**00:00Hours**	**00:00Hours**	**30:00 Hours**

Module2: Identify timber/ wood & apply measuring, marking and testing instrument and holding & supporting hand tools.	10:00 Hours	20:00 Hours	00:00Hours	00:00Hours	30:00 Hours
INT/1202/OC3 **Identify and apply various saws and portable power saw machines for ripping, cross cutting, oblique sawing and curve cutting etc.** **NOS Version No.:2.0** **NSQF Level: 3**	**10:00 Hours**	**20:00 Hours**	**00:00Hours**	**00:00Hours**	**30:00 Hours**
Module3:Identify and apply various saws and portable power saw machines for ripping, cross cutting, oblique sawing and curve cutting etc..	10:00 Hours	20:00 Hours	00:00Hours	00:00Hours	30:00 Hours
INT/1202/OC4 **Analyze the surface finish with exact sizing by planning operation, identify and apply various shaving tools, pairing tools or portable power planning machine.** **NOS Version No.:2.0** **NSQF Level:3**	**10:00 Hours**	**20:00 Hours**	**00:00Hours**	**00:00Hours**	**30:00 Hours**
Module 4: Analyze the surface finish with exact sizing by planning operation, identify and apply various shaving tools, pairing tools or portable power planning machine.	10:00 Hours	20:00 Hours	00:00Hours	00:00Hours	30:00 Hours
INT/1202/OC5 **Identify and classify various types of joints, analyze and prepare correct joint at correct position, related with strength and appearance.** **NOS Version No.:2.0** **NSQF Level: 3**	**10:00 Hours**	**20:00 Hours**	**00:00Hours**	**00:00Hours**	**30:00 Hours**
Module 5: Identify and classify various types of joints, analyze and prepare correct joint at correct position, related with strength and appearance.	10:00 Hours	20:00 Hours	00:00Hours	00:00Hours	30:00 Hours
INT/1202/OC6 **Demonstrate ripping, cross cutting,**	**10:00 Hours**	**20:00 Hours**	**00:00Hours**	**00:00Hours**	**30:00 Hours**

curve cutting etc. on jig or scroll saw and circular saw machine. **NOS Version No.: 2.0** **NSQF Level: 3**					
Module 6: Demonstrate ripping, cross cutting, curve cutting etc. on jig or scroll saw and circular saw machine.	10:00 Hours	20:00 Hours	00:00Hours	00:00Hours	30:00 Hours
INT/1202/OC7 **Demonstrate working on pedestal/potable drilling machine, wood turning lathe in correct location on woodwork.** **NOS Version No.:2.0** **NSQF Level: 3**	**10:00 Hours**	**20:00 Hours**	**00:00Hours**	**00:00Hours**	**30:00 Hours**
Module 7: Demonstrate working on pedestal/potable drilling machine, wood turning lathe in correct location on woodwork.	10:00 Hours	20:00 Hours	00:00Hours	00:00Hours	30:00 Hours
INT/1202/OC8 **Prepare various type of wooden floor, partition wall, roof truss, door and windows frame and shutters, assembling &fixing (wooden/ aluminium or PVC).** **NOS Version No.: 2.0** **NSQF Level: 3**	**10:00 Hours**	**20:00 Hours**	**00:00Hours**	**00:00Hours**	**30:00 Hours**
Module 8: Prepare various type of wooden floor, partition wall, roof truss, door and windows frame and shutters, assembling &fixing (wooden/ aluminium or PVC).	10:00 Hours	20:00 Hours	00:00Hours	00:00Hours	30:00 Hours
INT/1202/OC9: **Create a wooden piece following a provided drawing and using specified timber /plywood /sunmica/block board etc.** **NOS Version No.: 2.0** **NSQF Level: 3**	**10:00 Hours**	**20:00 Hours**	**00:00Hours**	**00:00Hours**	**30:00 Hours**
Module 9: Create a wooden piece following a provided drawing and using specified timber /plywood /sunmica/block board etc.	10:00 Hours	20:00 Hours	00:00Hours	00:00Hours	30:00 Hours

INT/1202/OC10 **Work in real job situation with special emphasis on basic safety and hazards in this domain.** **NOS Version No.: 2.0** **NSQF Level: 3**	**00:00 Hours**	**00:00 Hours**	**60:00Hours**	**00:00Hours**	**60:00 Hours**
Module 10: Work in real job situation with special emphasis on basic safety and hazards in this domain.	00:00 Hours	00.00 Hours	60:00Hours	00:00Hours	60:00 Hours
DGT/VSQ/N0102 **Employability Skills** **NOS Version No.: 1.0** **NSQF Level: 3**	**60:00 Hours**	**00.00 Hours**	**00:00Hours**	**00:00Hours**	**60:00 Hours**
Module 11: Employability Skills	60:00 Hours	00:00 Hours	00:00Hours	00:00Hours	60:00 Hours
Total Duration	**150:00 Hours**	**180:00 Hours**	**60:00Hours**	**00:00Hours**	**390:00 Hours**

Module Details

Module1: Apply Safe Working Practices

Mapped to INT/1202/OC1

Terminal Outcomes:

- Maintain procedures to achieve a safe working environment in line with occupational health and safety regulations and requirements according to site policy.
- Recognize any unsafe situations according to site policy, and assess his report accordingly.
- Identify and take necessary precautions on fire and safety hazards and report according to site policy and procedures.
- Demonstrate Personal Productive Equipment (PPE) like: safety helmet, safety glove, safety shoe and use the same as per related working environment.
- Demonstrate basic first aid & CPR and use them under different circumstances.
- Identify different fire extinguishers and use the same as per requirement in a mock drill.

Duration: *10:00*	**Duration: *20:00***
Theory–Key Learning Outcomes	**Practical–Key Learning Outcomes**
● Maintain procedures to achieve a safe working environment in line with occupational health and safety regulations and requirements according to site policy. ● Recognize any unsafe situations according to site policy, and assess his report accordingly. ● Identify and take necessary precautions on fire and safety hazards and report according to site policy and procedures.	● Recognize any unsafe situations according to site policy, and assess his report accordingly. ● Demonstrate Personal Protective Equipment (PPE) like: safety helmet, safety glove, and safety shoe, use the same as per related working environment. ● Demonstrate basic first aid & CPR and use them under different circumstances. ● Identify different fire extinguishers and use the same as per requirement in a mock drill.
Classroom Aids: Computer, Projection Equipment, Power Point Presentation and software, Facilitator's Guide, Participant's Handbook.	
Tools, Equipment and Other Requirements: First Aid box, Different types of fire extinguishers, PPE kits, Safety charts.	

Module2: Identify timber/ wood & apply measuring, marking and testing instrument and holding & supporting hand tools.

Mapped to INT/1202/OC2

Terminal Outcomes:

- Identify different types of wood/ timber.
- Identify the measuring, marking, work holding and testing instrument.
- Mark as per drawing and measure dimensions for checking.
- Demonstrate use of testing instrument and other usable hand tools.
- Identify wooden sample piece (Annual ring, knots, shakes & chicks etc.).

Duration: *10:00*	Duration: *20:00*
Theory–Key Learning Outcomes	**Practical–Key Learning Outcomes**
The students will be able to describe the followings:- ● Introduction of the trade. General discipline, workshop discipline & Housekeeping. Safety precaution in the workshop and industrial safety. ● Introduction of timber, growth of timber trees, cross-section of exogenous tree trunk, types of tree, different part of a tree, Soft & hard wood, their differences. Identification and use of different types of the measuring, marking and testing tools & their applications. Identification and use of different types of work holding devices.	The students will be able to demonstrate the followings:- ● Identification of different wooden sample piece i.e. - soft wood & hard wood, wooden grains etc. & their applications. ● Identification of wooden sample piece (Annual ring, knots, shakes & chicks etc.). ● Demonstrate use of hand operated tools and showing different audio-visual clips.
Classroom Aids:	
Computer, Projection Equipment, Power Point Presentation and software, Facilitator's Guide, Participant's Handbook	
Tools, Equipment and Other Requirements	
Measuring tape, Steel Measuring Scale ,Marking Knife, Try Square, Bevel Square Carpenter marking gauge, Carpenter mortise gauge, Hand Saw, Tenon saw Metal Jack plane, Metal smoothing plane, Firmer Chisel, Mortise chisel, Screw driver Wooden Mallet, Claw hammer, Oil stone, Ball peen hammer, Hand brush for cleaning Compass saw, Plumb bob, Spring caliper (inside)	

Module 3: Identify and apply various saws and portable power saw machines for ripping, cross cutting, oblique sawing and curve cutting etc.

Mapped to INT/1202/OC3

Terminal Outcomes:

- Select material and inspect visually for defects.
- Mark the job as per drawing and check measurements before sawing.
- Mark an angle with the aid of bevel square and miter square for oblique sawing.
- Identify and arrange the required tools for desired operations and make the job.
- Perform Ripping/cross, cutting/curve, sawing/ cutting operations according to the marking following safety norms.
- Check for dimensional accuracy.
- Use and practice Portable power circular saw.
- Sharpen and set different type saw blade.

Duration:10:00	Duration:20:00
Theory–Key Learning Outcomes	**Practical–Key Learning Outcomes**
The students will be able to describe the following: • Type of bench vice and their uses. Introduction of different saw and their uses. Introduction of power circular saw and its use. Type of special saw and its uses i.e. - compass saw, coping saw, bow saw, fret saw. • Saw sharpening and sharpening tools. Description of boring tools - Types, Parts, functions, size and application. Description of portable electrical drill machine. Drill bits, types, sizes etc. • Hand augers description, sizes of augers, application of hand augers.	The student will be able to do the following: • Demonstrate the use of bench vice, bench hook, bench stop & their application. • Demonstrate different types of saws- ripping, cross cutting, curve cutting, oblique sawing. • Use and practice Portable power circular saw. • Sharpen and set different type saw blade.
Classroom Aids:	
Computer, Projection Equipment, Power Point Presentation and software, Facilitator's Guide, Participant's Handbook	
Tools, Equipment and Other Requirements	
Measuring tape, Steel Measuring Scale ,Marking Knife, Try Square, Bevel Square Carpenter marking gauge, Carpenter mortise gauge, Hand Saw, Tenon saw Metal Jack plane, Metal smoothing plane, Firmer Chisel, Mortise chisel, Screw driver Wooden Mallet, Claw hammer, Oil stone, Ball peen hammer, Hand brush for cleaning Compass saw, Plumb bob, Spring caliper (inside)	

Module 4: Analyze the surface finish with exact sizing by planning operation, identify and apply various shaving tools, pairing tools or portable power planning machine.

Mapped to INT/1202/OC4

Terminal Outcomes:

- Select material and appropriate planner for required surface finish and size.
- Set planner with sharpened cutting iron and perform required planning operation to obtain required size and finish.
- Plane across the grain and end grain.
- Check the size, flatness, squareness and finish of the job as per drawing.
- Demonstrate removal, sharpening and fitting of planner blade observing standard operating procedures.
- Arrange woods with vertical/ horizontal grains and required type of chisel for performing operation (chiseling across the grain) as per drawing.
- Mark the work as per dimension of the drawing.
- Perform chiseling as per drawing and ensure better finish.
- Demonstrate the use of different types of chisel, chiseling, chiseling along& across the grain.
- Check the finished job as per drawing.

Duration: *10:00*	**Duration: *20:00***
Theory–Key Learning Outcomes	**Practical–Key Learning Outcomes**
The student will describe the methods of the followings:- ● Type of different planes and their proper uses in woodwork - Description, function and its size, setting, knowledge of sharpening and uses etc. Knowledge of using marking gauges. Important instruments necessary for checking flatness and twistiness of surface. Sharpening and grinding angle of cutter. Portable power planer - useful in modern woodwork and new technology design. ● Different type chisels - Definition, identification, their uses. Necessity of grinding and sharpening. Striking tools- Definition, types, application. Files - Types, uses. Care & maintenance of files. Function of work bench, bench vice, bench hook, etc.	The students will demonstrate the following:- ● Planning face, face edge. Side edges and back. ● Demonstrate the use of marking gauge & mortise gauge etc. ● Test the accuracy of flatness and twistiness of the surface by using by try square. ● Grinding and Sharpening process of the planer blade/ cutter. ● Demonstration of portable power planer machine and its function. ● Demonstrate the use of different types of chisel, chiseling along & across the grain. ● Grind/ sharpen and honing of a chisel. ● Demonstrate use of different types of striking tool, hammer and mallets. ● . Demonstrate the use of clamps ‘G’ or ‘C’, saw sharpening vice, carpentry vice etc.
Classroom Aids:	
Computer, Projection Equipment, Power Point Presentation and software, Facilitator’s Guide, Participant’s Handbook	
Tools, Equipment and Other Requirements	
Measuring tape, Steel Measuring Scale ,Marking Knife, Try Square, Bevel Square Carpenter marking gauge, Carpenter mortise gauge, Hand Saw, Tenon saw Metal Jack plane, Metal smoothing plane, Firmer Chisel, Mortise chisel, Screw driver Wooden Mallet, Claw hammer, Oil stone, Ball peen hammer, Hand brush for cleaning Compass saw, Plumb bob, Spring caliper (inside)	

Module 5: Identify and classify various types of joints, analyze and prepare correct joint at correct position, related with strength and appearance.

Mapped to INT/1202/OC5

Terminal Outcomes:

- Choose exact type of joint to employ and arrange materials, tools and equipment to perform the operation.
- Perform framing joint (Sawing and chiseling) as required maintaining dimensions.
- Perform Housing joint as required maintaining dimensions.
- Perform Dovetail joint (Sawing and chiseling) as required maintaining dimensions.
- Perform Broadening joint as required maintaining dimensions.
- Perform Lengthening joint (Sawing and chiseling) as required maintaining dimensions.
- Assemble different parts and check for correctness, strength and finishing.

Duration: *10:00*	**Duration: *20:00***
Theory–Key Learning Outcomes	**Practical–Key Learning Outcomes**
The students will be able to describe: • Seasoning of timber - Definition, advantage and disadvantage of seasoning. Moisture content in timber and its effect on timber. Characteristics of wood, physical and mechanical properties of wood. • Quality of good timber. Define the classification of wooden joint. Description of different types joint. Uses of joint: Framing joint angle joint and lengthening joint etc. Different type of housing joint. • Jig or scroll saw and portable circular saw machine -its parts & their operational techniques and safety precaution.	The students will be able to demonstrate: • Perform framing joint (Sawing and chiseling) as required maintaining dimensions. Demonstrate and making framing joints • Demonstration and making Housing joints. Demonstration and making dovetail joint. • Demonstration and Making broadening joints. • Perform Housing joint as required maintaining dimensions. • Perform Dovetail joint (Sawing and chiseling) as required maintaining dimensions. • Perform Broadening joint as required maintaining dimensions. • Perform Lengthening joint (Sawing and chiseling) as required maintaining dimensions. • Assemble different parts and check for correctness, strength and finishing.
Classroom Aids:	
Computer, Projection Equipment, Power Point Presentation and software, Facilitator's Guide, Participant's Handbook	
Tools, Equipment and Other Requirements	
Measuring tape, Steel Measuring Scale ,Marking Knife, Try Square, Bevel Square Carpenter marking gauge, Carpenter mortise gauge, Hand Saw, Tenon saw Metal Jack plane, Metal smoothing plane, Firmer Chisel, Mortise chisel, Screw driver Wooden Mallet, Claw hammer, Oil stone, Ball peen hammer, Hand brush for cleaning Compass saw, Plumb bob, Spring caliper (inside)	

Module 6: Demonstrate ripping, cross cutting, curve cutting etc. on jig or scroll saw and circular saw machine.

Mapped to INT/1202/OC6

Terminal Outcomes:

Plan and select the job and set up machine accessories at position to perform desired operation.

- Demonstrate band saw machine with different parts & their functions.
- Demonstrate the safety precaution with operational techniques.
- Ripping & cross cutting operation on band saw machine with hard wood.
- Curve cutting operation on hard board or soft wood or ply board by band saw machine.
- Demonstrate circular saw machine, its parts and their operational techniques with safety precaution
- Ripping & cross cutting operation on hard wood/ soft wood/ ply wood (not less than 12 mm) by circular saw machine.

Duration: *10:00*	**Duration: *20:00***
Theory–Key Learning Outcomes	**Practical–Key Learning Outcomes**
The student will be able to describe the following:- ● Type of special saw and its uses i.e. -compass saw, coping saw, bow saw, fret saw. ● Saw sharpening and sharpening tools. Description of boring tools - Types, Parts, functions, size and application. Description of portable electrical drill machine. Drill bits, types, sizes etc. ● Type of different planes and their proper uses in woodwork - Description, function and its size, setting, knowledge of sharpening and uses etc. Knowledge of using marking gauges. Important instruments necessary for checking flatness and twistiness of surface. Sharpening and grinding angle of cutter. Portable power planer - useful in modern woodwork and new technology design.	The students will be able to do the following activities: ● Demonstrate different types of saws- ripping, cross cutting, curve cutting, oblique sawing. ● Use and practice Portable power circular saw. ● Sharp Ripping & cross cutting operation on band saw machine with hard wood. ● Curve cutting operation on hard board or soft wood or ply board by band saw machine. ● Demonstrate circular saw machine, its parts and their operational techniques with safety precaution ● Ripping & cross cutting operation on hard wood/ soft wood/ ply wood (not less than 12 mm) by circular saw machines and set different type saw blade.
Classroom Aids:	
Computer, Projection Equipment, Power Point Presentation and software, Facilitator's Guide, Participant's Handbook	
Tools, Equipment and Other Requirements Measuring tape, Steel Measuring Scale ,Marking Knife, Try Square, Bevel Square, Carpenter marking gauge, Carpenter mortise gauge, Hand Saw, Tenon saw, Metal Jack plane, Metal smoothing plane, Firmer Chisel, Mortise chisel, Screw driver, Wooden Mallet, Claw hammer, Oil stone, Ball peen hammer, Hand brush for cleaning, Compass saw, Plumb bob, Spring caliper (inside).	

Module 7: Demonstrate working on pedestal/potable drilling machine, wood turning lathe in correct location on woodwork.

Mapped to INT/1202/OC7

Terminal Outcomes:

- Plan and select material and machine for drill holes to make observing safety points.
- Mark the job as per drawing.
- Set the job and cutting tool properly.
- Perform operation to make drill holes as per drawing.
- Check dimensions for correctness.
- Plan and set the machine for desired turning operation.
- Hold the job between centers or in other work holding devices.
- Hold the tool and adjust tool rest
- Perform required turning operation observing standard operating procedure.
- Check dimensions and finish as per drawing.

Duration: *10:00*	**Duration: *20:00***
Theory–Key Learning Outcomes	**Practical–Key Learning Outcomes**
The student will be able to describe the following:- • Pedestal /portable drilling machine - Description, Types, Sizes, Parts, Function, Operation of pedestal drilling machine. Safety precaution and P.P.E for the pedestal drilling machine. • Wood turning lathe – Description, Types, Sizes, Parts, Function, Types, Operation of wood turning lathe. Safety precaution and P.P.E for wood turning lathe.	The student will be able to demonstrate the following:- • Pedestal / portable drilling machine -its parts & their operational techniques and safety precaution. • Demonstrate the use of country drill, hand drill, ratchet brace, Breast drill and hand augers & bits. • Demonstrate the use of portable electrical drill machine. • Demonstrate the Auger application • Make different sizes of drill hole on wooden block/ job using straight/ taper shank drill bit. • Wood turning lathe - operational technique and safety precaution. • Care & maintenance of wood turning lathe with oiling & greasing. • Make chisel handle, table lamp stand, etc. on wood turning lathe.
Classroom Aids:	
Computer, Projection Equipment, Power Point Presentation and software, Facilitator's Guide, Participant's Handbook	
Tools, Equipment and Other Requirements Measuring tape, Steel Measuring Scale ,Marking Knife, Try Square, Bevel Square, Carpenter marking gauge, Carpenter mortise gauge, Hand Saw, Tenon saw, Metal Jack plane, Metal smoothing plane, Firmer Chisel, Mortise chisel, Screw driver, Wooden Mallet, Claw hammer, Oil stone, Ball peen hammer, Hand brush for cleaning, Compass saw, Plumb bob, Spring caliper (inside)	

Module 8: Prepare various type of wooden floor, partition wall, roof truss, door and windows frame and shutters, assembling &fixing (wooden/ aluminium or PVC).

Mapped to INT/1202/OC8

Terminal Outcomes:

- Identify simple floor construction.
- Make structure of wooden partition wall.
- Arrange required materials, tools and machineries for
- Smooth performance of the operations.
- Mark the job and perform required operation to prepare the item as per drawing.
- Assemble the components to make a complete item.
- Check the dimensions of the product and its functionality
- Study the drawing / sketch and plan for the required steps of operation to produce the item.
- Arrange required materials, tools and machineries for smooth Performance of the operations.
- Mark the job and perform required operation to prepare the item as per drawing.
- Assemble the components to make a complete item.
- Check the dimensions of the product and its functionality.

Duration: *10:00*	**Duration: *20:00***
Theory–Key Learning Outcomes	**Practical–Key Learning Outcomes**
The students will describe the methods of the followings: • Purpose of using floor construction with different types of joists. • Introduction about building construction. Different type door & windows and different size, their uses. Different type panel used for panel shutter, glazed shutter etc. • Economic factors and material estimates... Basic principle of repairing work, door window,	The students will be able to demonstrate the followings: • Identification of simple floor construction. • Demonstrate different types of basement floor single joint wooden floor and double joint wooden floor. Make structure of wooden partition wall. Revision of basic joint related with building work. • Making door shutter. Making panel of door. • Making door glazed shutter fitting molding with glass. Repair and recondition furniture, door and window, staircase hand railing etc. Grind chisels, drills and check for correct cutting angle. • Mark and make fitting different types of nuts, bolts, washers, screws by drilling, taping and dieing. Make joint on hard wood to make small door and window frame. • Making a small rack with hard wood and plywood. Make a small table use of lock, hinges, hasp and staple etc. making a small box with sun mica top. (Mortise and Tenon joint. 'T' half tap dovetail joint. Secret dovetail joint)
Classroom Aids:	
Computer, Projection Equipment, Power Point Presentation and software, Facilitator's Guide, Participant's Handbook	
Tools, Equipment and Other Requirements	
Measuring tape, Steel Measuring Scale ,Marking Knife, Try Square, Bevel Square, Carpenter marking gauge, Carpenter mortise gauge, Hand Saw, Tenon saw, Metal Jack plane, Metal smoothing plane, Firmer Chisel, Mortise chisel, Screw driver, Wooden Mallet, Claw hammer, Oil stone, Ball peen hammer, Hand brush for cleaning, Compass saw, Plumb bob, Spring caliper (inside)	

Module 9: Create a wooden piece following a provided drawing and using specified timber /plywood /sunmica/block board etc.

Mapped to INT/1202/OC9

Terminal Outcomes:

- Mark and make hanging plate, corner plate, name plate, different types of clamps and angle plate by chipping, sawing filling, drilling, counter sinking etc.
- Grind chisels, drills and check for correct cutting angle.
- Arrange required materials, tools and machineries for smooth performance of the operations.
- Mark the job as per drawing.
- Perform required operation to prepare the job as per drawing.
- Check the dimensions of the product and its functionality.
- Arrange required material, tools etc. to make the job as per drawing.
- Perform sawing, chiseling of different parts, prepare all the parts as per marking layout and check dimension.
- Assemble different parts to make a complete job.
- Overall finish and check dimensions as per drawing.

Duration: *10:00*	**Duration: *20:00***
Theory–Key Learning Outcomes	**Practical–Key Learning Outcomes**
• Calculation of timber required for making a door and window frame, small rack, table etc. List out the required hand tools and raw materials for making the above job. List out the sequence of operation of the job.	• Mark and make hanging plate, corner plate, name plate, different types of clamps and angle plate by chipping, sawing filling, drilling, counter sinking etc. • Grind chisels, drills and check for correct cutting angle. Arrange required materials, tools and machineries for smooth performance of the operations. • Mark the job as per drawing. Perform required operation to prepare the job as per drawing. Check the dimensions of the product and its functionality. • Arrange required material, tools etc. to make the job as per drawing. Perform sawing, chiseling of different parts, prepare all the parts as per marking layout and check dimension. • Assemble different parts to make a complete job. Overall finish and check dimensions as per drawing. Make joint on hard wood to make small door and window frame. • Making a small rack with hard wood and plywood. • Make a small table use of lock, hinges, hasp and staple etc. making a small box with sun mica top. (Mortise and Tenon joint. 'T' half tap dovetail joint. Secret dovetail joint)
Classroom Aids:	
Computer, Projection Equipment, Power Point Presentation and software, Facilitator's Guide, Participant's Handbook	
Tools, Equipment and Other Requirements	
Measuring tape, Steel Measuring Scale ,Marking Knife, Try Square, Bevel Square, Carpenter marking gauge, Carpenter mortise gauge, Hand Saw, Tenon saw, Metal Jack plane, Metal smoothing plane, Firmer Chisel, Mortise chisel, Screw driver, Wooden Mallet, Claw hammer, Oil stone, Ball peen hammer, Hand brush for cleaning, Compass saw, Plumb bob, Spring caliper (inside)	

Module 10 Work in real job situation with special emphasis on basic safety and hazards in this domain

Mapped to INT/1202/OC10

Terminal Outcomes:

Assessor will check report prepared for this component of training of the course and assess whether competency has been developed to work in the real job situation with special emphasis on basic safety and hazards in this domain. (The trainee is expected to undertake work in actual workplace under any supervisor / contractor for 150 Hours.)

Duration:*00:00*	**Duration: *60:00***
Theory–Key Learning Outcomes	**Practical–Key Learning Outcomes**
	• Assessor will check report prepared for this component of training of the course and assess whether competency has been developed to work in the real job situation with special emphasis on basic safety and hazards in this domain. (The trainee is expected to undertake work in actual workplace under any supervisor / contractor for 150 Hours.)
Classroom Aids:	
Tools, Equipment and Other Requirements	

Module11: Employability skills

Mapped to DGT/VSQ/N0102, v 1.0

Terminal Outcomes:

- Describe the traits of individual at workplace
- Demonstrate apply employability and entrepreneurship skills at workplace

Duration: *60:00*
Key Learning Outcomes
• Discuss the importance of Employability Skills in meeting the job requirements. • Explain constitutional values, civic rights, duties, citizenship, responsibility towards society etc. that are required to be followed to become a responsible citizen. • Discuss 21st century skills. • Display positive attitude, self -motivation, problem solving, time management skills and continuous learning mindset in different situations. • Discuss the significance of reporting sexual harassment issues in time • Discuss the significance of using financial products and services safely and securely.

• Explain the significance of approaching the concerned authorities in time for any exploitation as per legal rights and laws • Explain the importance of managing expenses, income, and savings. • Discuss the significance of using internet for browsing, accessing social media platforms, safely and securely • Discuss the need for identifying opportunities for potential business, sources for arranging money and potential legal and financial challenges • Differentiate between types of customers • Explain the significance of identifying customer needs and addressing them • Discuss the significance of maintaining hygiene and dressing appropriately • Discuss the significance of dressing up neatly and maintaining hygiene for an interview • Discuss how to search and register for apprenticeship opportunities • Show how to practice different environmentally sustainable practices • Use appropriate basic English sentences/phrases while speaking • Demonstrate how to communicate in a well -mannered way with others • Demonstrate working with others in a team • Show how to conduct oneself appropriately with all genders and PwD • Show how to operate digital devices and use the associated applications and features, safely and securely • Create a biodata Use various sources to search and apply for jobs
Classroom Aids:
Computer, Projection Equipment, PowerPoint Presentation and software, Facilitator's Guide,Participant's Handbook
Tools, Equipment and Other Requirements
Computer/laptop.

Details Syllabus Content

Detail of Theory Syllabus: 100 hours

SL NO	CONTENT	DETAILS
1	Introduction to timber, measuring and marking tools with appropriate safety precautions in the workshop.	Introduction of the trade. General discipline, workshop discipline & Housekeeping. Safety precaution in the workshop and industrial safety. Importance of P.P.E, Types of PPE and their application. Introduction of timber, growth of timber trees, cross-section of exogenous tree trunk, types of tree, different part of a tree, Soft & hard wood, their differences. Identification and use of different types of the measuring, marking and testing tools & their applications. Identification and use of different types of work holding devices.
2	Application of various saws and portable power saw machines for Ripping, cross cutting, Oblique sawing and curve cutting etc.	Type of bench vice and their uses. Introduction of different saw and their uses. Introduction of power circular saw and its use. Type of special saw and its uses i.e. -compass saw, coping saw, bow saw, fret saw. Saw sharpening and sharpening tools. Description of boring tools - Types, Parts, functions, size and application. Description of portable electrical drill machine. Drill bits, types, sizes etc. Hand augers description, sizes of augers, application of hand augers.
3	Planning operation, identifying and applying various shaving tools or portable power planning machine	Type of different planes and their proper uses in woodwork - Description, function and its size, setting, knowledge of sharpening and uses etc. Knowledge of using marking gauges. Important instruments necessary for checking flatness and twistiness of surface. Sharpening and grinding angle of cutter. Portable power planer - useful in modern woodwork and new technology design.
4	Application of pairing tools	Different type chisels - Definition, identification, their uses. Necessity of grinding and sharpening. Striking tools- Definition, types, application. Files - Types, uses. Care & maintenance of files. Function of work bench, bench vice, bench hook, etc.
5	Various types of joints and joints preparation.	Seasoning of timber - Definition, advantage and disadvantage of seasoning. Moisture content in timber and its effect on timber. Characteristics of wood, physical and mechanical properties of wood. Quality of good timber. Define the classification of wooden joint. Description of different types joint. Uses of joint: Framing joint angle joint and lengthening joint etc. Different type of housing joint.
6	Preparation of surface	Name of the agent of paints. Method of preparation of surface for staining. Necessary tools and equipment required for staining. Uses of different grade sandpaper. Description & method ofFrench polish.
7	Application of saw machine.	Jig or scroll saw and portable circular saw machine - its parts & their operational techniques and safety

8	Demonstrate working on pedestal/potable drilling machine, use of different types of drill bits; make holes of different sizes in correct location on woodwork.	Pedestal /portable drilling machine - Description, Types, Sizes, Parts, Function, Operation of pedestal drilling machine. Safety precaution and P.P.E for the pedestal drilling machine
9	Demonstrate the different operations on wood turning lathe	Wood turning lathe – Description, Types, Sizes, Parts, Function, Types, Operation of wood turning lathe Safety precaution and P.P.E for wood turning lathe.
10	Prepare various type of wooden floor, partition wall etc.	Purpose of using floor construction with different types of joists.
11	Prepare various door and windows frame and shutters, assembling & fixing (wooden/ aluminum or PVC).	Introduction about building construction. Different type door & windows and different size, their uses. Different type panel used for panel shutter, glazed shutter etc.
12	Check, identify, analyze and repair the wooden job	Economic factors andmaterial estimates... Basic principle of repairing work, door window,
13	Produce component involving different operations of fitting work and check for functionality	Application of bench vice, clamps. Types of drill bits, counter boring tool, taps and dies used in fitting work. Types of nuts, bolts, washers, machine screws etc.
14	Make small wooden job, model as per drawing with schedule sizes of timber or alternatives of timber i.e. plywood, sunmica, block board using various hardware.	Calculation of timber required for making a door and window frame, small rack, table etc. List out the required hand tools and raw materials for making the above job. List out the sequence of operation of the job.

Detail of Practical Syllabus: 290 Hours

SL NO	CONTENT	DETAILS
1	Introduction to timber, measuring and marking tools with appropriate safety precautions in the workshop.	1. Demonstrate first aid, fire safety equipment, different types of fire extinguisher and their application. 2. Identification of different wooden sample piece i.e. - soft wood & hard wood, wooden grains etc. & their applications. 3. Identification of wooden sample piece (Annual ring, knots, shakes & chicks etc.). 4. Demonstrate use of hand operated tools and showing different audio-visual clips.
2	Application of various saws and portable power saw machines for Ripping, cross cutting, Oblique	1. Demonstrate the use of bench vice, bench hook, bench stop & their application. 2. Demonstrate different types of saws- ripping, cross cutting,

	sawing and curve cutting etc.	curve cutting, oblique sawing. 3. Use and practice Portable power circular saw. 4. Sharpen and set different type saw blade.
3	Planning operation, identifying and applying various shaving tools or portable power planning machine	1. Planning face, face edge. Side edges and back. 2. Demonstrate the use of marking gauge & mortise gauge etc. 3. Test the accuracy of flatness and twistiness of the surface by using by try square. 4. Grinding and Sharpening process of the planer blade/ cutter. 5. Demonstration of portable power planer machine and its function.
4	Application of pairing tools	1. Demonstrate the use of different types of chisel, chiseling along & across the grain. 2. Grind/ sharpen and honing of a chisel. 3. Demonstrate use of different types of striking tool, hammer and mallets. 4. . Demonstrate the use of clamps 'G' or 'C', saw sharpening vice, carpentry vice etc.
5	Various types of joints and joints preparation and appearance.	1. Demonstration and making framing joints 2. Demonstration and making Housing joints 3. Demonstration and making dovetail joint 4. Demonstration and Making broadening joints 5. Demonstration and Making lengthening joint 6. Making of Frame using different type of joints
6	Preparation of surface	1. Prepare the surface for polishing, painting etc. 2. Smoothen surface by scraping with sandpaper. 3. Application of staining. 4. Application of polish, varnish and paints in different surfaces.
7	Demonstration ripping, cross cutting, curve cutting etc. on jig or scroll saw and portable circular saw machine.	1. Sequence of operation - jig or scroll saw and portable circular saw machine. 2. Demonstration to the safety precaution with operational techniques.
8	Demonstrate working on pedestal/potable drilling machine, use of different types of drill bits; make holes of different sizes in correct location on woodwork.	1. Pedestal / portable drilling machine -its parts & their operational techniques and safety precaution. 2. Demonstrate the use of country drill, hand drill, ratchet brace, Breast drill and hand augers & bits. 3. Demonstrate the use of portable electrical drill machine. 4. Demonstrate the Auger application 5. Make different sizes of drill hole on wooden block/ job using straight/ taper shank drill bit.
9	Demonstrate the different operations on wood turning lathe	1. Wood turning lathe - operational technique and safety precaution. 2. Care & maintenance of wood turning lathe with oiling & greasing. 3. Make chisel handle, tablelamp stand, etc. on wood turning

		lathe.
10	Prepare various type of wooden floor, partition wall etc.	1. Identification of simple floorconstruction. 2. Demonstrate different types of basement floor single joint wooden floor and doublejoint wooden floor 3. Make structure of woodenpartition wall.
11	Prepare various door and windows frame and shutters, assembling & fixing (wooden/ aluminum or PVC).	1. Revision of basic jointrelated with building work. 2. Making door shutter. 3. Making panel of door. 4. Making door glazed shutter 5. Fitting molding with glass.
12	Check, identify, analyse and repair the wooden job	1. Repair and reconditionfurniture, door and window, staircase hand railing etc.
13	Produce component involving different operations of fitting work and check for functionality	1. Grind chisels, drills and check for correct cutting angle. 2. Mark and make fitting different types of nuts, bolts, washers,screws by drilling, taping and dieing.
14	Make small wooden job, model as per drawing with schedule sizes of timber or alternatives of timber i.e. plywood, sunmica, block board using various hardware.	1. Make joint on hard wood to make small door and window frame. 2. Making a small rack with hard wood and plywood. 3. Make a small table use of lock, hinges, hasp and stapleetc. making a small box with sun mica top. (Mortise and Tenon joint. 'T' half tap dovetail joint. Secretdovetail joint).

LIST OF TOOLS AND EQUIPMENT

For batch of 30 trainees			
S No.	**Name of the Tools & Equipment**	**Specification**	**Quantity**
A. TRAINEES TOOL KIT			
1.	Measuring tape	3 mtrs.	15 nos.
2.	Steel Measuring Scale	Twelve inch	15 nos.
3.	Marking Knife	200 mm length	15 nos.
4.	Try Square	200mm	15 nos.
5.	Bevel Square	200 mm	15 nos.
6.	Carpenter marking gauge		15 nos.
7.	Carpenter mortise gauge		15 nos.
8.	Hand Saw	450mm	15 nos.
9.	Tenon saw	300mm	15 nos.
10.	Metal Jack plane	335mmX 50mm cutter	15 nos.

11.	Metal smoothing plane	200mm X 50mm cutter	15 nos.
12.	Firmer Chisel	Bevel edge 6mm. 10, 15, 20 and 25mm width (5 nos.) with pvc handle	15 nos.
13.	Mortise chisel	06, 10, 15mm (3 nos.) with pvc handle	15 nos.
14.	Screw driver	300mm	15 nos.
15.	Wooden Mallet	medium size	15 nos.
16.	Claw hammer	500 gms	15 nos.
17.	Oil stone	Carborundum universal silicon carbide combination rough and fine.	15 nos.
18.	Ball peen hammer	500 grs	15 nos.
19.	Hand brush for cleaning	450mm	15 nos.
20.	Compass saw	350 mm	15 nos.
21.	Plumb bob		15 nos.
22.	Spring caliper (inside)	150 mm	04 nos.

Annexure

Trainer Requirements

Trainer Prerequisites						
Minimum Educational Qualification	**Specialization**	**Relevant Industry Experience**		**Training Experience**		**Remarks**
		Years	***Specialization***	***Years***	***Specialization***	
CTS/ATS	Carpenter	5	Wood working / design	1	Furniture making	NA
Diploma	Civil/ Mechanical Engineering	3		1		
B. Tech/BE	Civil/ Mechanical Engineering	2		1		

Trainer Certification	
Domain Certification	**Platform Certification**
Certified for Job Role: "Wooden Furniture Maker" mapped to QP: "STC- HCS/NSQF - 2018 /801 OR STC- INT/2022/1202". Minimum accepted score is 80%.	Recommended that the Trainer is certified for the Job Role : "Trainer (VET & skills)", mapped to the Qualification Pack : "MEP/Q2601, v2.0". The minimum accepted score is 80%.

Assessor Requirements

Assessor Prerequisites						
Minimum Educational Qualification	**Specialization**	**Relevant Industry Experience**		**Training/Assessment Experience**		**Remarks**
		Years	***Specialization***	***Years***	***Specialization***	
CTS/ATS	Carpenter	5	Wood working / design	1	Furniture making	NA
Diploma	Mechanical Engineering	3		1		
B. Tech/BE	Mechanical Engineering	2		1		

Assessor Certification	
Domain Certification	**Platform Certification**
Certified for Job Role: "Wooden Furniture Maker" mapped to QP: "STC- HCS/NSQF - 2018 /801 OR STC- INT/2022/1202". Minimum accepted score is 80%.	Recommended that the Assessor is certified for the Job Role: "Assessor (VET & skills)", mapped to the Qualification Pack: "MEP/Q2701, v2.0". The Minimum accepted score is 80%.

Assessment Strategy

Assessment will be based on the concept of Independent Assessors empaneled with West Bengal State Council of Technical & Vocational Education & Skill Development (WBSCT&VE&SD), identified, selected, trained and certified on Assessment techniques. These Assessors would be aligned to assess as per the laid down criteria.

WBSCT&VE&SD would conduct assessment only at the training centers or designated testing centers authorized by WBSCT&VE&SD.

Ideally, the assessment will be a continuous process comprising of two distinct steps:

A. Continuous assessment by Trainers
B. Term end /Final Assessment by WBSCT&VE&SD

Each National Occupational Standard (NOS) in the respective QPs will be assigned weightage. Each Performance Criteria in the NOS will be assigned marks for theory and/or practical based on relative importance and criticality of function.

This will facilitate preparation of question bank / paper sets for each of the QPs. Each of these papers sets/question banks created by subject matter experts through WBSCT&VE&SD, especially with regard to the practical test and the defined tolerances, finish, accuracy etc.

The following tools are proposed to be used for final assessment:

i. Written Test: This will comprise of (i) True/False Statements and/or (ii) Multiple Choice Questions and/or (iii) Matching Type Questions. Online system for this will be preferred.
ii. Practical Test: This will comprise a test job to be prepared as per project briefing following appropriate working steps, using necessary tools, equipment and instruments. Through observation it will be possible to ascertain candidate's aptitude, attention to details, quality consciousness etc.
iii. Structured Viva-voce: This tool will be used to assess the conceptual understanding and the behavioral aspects as regards the job role and the specific task at hand.

Marks distribution as per outcome

Course Name	Sr No	Outcome No.	Outcome Name	Th Hrs	Pr Hrs	Total marks Th	Total marks Pr
Wooden Furniture Maker	1	INT/1202/OC1	Apply Safe Working Practices	10	20	20	60
	2	INT/1202/OC2	Identify timber/ wood & apply measuring, marking and testing instrument and holding & supporting hand tools.	10	20	20	70
	3	INT/1202/OC3	Identify and apply various saws and portable power saw machines for ripping, cross cutting, oblique sawing and curve cutting etc.	10	20	20	70
	4	INT/1202/OC4	Analyze the surface finish with exact sizing by planning operation, identify and apply various shaving tools, pairing tools or portable power planning machine.	10	20	10	80
	5	INT/1202/OC5	Identify and classify various types of joints, analyze and prepare correct joint at correct position, related with strength and appearance.	10	20	20	70
	6	INT/1202/OC6	Demonstrate ripping, cross cutting, curve cutting etc. on jig or scroll saw and circular saw machine.	10	20	10	80
	7	INT/1202/OC7	Demonstrate working on pedestal/potable drilling machine, wood turning lathe in correct location on woodwork.	10	20	20	70
	8	INT/1202/OC8	Prepare various type of wooden floor, partition wall, roof truss, door and windows frame and shutters, assembling &fixing (wooden/ aluminium or PVC).	10	20	10	80
	9	INT/1202/OC9	Create a wooden piece following a provided drawing and using specified timber /plywood /sunmica/block board etc.	10	20	20	70
	10	INT/1202/OC10	Work in real job situation with special emphasis on basic safety and hazards in this domain.	0	60	0	150
	11	DGT/VSQ/N0102	Employability Skills- 60 hrs.	60	0	50	
	TOTAL Theory 90 Hrs, Practical 240 Hrs, Employability Skill 60 Hrs					200	800

Glossary

Term	Description
Declarative Knowledge	Declarative knowledge refers to facts, concepts and principles that need to Be known and/or understood in order to accomplish or to solve a problem.
Key Learning Outcome	Key learning outcome is the statement of what a learner needs to know, understand and be able to do in order to achieve the terminal outcomes. A set of key learning outcomes will make up the training outcomes. Training Outcome is specified in terms of knowledge, understanding (theory) and skills (practical application).
OJT(M)	On-the-job training(Mandatory);trainees are mandated to complete specified hours of training on site
OJT(R)	On-the-job training(Recommended);trainees are recommended the specified hours of training on site
Procedural Knowledge	Procedural knowledge addresses how to do something, or how to perform a task. It is the ability to work, or produce a tangible work output by applying cognitive, affective or psycho motor skills.
Training Outcome	Training outcome is a statement of what a learner will know, understand and be able to do **upon the completion of the training**.
Terminal Outcome	Terminal outcome is a statement of what a learner will know, understand and be able to do **upon the completion of a module.** A set of terminal outcomes help to achieve the training outcome.

Acronyms and Abbreviations

Term	Description
QP	Qualification Pack
NSQF	National Skills Qualification Framework
NSQC	National Skills Qualification Committee
NOS	National Occupational Standards