FFSC FURNITURE & FITTINGS SKILL COUNCIL
कुशल • सक्षम • आत्मनिर्भर

सत्यमेव जयते
GOVERNMENT OF INDIA
MINISTRY OF SKILL DEVELOPMENT & ENTREPRENEURSHIP

N·S·D·C RE IMAGINE FUTURE

Skill India
कौशल भारत-कुशल भारत

Model Curriculum

QP Name: Carpenter

QP Code: FFS/Q2203

QP Version: 3.0

NSQF Level: 4.5

Model Curriculum Version: 3.0

Furniture and Fittings Skill Council || Furniture and Fittings Skill Council (FFSC), 407-408, DLF City Court, MG Road, Sikanderpur, Gurgaon - 122002

Table of Contents

Training Parameters

Sector	Interiors, Furniture and Fixtures
Sub-Sector	Furniture Business Development, Installation & After Sales
Occupation	Furniture Installation & After Sales
Country	India
NSQF Level	4.5
Aligned to NCO/ISCO/ISIC Code	NCO-2015/7115.0300
Minimum Educational Qualification and Experience	Completed 1st year of 3-years/ 4-years UG Or Pursuing 1st year of 3-years/ 4-years UG and continuing education Or Pursuing 3rd year of a 3-year diploma after Grade 10 and continuing education Or Completed 3-year diploma after Grade 10 Or Completed 1st year of 2 years diploma after Grade 12 Or Pursuing 2nd year of 2-year diploma after Grade 12 and continuing education Or Grade 12 Pass with 1 year of relevant experience Or Grade 10 pass with 2 years of any combination of NTC/NAC/CITS or equivalent with 1 year of relevant experience Or Grade 10 pass with 3 years of relevant experience Or Previous relevant Qualification of NSQF Level 4 (Assistant Carpenter) with 3 years of relevant experience
Minimum Level of Education for Training in School	NA
Pre-Requisite License or Training	NA
Minimum Job Entry Age	18 Years
Last Reviewed on	31-08-2023
Next Review Date	31-08-2026
NSQC Approval Date	31-08-2023

Q.P. Version	3.0
Model Curriculum Creation Date	05-06-2023
Model Curriculum Valid Up to Date	31-08-2026
Model Curriculum Version	3.0
Minimum Duration of the Course	540 (Min. of 1 Electives to be selected)
Maximum Duration of the Course	780 (Max. of 2 Electives to be selected)

Program Overview

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

Training Outcomes

At the end of the program, the learner should have acquired the listed knowledge and skills:

- Define different types of Architectural and Interior Projects.
- Categorize and describe different raw materials and architectural hardware.
- Categorize and describe different advanced power tools, equipment, and machinery.
- Describe the organisational map of Furniture Industry and highlight the importance of Furniture and Fittings Installation Occupation.
- List the Key Result Areas of the Carpenter's Role.
- Define the client coordination operation and estimate product costs.
- Supervise the teams as per plan and ensure the quality of output.
- Conduct and monitor the site survey and recce.
- Define and apply the process of workflow planning and management.
- Apply principles of worksite management to ensure required performance.
- Ensure worksite preparation as per execution plan.
- Describe, apply, and review the pre-processing operations.
- Describe, apply, and review the fabrication operations.
- Describe, apply, and review the joinery related operations.
- Describe, apply, and review the assembly of the products.
- Describe, apply, and review the surface finishing of the products.
- Describe, apply, and review the installation of the products.
- Illustrate the process of Quality check and perform the same.
- Follow and ensure the compliance of the occupational health and safety protocols.
- Explain the methods for material conservation and resources optimization.
- Discuss various aspects of employability skills and employ such practices towards personal and organizational growth.
- Describe the process and significance of World Skills Competitions and role played by key stakeholders.
- Describe, apply, and review the process for the preparation of components for Wooden Doors and Windows.
- Describe, apply, and review the process for installing flashing on the Wooden Frames for Doors and Windows.
- Describe, apply, and review the process for the assembly and installation of Wooden Doors and Windows with Frames.
- Explain the assembly and installation processes associated with the hardware and fittings for the Wooden Doors and Windows with Frames.
- Demonstrate the process of fabrication, assembly, installation, and finishing of Wooden Doors and Windows with Frames during On-the-Job Training.
- Describe, apply, and review the process for the preparation of components for Wooden Cladding and Panelling.
- Describe, apply, and review the process for the assembly and installation of Wooden Cladding and Panelling.

- Demonstrate the process of fabrication, assembly, installation, and finishing of Wooden Cladding and Panelling during On-the-Job Training.
- Describe, apply, and review the process for the preparation of components for Wooden Floorings.
- Describe, apply, and review the process for the assembly and installation of Wooden Floorings.
- Demonstrate the process of fabrication, assembly, installation, and finishing of Wooden Floorings during On-the-Job Training.
- Describe, apply, and review the process for the preparation of components for Kitchen, Cabinets, and Beds.
- Describe, apply, and review the process for the assembly and installation of Kitchen, Cabinets, and Beds.
- Explain the assembly and installation processes associated with the hardware and fittings for Kitchen, Cabinets, and Beds.
- Demonstrate the process of fabrication, assembly, installation, and finishing of Kitchen, Cabinets, and Beds during On-the-Job Training.
- Describe, apply, and review the process for the preparation of components for Wooden House Structure.
- Describe, apply, and review the process for the assembly and installation of Wooden House Structure.
- Demonstrate the process of fabrication, assembly, installation, and finishing of Wooden House Structure during On-the-Job Training.
- Describe, apply and review the process for performing dismantling, repair, and maintenance.
- Describe the process of dismantling of furniture and perform the same.
- Describe the various methods of repairs and apply the same for given job.
- Apply the process to re-install the furniture.
- List the methods used for cleaning the furniture.
- Describe and demonstrate the process for General Repairs and Maintenance.

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
Bridge Module(s)	**14:00**	**16:00**	**00:00**	**00:00**	**30:00**
Module 1: Introduction to various Architectural and Interior Projects	02:00	04:00	00:00	00:00	06:00
Module 2: Introduction to advanced raw materials and architectural hardwares	04:00	04:00	00:00	00:00	08:00
Module 3: Introduction to advanced power tools, equipment, and machinery	04:00	04:00	00:00	00:00	08:00

Module 4: Organizational context of Interiors Industry	02:00	04:00	00:00	00:00	06:00
Module 5: Introduction to the role of a Carpenter	02:00	00:00	00:00	00:00	02:00
FFS/N2210: Assist in client coordination, team supervision, and quality check of the project NOS Version No. 3 NSQF Level- 4.5	**12:00**	**18:00**	**00:00**	**00:00**	**30:00**
Module 6: Client coordination and product cost estimation	04:00	08:00	00:00	00:00	12:00
Module 7: Team supervision and Quality Control	04:00	06:00	00:00	00:00	10:00
Module 8: Site survey and recce	04:00	04:00	00:00	00:00	08:00
FFS/N2211: Ensure proper material management and preparation of the worksite NOS Version No. 3 NSQF Level- 4.5	**20:00**	**40:00**	**00:00**	**00:00**	**60:00**
Module 9: Project planning and management	08:00	12:00	00:00	00:00	20:00
Module 10: Worksite management	06:00	16:00	00:00	00:00	22:00
Module 11: Worksite preparation	06:00	12:00	00:00	00:00	18:00
FFS/N2212: Set-out, mark and fabricate the various components of the products at worksite NOS Version No. 3 NSQF Level- 4.5	**30:00**	**60:00**	**00:00**	**00:00**	**90:00**
Module 12: Pre-processing of the product components	08:00	16:00	00:00	00:00	24:00
Module 13: Fabrication of the product components	12:00	26:00	00:00	00:00	38:00
Module 14: Joinery of the product components	10:00	18:00	00:00	00:00	28:00

FFS/N2213: Perform assembly, finishing and installation of different components of the product at the worksite NOS Version No. 3 NSQF Level- 4.5	**24:00**	**66:00**	**00:00**	**00:00**	**90:00**
Module 15: Assembly of the product components	06:00	20:00	00:00	00:00	26:00
Module 16: Surface finishing of the product	06:00	20:00	00:00	00:00	26:00
Module 17: Installation of the product and architectural hardware	08:00	20:00	00:00	00:00	28:00
Module 18: Quality check and handover	04:00	06:00	00:00	00:00	10:00
FFS/N8203: Maintain health, safety, and greening practices at the worksite NOS Version No. 3 NSQF Level- 5	**12:00**	**18:00**	**00:00**	**00:00**	**30:00**
Module 19: Health, safety, and hygiene protocols	08:00	12:00	00:00	00:00	20:00
Module 20: Material conservation and resources optimization	04:00	06:00	00:00	00:00	10:00
DGT/VSQ/N0102: Employability Skills (60 Hours) NOS Version No. 1 NSQF Level- 4	**30:00**	**30:00**	**00:00**	**00:00**	**60:00**
Module 21: Employability Skills	30:00	30:00	00:00	00:00	60:00
Bridge Module	**06:00**	**24:00**	**00:00**	**00:00**	**30:00**
Module 22: World Skills Competition and various opportunities	06:00	24:00	00:00	00:00	30:00
Total Duration	**148:00**	**272:00**	**00:00**	**00:00**	**420:00**

Elective Modules

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

Elective 1: Wooden Doors and Windows with Frames

NOS and Module Details	Theory Duration	Practical Duration	On-the-Job Training Duration (Mandatory)	On-the-Job Training Duration (Recommended)	Total Duration
FFS/N2214: Perform fabrication, assembly, and installation of Wooden Doors and Windows with Frames NOS Version No. 3 NSQF Level- 4.5	**20:00**	**40:00**	**120:00**	**00:00**	**180:00**
Module 23: Components preparation for Wooden Doors and Windows with Frames	04:00	08:00	00:00	00:00	12:00
Module 24: Flashing installation for Wooden Doors and Windows with Frames	04:00	08:00	00:00	00:00	12:00
Module 25: Assembly and installation of Wooden Doors and Windows with Frames	04:00	08:00	00:00	00:00	12:00
Module 26: Hardware and accessories installation for Wooden Doors and Windows with Frames	08:00	16:00	00:00	00:00	24:00
Module 27: On-the-job training for Wooden Doors and Windows with Frames	00:00	00:00	120:00	00:00	120:00
Total Duration	**20:00**	**40:00**	**120:00**	**00:00**	**180:00**

Elective 2: Wooden Cladding and Panelling

NOS and Module Details	Theory Duration	Practical Duration	On-the-Job Training Duration (Mandatory)	On-the-Job Training Duration (Recommended)	Total Duration
FFS/N2215: Perform fabrication, assembly, and installation of Wooden Cladding and Panelling NOS Version No. 3 NSQF Level- 4.5	**12:00**	**28:00**	**80:00**	**00:00**	**120:00**

Module 28: Components preparation for Wooden Cladding and Panelling	08:00	16:00	00:00	00:00	24:00
Module 29: Assembly and installation of Wooden Cladding and Panelling	04:00	12:00	00:00	00:00	16:00
Module 30: On-the-job training for Wooden Cladding and Panelling	00:00	00:00	80:00	00:00	80:00
Total Duration	**12.00**	**28.00**	**80:00**	**00:00**	**120:00**

Elective 3: Wooden Flooring

NOS and Module Details	Theory Duration	Practical Duration	On-the-Job Training Duration (Mandatory)	On-the-Job Training Duration (Recommended)	Total Duration
FFS/N2216: Perform fabrication, assembly, and installation of Wooden Flooring NOS Version No. 3 NSQF Level- 4.5	**12:00**	**28:00**	**80:00**	**00:00**	**120:00**
Module 31: Components preparation for Wooden Floorings	08:00	16:00	00:00	00:00	24:00
Module 32: Assembly and installation of Wooden Floorings	04:00	12:00	00:00	00:00	16:00
Module 33: On-the-job training for Wooden Floorings	00:00	00:00	80:00	00:00	80:00
Total Duration	**12.00**	**28.00**	**80:00**	**00:00**	**120:00**

Elective 4: Kitchen, Cabinets, and Beds

NOS and Module Details	Theory Duration	Practical Duration	On-the-Job Training Duration (Mandatory)	On-the-Job Training Duration (Recommended)	Total Duration
FFS/N2217: Perform fabrication, assembly, and installation of Kitchen, Cabinets, and Beds NOS Version No. 3 NSQF Level- 4.5	**24:00**	**56:00**	**100:00**	**00:00**	**180:00**

Module 34: Components preparation for Kitchen, Cabinets, and Beds	08:00	16:00	00:00	00:00	24:00
Module 35: Assembly and installation of Kitchen, Cabinets, and Beds	08:00	16:00	00:00	00:00	24:00
Module 36: Hardware and accessories installation of Kitchen, Cabinets, and Beds	08:00	24:00	00:00	00:00	32:00
Module 37: On-the-job training for Kitchen, Cabinets, and Beds	00:00	00:00	100:00	00:00	100:00
Total Duration	**24:00**	**56:00**	**100:00**	**00.00**	**180.00**

Elective 5: Wooden House Structure

NOS and Module Details	Theory Duration	Practical Duration	On-the-Job Training Duration (Mandatory)	On-the-Job Training Duration (Recommended)	Total Duration
FFS/N2218: Perform fabrication, assembly, and installation of a Wooden House Structure NOS Version No. 3 NSQF Level- 4.5	**16:00**	**44:00**	**120:00**	**00:00**	**180:00**
Module 38: Components preparation for Wooden House Structure	08:00	20:00	00:00	00:00	28:00
Module 39: Assembly and installation of Wooden House Structure	08:00	24:00	00:00	00:00	32:00
Module 40: On-the-job training for Wooden House Structures	00:00	00:00	120:00	00:00	120:00
Total Duration	**16:00**	**44:00**	**120:00**	**00:00**	**180:00**

Elective 6: General Repairs and Maintenance

NOS and Module Details	Theory Duration	Practical Duration	On-the-Job Training Duration (Mandatory)	On-the-Job Training Duration (Recommended)	Total Duration
FFS/N2219: Perform General Repairs and Maintenance of the furniture at the worksite NOS Version No. 3 NSQF Level- 4.5	**20:00**	**40:00**	**60:00**	**00:00**	**120:00**

Module 41: Resource preparation for dismantling, repair, and maintenance	04:00	08:00	00:00	00:00	12:00
Module 42: Dismantling and movement of furniture	04:00	08:00	00:00	00:00	12:00
Module 43: Repair and re-installation of the furniture	04:00	08:00	00:00	00:00	12:00
Module 44: Cleaning of the furniture	08:00	16:00	00:00	00:00	24:00
Module 45: On-the-job training for General Repairs and Maintenance	00:00	00:00	60:00	00:00	60:00
Total Duration	**20:00**	**40:00**	**60:00**	**00:00**	**120:00**

Module Details

Module 1: Introduction to various Architectural and Interior Projects

Bridge Module

Terminal Outcomes:

- Explain the scope and significance of the furniture industry.
- Explain the functioning of the furniture industry.
- Describe the segments of the furniture industry.
- Comprehend various processes used in the Furniture and Fittings industry.

Duration: *02:00*	**Duration**: *04:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Discuss the relevance of the Furniture and Fittings sector in Indian and global context. • List all the industries involved in the Furniture and Fittings Sector. • Explain the role of a furniture in the Interior Design and Allied industries. • Discuss new trends and advancements related to different types of furniture. • Describe the factors affecting furniture market growth and opportunities. • Describe the various stages and segments involved in fabrication of different types of furniture.	• Demonstrate how to plan the process flow of a given product based on different segments in the industry.
Classroom Aids	
White Board, Board Marker, Duster, Projector, Tablet, Chairs, Tables, Smart Board (Optional).	
Tools, Equipment, and Other Requirements	
Project/Theme Based Props as required.	

Module 2: Introduction to advanced raw materials and architectural hardwares

Bridge Module

Terminal Outcomes:

- Discuss the usage of different types of raw materials in the Furniture and Fittings Sector.
- Demonstrate the process of performing quality tests to check the quality of the raw materials.
- Explain the usage of different types of advanced architectural hardware and fittings.

Duration: *04:00*	**Duration**: *04:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Describe the various types of raw materials used in manufacturing furniture. • Describe the structural properties associated with different types of raw materials. • List all the quality tests to check the strength and durability of the raw materials. • State the various sizes and specifications associated with different types of raw materials. • Describe various categories of advanced architectural hardware and fittings used in furniture manufacturing and their usage. • Discuss the new trends and advancements related to raw materials and architectural hardware.	• Distinguish between different types of raw materials. • Classify various advanced architectural hardware used in the furniture manufacturing process. • Demonstrate the usage of various hardware and fittings. • Demonstrate how to perform quality checks of materials based on specified norms.
Classroom Aids	
White Board, Board Marker, Duster, Projector, Tablet, Chairs, Tables, Smart Board (Optional).	
Tools, Equipment, and Other Requirements	
Workbench, Manual Tools, Electric/ Power Tools, Housekeeping- Materials, Tools and Equipment, Project/Theme based props for simulation as required.	

Module 3: Introduction to advanced power tools, equipment, and machinery

Bridge Module

Terminal Outcomes:

- Describe the operational procedures for different types of advanced tools and equipment safely.
- Demonstrate the usage of advanced power tools, equipment, and machinery.

Duration: *04:00*	**Duration**: *04:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• List the various advanced tools, equipment, and machines required for a particular job, purpose, and functioning. • Elaborate on the precautions to be taken while handling different electrical and mechanical products. • Discuss the new trends and advancements related to tools, machines, and equipment. • Explain the process of cleaning the worksite, tools, and equipment. • List various Furniture Fixtures & Equipment (FF&E) required in the furniture manufacturing process.	• Demonstrate how to use the advanced tools, equipment, and machines as per the manufacturer's manuals. • Differentiate between various advanced tools and equipment and their purpose. • Demonstrate how to prepare the work area and equipment for efficient job work.
Classroom Aids	
White Board, Board Marker, Duster, Projector, Tablet, Chairs, Tables, Smart Board (Optional).	
Tools, Equipment, and Other Requirements	
Workbench, Manual Tools, Electric/ Power Tools, Housekeeping- Materials, Tools and Equipment, Project/Theme based props for simulation as required.	

Module 4: Organizational context of Interiors Industry

Bridge Module

Terminal Outcomes:

- Explain the various departments in an organisation structure.
- Explain the methods and mechanisms for effective communication.
- Demonstrate the usage of effective communication and interpersonal skills.
- Communicate and perform basic financial transactions digitally.
- Demonstrate appropriate behaviour and work ethics.
- Discuss the organizational hygiene and sanitation guidelines while working at the worksite.

Duration: *02:00*	**Duration**: *04:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Elaborate about various organizational processes, code of conduct, reporting matrix, and escalation hierarchy. • List all the documents required to carry out the job, such as job card and checklist for oneself. • Categorize the problems based on the need of the escalation in the hierarchy. • State the importance of coordinating and resolving conflicts with the team members to achieve a smooth workflow. • Explain the importance of team objectives and goals. • Explain the importance of effective communication and team coordination. • Explain the difference between briefing and debriefing. • Explain the basic parts of a computer, smartphones, and their functioning. • Explain the importance of the Internet in an assigned task. • Distinguish between various social media platforms: YouTube, WhatsApp, Facebook, Twitter, etc. • Summarize the Bank Account opening procedure and associated terminologies. • List the steps involved in a financial transaction using a suitable medium. • State the significance of payment methods and gateways for financial transactions.	• Demonstrate the use of appropriate behaviour and language while communicating with colleagues. • Perform how-to-report problems that need escalation. • Demonstrate active listening skills while communicating. • Demonstrate how to fill a sample job card for submission. • Demonstrate the functioning of a computer and its accessories. • Perform the process of operating an email account. • Demonstrate the usage of the internet to analyze and research a given task. • Demonstrate how to operate various social media platforms: YouTube, WhatsApp, Facebook, Twitter, etc. • Demonstrate how to open and manage a bank account. • Demonstrate the steps involved in a financial transaction using a suitable medium.
Classroom Aids	
White Board, Board Marker, Duster, Projector, Tablet, Chairs, Tables, Smart Board (Optional).	
Tools, Equipment, and Other Requirements	
Sample of Job Cards, Sample of Escalation Matrix, Organization Structure, Project/Theme based props for simulation as required.	

Module 5: Introduction to the role of a Carpenter

Bridge Module

Terminal Outcomes:

- Discuss how to work as per the defined role and responsibilities of a Carpenter.
- Discuss the scope of work for a Carpenter job role.

Duration: *02:00*	**Duration**: *00:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Describe the occupational map of the Furniture and Fittings industry. • Describe the career progression path for a Carpenter job role. • Describe the attributes and basic skill sets required for a Carpenter. • Explain the role, responsibilities, and limitations of a Carpenter. • List the various operations/activities that take place at the worksite and Carpenter's role in the same. • Discuss the regulatory authorities, laws, and regulations related to an individual while working in the Furniture and Fittings industry. • Explain the importance of job cards and timely reporting to supervisors in employee performance evaluation. • List all the documents required to carry out the job, such as a job sheet and checklist for oneself.	
Classroom Aids	
White Board, Board Marker, Duster, Projector, Tablet, Chairs, Tables, Smart Board (Optional).	
Tools, Equipment, and Other Requirements	
N.A.	

Module 6: Client coordination and product cost estimation

Mapped to FFS/N2210, v 3.0

Terminal Outcomes:

- Describe various pre-requisites for project planning.
- Demonstrate the process of budgeting and assist in preparing cost estimates.
- Explain the ways of effective communication and workflow management.

Duration: *04:00*	**Duration**: *08:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Illustrate various types of design styles, themes, vaastu shastra, processes, color schemes, and lighting effects required during project detailing. • State the significance of interpreting work targets and details accurately. • Describe the process of interacting and coordinating with different agencies for an assigned task. • List all the documentation compliances during project execution and the role of workflow management in an assigned task. • Explain how to prepare and present cost estimates for the assigned projects and programs. • State the steps and prerequisites involved in the production planning of a project.	• Demonstrate the process of interpreting the project details like product quality, styles, themes, material preferences, etc. • Demonstrate the correct way of interacting with client POCs and other agencies using appropriate behavioural etiquette at the worksite. • Apply suitable methods to manage workflow and documentation compliances at the worksite. • Demonstrate cost estimation techniques for preparing a cost budget in a sample project.
Classroom Aids	
White Board, Board Marker, Duster, Projector, Tablet, Chairs, Tables, Smart Board (Optional).	
Tools, Equipment, and Other Requirements	
Sample of budget and cost estimate forms.	

Module 7: Team supervision and Quality Control

Mapped to FFS/N2210, v 3.0

Terminal Outcomes:

- Describe the process and importance of job cards.
- State the role of ergonomics in the product designing and manufacturing.
- Explain the significance of timely quality check of the work done.

Duration: *04:00*	**Duration**: *06:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Outline the process of preparing the job card. • List all the health and safety requirements at the worksite. • Describe the importance of performing timely quality checks. • Explain the five aspects of ergonomics and their importance. • Describe the standard sizes and specifications associated with different categories of furniture. • Describe how to mentor and coach team members.	• Prepare a sample job card. • Employ all the necessary steps while performing quality checks of the work done using suitable equipment. • Employ suitable ergonomic principles to check the product quality and dimensions. • Demonstrate the correct way of mapping the different sizes with various categories of furniture. • Employ suitable techniques, tools, and equipment for providing training.
Classroom Aids	
White Board, Board Marker, Duster, Projector, Tablet, Chairs, Tables, Smart Board (Optional).	
Tools, Equipment, and Other Requirements	
Sample of job cards.	

Module 8: Site survey and recce

Mapped to FFS/N2210, v 3.0

Terminal Outcomes:

- Explain the procedure and process related to conducting recce of the worksite.
- Apply the basic measurement techniques to measure the worksite.
- Assist in planning and organizing the site survey and recce.

Duration: *04:00*	**Duration**: *04.00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• List all the pros and cons associated with conducting the site survey and recce of the worksite. • List various technical infrastructure requirements at the worksite and their significance. • Discuss the SOP to be followed while conducting the site survey and recce. • Outline the process and importance of effective logistics management. • List different materials, tools, and equipment required during the site survey and recce. • Describe the various components of a masonry structure and their significance in a site layout. • Explain various techniques and tools associated with measurement activities. • Discuss the importance of the measurement sheet during site survey and recce.	• Demonstrate the process of planning and organizing the recce of the worksite using suitable tools and equipment. • Analyze the site survey requirements for effective logistics arrangement. • Analyze the worksite condition for production planning and timeline estimation. • Demonstrate the procedure of conducting a site survey and recce of the assigned worksite using site layouts. • Demonstrate the process of marking the mock worksite as per the layout and plan. • Apply the basic measurement techniques to measure the worksite. • Demonstrate the process of preparing the measurement sheet.
Classroom Aids	
White Board, Board Marker, Duster, Projector, Tablet, Chairs, Tables, Smart Board (Optional).	
Tools, Equipment, and Other Requirements	
Measurement and Marking Tools, Project/Theme based props for simulation as required.	

Module 9: Project planning and management

Mapped to FFS/N2211, v 3.0

Terminal Outcomes:

- Describe the steps involved in interpreting project requirements.
- Demonstrate the process of planning and prioritizing the work activities.
- Discuss the importance of effective work monitoring and job work delegation.

Duration: *08:00*	**Duration**: *12:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Explain the process of interpreting drawings and how to execute projects. • Explain the importance of process optimization. • Describe the techniques used in the selection of appropriate materials, tools, and equipment. • Explain the importance of timely reporting and managing the job cards to the supervisor. • Describe the SOP of project execution from client interaction to project handover. • Explain the process of demarcation of responsibilities and tasks. • Discuss how to create schedules and rosters for the team and their importance. • List all the documents required for project execution. • State various ways to increase the efficiency and productivity of an assigned task.	• Prepare the 2D/3D drawings of the mock worksite. • Identify and select the appropriate materials based on design specifications. • Perform the various daily, weekly, and monthly operations/activities as per the Job card. • Demonstrate the process of defining a project execution plan for the assigned job work. • Employ basic techniques to demarcate the team and resources. • Demonstrate various methods to monitor and delegate the work of the team members. • Demonstrate the process of managing the required documentation. • Demonstrate how to execute a project effectively.
Classroom Aids	
White Board, Board Marker, Duster, Projector, Tablet, Chairs, Tables, Smart Board (Optional).	
Tools, Equipment, and Other Requirements	
Sample of job card.	

Module 10: Worksite management

Mapped to FFS/N2211, v 3.0

Terminal Outcomes:

- Demonstrate the planning and organizing of resources based on job work.
- Explain the methods and mechanisms for effective material management.
- Describe the process of segregation and storage of materials, tools, and equipment.
- Demonstrate the selection of appropriate material handling equipment.

Duration: *06:00*	**Duration**: *16:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Describe the process of preparing and managing the loading/unloading/handling instruction sheet. • State the significance of inter-departmental coordination. • Discuss the working mechanism of various handling equipment such as trolleys, forklifts, lifters, etc. • Explain different methods of handling and stacking. • Discuss the storage requirements associated with different types of materials, tools, and equipment. • List all the quality parameters associated with the loading and unloading operation.	• Prepare the material loading/ unloading/ handling instruction sheet. • Troubleshoot the queries and delay in timelines due to inter-departmental coordination, if any. • Test the available handling equipment for any malfunctioning and anomalies. • Employ suitable methods for efficient stacking and handling of materials. • Examine the worksite for the proper storage of materials, tools, and equipment. • Employ suitable mediums/ containers to carry or store the materials at the worksite. • Apply suitable organizational policies while completing the assigned tasks. • Perform quality checking of materials during loading and unloading.
Classroom Aids	
White Board, Board Marker, Duster, Projector, Tablet, Chairs, Tables, Smart Board (Optional).	
Tools, Equipment, and Other Requirements	
Project/Theme based props for simulation as required.	

Module 11: Worksite preparation

Mapped to FFS/N2211, v 3.0

Terminal Outcomes:

- Prepare the worksite for fabrication and installation.
- Demonstrate the process of organizing a workbench at the worksite.
- State the various methods for cleaning and maintenance of the tools and equipment.
- Summarise the precautionary steps and tools while working.

Duration: *06:00*	**Duration**: *12:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• List all the tools, materials, and equipment required for the specified operations. • Describe the process of organizing a workbench. • List all the safety floor and machine guards required during working. • Discuss the significance of pictorial representations of the safety signs and the hand signals. • List all the tools, equipment, and consumables required for cleaning and maintenance of the worksite. • Explain how to control the hazards and risks in the workplace.	• Examine the worksite for any misplacement of materials, tools, and equipment based on process requirements. • Inspect the worksite for proper usage of safety guards. • Demonstrate the working of warning labels, symbols, and other related signages at the worksite. • Employ all security and safety measures while working. • Employ suitable methods to check the worksite cleaning and maintenance at regular intervals. • Analyze the worksite for any safety hazards and report anomalies, if any.
Classroom Aids	
White Board, Board Marker, Duster, Projector, Tablet, Chairs, Tables, Smart Board (Optional).	
Tools, Equipment, and Other Requirements	
Workbench, Housekeeping- Materials, Tools and Equipment, Project/Theme based props for simulation as required.	

Module 12: Pre-processing of the product components

Mapped to FFS/N2212, v 3.0

Terminal Outcomes:

- Demonstrate the selection parameters for appropriate timber and timber-based materials.
- Describe the significance of cutting list and part list in the product fabrication.
- Describe the process of preparing timber and timber-based materials for fabrication, assembly, and installation.

Duration: *08:00*	**Duration**: *16:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Explain the operational and maintenance procedures associated with different tools and equipment. • Discuss the properties and specifications associated with different types of timber and timber-based materials. • State the significance of the cutting list and part list in product manufacturing. • Explain various techniques and tools associated with measurement activities in product fabrication. • Discuss the importance of a measurement sheet.	• Demonstrate how to check the serviceability of available tools and equipment. • Demonstrate how to identify suitable timber based on design requirements. • Employ suitable techniques to interpret the different components of a product. • Prepare the cutting list based on the design specifications of the product. • Apply the basic measurement techniques to measure and mark the required dimensions on the timber and timber-based materials. • Apply suitable geometry and arithmetic skills to interpret the product fabrication and assembly specifications. • Demonstrate the process of preparing the measurement sheet.
Classroom Aids	
White Board, Board Marker, Duster, Projector, Tablet, Chairs, Tables, Smart Board (Optional).	
Tools, Equipment, and Other Requirements	
Measurement and Marking Tools, Manual Tools, Electric/ Power Tools, Project/Theme based props for simulation as required.	

Module 13: Fabrication of the product components

Mapped to FFS/N2212, v 3.0

Terminal Outcomes:

- Describe the safe usage of various tools, machines, and equipment.
- Demonstrate the use of appropriate tools and equipment for cutting, shaping, and planning.

Duration: *12:00*	**Duration**: *26:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Describe the various processes involved in the preparation of components. • Describe the operational procedures for various tools and equipment used in the cutting operation. • List all the quality parameters associated with the accuracy and finish of a fabricated component. • Describe the operational procedures for various tools and equipment used in the shaping operation. • Distinguish between jigs and fixtures and their application. • Discuss the process of marking and drilling.	• Demonstrate how to perform cutting operations using appropriate tools and equipment. • Analyze the cut components of a product for accuracy and quality. • Perform the sizing and shaping operation using appropriate tools and equipment. • Demonstrate the jig and fixture fabrication process based on product specifications. • Analyze the product components for required dimensions and specifications. • Demonstrate how to cut and paste the laminates/veneers on the product surfaces. • Employ suitable tools and equipment to mark and drill the required holes and grooves.
Classroom Aids	
White Board, Board Marker, Duster, Projector, Tablet, Chairs, Tables, Smart Board (Optional).	
Tools, Equipment, and Other Requirements	
Marking Tools, Manual Tools, Electric/ Power Tools.	

Module 14: Joinery of the product components

Mapped to FFS/N2212, v 3.0

Terminal Outcomes:

- Explain the joinery basics, fitting and furnishing, and joinery process.
- Perform and apply suitable methods for joint formation.
- List all the quality parameters associated with accurate joint formation.

Duration: *10:00*	**Duration**: *18:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Describe various types of joints used and their significance. • State the importance of accurate joint assembly. • List all the quality parameters associated with accurate joint formation. • Discuss the quality tests associated with the strength and durability check of the joints formed.	• Analyze the product for the required joint formation. • Employ suitable methods for joint formation. • Demonstrate how to use available tools and equipment in different types of joint formation. • Analyze the surface of the product for smooth edges, faces, and finishing. • Demonstrate how to perform quality tests to check the strength and durability of the joints.
Classroom Aids	
White Board, Board Marker, Duster, Projector, Tablet, Chairs, Tables, Smart Board (Optional).	
Tools, Equipment, and Other Requirements	
Manual Tools, Electric/ Power Tools.	

Module 15: Assembly of the product components

Mapped to FFS/N2213, v 3.0

Terminal Outcomes:

- Describe various techniques and methods associated with the product assembly.
- Explain the process of joinery and intersection.
- State the precautionary steps while handling electrical and mechanical equipment.

Duration: *06:00*	**Duration**: *20:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Discuss various parameters to be considered while interpreting product specifications. • Describe various measurement and marking techniques. • Describe various types of adhesives/glues and their usage in different conditions. • List all the safety precautions associated with the product fabrication process. • Discuss the various prerequisites and procedural guides involved in the preparation of the process control plan. • State the significance of quality checks at regular intervals.	• Demonstrate how to analyze and interpret required details from the given drawings. • Employ suitable measurement and marking techniques during product fabrication. • Demonstrate how to select and use appropriate fasteners and adhesives based on product assembly. • Analyze the assembled product for any damage or defects. • Demonstrate the process involved in preparing a process control plan. • Perform quality checks at regular intervals for any defects/ errors.
Classroom Aids	
White Board, Board Marker, Duster, Projector, Tablet, Chairs, Tables, Smart Board (Optional).	
Tools, Equipment, and Other Requirements	
Workbench, Measurement and Marking Tools, Manual Tools, Electric/ Power Tools, Project/Theme based props for simulation as required.	

Module 16: Surface finishing of the product

Mapped to FFS/N2213, v 3.0

Terminal Outcomes:

- List sanding papers and tools for carrying out the process of smoothening.
- Demonstrate the process of finishing the surface of the product using appropriate materials, tools, and equipment.

Duration: *06:00*	**Duration**: *20:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Discuss the various types of wood fillers, sanding papers, tools, and equipment used in the finishing operations. • State the importance of product specifications' conformance with the client's requirements.	• Employ suitable wood fillers to finish the product. • Demonstrate how to use different hand and machine tools for finishing operations. • Analyze the finished product for any glue marks or defects.
Classroom Aids	
White Board, Board Marker, Duster, Projector, Tablet, Chairs, Tables, Smart Board (Optional).	
Tools, Equipment, and Other Requirements	
Workbench, Project/Theme based props for simulation as required.	

Module 17: Installation of the product and architectural hardware

Mapped to FFS/N2213, v 3.0

Terminal Outcomes:

- Explain the process of installation of the product and its handover.
- Demonstrate how to install the components or the final product and hardware fittings using appropriate tools and equipment.
- Describe various techniques and methods associated with the product installation.

Duration: *08:00*	**Duration**: *20:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Explain the process of preparing and interpreting the site layouts and blueprints. • Explain the operational procedures of different tools and equipment used in the assembly and installation processes. • Describe various techniques associated with the hardware and fittings installation. • State the importance of following quality parameters during product installation. • List the types of cleaning consumables and equipment.	• Employ requisite cut-outs for electrical outlets, plumbing points, and other arrangements. • Select the appropriate tools and equipment based on installation requirements. • Demonstrate how to install the components or the final product on the given surface (wall/ floor/ ceiling). • Demonstrate how to install the given hardware fittings (such as locks, latch, etc.). • Perform basic checks to identify any defects/errors at regular intervals. • Demonstrate how to plan and supervise the worksite cleaning effectively.
Classroom Aids	
White Board, Board Marker, Duster, Projector, Tablet, Chairs, Tables, Smart Board (Optional).	
Tools, Equipment, and Other Requirements	
Workbench, Measurement and Marking Tools, Manual Tools, Electric/ Power Tools, Project/Theme based props for simulation as required.	

Module 18: Quality check and handover

Mapped to FFS/N2213, v 3.0

Terminal Outcomes:

- State the various methods and importance of performing a Quality Check.
- List all the quality parameters associated with the product quality and finish.
- List all the documentation requirements during the project handover.

Duration: *04:00*	**Duration**: *06:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Discuss various types of defects which can be present on the finished product and their remedial actions. • State the significance of feedback and suggestions in the improvement of the process. • Discuss the need for documenting at various stages of project execution.	• Employ suitable methods to check the quality of the finished product. • Analyze the finished product for the required dimensions and specifications. • Demonstrate the steps and techniques involved in fault identification on a finished product. • Employ suitable actions to rectify any defects or errors in the product. • Demonstrate the process of record-keeping and reporting to the supervisor.
Classroom Aids	
White Board, Board Marker, Duster, Projector, Tablet, Chairs, Tables, Smart Board (Optional).	
Tools, Equipment, and Other Requirements	
N.A.	

Module 19: Health, safety, and hygiene protocols

Mapped to FFS/N8203, v 3.0

Terminal Outcomes:

- Describe how to maintain a healthy, safe and secure environment at the workplace.
- Demonstrate health and safety procedures.
- Employ personal hygiene practices at the worksite.

Duration: *08:00*	**Duration**: *12:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Discuss the importance of complying with organizational health, safety, and security policies and procedures. • Discuss the various types of cleaning consumables and equipment. • Discuss the importance of following the standard operating procedures (SOP) of the organization w.r.t cleaning and hygiene practices. • Distinguish between different color-coded dustbins. • Explain the importance of maintaining housekeeping documents. • Label appropriate personal protective equipment needed for a job role and their application. • Discuss the significance of maintaining work ethics, dress code, and personal hygiene. • Explain the operational guidelines for the usage of emergency tools and equipment. • List the various causes of fires and the safety procedures associated with them. • Explain different types of fire and fire extinguishers to be used. • Explain the steps involved in responding to an emergency situation. • Describe the first aid procedures in case of emergency. • Describe the types of hand signals, and signage and their application. • Discuss various storage and handling procedure associated with hazardous substances. • State the benefits associated with the periodic cleaning of tools and equipment. • State the importance of safe lifting practices and correct body postures.	• Illustrate different types of cleaning equipment and consumables. • Employ a suitable process to report any deviations to the appropriate authority. • Demonstrate the identification of possible breaches in health, safety, and security policies. • Demonstrate different disposal techniques depending on different types of waste. • Demonstrate the process of record-keeping and reporting to the supervisor. • Demonstrate the use of personal protective equipment such as goggles, gloves, earplugs, shoes, etc. • Demonstrate the correct way of sanitizing and washing hands. • Demonstrate the use of emergency tools and equipment. • Illustrate the emergency evacuation process in line with organizational protocols. • Apply effective preventive measures in case of a fire. • Demonstrate how to use equipment safely like fire extinguishers. • Design a contingency plan for emergency situations like fire, short circuit, accidents, earthquakes, etc. • Demonstrate the use of First Aid, CPR and safety evacuation process as part of routine operations. • Identity and interpret the given pictorial representations of safety signs and hand signals. • Demonstrate the correct techniques while working and handling hazardous materials at the worksite. • Demonstrate the housekeeping process using appropriate equipment.

	• Employ appropriate techniques for disposing hazardous materials. • Demonstrate the correct postures while working and handling hazardous materials at the workplace.

Classroom Aids
White Board, Board Marker, Duster, Projector, Tablet, Chairs, Tables, Smart Board (Optional).

Tools, Equipment, and Other Requirements
Personal Protective Equipment, Housekeeping- Materials, Tools and Equipment, Project/Theme based props for simulation as required.

Module 20: Material conservation and resources optimization

Mapped to FFS/N8203, v 3.0

Terminal Outcomes:

- Implement safety practices and optimize the use of resources.
- Apply conservation practices at the worksite.
- Illustrate sustainable practices at the workplace for energy efficiency and waste management.

Duration: *04:00*	**Duration**: *06:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Explain the importance of efficient utilization and conservation of material. • State the difference between renewable and non-renewable sources of energy. • Explain the various ways of saving energy. • Differentiate between recyclable and non-recyclable waste. • Explain the importance of effective utilization of electrical appliances.	• Demonstrate various techniques of effective utilization of resources. • Employ ways for efficient utilization of material and water. • Illustrate the process of collecting and analyzing the energy utilization data. • Employ suitable energy-efficient practices in the process. • Sort the various reusable materials from the accumulated waste. • Practice the segregation of recyclable and non-recyclable waste. • Demonstrate different methods of energy resource use optimization and conservation.
Classroom Aids	
White Board, Board Marker, Duster, Projector, Tablet, Chairs, Tables, Smart Board (Optional).	
Tools, Equipment, and Other Requirements	
Housekeeping- Materials, Tools and Equipment, Project/Theme based props for simulation as required.	

Module 21: Employability Skills

Mapped to DGT/VSQ/N0102, v 1.0

Terminal Outcomes:

- Understand basics of 21st-century learning concepts like Blended Learning, Facilitation & Self Learning.
- Discuss the concept of Employability skills and their importance towards organizational growth.
- Explain the role of Employability skills in the future of work during changing markets and scenarios.
- Demonstrate steps involved in preparing a career plan using a specified tool kit.
- Employ suitable employability skills while working in an organization or at a workplace.
- Demonstrate the process of preparing sample session plans and related templates using the specified toolkit.

Duration: *30:00*	**Duration**: *30:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Discuss the Employability Skills required for jobs in various industries. • Explain the constitutional values, including civic rights and duties, citizenship, responsibility towards society, and personal values and ethics such as honesty, integrity, caring, and respecting others that are required to become a responsible citizen. • Discuss importance of relevant 21st century skills. • Describe the benefits of continuous learning • Explain the importance of active listening for effective communication. • Discuss the significance of working collaboratively with others in a team. • Discuss the significance of escalating sexual harassment issues as per the POSH act. • Outline the importance of selecting the right financial institution, product, and service. • Discuss the legal rights, laws, and aids. • Describe the role of digital technology in today's life. • Discuss the significance of displaying responsible online behaviour while browsing, using various social media platforms, e-mails, etc., safely and securely. • Explain the types of entrepreneurship and enterprises. • Discuss how to identify opportunities for potential business, sources of funding and associated financial and legal risks with its mitigation plan.	• List different learning and employability related GOI and private portals and their usage. • Show how to practice different environmentally sustainable practices. • Exhibit 21st century skills like Self-Awareness, Behaviour Skills, time management, critical and adaptive thinking, problem-solving, creative thinking, social and cultural awareness, emotional awareness, learning to learn etc. in personal or professional life. • Show how to use basic English sentences for everyday conversation in different contexts, in person and over the telephone. • Read and interpret text written in basic English. • Write a short note/paragraph / letter/e -mail using basic English. • Create a career development plan with well-defined short- and long-term goals. • Demonstrate how to communicate effectively using verbal and nonverbal communication etiquette. • Demonstrate how to behave, communicate, and conduct oneself appropriately with all genders and PwD. • Demonstrate how to carry out offline and online financial transactions, safely and securely.

• Describe the 4Ps of Marketing-Product, Price, Place, and Promotion and apply them as per requirement. • Describe the significance of analyzing different types and needs of the customers. • Explain the significance of identifying customer needs and responding to them in a professional manner. • Discuss the significance of maintaining hygiene and dressing appropriately. • Discuss the significance of maintaining hygiene and confidence during an interview.	• List the common components of salary and compute income, expenditure, taxes, investments, etc. • Demonstrate how to operate digital devices and use the associated applications and features, safely and securely. • Create sample word documents, excel sheets, and presentations using basic features. • utilize virtual collaboration tools to work effectively. • Create a sample business plan, for the selected business opportunity. • Create a professional Curriculum Vitae (CV). • Use various offline and online job search sources such as employment exchanges, recruitment agencies, and job portals respectively. • Perform a mock interview. • List the steps for searching and registering for apprenticeship opportunities.
Classroom Aids	
White Board, Board Marker, Duster, Projector, Tablet, Chairs, Tables, Smart Board (Optional).	
Tools, Equipment, and Other Requirements	
Sample CV and Biodata, Payment Gateway Devices, Sample Business Plan, Sample formats for English communication.	

Module 22: World Skills Competition and various opportunities

Bridge Module

Terminal Outcomes:

- Explain the significance and scope of the WorldSkills Competition.
- Explain the role of candidates and officials in the WorldSkills Competition.
- Discuss the career prospects associated with the candidates and officials in the skill competition.

Duration: *06:00*	**Duration**: *24:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• State the significance of the World Skills Organization. • Discuss the different categories of sectors and trades as per the WorldSkills Competition. • State the differences and similarities between Carpentry, Cabinet Making, and Joinery trades. • Describe the selection criteria for a candidate in the WorldSkills and India Skills Competition. • Describe the selection criteria for a jury, workshop manager, and sector expert in the WorldSkills and India Skills Competition. • Illustrate the role of a jury in the skill competition. • Illustrate the role of a workshop manager in the skill competition. • Illustrate the role of a sector expert in the skill competition. • Discuss the marking and assessment techniques used in the skill competitions. • Discuss the career prospectus associated with the WorldSkills and India Skills Competition for candidates and officials.	• Demonstrate the various operations involved in the Carpentry trade as per the World Skills Competition guidelines. • Demonstrate the process of work area setup for conducting skill competitions. • Perform assessment and marking of the sample test project. • Prepare the process flow sheet based on test project specifications.
Classroom Aids	
White Board, Board Marker, Duster, Projector, Tablet, Chairs, Tables, Smart Board (Optional).	
Tools, Equipment, and Other Requirements	
Workbench, Personal Protective Equipment, Measurement and Marking Tools, Manual Tools, Electric/ Power Tools, Housekeeping- Materials, Tools and Equipment, Theme based props.	

Module 23: Components preparation for Wooden Doors and Windows with Frames

Mapped to FFS/N2214, v 3.0

Terminal Outcomes:

- Explain various types of Wooden Doors and Windows with Frames and their area of applications.
- Describe the procedures of worksite preparation for Wooden Doors and Windows fabrication.
- Demonstrate the process of woodworking operations to prepare components into specified dimensions.

Duration: *04:00*	**Duration**: *08:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Explain the different types of Wooden Doors and Windows along with their architectural fittings. • Explain how to identify and select appropriate timber and timber-based materials. • State the suitable structural properties associated with timber for efficient working. • Discuss the various pre-requisites involved in doors/windows fabrication and installation. • Discuss the operational and maintenance procedures for different types of tools and equipment based on the requirement. • List all the standards, sizes, and specifications associated with the Wooden Doors and Windows fabrication. • Discuss the various steps involved in determining the opening type of a door/window. • Explain the different woodworking operations employed for the fabrication of a product. • Explain various techniques and tools associated with measurement and marking activities. • Discuss the importance of workplace management for an assigned task.	• Demonstrate how to differentiate Wooden Doors and Windows based on the area of usage and their functioning. • Demonstrate how to identify suitable timber based on design requirements. • Analyze the timber for the required structural properties. • Demonstrate the steps involved in planning and organizing a workplace for the required job work. • Demonstrate the process of checking the functionality of tools and equipment. • Employ suitable techniques to interpret the type of door/window opening based on design specifications. • Demonstrate how to fabricate the different components of a product using appropriate woodworking operations. • Apply the basic measurement techniques to measure the door/window for specified dimensions. • Demonstrate how to shape and finish the different components of a product using appropriate woodworking operations. • Perform basic checks on the fabricated components to identify any defects/errors.
Classroom Aids	
White Board, Board Marker, Duster, Projector, Tablet, Chairs, Tables, Smart Board (Optional).	
Tools, Equipment, and Other Requirements	
Workbench, Measurement and Marking Tools, Manual Tools, Electric/ Power Tools.	

Module 24: Flashing installation for Wooden Doors and Windows with Frames

Mapped to FFS/N2214, v 3.0

Terminal Outcomes:

- Explain various types of Flashings and their area of applications.
- Demonstrate the process of installing the Flashings accurately.

Duration: *04:00*	**Duration**: *08:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Discuss various types of Flashing materials and their usage. • Discuss various steps involved in the installation of Flashings and the factors affecting it. • Discuss the standard sizes and measurements associated with the installation of Flashings. • Explain various techniques associated with the installation of Flashings. • List all the necessary tools and equipment required during the installation job work of Flashing. • List out the various types of sealants along with their properties based on the area of application.	• Identify and select the appropriate Flashing materials based on design requirements. • Demonstrate the installation process of Flashing on the products. • Analyze and identify the Flashing measurements based on the design requirements. • Employ suitable techniques to install the Flashing based on design requirements. • Demonstrate the process of finishing the installed Flashing using appropriate tools and equipment. • Demonstrate how to apply sealants on the installed Flashings neatly and accurately.
Classroom Aids	
White Board, Board Marker, Duster, Projector, Tablet, Chairs, Tables, Smart Board (Optional).	
Tools, Equipment, and Other Requirements	
Measurement and Marking Tools, Manual Tools, Electric/ Power Tools.	

Module 25: Assembly and installation of Wooden Doors and Windows with Frames

Mapped to FFS/N2214, v 3.0

Terminal Outcomes:

- Describe various techniques associated with the assembly and installation of Wooden Doors and Windows with Frames.
- Demonstrate the assembly and installation process for Wooden Doors and Windows with Frames.
- List all the quality parameters associated with the Wooden Doors and Windows.

Duration: *04:00*	**Duration**: *08:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Explain the various methods for holding and centering the workpiece. • Explain the operational and maintenance procedures for different lifting devices and equipment. • Describe the various components of a masonry structure. • State the significance of proper alignment in the Doors and Windows installation. • Discuss various steps involved in the installation of Wooden Doors and Windows Frames. • Discuss various steps involved in the installation of doors/windows panels on the frames. • Discuss the standard sizes and gaps associated with the installed Wooden Doors and Windows with Frames. • Discuss various quality parameters associated with the finishing of the product.	• Demonstrate the usage of different work-holding devices for holding and centering the workpiece. • Demonstrate the usage of different lifting devices during the assigned task. • Employ suitable techniques and processes to grout the gap between the wall and the door frame. • Employ suitable tools and equipment to check the vertical and horizontal alignment of the panels. • Demonstrate the steps for installation of doors/windows frames accurately based on required specifications. • Demonstrate the steps for installation of doors/windows panels accurately on frames based on required specifications. • Demonstrate the process of finishing the installed Wooden Doors and Windows with Frames.
Classroom Aids	
White Board, Board Marker, Duster, Projector, Tablet, Chairs, Tables, Smart Board (Optional).	
Tools, Equipment, and Other Requirements	
Measurement and Marking Tools, Manual Tools, Electric/ Power Tools.	

Module 26: Hardware and accessories installation for Wooden Doors and Windows with Frames

Mapped to FFS/N2214, v 3.0

Terminal Outcomes:

- Explain various types of hardware and accessories and their operational procedures.
- Demonstrate the installation process for architectural hardware and fittings.

Duration: *08:00*	**Duration**: *16:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Discuss various parameters to be considered while interpreting specifications for a product installation. • List all the necessary tools and equipment required during hardware and accessories installation. • Explain the steps involved in the measurement and marking for different hardware and accessories installation. • State the significance of slots and cavities in the product for proper functioning based on different environmental conditions. • Discuss various steps involved in the installation of hardware and accessories on products. • Explain various techniques to adjust the installed hardware and accessories for proper functioning.	• Identify and interpret the job work and design specifications for the given Wooden Doors and Windows installation. • Demonstrate the process of selecting appropriate tools and equipment based on job work requirements. • Demonstrate how to mark the points for hardware installation on the product. • Demonstrate the process of grooving and cutting on the product for proper fitting of required hardware and accessories. • Perform the steps of hardware and accessories installation accurately for the given Wooden Doors and Windows. • Employ different ways to check if tools and equipment are functioning correctly and report anomalies, if any.
Classroom Aids	
White Board, Board Marker, Duster, Projector, Tablet, Chairs, Tables, Smart Board (Optional).	
Tools, Equipment, and Other Requirements	
Measurement and Marking Tools, Manual Tools, Electric/ Power Tools.	

Module 27: On-the-job training for Wooden Doors and Windows with Frames

Mapped to FFS/N2214, v 3.0

Mandatory Duration: *120:00*	**Recommended Duration:** *00:00*
Module Name: On-the-Job Training **Location: On-Site**	

Terminal Outcomes

- Create a list of manufacturing equipment to be used for producing a given Wooden Door and Window with a Frame.
- Identity various components of Wooden Doors and Windows for fabrication purposes.
- Demonstrate effective ways to manage the materials, tools, and equipment in a manufacturing plant.
- Perform pre-processing on raw materials used for Wooden Doors and Windows fabrication.
- Demonstrate the process of cutting, edge banding, trimming, drilling, and pasting on materials based on the design specifications of the product.
- Perform fabrication, assembly, installation, and finishing operations for Wooden Doors and Windows with Frames.
- Demonstrate the assembly and fittings for various architectural hardware, fittings, and accessories.
- Demonstrate how to use different hand tools and machines.
- Demonstrate how to use different heavy machinery.
- Demonstrate various quality-related jobs, such as maintenance, calibration, testing, QC inspection, the rectification of defects, etc., during the fabrication process.
- Demonstrate various safety-related practices during the fabrication of Wooden Doors and Windows with Frames.
- Maintain a safe and secure environment at the manufacturing plant.
- Maintain compliance with the organizational, environmental-related guidelines.
- Coordinate with supervisors and colleagues for job work information.

Module 28: Components preparation for Wooden Cladding and Panelling

Mapped to FFS/N2215, v 3.0

Terminal Outcomes:

- Explain various types of Wooden Cladding and Panelling and their area of applications.
- Describe the procedures of worksite preparation for Wooden Cladding and Panelling fabrication.
- Demonstrate the process of woodworking operations to prepare components into specified dimensions.

Duration: *08:00*	**Duration**: *16:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Explain the different types of Cladding and Panelling along with their architectural fittings. • Explain how to identify and select appropriate timber and timber-based materials. • State the suitable structural properties associated with timber for efficient working. • Discuss the various prerequisites involved in Cladding and Panelling fabrication and installation. • Discuss the operational and maintenance procedures for different types of tools and equipment based on the requirement. • Discuss the process of interpreting and preparing the cutting list based on different components of a product. • Explain various techniques and tools associated with measurement activities in Cladding and Panelling fabrication. • List out the various types of adhesives along with their properties based on the area of application. • Explain the different woodworking operations employed for the fabrication of a product. • Discuss the importance of workplace management for an assigned task.	• Demonstrate how to differentiate Cladding and Panelling based on the area of usage and their functioning. • Demonstrate how to identify suitable timber based on design requirements. • Analyze the timber for the required structural properties. • Demonstrate the steps involved in planning and organizing a workplace for the required job work. • Demonstrate the process of checking the functionality of tools and equipment. • Employ suitable techniques to interpret the quantity of the panels. • Apply the basic measurement techniques to measure all the aspects of the worksite. • Analyze and identify appropriate adhesives based on job work requirements. • Demonstrate how to fabricate the different components of a product using appropriate woodworking operations. • Demonstrate how to shape and finish the different components of a product using appropriate woodworking operations. • Perform basic checks on the fabricated components to identify any defects/errors.
Classroom Aids	
White Board, Board Marker, Duster, Projector, Tablet, Chairs, Tables, Smart Board (Optional).	
Tools, Equipment, and Other Requirements	
Workbench, Measurement and Marking Tools, Manual Tools, Electric/ Power Tools.	

Module 29: Assembly and installation of Wooden Cladding and Panelling

Mapped to FFS/N2215, v 3.0

Terminal Outcomes:

- Describe various techniques associated with the assembly and installation of Wooden Cladding and Panelling.
- Demonstrate the assembly and installation process for Wooden Cladding and Panelling.
- List all the quality parameters associated with the Wooden Cladding and Panelling.

Duration: *04:00*	**Duration**: *12:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Discuss the standard sizes and specifications associated with the fabrication and installation of Cladding and Panelling. • Discuss various types of joints and their usage based on requirements. • State the significance of drained and ventilated cavities in the product based on different environmental conditions. • Explain the various methods for holding and centering the workpiece. • State the significance of proper alignment in the Cladding and Panelling installation. • Discuss the various hindrances and provisions to be considered while assembling and installing Cladding and Panelling. • List all the housekeeping and cleaning procedures. • List out the various types of sealants along with their properties based on the area of application. • Discuss the various techniques and processes involved in the finishing of the installed Cladding and Panelling.	• Employ ways to measure and mark the dimensions for product installation using appropriate tools and equipment. • Employ suitable methods for accurate joint formation. • Demonstrate the process of grooving and cutting on the product for preparing the required drained and ventilated cavity. • Demonstrate the usage of different work-holding devices for holding and centering the workpiece. • Employ suitable tools and equipment to check the vertical and horizontal alignment of the panels. • Employ requisite cut-outs for electrical outlets, plumbing points, and other arrangements. • Demonstrate how to apply sealants on the installed Cladding and Panelling neatly and accurately. • Demonstrate the process of finishing the product for a finished look.
Classroom Aids	
White Board, Board Marker, Duster, Projector, Tablet, Chairs, Tables, Smart Board (Optional).	
Tools, Equipment, and Other Requirements	
Measurement and Marking Tools, Manual Tools, Electric/ Power Tools.	

Module 30: On-the-job training for Wooden Cladding and Panelling

Mapped to FFS/N2215, v 3.0

Mandatory Duration: *80:00*	**Recommended Duration:** *00:00*
Module Name: On-the-Job Training **Location: On-Site**	

Terminal Outcomes

- Create a list of manufacturing equipment to be used for producing a given Wooden Cladding and Panelling.
- Identity various components of Wooden Cladding and Panelling for fabrication purposes.
- Demonstrate effective ways to manage the materials, tools, and equipment in a manufacturing plant.
- Perform pre-processing on raw materials used for Wooden Cladding and Panelling fabrication.
- Demonstrate the process of cutting, edge banding, trimming, drilling, and pasting on materials based on the design specifications of the product.
- Perform fabrication, assembly, installation, and finishing operations for Wooden Cladding and Panelling.
- Demonstrate the assembly and fittings for various architectural hardware, fittings, and accessories.
- Demonstrate how to use different hand tools and machines.
- Demonstrate how to use different heavy machinery.
- Demonstrate various quality-related jobs, such as maintenance, calibration, testing, QC inspection, the rectification of defects, etc., during the fabrication process.
- Demonstrate various safety-related practices during the fabrication of Wooden Cladding and Panelling.
- Maintain a safe and secure environment at the manufacturing plant.
- Maintain compliance with the organizational, environmental-related guidelines.
- Coordinate with supervisors and colleagues for job work information.

Module 31: Components preparation for Wooden Floorings

Mapped to FFS/N2216, v 3.0

Terminal Outcomes:

- Explain various types of Wooden Floorings and their area of applications.
- Describe the procedures of worksite preparation for Wooden Floorings fabrication.
- Demonstrate the process of woodworking operations to prepare components into specified dimensions.

Duration: *08:00*	**Duration**: *16:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Explain the different types of Floorings along with their architectural fittings. • Explain how to identify and select appropriate timber and timber-based materials. • State the suitable structural properties associated with timber for efficient working. • Discuss the various prerequisites involved in Flooring's fabrication and installation. • Discuss the operational and maintenance procedures for different types of tools and equipment based on the requirement. • Discuss the process of interpreting and preparing the cutting list based on different components of a product. • Explain various techniques and tools associated with measurement activities in Flooring fabrication. • List out the various types of adhesives along with their properties based on the area of application. • Explain the different woodworking operations employed for the fabrication of a product. • Discuss the importance of workplace management for an assigned task.	• Demonstrate how to differentiate Floorings based on the area of usage and their functioning. • Demonstrate how to identify suitable timber based on design requirements. • Analyze the timber for the required structural properties. • Demonstrate the steps involved in planning and organizing a workplace for the required job work. • Demonstrate the process of checking the functionality of tools and equipment. • Employ suitable techniques to interpret the quantity of the panels. • Apply the basic measurement techniques to measure all the aspects of the worksite. • Analyze and identify appropriate adhesives based on job work requirements. • Demonstrate how to fabricate the different components of a product using appropriate woodworking operations. • Demonstrate how to shape and finish the different components of a product using appropriate woodworking operations. • Perform basic checks on the fabricated components to identify any defects/errors.
Classroom Aids	
White Board, Board Marker, Duster, Projector, Tablet, Chairs, Tables, Smart Board (Optional).	
Tools, Equipment, and Other Requirements	
Workbench, Measurement and Marking Tools, Manual Tools, Electric/ Power Tools.	

Module 32: Assembly and installation of Wooden Floorings

Mapped to FFS/N2216, v 3.0

Terminal Outcomes:

- Describe various techniques associated with the assembly and installation of Wooden Floorings.
- Demonstrate the assembly and installation process for Wooden Floorings.
- List all the quality parameters associated with the Wooden Floorings.

Duration: *04:00*	**Duration**: *12:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Discuss various types of sub-floors and their effects on the Flooring to be installed. • Discuss the installation procedures for different types of vapor barrier papers. • Explain the various methods for holding and centering the workpiece. • Explain the operational procedure for the usage of the pneumatic gun during Flooring installation. • Discuss different installation techniques and processes associated with the Flooring installation. • State the significance of grain matching on the aesthetics and appearance of the product. • Discuss the quality parameters associated with the Flooring assembly. • State the significance of proper alignment of panels in the Flooring's installation. • Discuss the various hindrances and provisions to be considered while assembling and installing Flooring. • List all the housekeeping and cleaning procedures. • List out the various types of sealants along with their properties based on the area of application. • Discuss the various techniques and processes involved in the finishing of the installed Floorings.	• Analyze the sub-floor for any sneaks or cracks before Flooring installation. • Demonstrate how to install the vapor barrier paper on the subfloor. • Identify and select suitable techniques for the installation of Floorings. • Demonstrate the usage of different work-holding devices for holding and centering the workpiece. • Demonstrate the usage of the pneumatic gun during product installation. • Demonstrate how to install different panels of Flooring with the sub-floor. • Employ suitable methods to ensure grain matching and end matching on the panels while assembling components. • Employ suitable tools and equipment to check the vertical and horizontal alignment of the panels. • Employ requisite cut-outs for electrical outlets, plumbing points, and other arrangements. • Demonstrate how to apply sealants on the installed floorings neatly and accurately. • Demonstrate the process of finishing the product for a finished look.
Classroom Aids	
White Board, Board Marker, Duster, Projector, Tablet, Chairs, Tables, Smart Board (Optional).	
Tools, Equipment, and Other Requirements	
Measurement and Marking Tools, Manual Tools, Electric/ Power Tools.	

Module 33: On-the-job training for Wooden Floorings

Mapped to FFS/N2216, v 3.0

Mandatory Duration: *80:00*	**Recommended Duration:** *00:00*
Module Name: On-the-Job Training **Location: On-Site**	

Terminal Outcomes

- Create a list of manufacturing equipment to be used for producing a given Wooden Flooring.
- Identity various components of Wooden Flooring for fabrication purposes.
- Demonstrate effective ways to manage the materials, tools, and equipment in a manufacturing plant.
- Perform pre-processing on raw materials used for Wooden Flooring fabrication.
- Demonstrate the process of cutting, edge banding, trimming, drilling, and pasting on materials based on the design specifications of the product.
- Perform fabrication, assembly, installation, and finishing operations for Wooden Flooring.
- Demonstrate the assembly and fittings for various architectural hardware, fittings, and accessories.
- Demonstrate how to use different hand tools and machines.
- Demonstrate how to use different heavy machinery.
- Demonstrate various quality-related jobs, such as maintenance, calibration, testing, QC inspection, the rectification of defects, etc., during the fabrication process.
- Demonstrate various safety-related practices during the fabrication of Wooden Flooring.
- Maintain a safe and secure environment at the manufacturing plant.
- Maintain compliance with the organizational and environmental-related guidelines.
- Coordinate with supervisors and colleagues for job work information.

Module 34: Components preparation for Kitchen, Cabinets, and Beds

Mapped to FFS/N2217, v 3.0

Terminal Outcomes:

- Explain various types of cabinets based on their area of application.
- Describe the procedures of worksite preparation for different cabinet fabrication.
- Demonstrate the process of woodworking operations to prepare components into specified dimensions.

Duration: *08:00*	**Duration**: *16:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Explain how to identify and select appropriate timber and timber-based materials. • State the suitable structural properties associated with timber for efficient working. • Discuss the various prerequisites involved in Cabinet's fabrication and installation. • Discuss the operational and maintenance procedures for different types of tools and equipment based on the requirement. • Discuss the process of interpreting and preparing the cutting list based on different components of a product. • Explain the different woodworking operations employed for the fabrication of a product. • Discuss the importance of workplace management for an assigned task.	• Demonstrate how to identify suitable timber based on design requirements. • Analyze the timber for the required structural properties. • Demonstrate the steps involved in planning and organizing a workplace for the required job work. • Demonstrate the process of checking the functionality of tools and equipment. • Employ suitable techniques to interpret the different components of a Cabinet. • Demonstrate the cutting list preparation based on the design specifications of the Cabinets. • Demonstrate how to fabricate the different components of a product using appropriate woodworking operations. • Demonstrate how to shape and finish the different components of a product using appropriate woodworking operations. • Perform basic checks on the fabricated components to identify any defects/errors.
Classroom Aids	
White Board, Board Marker, Duster, Projector, Tablet, Chairs, Tables, Smart Board (Optional).	
Tools, Equipment, and Other Requirements	
Workbench, Measurement and Marking Tools, Manual Tools, Electric/ Power Tools.	

Module 35: Assembly and installation of Kitchen, Cabinets, and Beds

Mapped to FFS/N2217, v 3.0

Terminal Outcomes:

- Describe various techniques associated with the assembly and installation of different Cabinets.
- Demonstrate the assembly and installation process for different Cabinets.
- List all the quality parameters associated with the Cabinets finishing.

Duration: *08:00*	**Duration**: *16:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Explain the various methods for holding and centering the workpiece. • Discuss the standard sizes and specifications associated with the fabrication and installation of Cabinets. • Explain various techniques and tools associated with measurement activities in Cabinet's installation. • Discuss different installation techniques and processes associated with the Cabinet's assembly and installation. • Explain the operational procedure for the usage of the pneumatic gun during flooring installation. • State the significance of grain matching on the aesthetics and appearance of the product. • Discuss the quality parameters associated with the Cabinet's assembly. • State the significance of proper alignment of panels in the installation of the Cabinets. • Discuss the various hindrances and provisions to be considered while assembling and installing Cabinets. • List all the housekeeping and cleaning procedures. • Discuss different types of mounting arrangements for the installation of Cabinets.	• Demonstrate the usage of different work-holding devices for holding and centering the workpiece. • Perform checks to ensure the desired sizes of components before Cabinet's assembly and installation. • Employ ways to measure and mark the dimensions for product installation using appropriate tools and equipment. • Demonstrate how to install different panels of Cabinets. • Demonstrate the usage of the pneumatic gun during product installation. • Employ suitable methods to ensure grain matching and end matching on the panels while assembling components. • Employ suitable tools and equipment to check the vertical and horizontal alignment of the panels. • Employ requisite cut-outs for electrical outlets, plumbing points, and other arrangements. • Employ suitable arrangements for the installation of Cabinets.
Classroom Aids	
White Board, Board Marker, Duster, Projector, Tablet, Chairs, Tables, Smart Board (Optional).	
Tools, Equipment, and Other Requirements	
Measurement and Marking Tools, Manual Tools, Electric/ Power Tools.	

Module 36: Hardware and accessories installation of Kitchen, Cabinets, and Beds

Mapped to FFS/N2217, v 3.0

Terminal Outcomes:

- Explain various types of hardware and accessories used in the Kitchen, Cabinets, and Beds and their operational procedures.
- Demonstrate the installation process for various architectural hardware and fittings.

Duration: *08:00*	**Duration**: *24:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Discuss various parameters to be considered while interpreting specifications for a product installation. • List all the necessary tools and equipment required during hardware and accessories installation. • Explain the steps involved in the measurement and marking for different hardware and accessories installation. • State the significance of slots and cavities in the product for proper functioning based on different environmental conditions. • Discuss various steps involved in the installation of hardware and accessories on products. • Explain various techniques to adjust the installed hardware and accessories for proper functioning.	• Identify and interpret the job work and design specifications for the given Cabinet's installation. • Demonstrate the process of selecting appropriate tools and equipment based on job work requirements. • Demonstrate how to mark the points for hardware installation on the product. • Demonstrate the process of grooving and cutting on the product for proper fitting of required hardware and accessories. • Perform the steps of hardware and accessories installation accurately for the given Cabinets. • Employ different ways to check if tools and equipment are functioning correctly and report anomalies, if any.
Classroom Aids	
White Board, Board Marker, Duster, Projector, Tablet, Chairs, Tables, Smart Board (Optional).	
Tools, Equipment, and Other Requirements	
Measurement and Marking Tools, Manual Tools, Electric/ Power Tools.	

Module 37: On-the-job training for Kitchen, Cabinets, and Beds

Mapped to FFS/N2217, v 3.0

Mandatory Duration: *100:00*	**Recommended Duration:** *00:00*
Module Name: On-the-Job Training **Location: On-Site**	

Terminal Outcomes

- Create a list of manufacturing equipment to be used for producing a given Kitchen, Cabinets, and Beds.
- Identity various components of a Kitchen, Cabinet, and Bed for fabrication purposes.
- Demonstrate effective ways to manage the materials, tools, and equipment in a manufacturing plant.
- Perform pre-processing on raw materials used for Kitchen, Cabinets, and Bed fabrication.
- Demonstrate the process of cutting, edge banding, trimming, drilling, and pasting on materials based on the design specifications of the product.
- Perform fabrication, assembly, installation, and finishing operations for Kitchen, Cabinets, and Beds.
- Demonstrate the assembly and fittings for various architectural hardware, fittings, and accessories.
- Demonstrate how to use different hand tools and machines.
- Demonstrate how to use different heavy machinery.
- Demonstrate various quality-related jobs, such as maintenance, calibration, testing, QC inspection, the rectification of defects, etc., during the fabrication process.
- Demonstrate various safety-related practices during the fabrication of Kitchen, Cabinets, and Beds.
- Maintain a safe and secure environment at the manufacturing plant.
- Maintain compliance with the organizational, environmental-related guidelines.
- Coordinate with supervisors and colleagues for job work information.

Module 38: Components preparation for Wooden House Structure

Mapped to FFS/N2218, v 3.0

Terminal Outcomes:

- Explain various types of Wooden House Structures based on their area of application.
- Describe the procedures of worksite preparation for different Wooden House Structures.
- Demonstrate the process of woodworking operations to prepare components into specified dimensions.

Duration: *08:00*	**Duration**: *20:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Explain how to identify and select appropriate timber and timber-based materials. • State the suitable structural properties associated with timber for efficient working. • Discuss the various prerequisites involved in wooden structure fabrication and installation. • Discuss the process of interpreting and preparing the cutting list based on different components of a product. • Explain the different woodworking operations employed for the fabrication of a product. • Describe the various load and structural considerations during framing members' design. • Discuss various types of framing structures and their usage based on design specifications. • Discuss the importance of space management while designing the Wooden Structure frames for an assigned task. • Discuss various types of insulation materials along with their structural properties and their correlation with the framing members. • Discuss the importance of workplace management for an assigned task.	• Demonstrate how to identify suitable timber based on design requirements. • Analyze the timber for the required structural properties. • Demonstrate the steps involved in planning and organizing a workplace for the required job work. • Employ suitable techniques to interpret the different components of a Wooden Structure. • Demonstrate the cutting list preparation based on the design specifications of the wooden structure. • Demonstrate how to measure, mark, cut, joint, and fit the different components of a product using appropriate woodworking operations. • Demonstrate how to shape and finish the different components of a product using appropriate woodworking operations. • Employ suitable methods and considerations while designing framing members. • Identify and select appropriate framing styles based on design requirements. • Demonstrate efficient designing of room layout and space based on client requirements. • Identify and select appropriate framing specifications based on design requirements. • Perform basic checks on the fabricated components to identify any defects/errors.
Classroom Aids	
White Board, Board Marker, Duster, Projector, Tablet, Chairs, Tables, Smart Board (Optional).	
Tools, Equipment, and Other Requirements	
Workbench, Measurement and Marking Tools, Manual Tools, Electric/ Power Tools.	

Module 39: Assembly and installation of Wooden House Structure

Mapped to FFS/N2218, v 3.0

Terminal Outcomes:

- Describe various techniques associated with the assembly and installation of different Wooden House Structures.
- Demonstrate the assembly and installation process for different Wooden House Structures.
- List all the quality parameters associated with the finished Wooden House Structures.

Duration: *08:00*	**Duration**: *24:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Discuss the standard sizes and specifications associated with the fabrication and installation of Wooden Structures. • Discuss the assembly and installation procedures for the sill plate at the foundation of the structure. • Explain the correlation of the sheathing panels thickness with the various housing structural requirements. • Discuss various structural requirements during the fabrication of various components of a Wooden Structure. • Explain the process of calculating the effect of various loads on the Wooden Structure fabrication and installation processes. • Discuss the installation procedures associated with the joist in the structure. • Describe various types of sub-floors and their effects on the Wooden Structure to be installed. • List out the various types of adhesives along with their properties based on the area of application. • State the significance of cantilevered floor assembly in a Wooden Structure. • Describe the organizational and standard practices associated with the fabrication and installation of a Wooden Structure. • Discuss the various techniques and processes involved in the finishing of the installed Wooden Structure.	• Demonstrate how to install various repetitive framing members of a Wooden Structure. • Employ suitable ways to install the foundation of the structure by placing the sill plate. • Identify and select the thickness of the sheathing panels based on the structural requirements. • Employ suitable methods and techniques to prepare effective connections between the roof/floor, wall, and structure foundation. • Demonstrate how to factor the sufficient loads during sub-floor and floor installation. • Demonstrate how to install joists of a Wooden Structure. • Employ suitable methods to install the desired subfloor based on load and structural requirements. • Identify and apply appropriate adhesives based on job work requirements. • Demonstrate how to install the cantilevered floor assembly accurately. • Employ suitable practices during the fabrication and installation of a Wooden Structure. • Demonstrate the process of finishing the product for a finished look.
Classroom Aids	
White Board, Board Marker, Duster, Projector, Tablet, Chairs, Tables, Smart Board (Optional).	
Tools, Equipment, and Other Requirements	
Measurement and Marking Tools, Manual Tools, Electric/ Power Tools.	

Module 40: On-the-job training for Wooden House Structures

Mapped to FFS/N2218, v 3.0

Mandatory Duration: *120:00*	**Recommended Duration:** *00:00*
Module Name: On-the-Job Training **Location: On-Site**	

Terminal Outcomes

- Create a list of manufacturing equipment to be used for producing a Wooden House Structure.
- Identity various components of a Wooden House Structure for fabrication purposes.
- Demonstrate effective ways to manage the materials, tools, and equipment in a manufacturing plant.
- Perform pre-processing on raw materials used for Wooden House Structure fabrication.
- Demonstrate the process of cutting, edge banding, trimming, drilling, and pasting on materials based on the design specifications of the product.
- Perform fabrication, assembly, installation, and finishing operations for Wooden House Structures.
- Demonstrate the assembly and fittings for various architectural hardware, fittings, and accessories.
- Demonstrate how to use different hand tools and machines.
- Demonstrate how to use different heavy machinery.
- Demonstrate various quality-related jobs, such as maintenance, calibration, testing, QC inspection, the rectification of defects, etc., during the fabrication process.
- Demonstrate various safety-related practices during the fabrication of the Wooden House Structure.
- Maintain a safe and secure environment at the manufacturing plant.
- Maintain compliance with the organizational and environmental-related guidelines.
- Coordinate with supervisors and colleagues for job work information.

Module 41: Resource preparation for dismantling, repair, and maintenance

Mapped to FFS/N2219, v 3.0

Terminal Outcomes:

- Explain various types of furniture based on their area of application.
- Describe the assembly and installation procedures for different types of a furniture fabrication.
- Demonstrate the process of planning and organizing a project operation.
- List all the prerequisites involved in dismantling, repair, and maintenance processes.

Duration: *04:00*	**Duration**: *08:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Explain how to identify and interpret different components of a product. • Discuss the various prerequisites involved in a product fabrication and installation scope. • Discuss the operational and maintenance procedures for different types of tools and equipment based on the requirement. • Explain various techniques and tools associated with measurement activities using appropriate tools and equipment. • Discuss the importance of workplace management for an assigned task.	• Employ suitable techniques to analyze the different components of existing furniture. • Demonstrate the steps involved in planning and organizing a workplace for the required job work. • Demonstrate the process of checking the functionality of tools and equipment. • Apply the basic measurement techniques to measure all the aspects of the product.
Classroom Aids	
White Board, Board Marker, Duster, Projector, Tablet, Chairs, Tables, Smart Board (Optional).	
Tools, Equipment, and Other Requirements	
Workbench, Measurement and Marking Tools, Manual Tools, Electric/ Power Tools.	

Module 42: Dismantling and movement of furniture

Mapped to FFS/N2219, v 3.0

Terminal Outcomes:

- State all the prerequisites involved in the dismantling and movement of the furniture.
- Demonstrate the process of dismantling and movement of the furniture.
- Explain various safety precautions during the movement/displacement of the furniture and its parts.

Duration: *04:00*	**Duration**: *08:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• List all the safety precautions to be followed during the dismantling and movement of furniture. • Describe the various installation and assembly techniques associated with the different types of furniture. • Explain various techniques involved in the dismantling process of furniture. • State the significance of stacking and marking during the storage of a product. • State the significance of documenting all parts in a dismantling for ease in assembly and installation processes. • Discuss the importance of workplace management for an assigned task. • List all the safety precautions to be considered during the re-installation of the furniture. • Describe various safety materials for protecting the furniture during movement/displacement. • Discuss the correct body postures while performing lifting and movement operations. • List all the precautions to be followed while performing the lifting of furniture.	• Analyze the furniture for all the safety precautions before any dismantling and movement processes. • Employ suitable techniques for dismantling furniture into different components. • Demonstrate how to dismantle different components of furniture safely and accurately. • Employ suitable techniques to perform stacking of products for easy accessibility. • Demonstrate proper documentation skills of dismantled parts based on assembly process requirements. • Demonstrate how to plan and organize the movement/displacement of the furniture. • Analyze the worksite for any hindrances in the movement/displacement of the furniture. • Identify all the possible obstructions at the worksite affecting the movement and installation of the furniture. • Employ all the suitable steps to ensure an obstruction-free route for moving furniture. • Employ suitable paddings and wraps to secure the furniture while moving. • Demonstrate how to lift and move different types of furniture safely and effectively.
Classroom Aids	
White Board, Board Marker, Duster, Projector, Tablet, Chairs, Tables, Smart Board (Optional).	
Tools, Equipment, and Other Requirements	
Workbench, Measurement and Marking Tools, Manual Tools, Electric/ Power Tools, Housekeeping- Materials, Tools, and Equipment.	

Module 43: Repair and re-installation of the furniture

Mapped to FFS/N2219, v 3.0

Terminal Outcomes:

- State all the prerequisites involved in the repairing and re-installation of the furniture.
- Demonstrate the process of repairing and re-installation using appropriate woodworking operations.
- Demonstrate the process of woodworking operations to prepare components into specified dimensions.

Duration: *04:00*	**Duration**: *08:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• State the significance of selecting appropriate operations based on the scope of work. • Describe the operational guides involved in the cutting, stripping, pasting, and chiseling processes. • Explain the usage of different clamps and adhesives during repair work of furniture. • Explain various structural properties of the wood affecting its usage in the process. • List the various types of sanding papers, their grades, and their usage based on the required operations. • Explain the operational procedure and usage of different connectors in the assembly process. • Describe various steps involved in upholstering a furniture part. • Discuss different assembly and installation techniques associated with different types of furniture. • State the significance of grain matching on the aesthetics and appearance of the product. • Discuss the quality parameters associated with the flooring assembly. • Discuss various types of coating and their effects on various materials of the furniture. • Explain various techniques to adjust the installed hardware and accessories for proper functioning.	• Demonstrate how to plan and organize the repair and maintenance of the furniture. • Demonstrate the process of stripping on the furniture surface using appropriate tools and equipment. • Employ suitable tools and equipment to perform repairing of the furniture. • Demonstrate how to shape and finish the different components of a product using appropriate woodworking operations. • Demonstrate the process of sanding and smoothening the furniture surface. • Demonstrate the usage of the connector in the assembly of furniture. • Demonstrate how to perform upholstering of furniture using appropriate materials, tools, and equipment. • Demonstrate how to assemble and install different components of furniture based on design requirements. • Employ suitable methods to ensure grain matching and end matching on the panels while assembling components. • Employ suitable polishes and wax to perform the finishing of the installed furniture. • Employ different ways to check if tools and equipment are functioning correctly and report anomalies, if any.
Classroom Aids	
White Board, Board Marker, Duster, Projector, Tablet, Chairs, Tables, Smart Board (Optional).	
Tools, Equipment, and Other Requirements	
Manual Tools, Electric/ Power Tools.	

Module 44: Cleaning of the furniture

Mapped to FFS/N2219, v 3.0

Terminal Outcomes:

- Describe how to maintain the cleanliness of the furniture.
- Demonstrate the process of cleaning and finishing furniture.
- State all the materials required in furniture finishing and their properties.

Duration: *08:00*	**Duration**: *16:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• List all the safety precautions to be followed while finishing the furniture surface. • Describe various housekeeping practices for cleaning of worksite, tools, and equipment. • Explain various types of soluble solutions used in the cleaning process. • Explain the benefits of periodic cleaning and maintenance of the worksite.	• Analyze the furniture surface for any adverse effects of the cleaning materials to be used. • Employ suitable tools and equipment for cleaning and maintenance of the worksite. • Demonstrate how to select and use soluble solutions for cleaning furniture surfaces accurately. • Demonstrate how to wipe off dust effectively using damp cloths.
Classroom Aids	
White Board, Board Marker, Duster, Projector, Tablet, Chairs, Tables, Smart Board (Optional).	
Tools, Equipment, and Other Requirements	
Housekeeping- Materials, Tools, and Equipment.	

Module 45: On-the-job training for General Repairs and Maintenance

Mapped to FFS/N2219, v 3.0

Mandatory Duration: *60:00*	**Recommended Duration:** *00:00*
Module Name: On-the-Job Training **Location: On-Site**	

Terminal Outcomes

- Create a list of manufacturing equipment to be used for General Repairs and Maintenance.
- Identify the various components of a product for General Repairs and Maintenance purposes.
- Demonstrate effective ways to manage the materials, tools, and equipment in a manufacturing plant.
- Perform pre-processing on raw materials used for General Repairs and Maintenance.
- Demonstrate the process of cutting, edge banding, trimming, drilling, and pasting on materials based on the design specifications of the product.
- Perform fabrication, assembly, installation, and finishing operations for General Repairs and Maintenance.
- Demonstrate the assembly and fittings for various architectural hardware, fittings, and accessories.
- Demonstrate how to use different hand tools and machines.
- Demonstrate how to use different heavy machinery.
- Demonstrate various quality-related jobs, such as maintenance, calibration, testing, QC inspection, rectification of defects, etc., during the fabrication process.
- Demonstrate various safety-related practices during General Repairs and Maintenance process.
- Maintain a safe and secure environment at the manufacturing plant.
- Maintain compliance with the organizational, environmental-related guidelines.
- Coordinate with supervisors and colleagues for job work information.

Annexure

Trainer Requirements

Trainer Prerequisites – either one of the 5 options						
Minimum Educational Qualification	**Specialization**	**Relevant Industry Experience**		**Training Experience**		**Remarks**
		Years	***Specialization***	***Years***	***Specialization***	
Graduate	Engineering (Civil, Mechanical), Architecture, Interior Design, Furniture Manufacturing, Wood Work, Product Design or Any other discipline	5	Furniture manufacturing/ Furniture Design/ Furniture Installation/Carpentry/ Interior Design/ Architecture	1	Preferable - Vocational or Academic Training	Preferable - Additional Certification related to specialization in furniture or interior design sector (Software like AutoCAD, etc..), Communication Skills.
IT	Carpentry, Furniture Manufacturing	6	Furniture manufacturing/ Furniture Design/ Furniture Installation/Carpentry/ Interior Design/ Architecture	1	Preferable - Vocational or Academic Training	Preferable - Additional Certification related to specialization in furniture or interior design sector (Software like AutoCAD, etc..), Communication Skills.
Diploma	Carpentry, Furniture Manufacturing	6	Furniture manufacturing/ Furniture Design/ Furniture Installation/Carpentry/ Interior Design/ Architecture	1	Preferable - Vocational or Academic Training	Preferable - Additional Certification related to specialization in furniture or interior design sector (Software like AutoCAD, etc..), Communication Skills.
Certificate-NSQF	NSQF Level 4.5 Carpenter (FFS/Q2203	4	Furniture manufacturing/ Furniture Design/ Furniture Installation/Carpentry/ Interior Design/ Architecture	1	Preferable - Vocational or Academic Training	Required- Work Experience and Recommendation letter from Employer, Certificates of Training from companies. Preferable - Additional Certification related to specialization in furniture or interior design sector (Software like AutoCAD, etc.), Communication Skills.

Certificate-NSQF	NSQF Level 5 Master Carpenter (FFS/Q2205) Or Above	3	Furniture manufacturing/ Furniture Design/ Furniture Installation/Carpentry/ Interior Design/ Architecture	1	Preferable - Vocational or Academic Training	Required- Work Experience and Recommendation letter from Employer, Certificates of Training from companies. Preferable - Additional Certification related to specialization in furniture or interior design sector (Software like AutoCAD, etc.), Communication Skills.
CITS Certified	Relevant CITS Course	5	Furniture Manufacturing/ Carpentry	1	Preferable - Vocational or Academic Training	The Trainers can raise the 'Certificate Request' on SIP provided they are qualified in the relevant job roles followed by pre-screening from Master Trainer.

Trainer Certification	
Domain Certification	**Platform Certification**
Certified for Job Role: "Carpenter" mapped to QP: "FFS/Q2203, v3.0" Level 4.5. The minimum accepted score will be 80% aggregate.	Recommended that the Trainer is certified for the Job Role: "Trainer (VET and Skills)", mapped to the Qualification Pack: "MEP/Q2601, v2.0". The minimum accepted score will be 80% aggregate.

Assessor Requirements

Assessor Prerequisites - either one of the 5 options						
Minimum Educational Qualification	**Specialization**	**Relevant Industry Experience**		**Training/Assessment Experience**		**Remarks**
		Years	***Specialization***	***Years***	***Specialization***	
Graduate	Engineering (Civil, Mechanical), Architecture, Interior Design, Furniture Manufacturing, Wood Work, Product Design or Any other discipline	5	Furniture manufacturing/ Furniture Design/ Furniture Installation/Carpentry/ Interior Design/ Architecture	1	Preferable - Vocational or Academic Training	Preferable - Additional Certification related to specialization in furniture or interior design sector (Software like AutoCAD, etc..), Communication Skills.
IT	Carpentry, Furniture Manufacturing	6	Furniture manufacturing/ Furniture Design/ Furniture Installation/Carpentry/ Interior Design/ Architecture	1	Preferable - Vocational or Academic Training	Preferable - Additional Certification related to specialization in furniture or interior design sector (Software like AutoCAD, etc..), Communication Skills.
Diploma	Carpentry, Furniture Manufacturing	6	Furniture manufacturing/ Furniture Design/ Furniture Installation/Carpentry/ Interior Design/ Architecture	1	Preferable - Vocational or Academic Training	Preferable - Additional Certification related to specialization in furniture or interior design sector (Software like AutoCAD, etc..), Communication Skills.
Certificate-NSQF	NSQF Level 4.5 Carpenter (FFS/Q2203	4	Furniture manufacturing/ Furniture Design/ Furniture Installation/Carpentry/ Interior Design/ Architecture	1	Preferable - Vocational or Academic Training	Required- Work Experience and Recommendation letter from Employer, Certificates of Training from companies. Preferable - Additional Certification related to specialization in furniture or interior design sector (Software like AutoCAD, etc.), Communication Skills.

Certificate-NSQF	NSQF Level 5 Master Carpenter (FFS/Q2205) Or Above	3	Furniture manufacturing/ Furniture Design/ Furniture Installation/Carpentry/ Interior Design/ Architecture	1	Preferable - Vocational or Academic Training	Required- Work Experience and Recommendation letter from Employer, Certificates of Training from companies. Preferable - Additional Certification related to specialization in furniture or interior design sector (Software like AutoCAD, etc.), Communication Skills.
CITS Certified	Relevant CITS Course	5	Furniture Manufacturing/ Carpentry	1	Preferable - Vocational or Academic Training	The Trainers can raise the 'Certificate Request' on SIP provided they are qualified in the relevant job roles followed by pre-screening from Master Trainer.

Assessor Certification	
Domain Certification	**Platform Certification**
Certified for Job Role: "Carpenter" mapped to QP: "FFS/Q2203, v3.0" Level 4.5. The minimum accepted score will be 80% aggregate.	Recommended that the Assessor is certified for the Job Role: "Assessor (VET and Skills)", mapped to the Qualification Pack: "MEP/Q2701, v2.0". The minimum accepted score will be 80% aggregate.

Assessment Strategy

This section includes the processes involved in identifying, gathering, and interpreting information to evaluate the learner on the required competencies of the program.

At FFSC, we believe to gauge the performance of a candidate a holistic approach for assessment is essential. As such we have devised a multi-tier process to keep track of candidate overall progress at various stages. While a few techniques are imbibed as part of the training delivery program, others are explicit ways of testing. These are:

1. Internal (Preferred)
    a. Trainer Led Assessment
    b. Master Trainer/ Program Mentor Led Assessment
2. External
    a. Assessment Partners/ Freelance Assessors (Mandatory)
    b. Industry (Preferred)

1. Internal (Preferred)

a. Trainer Led Assessment:

As part of the Training Delivery Program, various tests and projects are designed at regular intervals to gauge the progress of the candidate during the training program. These are mix of Theory and practical, individual and group activities.

Trainers will be provided specific training under the ToT programs to conduct these assessments. A report of the same will be submitted to the assigned Master Trainer/ Program Mentor.

b. Master Trainer/ Program Mentor Led Assessment:

Every trainer/ batch should be connected with a Master Trainer/ Program Mentor, who will keep a check on the progress of the batch. Trainer can consult the Master Trainer/ Program Mentor with regards to training delivery or conducting periodic assessments.

Master Trainer/ Program Mentor may conduct their own session to assess the progress of the candidates, using the means as deemed suitable and feasible.

2. External

a. Assessment Partners/ Freelance Assessors:

An external assessment shall mandatorily be conducted be Assessment Partners via ToA certified Assessors or ToA certified Freelance Assessors. There are 3 key stages of any assessment activity – Pre-Assessment, During Assessment and Post Assessment. The defined system for conducting the assessment shall be followed at each stage.

FFSC Training and Assessment Team or any other assigned authority by FFSC, may conduct surprise or planned visits and checks from quality assurance and monitoring perspective.

The requirements and details of each stage are as highlighted below:

1. **Pre-Assessment:**
    a. Assessment Partner/ Assessor/ Freelance Assessor Validation
    b. Training Centre Check for Assessment Setup/ Infra
    c. Question Papers submission by Assessment Partner/ Freelance Assessor to FFSC
    d. FFSC to validate and approve the Question papers in line with NOS and PC.
    e. FFSC Affiliation and Project Assessment Approval
    f. Centre ready for Assessment intimation by Training Partner or by the assigned Neutral Assessment Centre
2. **During Assessment (on the Assessment Day):** The assessment can be conducted in offline, online or hybrid format depending on the feasibility and approvals from FFSC. Under either process the below guidelines are important to be compiled:
    a. Check the availability of the Lab Equipment for the particular Job Role as per the mode of conducting assessment.
    b. Candidate Validation: Confirm the Aadhar Card details of candidates
    c. Check the duration of the training
    d. Check the Assessment Start and End time to be as specified in documents
    e. Assessor/ Freelance Assessor must follow the assessment guidelines at all times.
    f. Intimation to FFSC Training and Assessment Monitoring Team for Assessment Quality Assurance checks.
    g. Ensure evidence of conducting assessment is gathered as per FFSC protocol:
        i. Time-stamped and geotagged reporting of the assessor from assessment location
        ii. Centre photographs with signboards and scheme-specific branding
        iii. Biometric or manual attendance sheet (stamped by T.P.) of the trainees during the training period
        iv. Time-stamped and geotagged assessment (Theory + Viva + Practical) photographs and videos
    h. Required documentation for submissions to the FFSC
3. **Post Assessment:**
    a. Timely submission of the assessment documentation and feedback to FFSC
    b. Hard copies of the documents are stored
    c. Soft copies of the documents and photographs of the Assessment are uploaded/accessed from Cloud Storage
    d. Soft copies of the documents and photographs of the Assessment stored in the Hard Drives
    e. Any other compliance requirement as defined by FFSC

b. Industry Partner:

FFSC may engage the Industry Partners and the Subject Matter Experts to conduct the Assessment of the candidates at various stages during the training program.

References

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 a task 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 psychomotor 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	The 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
QC	Quality Checking
PwD	Person with Disability
ToT	Training of Trainers
ToA	Training of Assessors
FFSC	Furniture and Fittings Skill Council
TP	Training Partner
PC	Performance Criteria
NA	Not Applicable
MS	Microsoft
PPE	Personal Protective Equipment
2D	2-Dimensional
3D	3-Dimensional
SOP	Standard Operating Procedure
AR	Augmented Reality
VR	Virtual Reality
OJT	On-the-Job Training
FF&E	Furniture Fixtures & Equipment
POC	Point of Contact
POSH	Prevention Of Sexual Harassment
CPR	Cardiopulmonary Resuscitation