FFSC FURNITURE & FITTINGS SKILL COUNCIL
कुशल • सक्षम • आत्मनिर्भर

सत्यमेव जयते
GOVERNMENT OF INDIA
MINISTRY OF SKILL DEVELOPMENT & ENTREPRENEURSHIP

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Skill India
कौशल भारत-कुशल भारत

Model Curriculum

QP Name: Assistant Panelworks Machine Operator

QP Code: FFS/Q1001

QP Version: 1.0

NSQF Level: 4

Model Curriculum Version: 1.0

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

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Training Parameters

Sector	Interiors, Furniture and Fixtures
Sub-Sector	Furniture Design & Production
Occupation	Furniture Production (Machine Shop)
Country	India
NSQF Level	4
Aligned to NCO/ISCO/ISIC Code	NCO-2015/7523.9900
Minimum Educational Qualification and Experience	Grade 12 pass Or Completed 2nd year of 3-year diploma (after 10th) Or Pursuing 2nd year of 3-year regular Diploma (after 10th) Or Grade 10 pass with two years of any combination of NTC/NAC/CITS or equivalent Or Grade 10 pass and pursuing continuous schooling (for 2-year program) Or Grade 11 Pass and pursuing continuous schooling Or Grade 11 Pass with 1 year of relevant experience Or Grade 10 Pass with 2 years of relevant experience Or Previous relevant Qualification of NSQF Level 3 (Multipurpose Assistant- Furniture Production and Installation) with 3 years of relevant experience
Minimum Level of Education for Training in School	NA
Prerequisite License or Training	NA
Minimum Job Entry Age	16 Years
Last Reviewed on	31-08-2023
Next Review Date	31-08-2026
NSQC Approval Date	31-08-2023
Q.P. Version	1.0

Model Curriculum Creation Date	29-06-2023
Model Curriculum Valid Up to Date	31-08-2026
Model Curriculum Version	1.0
Minimum Duration of the Course	420 (Min. of 1 Electives to be selected)
Maximum Duration of the Course	540 (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:

- Comprehend the knowledge of the interiors, furniture, and allied industry, including its scope, trends, and key aspects.
- List with the organizational context and workplace policies relevant to the interiors, furniture, and allied industry, including procedures, protocols, and safety regulations.
- Display skills required to assist in panelworks machine operations, including job card interpretation, worksite organization, machine handling, maintenance assistance, and quality control.
- Interpret job cards accurately, understanding the specifications, requirements, and sequence of tasks for machine operations.
- Perform machine operations planning, considering factors such as materials, dimensions, machining processes, and quality standards.
- Organize the worksite efficiently, ensuring proper layout, tool availability, material positioning, and adherence to safety guidelines.
- Assist in the machine initiation process, including power-up, calibration, tool loading, and ensuring the machine is ready for operation.
- Handle job work during machine operations, ensuring proper material feeding, alignment, clamping, and monitoring the process for quality and efficiency.
- Assist in performing required machine operations, following instructions, monitoring progress, and addressing any issues that may arise.
- Display skills to clean and maintain the machine, ensuring its proper functioning, cleanliness, and adherence to maintenance schedules.
- Assist in maintenance operations, including routine checks, minor repairs, and upkeep of the machine, contributing to its longevity and performance.
- Make use of the quality control and assurance process by assisting in inspections, measurements, testing, and ensuring compliance with quality standards.
- Demonstrate knowledge and practice of health and safety protocols at the worksite, including personal protective equipment (PPE), hazard identification, and emergency procedures.
- List various greening practices and sustainability initiatives relevant to the interiors, furniture, and allied industry, promoting environmentally friendly practices in the workplace.
- Develop employability skills, including teamwork, communication, problem-solving, time management, and professionalism, enhancing their overall readiness for the job market.
- Assist in setting up the workplace for pasting/pressing machine operations, including material preparation, tool selection, and organizing the work area.
- Assist in pasting operations, following procedures, ensuring proper adhesive application, and achieving desired bonding results.
- Assist in pressing operations, ensuring correct pressure, temperature, and time for optimal bonding and finishing of furniture components.

- Manage the workplace and equipment during pasting/pressing machine operations, maintaining cleanliness, organizing tools, and adhering to safety guidelines.
- Assist in pasting and pressing machine operations during on-the-job training, gaining practical experience, and refining their skills under supervision.
- Assist in setting up the workplace for cutting/sizing machine operations, including material positioning, tool selection, and work area organization.
- Assist in cutting/sizing operations, ensuring accurate measurements, proper tool alignment, and achieving desired dimensions for furniture components.
- Manage the workplace and equipment during cutting/sizing machine operations, maintaining cleanliness, organizing tools, and adhering to safety guidelines.
- Assist in cutting and sizing machine operations during on-the-job training, gaining practical experience and refining their skills under supervision.
- Assist in setting up the workplace for edge banding machine operations, including material preparation, edge band selection, and work area organization.
- Assist in edge banding operations, ensuring proper alignment, adhesive application, and achieving smooth, finished edges for furniture components.
- Manage the workplace and equipment during edge banding machine operations, maintaining cleanliness, organizing tools, and adhering to safety guidelines.
- Assist in edge banding machine operations during on-the-job training, gaining practical experience and refining their skills under supervision.
- Assist in setting up the workplace for veneer drilling machine operations, including material positioning, drill selection, and work area organization.
- Assist in drilling operations, ensuring accurate hole placement, proper drill speed and depth, and achieving desired results for furniture components.
- Manage the workplace and equipment during drilling machine operations, maintaining cleanliness, organizing tools, and adhering to safety guidelines.
- Assist in drilling machine operations during on-the-job training, gaining practical experience and refining their skills under supervision.
- Assist in setting up the workplace for veneer routing machine operations, including material positioning, router selection, and work area organization.
- Assist in routing operations, ensuring accurate routing paths, proper router speed, and achieving desired results for furniture components.
- Manage the workplace and equipment during routing machine operations, maintaining cleanliness, organizing tools, and adhering to safety guidelines.
- Assist in routing machine operations during on-the-job training, gaining practical experience and refining their skills under supervision.
- Assist in setting up the workplace for veneer cutting/splicing machine operations, including material positioning, cutting/splicing parameters, and work area organization.
- Assist in veneer cutting/splicing operations, ensuring precise cutting, proper alignment, and achieving seamless joints for furniture components.
- Manage the workplace and equipment during veneer cutting/splicing machine operations, maintaining cleanliness, organizing tools, and adhering to safety guidelines.
- Assist in in veneer cutting and splicing machine operations during on-the-job training, gaining practical experience and refining their skills under supervision.

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)	**12:00**	**18:00**	**00:00**	**00:00**	**30:00**
Module 1: Introduction to the Interiors, Furniture, and Allied Industry	04:00	00:00	00:00	00:00	04:00
Module 2: Introduction to the organizational context and workplace policies	04:00	18:00	00:00	00:00	22:00
Module 3: Role of an Assistant Panelworks Machine Operator	04:00	00:00	00:00	00:00	04:00
FFS/N1001: Prepare the work site for machine operations **NOS Version No. 1** **NSQF Level- 4**	**12:00**	**48:00**	**00:00**	**00:00**	**60:00**
Module 4: Job card interpretation	04:00	14:00	00:00	00:00	18:00
Module 5: Plan for machine operation	04:00	24:00	00:00	00:00	28:00
Module 6: Organize the worksite	04:00	10:00	00:00	00:00	14:00
FFS/N1002: Assist in setting up and performing machine operations **NOS Version No. 1** **NSQF Level- 4**	**12:00**	**48:00**	**00:00**	**00:00**	**60:00**
Module 7: Assist in machine initiation process	06:00	14:00	00:00	00:00	20:00
Module 8: Handling job work during machine operation	02:00	08:00	00:00	00:00	10:00
Module 9: Assist in performing required machine operation	04:00	26:00	00:00	00:00	30:00
FFS/N1003: Assist in performing machine maintenance and quality checking **NOS Version No. 1** **NSQF Level- 4**	**12:00**	**48:00**	**00:00**	**00:00**	**60:00**

Module 10: Clean and maintain the machine	04:00	10:00	00:00	00:00	14:00
Module 11: Assist in maintenance operation	04:00	22:00	00:00	00:00	26:00
Module 12: Assist in quality control and assurance process	04:00	16:00	00:00	00:00	20:00
FFS/N8201 – Follow health, safety, and greening practices at the worksite NOS Version No. 3 NSQF Level- 3	**12:00**	**18:00**	**00:00**	**00:00**	**30:00**
Module 13: Health and safety practices at the worksite	08:00	12:00	00:00	00:00	20:00
Module 14: Greening practices at the worksite	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 15: Employability Skills	30:00	30:00	00:00	00:00	60:00
Total Duration	**90:00**	**210:00**	**00:00**	**00:00**	**300:00**

Elective Modules

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

Elective 1: Pasting and Pressing Machine

NOS and Module Details	Theory Duration	Practical Duration	On-the-Job Training Duration (Mandatory)	On-the-Job Training Duration (Recommended)	Total Duration
FFS/N1004: Assist in operating pasting and pressing machines QP Version No. 1 NSQF Level- 4	**12:00**	**48:00**	**60:00**	**00:00**	**120:00**
Module 16: Assist in workplace setup for pasting/pressing machine	02:00	08:00	00:00	00:00	10:00

Module 17: Assist in pasting operation	04:00	16:00	00:00	00:00	20:00
Module 18: Assist in pressing operation	04:00	16:00	00:00	00:00	20:00
Module 19: Workplace and equipment management for pasting/pressing machine	02:00	08:00	00:00	00:00	10:00
Module 20: On-the-job training while assisting in pasting and pressing machines	00:00	00:00	60:00	00:00	60:00
Total Duration	**12:00**	**48:00**	**60:00**	**00:00**	**120:00**

Elective 2: Cutting and Sizing Machine

NOS and Module Details	Theory Duration	Practical Duration	On-the-Job Training Duration (Mandatory)	On-the-Job Training Duration (Recommended)	Total Duration
FFS/N1005: Assist in operating cutting and sizing machines QP Version No. 1 NSQF Level- 4	**12:00**	**48:00**	**60:00**	**00:00**	**120:00**
Module 21: Assist in workplace setup for cutting/sizing machine	04:00	12:00	00:00	00:00	16:00
Module 22: Assist in cutting/sizing operation	06:00	28:00	00:00	00:00	34:00
Module 23: Workplace and equipment management for cutting/sizing machine	02:00	08:00	00:00	00:00	10:00
Module 24: On-the-job training while assisting in cutting and sizing machines	00:00	00:00	60:00	00:00	60:00
Total Duration	**12:00**	**48:00**	**60:00**	**00:00**	**120:00**

Elective 3: Edge Band Machine

NOS and Module Details	Theory Duration	Practical Duration	On-the-Job Training Duration (Mandatory)	On-the-Job Training Duration (Recommended)	Total Duration
FFS/N1006: Assist in operating edge band machines QP Version No. 1 NSQF Level- 4	**12:00**	**48:00**	**60:00**	**00:00**	**120:00**
Module 25: Assist in workplace setup for edge banding machine	04:00	12:00	00:00	00:00	16:00
Module 26: Assist in edge banding operation	06:00	28:00	00:00	00:00	34:00
Module 27: Workplace and equipment management for edge banding machine	02:00	08:00	00:00	00:00	10:00
Module 28: On-the-job training while assisting in edge band machines	00:00	00:00	60:00	00:00	60:00
Total Duration	**12:00**	**48:00**	**60:00**	**00:00**	**120:00**

Elective 4: Drilling Machine

NOS and Module Details	Theory Duration	Practical Duration	On-the-Job Training Duration (Mandatory)	On-the-Job Training Duration (Recommended)	Total Duration
FFS/N1007: Assist in operating drilling machines QP Version No. 1 NSQF Level- 4	**12:00**	**48:00**	**60:00**	**00:00**	**120:00**
Module 29: Assist in workplace setup for drilling machine	04:00	12:00	00:00	00:00	16:00
Module 30: Assist in drilling operation	06:00	28:00	00:00	00:00	34:00
Module 31: Workplace and equipment management for drilling machine	02:00	08:00	00:00	00:00	10:00

Module 32: On-the-job training while assisting in drilling machines	00:00	00:00	60:00	00:00	60:00
Total Duration	**12:00**	**48:00**	**60:00**	**00:00**	**120:00**

Elective 5: Routing Machine

NOS and Module Details	Theory Duration	Practical Duration	On-the-Job Training Duration (Mandatory)	On-the-Job Training Duration (Recommended)	Total Duration
FFS/N1008: Assist in operating routing machines QP Version No. 1 NSQF Level- 4	**12:00**	**48:00**	**60:00**	**00:00**	**120:00**
Module 33: Assist in workplace setup for routing machine	04:00	12:00	00:00	00:00	16:00
Module 34: Assist in routing operation	06:00	28:00	00:00	00:00	34:00
Module 35: Workplace and equipment management for routing machine	02:00	08:00	00:00	00:00	10:00
Module 36: On-the-job training while assisting in routing machines	00:00	00:00	60:00	00:00	60:00
Total Duration	**12:00**	**48:00**	**60:00**	**00:00**	**120:00**

Elective 6: Veneer Cutting and Splicing Machine

NOS and Module Details	Theory Duration	Practical Duration	On-the-Job Training Duration (Mandatory)	On-the-Job Training Duration (Recommended)	Total Duration
FFS/N1009: Assist in operating veneer cutting and splicing machines QP Version No. 1 NSQF Level- 4	**12:00**	**48:00**	**60:00**	**00:00**	**120:00**

Module 37: Assist in workplace setup for veneer cutting/splicing machine	04:00	12:00	00:00	00:00	16:00
Module 38: Assist in veneer cutting/splicing operation	06:00	28:00	00:00	00:00	34:00
Module 39: Workplace and equipment management for veneer cutting/splicing machine	02:00	08:00	00:00	00:00	10:00
Module 40: On-the-job training while assisting in veneer cutting and splicing machines	00:00	00:00	60:00	00:00	60:00
Total Duration	**12:00**	**48:00**	**60:00**	**00:00**	**120:00**

Module Details

Module 1: Introduction to the Interiors, Furniture, and Allied Industry

Bridge Module

Terminal Outcomes:

- Explain the functioning of the furniture industry.
- Describe the segments of the furniture industry.
- Explain the scope and significance of the furniture industry.

Duration: *04:00*	**Duration**: *00:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Describe the scope and significance of the furniture industry. • Discuss the various segments of the furniture industry and how they function. • Explain various types and categories of furniture. • Describe the types of allied or enabling industries involved in furniture manufacturing. • Describe the relationship between interiors and the furniture industry. • Classify different types of Interior projects. • Describe the occupational map of the furniture industry. • Explain the significance of the Interiors, Furniture, and Allied industries.	
Classroom Aids	
White Board, Board Marker, Duster, Projector, Tablet, Chairs, Tables, Smart Board (Optional).	
Tools, Equipment, and Other Requirements	
N.A.	

Module 2: Introduction to the organizational context and workplace policies

Bridge Module

Terminal Outcomes:

- Explain the methods and mechanisms for effective communication.
- Demonstrate the usage of effective communication and interpersonal skills.
- List the latest skills and technologies prevalent in the furniture industry.
- Demonstrate the usage of different tools and technologies.
- Describe organizational hygiene and sanitation guidelines.

Duration: *04:00*	**Duration**: *18:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Explain the importance of team objectives and goals. • List the basic parts of a computer and explain their functions. • Explain the working of various social media platforms: WhatsApp, Facebook, Twitter, etc. • State the significance of payment methods and gateways for financial transactions. • List the steps involved in a financial transaction using a suitable medium. • Differentiate and learn the escalation in the hierarchy. • Explain the functions of MS Office. • Explain the importance of effective communication and team coordination. • Explain the difference between briefing and debriefing. • State the importance of coordinating and resolving conflicts with the team members to achieve a smooth workflow. • Discuss organizational hygiene and sanitation guidelines and ways of reporting breaches/gaps, if any. • Describe how to address and resolve conflicts among employees.	• 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 sign up for an email account. • Demonstrate how to search for a video on the internet. • Demonstrate how to operate various social media platforms: YouTube, WhatsApp, Facebook, Twitter, etc. • Demonstrate the steps involved in a financial transaction using a suitable medium. • Demonstrate how to use the internet to gather work-related information. • Prepare an MS office project using a suitable medium. • Demonstrate how to start and operate computers. • Demonstrate how to access stored data or files. • Demonstrate how to interact with the supervisor in person and on the phone.
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.	

Module 3: Introduction to the role of an Assistant Panelworks Machine Operator

Bridge Module

Terminal Outcomes:

- Explain the role and responsibilities of an Assistant Panelworks Machine Operator.
- Discuss the scope of work for an Assistant Panelworks Machine Operator.

Duration: *04:00*	**Duration**: *00:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Elaborate on the various organizational structure, processes, code of conduct, reporting matrix, and escalation hierarchy. • Explain the role, responsibilities, and limitations of an Assistant Panelworks Machine Operator. • Describe the attributes and basic skill sets required for an Assistant Panelworks Machine Operator. • Explain the process of communication with team members and supervisors as per the protocol of the organization. • List all the documents required to carry out the job, such as a job sheet and checklist for oneself. • List the various operations/activities that take place at the worksite and Assistant Panelworks Machine Operator's role in the same. • Discuss the regulatory authorities, laws, and regulations related to an individual while working in the Furniture and Fittings Industry. • Discuss the career path for the Assistant Panelworks Machine Operator job role. • Explain the nature of work, timeliness, and requirement.	
Classroom Aids	
White Board, Board Marker, Duster, Projector, Tablet, Chairs, Tables, Smart Board (Optional).	
Tools, Equipment, and Other Requirements	
N.A.	

Module 4: Job card interpretation

Mapped to FFS/N1001, v 1.0

Terminal Outcomes:

- Discuss the process of effectively planning resources, communicating instructions, and guiding team members.
- Demonstrate proficiency in completing and submitting job cards within the required timeframe, adhering to the importance of timely documentation.
- Plan and allocate appropriate resources based on the scope of work outlined in the job card.
- Assist in preparing and maintaining accurate and efficient documentation related to maintenance, operation, and quality check processes.

Duration: *04:00*	**Duration**: *14:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Explain the process of interpreting the scope of work as per the job card and planning resources effectively. • Discuss the methods of effective communication techniques and methods to instruct and guide the team members • Explain the importance of completing and submitting job cards within the required timeframe • Explain various documentation requirements related to maintenance, operation, and quality check processes.	• Plan and allocate appropriate resources based on the scope of work outlined in the job card. • Instruct and guide the multipurpose assistant in interpreting the job card and working as per instructions effectively. • Fill out job cards accurately and completely within the specified timeframe • Assist in preparing and maintaining documents related to maintenance, operation, and quality check accurately and efficiently.
Classroom Aids	
White Board, Board Marker, Duster, Projector, Tablet, Chairs, Tables, Smart Board (Optional)	
Tools, Equipment, and Other Requirements	
Sample job card, Sample job work docket.	

Module 5: Plan for machine operation

Mapped to FFS/N1001, v 1.0

Terminal Outcomes:

- Discuss the importance of interpreting technical drawings, part lists, cutting lists, material lists, tools, equipment, etc., in achieving successful outcomes.
- Organize different tools, equipment, and consumables for a given machining task.
- Apply knowledge of different types of machine programs, processes, and their functions to perform machining operations according to the specified requirements.

Duration: *04:00*	**Duration**: *24:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Explain the importance of accurate interpretation of technical drawings, part lists, cutting lists, material lists, tools, equipment, etc., for the required machining operation. • Differentiate tools, equipment, and consumables for a given machining task. • Explain the different types of machine programs, processes, and their functions based on machining requirements. • State the importance of organizing and maintaining tools, materials, and components as per given specifications and standard operating procedures. • Explain the importance of work health and safety (WHS) requirements, including the use of personal protective equipment (PPE), during operations.	• Assist in interpreting technical drawings, part lists, cutting lists, material lists, tools, equipment, etc., for the required machining operation. • Assist in selecting and preparing the appropriate tools, equipment, and consumables for a given machining task. • Employ suitable skills relating to different machine programs, processes, and functions while performing machining operations. • Assist in organizing and maintaining all the necessary tools, materials, and components for the required operation. • Manage the work health and safety (WHS) requirements, including personal protective equipment (PPE), during machining operations.
Classroom Aids	
White Board, Board Marker, Duster, Projector, Tablet, Chairs, Tables, Smart Board (Optional).	
Tools, Equipment, and Other Requirements	
Sample job work docket, Sample drawings, PPE kits, Work safety tools.	

Module 6: Organize the worksite

Mapped to FFS/N1001, v 1.0

Terminal Outcomes:

- Discuss the importance of maintaining a clean and organized worksite to ensure smooth operations and optimize productivity.
- Apply the appropriate procedures and techniques for cleaning and maintaining the worksite at regular intervals, adhering to established standards.
- Safely and accurately arrange and stack panels before and after machine operations in Panelworks.
- Assist in the verification process to ensure the received materials are suitable and in the required quantity for machine operations.

Duration: *04:00*	**Duration**: *10:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Explain the importance of maintaining a clean and organized worksite for smooth operations. • Describe the procedures and techniques for cleaning and maintenance of the worksite. • Describe the process of arranging and stacking panels before and after the machine operation in Panel works operations. • Discuss the importance of verifying materials received for machine operation to ensure quality and productivity.	• Follow the established procedures and techniques for cleaning and maintaining the worksite at regular intervals. • Arrange and stack panels accurately and safely before and after the machine operation. • Assist in the verification process to ensure the materials received are suitable and in the required quantity for the machine operation.
Classroom Aids	
White Board, Board Marker, Duster, Projector, Tablet, Chairs, Tables, Smart Board (Optional).	
Tools, Equipment, and Other Requirements	
Material handling and stacking tools.	

Module 7: Assist in machine initiation process

Mapped to FFS/N1002, v 1.0

Terminal Outcomes:

- Discuss the key constraints associated with checking and maintaining the safety equipment during machine initiation.
- Perform adjustments to machine tools, such as blades, bits, edge bands, adhesives, cutters, table/bed, etc., according to job work requirements.
- Verify and maintain the proper functioning of fundamental systems for effective work output.

Duration: *06:00*	**Duration**: *14:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Explain the importance of checking safety equipment before machine initiation in panel works machine operations. • Describe the process of performing adjustments to machine tools as per job work requirements. • Explain the purpose of fundamental systems such as air pressure, duct collector, stabilizers, etc.in the machining operation. • Explain the steps involved in the machine initiation operation based on manufacturer instructions. • List the appropriate consumables required for machine operation based on the machining process requirement • Describe the steps involved in performing a trial run to evaluate operation, accuracy, and quality.	• Check the safety equipment, including emergency stops, gauges, guards, and controls, before machine initiation, following the specified procedures and guidelines. • Assist in performing adjustments to machine tools, such as blades, bits, edge bands, adhesives, cutters, table/bed, etc., based on job work requirements. • Check and maintain the functioning of fundamental systems such as air pressure, duct collector, stabilizers, etc., as per manufacturer instructions and guidelines. • Assist in performing the machine initiation operation in accordance with the manufacturer instructions • Feed the appropriate consumables, such as glue, adhesives, etc., required for machine operation as per the supervisor's instructions. • Assist in performing a trial run to evaluate operation, accuracy, and quality, making necessary adjustments in consultation with the supervisor.
Classroom Aids	
White Board, Board Marker, Duster, Projector, Tablet, Chairs, Tables, Smart Board (Optional).	
Tools, Equipment, and Other Requirements	
NA	

Module 8: Handling job work during machine operation

Mapped to FFS/N1002, v 1.0

Terminal Outcomes:

- Demonstrate the importance of properly loading, unloading, and handling job work on/from the machine bed in panelworks machine operations.
- Operate different handling equipment for material movement.
- Perform measurement and marking operations accurately based on job work specifications and guidelines.

Duration: *02:00*	**Duration**: *08:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Explain the importance of proper loading, unloading, and handling of job work on/from the machine bed in panel works machine operations. • Explain the functioning and proper operation of handling equipment used for material movement. • Explain the importance of performing measurement and marking operations accurately based on job work specifications.	• Perform loading, unloading, and handling of the job work on/from the machine bed using appropriate techniques and procedures. • Display skills in operating different handling equipment for material movement. • Perform measurement and marking operations accurately based on job work specifications and guidelines.
Classroom Aids	
White Board, Board Marker, Duster, Projector, Tablet, Chairs, Tables, Smart Board (Optional).	
Tools, Equipment, and Other Requirements	
Material handling tools, Measurement and marking tools.	

Module 9: Assist in performing required machine operation

Mapped to FFS/N1002, v 1.0

Terminal Outcomes:

- Demonstrate knowledge and skills in proper material storage and movement after the machine operation.
- Apply the understanding of operating the machine within its designed capacity, performing machine operations in accordance with manufacturer recommendations.

Duration: *04:00*	**Duration**: *26:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Explain the significance of operating the machine within its designed capacity and purpose based on manufacturer recommendations. • Describe the procedures for material storage and movement after the operation, ensuring safety and organization.	• Assist in performing the machine operation in accordance with its designed capacity and purpose, adhering to manufacturer recommendations. • Ensure proper material storage and movement after the operation following the specified procedures and guidelines.
Classroom Aids	
White Board, Board Marker, Duster, Projector, Tablet, Chairs, Tables, Smart Board (Optional).	
Tools, Equipment, and Other Requirements	
Panelworks Machinery with required tools and equipment.	

Module 10: Clean and maintain the machine

Mapped to FFS/N1003, v 1.0

Terminal Outcomes:

- Recognize and explain the importance of performing machine cleaning at regular intervals.
- Properly handle and store different types of waste/offcut materials according to their specific requirements.
- Perform checks on the machine, including key components and indicators for its working efficiency and troubleshoot maintenance problems.

Duration: *04:00*	**Duration**: *10:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Explain the importance of performing internal machine cleaning at regular intervals in machine operations. • Classify different types of waste/offcut materials relating to machining operations. • List key components and indicators to check for the machine's proper working condition. • Classify common types of minor machine malfunctions or issues based on symptoms and observations. • Describe the specific cleaning and maintenance requirements for various machine components. • Describe the process of reporting major machine malfunctions or maintenance requirements to the supervisor.	• Perform internal machine cleaning at regular intervals following the specified procedures and guidelines. • Handle and store different types of waste/offcut materials according to their specific requirements. • Conduct comprehensive checks of the machine to ensure its proper working condition while following safety protocols. • Assist in identifying and diagnosing minor machine malfunctions or issues during operation using appropriate troubleshooting methods. • Assist in performing routine maintenance tasks, such as cleaning and lubrication following the specified procedures and guidelines. • Report any major machine malfunctions or maintenance requirements to the supervisor following the specified procedures and guidelines.
Classroom Aids	
White Board, Board Marker, Duster, Projector, Tablet, Chairs, Tables, Smart Board (Optional).	
Tools, Equipment, and Other Requirements	
Maintenance tools, Sharpening stone, Stacking and Handling tools, Cleaning tools.	

Module 11: Assist in maintenance operation

Mapped to FFS/N1003, v 1.0

Terminal Outcomes:

- Recognize and explain the importance of checking and re-sharpening tools and equipment at regular intervals.
- Identify and check for common types of wear and tear on machine consumables.

Duration: *04:00*	**Duration**: *22:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Explain the importance of checking and re-sharpening tools and equipment at regular intervals. • List common types of wear and tear for machine consumables, such as edge bands, veneers, laminate, etc. • Describe the specific storage requirements and conditions recommended by the tool and material manufacturers.	• Assist in checking and re-sharpening tools and equipment (like bits, saws, etc.) at regular intervals following the specified procedures and guidelines. • Check wear and tear of the machine consumables after operations such as edge bands, veneers, laminate, etc. • Store and maintain the tools and materials as per manufacturer instructions following the specified procedures and guidelines.
Classroom Aids	
White Board, Board Marker, Duster, Projector, Tablet, Chairs, Tables, Smart Board (Optional).	
Tools, Equipment, and Other Requirements	
Maintenance tools, Sharpening stone, Stacking and Handling tools.	

Module 12: Assist in quality control and assurance process

Mapped to FFS/N1003, v 1.0

Terminal Outcomes:

- Explain the process of inspecting final output for its quality and required job specifications.
- Demonstrate the ability to identify deviation from the required job specifications during machining operation

Duration: *04:00*	**Duration**: *16:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Explain the specific quality standards and criteria for inspecting the output, identifying defects. • Explain the process of identifying deviations from the desired specifications and taking corrective actions in machine operations. • Describe the importance of reporting quality issues or non-conformities to the supervisor.	• Assist in inspecting the output at regular intervals, applying the specific quality standards and criteria to identify and report defects. • Employ the necessary corrective actions to identify and address deviations or non-conformities. • Detect and recognize quality issues or non-conformities in the product or workpiece based on the specified criteria.
Classroom Aids	
White Board, Board Marker, Duster, Projector, Tablet, Chairs, Tables, Smart Board (Optional).	
Tools, Equipment, and Other Requirements	
NA	

Module 13: Health and safety practices at the worksite

Mapped to FFS/N8201, v 3.0

Terminal Outcomes:

- Describe how to maintain a healthy, safe, and secure environment at the worksite.
- Implement safety practices and optimize the use of resources.
- Demonstrate health and safety procedures.
- Employ personal hygiene practices at the worksite.
- Develop the ability to follow hygiene practices.

Duration: *08:00*	**Duration**: *12:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• List the types of cleaning consumables and equipment. • Describe the various types of waste bins as per usage. • Explain how to label appropriate Personal Protective Equipment (PPE) needed for a job role and application. • Describe the evacuation process in case of fire. • Explain the importance of work ethics, dress code, and personal hygiene. • Explain the operational guidelines for the usage of tools and equipment. • Describe the storage and handling procedure for hazardous substances. • Describe the importance of safe lifting practices and correct body postures.	• Document all possible health, safety, and security breaches at the worksite. • Demonstrate the housekeeping process using appropriate equipment. • Demonstrate the use of personal protective equipment such as goggles, gloves, earplugs, shoes, etc. • Demonstrate how to use a first aid kit. • Demonstrate the correct way of sanitizing and washing hands. • Demonstrate how to maintain a dress code and a well-groomed personality at the worksite. • Demonstrate the correct postures while working and handling hazardous materials at the workplace. • Identity and interpret the given pictorial representations of safety signs and hand signals. • Employ different ways to check if equipment/machines are functioning as per requirements and report malfunctioning. • Demarcate the waste based on recyclable and non-recyclable material. • Demonstrate the correct techniques while moving various types of products.
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, Theme based props.	

Module 14: Greening practices at the worksite

Mapped to FFS/N8201, v 3.0

Terminal Outcomes:

- Use the resources at the worksite efficiently.
- Apply conservation practices at the worksite.

Duration: *04:00*	**Duration**: *06:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Explain the ways for efficient utilization and conservation of material. • Explain the various ways of saving energy. • Explain the benefits of periodic cleaning of tools and equipment.	• Demonstrate ways for efficient utilization of material and water. • 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	
Housekeeping- Materials, Tools, and Equipment.	

Module 15: 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	• 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. • List the common components of salary and compute income, expenditure, taxes, investments, etc.

associated financial and legal risks with its mitigation plan. • 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.	• 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 16: Assist in workplace setup for pasting/pressing machine

Mapped to FFS/N1004, v 1.0

Terminal Outcomes:

- Discuss the process of efficient stacking and storage of materials and workpieces at designated machine stations, employing proper handling techniques for pasting/pressing machine operation.
- Employ critical thinking skills and understanding of quality standards to evaluate the quality of job work received for pasting/pressing machine operation.
- Assist in perform machine setup process and prepare the machine for required pasting/pressing machining operation.

Duration: *02:00*	**Duration**: *08:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Explain the importance of proper stacking and storage of materials and workpieces for pasting/pressing operations. • List the key constraints involved in checking the quality of job work received for pasting/pressing machine operation. • List the functions of different components in a pasting/pressing machine. • Explain the purpose and effect of adjusting machine settings, such as temperature, time, and pressure, on the bonding process.	• Perform stacking and storage of materials and workpieces following the specified procedures and guidelines. • Employ appropriate quality standards and techniques to assess the quality of job work received for pasting/pressing operation. • Assist in the setup and preparation of pasting/pressing machines according to job requirements following the specified procedures and guidelines. • Collaborate with the machine operator in adjusting machine settings, such as temperature, time, and pressure, to achieve optimal bonding results.
Classroom Aids	
White Board, Board Marker, Duster, Projector, Tablet, Chairs, Tables, Smart Board (Optional).	
Tools, Equipment, and Other Requirements	
Pasting Machine, Pressing Machine, Manual Glue Applicator, Adhesive for pasting machine, Glue Scrapper, Glue Mixer.	

Module 17: Assist in pasting operation

Mapped to FFS/N1004, v 1.0

Terminal Outcomes:

- Demonstrate the ability to assist in applying the appropriate adhesive or glue to workpieces using designated equipment and techniques.
- Discuss the significance of even and consistent distribution of adhesive on proper bonding between materials.
- Demonstrate the skills to assist in operating and monitor the pasting machine for required job work.

Duration: *04:00*	**Duration**: *16:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• List the characteristics and properties of different adhesives or glues commonly used in the industry. • Explain the process of even and consistent adhesive distribution for achieving proper bonding between materials. • Explain the process of accurate alignment and positioning of materials for proper joining process.	• Assist in applying adhesives or glues to the workpieces using the correct application techniques. • Demonstrate skills to apply adhesives evenly and consistently on the workpieces to achieve proper bonding between the materials. • Assist in aligning and positioning the materials to ensure proper joining and prevent misalignment or gaps.
Classroom Aids	
White Board, Board Marker, Duster, Projector, Tablet, Chairs, Tables, Smart Board (Optional).	
Tools, Equipment, and Other Requirements	
Pasting Machine, Pressing Machine, Manual Glue Applicator, Adhesive for pasting machine, Glue Scrapper, Glue Mixer.	

Module 18: Assist in pressing operation

Mapped to FFS/N1004, v 1.0

Terminal Outcomes:

- Demonstrate accurate and efficient handling and loading of workpieces onto the machine, using appropriate handling techniques.
- Demonstrate their ability to evaluate and adjust the machine parameters based on job work requirements.
- Demonstrate the skills to assist in operating and monitor the pressing machine for required job work.

Duration: *04:00*	**Duration**: *16:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Explain the process of proper loading and unloading techniques for safe and efficient machine operations. • List the impact of standard ranges and recommended values for pasting/pressing operation. • Describe the importance of following standard operating procedures and safety guidelines to ensure safe and efficient machine operation. • Explain the importance of actively monitoring machine operations to ensure quality and identify any irregularities or defects.	• Support the machine operator in loading and unloading workpieces onto and off the machine table or holding fixtures. • Assist in adjusting the pasting/pressing parameters, such as pressure, thickness, and duration, etc., based on the materials and adhesive types. • Assist the operator in following standard operating procedures and safety guidelines for pasting/pressing machine operation, adhering to the specified procedures and safety protocols. • Assist in monitoring machine operations, actively looking for irregularities or defects, and promptly communicating them to the machine operator.
Classroom Aids	
White Board, Board Marker, Duster, Projector, Tablet, Chairs, Tables, Smart Board (Optional).	
Tools, Equipment, and Other Requirements	
Pasting Machine, Pressing Machine, Manual Glue Applicator, Adhesive for pasting machine, Glue Scrapper, Glue Mixer.	

Module 19: Workplace and equipment management for pasting/pressing machine

Mapped to FFS/N1004, v 1.0

Terminal Outcomes:

- Demonstrate knowledge and understanding of the cleaning and maintenance procedures for the pasting/pressing machine and its part.
- Apply organizational skills and principles to efficiently manage the workspace, including the proper storage of panels and the appropriate disposal of waste.
- Utilize their knowledge of quality standards and specifications to assist in inspecting pasted/pressed materials for defects.
- Utilizing appropriate record-keeping techniques and systems to prepare and maintain process documents.

Duration: *02:00*	**Duration**: *08:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Explain the specific cleaning procedures for the pasting/pressing machine and its components, ensuring proper maintenance. • Describe the principles of organizing and managing the workspace for panels storage and waste disposal procedures. • List the visual and tactile indicators of defects in finished materials. • Explain the importance of maintaining accurate documentation of manufacturing specifications and quality control inspections for the pasting/pressing process.	• Assist the operator in cleaning and maintaining the pasting/pressing machine and its parts. • Organize and manage the workspace effectively, implementing proper storage techniques for panels and adhering to waste disposal procedures. • Assist in inspecting finished materials for defects following the specified procedures and guidelines. • Assist in maintaining proper documentation for manufacturing specifications and quality control inspections in the pasting/pressing process.
Classroom Aids	
White Board, Board Marker, Duster, Projector, Tablet, Chairs, Tables, Smart Board (Optional).	
Tools, Equipment, and Other Requirements	
Pasting Machine, Pressing Machine, Manual Glue Applicator, Adhesive for pasting machine, Glue Scrapper, Glue Mixer.	

Module 20: On-the-Job Training while assisting in pasting and pressing machines

Mapped to FFS/N1004, v 1.0

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

Terminal Outcomes

- Demonstrate the ability to stack and store materials and workpieces efficiently at designated machine stations, ensuring organized workflow and easy accessibility.
- Perform a thorough quality check on job work received for pasting/pressing machine operation, identifying, and documenting any defects or discrepancies that may affect the final product.
- Assist in the setup and preparation of pasting/pressing machines according to job requirements, including selecting appropriate tools, equipment, and materials.
- Collaborate with the machine operator in adjusting machine settings, such as temperature, time, and pressure, to ensure optimal performance and adherence to job requirements.
- Apply the appropriate adhesive or glue to workpieces using designated equipment and techniques, ensuring consistent and accurate application.
- Ensure the even and consistent distribution of adhesive to achieve proper bonding between materials, minimizing the risk of weak joints or gaps.
- Assist in aligning and positioning materials accurately to ensure proper joining and prevent misalignment or gaps, contributing to the overall quality of the final product.
- Support in handling and loading workpieces onto the machine accurately and efficiently, minimizing the risk of damage or errors.
- Assist in adjusting pasting/pressing parameters, such as pressure, thickness, and duration, based on the materials and adhesive being used, ensuring optimal results.
- Assist the operator in following standard operating procedures and safety guidelines for machine operation, promoting a safe and efficient work environment.
- Assist in monitoring pasting/pressing operations to identify any irregularities or defects and effectively communicate them to the machine operator for corrective action.
- Assist the operator in cleaning and maintaining the pasting/pressing machine and its parts (upper and lower plates, roller, etc.), ensuring optimal performance and longevity.
- Organize and manage the workspace, ensuring proper storage of panels and efficient disposal of waste, contributing to a clean and organized work environment.
- Assist in inspecting the pasted/pressed materials for defects, ensuring they meet the required quality standards and specifications before further processing.
- Maintain proper documentation of manufacturing specifications and quality control inspections for the pasting/pressing process, ensuring accurate records for traceability and quality assurance.

Module 21: Assist in workplace setup for cutting/sizing machine

Mapped to FFS/N1005, v 1.0

Terminal Outcomes:

- Discuss the process of efficient stacking and storage of materials and workpieces at designated machine stations, employing proper handling techniques for cutting/sizing machine operation.
- Employ critical thinking skills and understanding of quality standards to evaluate the quality of job work received for cutting/sizing machine operation.
- Assist in perform machine setup process and prepare the machine for required cutting/sizing machining operation.

Duration: *04:00*	**Duration**: *12:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Explain the importance of proper stacking and storage of materials and workpieces for cutting/sizing operations. • List the key constraints involved in checking the quality of job work received for cutting/sizing machine operation. • Explain the components and functions of machine setup, including adjusting blade height, alignment, and mitre angles to achieve accurate and consistent results.	• Perform stacking and storage of materials and workpieces following the specified procedures and guidelines. • Employ appropriate quality standards and techniques to assess the quality of job work received for cutting/sizing operation • Assist in the setting up cutting/sizing machines, adjusting blade height, alignment, and mitre angles to ensure accurate and consistent results in practical scenarios.
Classroom Aids	
White Board, Board Marker, Duster, Projector, Tablet, Chairs, Tables, Smart Board (Optional).	
Tools, Equipment, and Other Requirements	
Panel Saw Machine, Beam Saw Machine, Dust Extractor.	

Module 22: Assist in cutting/sizing operation

Mapped to FFS/N1005, v 1.0

Terminal Outcomes:

- Explain process of loading and unloading during cutting/sizing machine and associated fixtures
- Discuss various methods and techniques for adjusting different machine parameters to achieve desired cutting/sizing outcomes.
- Discuss different principles and techniques of measurement and marking for cutting/sizing operations.
- Demonstrate the skills to assist in operating and monitor the cutting/sizing machine for required job work.

Duration: *06:00*	**Duration**: *28:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Explain the process of proper loading and unloading techniques for safe and efficient machine operations. • List various methods for positioning and securing materials on cutting/sizing machines, utilizing clamps, jigs, or other appropriate methods. • Discuss the process of adjusting various machine parameters and their impact on the desired cutting/sizing outcomes. • Describe the importance of measurement and marking for cutting/sizing operations. • Describe the importance of following standard operating procedures and safety guidelines to ensure safe and efficient machine operation. • Discuss the impact of applying printed labels on finished panels. • Explain the importance of actively monitoring machine operations to ensure quality and identify any irregularities or defects.	• Support the machine operator in loading and unloading workpieces onto and off the machine table or holding fixtures. • Employ appropriate methods in positioning and securing of materials on cutting/sizing machines. • Assist in adjusting machine parameters during the cutting/sizing process, using the appropriate methods and techniques. • Assist in performing accurate measurement and marking on the job work for cutting/sizing operations, applying the principles and techniques discussed. • Assist the operator in following standard operating procedures and safety guidelines for cutting/sizing machine operation, adhering to the specified procedures and safety protocols. • Apply printed labels on finished panels accurately, ensuring ease in tracking and identification as per the purpose discussed. • Assist in monitoring machine operations, actively looking for irregularities or defects, and promptly communicating them to the machine operator.
Classroom Aids	
White Board, Board Marker, Duster, Projector, Tablet, Chairs, Tables, Smart Board (Optional).	
Tools, Equipment, and Other Requirements	
Panel Saw Machine, Beam Saw Machine, Dust Extractor.	

Module 23: Workplace and equipment management for cutting/sizing machine

Mapped to FFS/N1005, v 1.0

Terminal Outcomes:

- Demonstrate knowledge and understanding of the cleaning and maintenance procedures for the cutting/sizing machine and its part.
- Apply organizational skills and principles to efficiently manage the workspace, including the proper storage of panels and the appropriate disposal of waste.
- Utilize their knowledge of quality standards and specifications to assist in inspecting cutting/sizing materials for defects.
- Utilizing appropriate record-keeping techniques and systems to prepare and maintain process documents.

Duration: *02:00*	**Duration**: *08:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Explain the specific cleaning procedures for the cutting/sizing machine and its components, ensuring proper maintenance. • Describe the principles of organizing and managing the workspace for panels storage and waste disposal procedures. • List the visual and tactile indicators of defects in finished materials. • Explain the importance of maintaining accurate documentation of manufacturing specifications and quality control inspections for the cutting/sizing process.	• Assist the operator in cleaning and maintaining the cutting/sizing machine and its parts. • Organize and manage the workspace effectively, implementing proper storage techniques for panels and adhering to waste disposal procedures. • Assist in inspecting finished materials for defects following the specified procedures and guidelines. • Assist in maintaining proper documentation for manufacturing specifications and quality control inspections in the cutting/sizing process.
Classroom Aids	
White Board, Board Marker, Duster, Projector, Tablet, Chairs, Tables, Smart Board (Optional).	
Tools, Equipment, and Other Requirements	
Panel Saw Machine, Beam Saw Machine, Dust Extractor.	

Module 24: On-the-Job Training while assisting in cutting and sizing machines

Mapped to FFS/N1005 v 1.0

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

Terminal Outcomes

- Demonstrate the ability to stack and store materials and workpieces at designated machine stations, ensuring a well-organized and efficient workflow.
- Perform a thorough quality check on job work received for the cutting/sizing operation, identifying and documenting any defects or discrepancies that may affect the final product.
- Assist in setting up cutting/sizing machines, including adjusting blade height, alignment, mitre angles, etc., to achieve accurate and consistent cutting results.
- Support in handling and loading workpieces onto the cutting/sizing machine accurately and efficiently, minimizing the risk of damage or errors.
- Support in positioning and securing materials on the cutting/sizing machines, utilizing clamps, jigs, or other appropriate methods, to ensure precise and stable cutting.
- Assist in adjusting the machines during the cutting/sizing process to ensure consistent quality and dimensional accuracy of the final product.
- Assist in performing measurements and marking on the job work for cutting/sizing operation, ensuring precise dimensions according to the required specifications.
- Assist the operator in following standard operating procedures and safety guidelines for the safe and efficient operation of the cutting/sizing machine.
- Apply printed labels on finished panels for ease of tracking and identification, facilitating efficient inventory management.
- Assist in monitoring cutting/sizing operations to identify any irregularities or defects and effectively communicate them to the machine operator for corrective action.
- Assist the operator in cleaning and maintaining the cutting/sizing machine and its parts (machine bed, blade chamber, etc.), ensuring optimal performance and longevity.
- Organize and manage the workspace, ensuring proper storage of panels and efficient disposal of waste, contributing to a clean and organized work environment.
- Assist in inspecting the cut and sized materials for dimensional accuracy, cleanliness, and overall quality, ensuring they meet the required specifications.
- Maintain proper documentation of manufacturing specifications and quality control inspections for the cutting/sizing process, ensuring accurate records for traceability and quality assurance.

Module 25: Assist in workplace setup for edge banding machine

Mapped to FFSN1006, v 1.0

Terminal Outcomes:

- Discuss the process of efficient stacking and storage of materials and workpieces at designated machine stations, employing proper handling techniques for edge banding machine operation
- Employ critical thinking skills and understanding of quality standards to evaluate the quality of job work received for edge banding machine operation.
- Assist in perform machine setup process and prepare the machine for required edge banding machining operation.

Duration: *04:00*	**Duration**: *12:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Explain the importance of proper stacking and storage of materials and workpieces for edge banding operations. • List the key constraints involved in checking the quality of job work received for edge banding machine operation. • Explain the process of proper alignment and installation of edge banding materials, tools, and adhesives in Panelworks. • Describe the responsibilities while collaborating with the machine operator in adjusting machine settings for optimal edge banding results.	• Perform stacking and storage of materials and workpieces following the specified procedures and guidelines. • Employ appropriate quality standards and techniques to assess the quality of job work received for edge banding operation. • Assist in aligning and installing edge banding materials, tools, and adhesives following the specified procedures and guidelines. • Collaborate with the machine operator to adjust machine settings, such as temperature, feed rate, and pressure, following the specified procedures and guidelines.
Classroom Aids	
White Board, Board Marker, Duster, Projector, Tablet, Chairs, Tables, Smart Board (Optional).	
Tools, Equipment, and Other Requirements	
Edge banding machine, Edge band Adhesive, Dust Extractor.	

Module 26: Assist in edge banding operation

Mapped to FFS/N1006, v 1.0

Terminal Outcomes:

- Discuss the process of configuring the edge banding machine depending on project requirements.
- Assist in selecting or implementing the appropriate machine program on the workpiece for the edge banding operation.
- Demonstrate the skills to assist in operating and monitor the edge banding machine for required job work.

Duration: *06:00*	**Duration**: *28:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Explain the importance of configuring the edge banding machine based on project requirements to achieve desired results. • Describe the importance of selecting or implementing the appropriate machine program for the edge banding operation to achieve desired outcomes. • Describe the importance of following standard operating procedures and safety guidelines to ensure safe and efficient machine operation. • Describe the proper positioning and feeding of panel materials into the conveyor of the edge banding machine for smooth and efficient operation. • Explain the importance of proper alignment and placement of the edge band material during feeding to achieve accurate and consistent results. • Describe the different machine functions and their significance in the edge banding process. • Explain the importance of actively monitoring machine operations to ensure quality and identify any irregularities or defects.	• Assist in configuring the edge banding machine, as instructed by the operator. • Assist in selecting or implementing the appropriate machine program on the workpiece for the edge banding operation. • Assist the operator in following standard operating procedures and safety guidelines for edge banding machine operation, adhering to the specified procedures and safety protocols. • Assist the machine operator in positioning and feeding panel materials into the conveyor of the edge banding machine. • Display skills in proper alignment and placement of the edge band material during feeding operation. • Perform the edge banding operation manually using specific hand or power tools as per job work requirement. • Assist in monitoring machine operations, actively looking for irregularities or defects, and promptly communicating them to the machine operator.
Classroom Aids	
White Board, Board Marker, Duster, Projector, Tablet, Chairs, Tables, Smart Board (Optional).	
Tools, Equipment, and Other Requirements	
Edge banding machine, Edge band Adhesive, Dust Extractor.	

Module 27: Workplace and equipment management for edge banding machine

Mapped to FFS/N1006, v 1.0

Terminal Outcomes:

- Demonstrate knowledge and understanding of the cleaning and maintenance procedures for the edge banding machine and its part.
- Apply organizational skills and principles to efficiently manage the workspace, including the proper storage of panels and the appropriate disposal of waste.
- Utilize their knowledge of quality standards and specifications to assist in inspecting edge banding materials for defects.
- Utilizing appropriate record-keeping techniques and systems to prepare and maintain process documents.

Duration: *02:00*	**Duration**: *08:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Explain the specific cleaning procedures for the edge banding machine and its components, ensuring proper maintenance. • Describe the principles of organizing and managing the workspace for panels storage and waste disposal procedures. • List the visual and tactile indicators of defects in finished materials. • Explain the importance of maintaining accurate documentation of manufacturing specifications and quality control inspections for the edge banding process.	• Assist the operator in cleaning and maintaining the edge banding machine and its parts • Organize and manage the workspace effectively, implementing proper storage techniques for panels and adhering to waste disposal procedures. • Assist in inspecting finished materials for defects following the specified procedures and guidelines. • Assist in maintaining proper documentation for manufacturing specifications and quality control inspections in the edge banding process.
Classroom Aids	
White Board, Board Marker, Duster, Projector, Tablet, Chairs, Tables, Smart Board (Optional).	
Tools, Equipment, and Other Requirements	
Edge banding machine, Edge band Adhesive, Dust Extractor.	

Module 28: On-the-Job Training while assisting in edge band machines

Mapped to FFS/N1006, v 1.0

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

Terminal Outcomes

- Demonstrate the ability to stack and store materials and workpieces for machine operation at designated machine stations, ensuring organized workflow and easy accessibility.
- Perform a thorough quality check on job work received for the edge banding machine operation, identifying, and documenting any defects or discrepancies that may affect the final product.
- Assist in the alignment and installation of edge banding materials, tools, and adhesives, ensuring precise and secure application to the workpiece.
- Collaborate with the machine operator in adjusting machine settings, such as temperature, feed rate, and pressure, to optimize edge banding performance and product quality.
- Assist in configuring the edge banding machine based on project requirements, such as adhesive type, panel thickness, edge band thickness, etc., ensuring accurate and consistent results.
- Assist in selecting or implementing the appropriate machine program on the workpiece for the edge banding operation, ensuring the desired edge banding design and specifications.
- Assist the operator in following standard operating procedures and safety guidelines for the safe and efficient operation of the edge banding machine.
- Assist the machine operator in positioning and feeding panel materials into the conveyor of the edge banding machine, ensuring smooth and accurate processing.
- Assist in ensuring proper alignment and placement of the edge band material during feeding, minimizing the risk of misalignment or uneven application.
- Assist in identifying the machine functions and carrying out remaining functions either manually or using another machine, facilitating the complete edge banding process.
- Assist in monitoring edge banding operations to identify any irregularities or defects and effectively communicate them to the machine operator for corrective action.
- Assist the operator in cleaning and maintaining the edge banding machine and its parts (glue pot, conveyor, scraping unit, etc.), ensuring optimal performance and longevity.
- Organize and manage the workspace, ensuring proper storage of edge bands and efficient disposal of waste, contributing to a clean and organized work environment.
- Assist in inspecting the edge banding results for adherence, smoothness, and overall quality, ensuring they meet the required specifications.
- Maintain proper documentation of manufacturing specifications and quality control inspections for the edge banding process, ensuring accurate records for traceability and quality assurance.

Module 29: Assist in workplace setup for drilling machine

Mapped to FFS/N1007, v 1.0

Terminal Outcomes:

- Discuss the process of efficient stacking and storage of materials and workpieces at designated machine stations, employing proper handling techniques for drilling machine operation.
- Employ critical thinking skills and understanding of quality standards to evaluate the quality of job work received for drilling machine operation.
- Assist in perform machine setup process and prepare the machine for required drilling machining operation.

Duration: *04:00*	**Duration**: *12:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Explain the importance of proper stacking and storage of materials and workpieces for drilling operations. • List the key constraints involved in checking the quality of job work received for drilling machine operation. • Describe the responsibilities while collaborating with the machine operator in adjusting machine settings for optimal edge drilling results.	• Perform stacking and storage of materials and workpieces following the specified procedures and guidelines. • Employ appropriate quality standards and techniques to assess the quality of job work received for drilling operation • Collaborate with the machine operator to adjust machine settings, including machine controls, and install drilling tools by following the specified procedures and guidelines.
Classroom Aids	
White Board, Board Marker, Duster, Projector, Tablet, Chairs, Tables, Smart Board (Optional).	
Tools, Equipment, and Other Requirements	
Drilling Machine, Drill Bits, Dust Extractor.	

Module 30: Assist in drilling operation

Mapped to FFS/N1007, v 1.0

Terminal Outcomes:

- Demonstrate accurate and efficient handling and loading of workpieces onto the machine, using appropriate handling techniques.
- Discuss the process of configuring the drilling machine depending on project requirements.
- Perform labeling or sorting techniques to track and monitor the workpieces after drilling operation for further processes.
- Demonstrate the skills to assist in operating and monitor the drilling machine for required job work.

Duration: *06:00*	**Duration**: *28:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Explain the process of proper loading and unloading techniques for safe and efficient machine operations. • Describe the importance of maintaining a steady and controlled feeding pace to achieve accurate and consistent results. • Explain the labelling or sorting techniques used to identify routed workpieces according to project requirements • Describe the importance of following standard operating procedures and safety guidelines to ensure safe and efficient machine operation. • Describe the techniques and parameters for adjusting machines, including speed, depth, feed rate, or tool selection, to achieve desired drilling results. • Explain the importance of actively monitoring machine operations to ensure quality and identify any irregularities or defects.	• Support the machine operator in loading and unloading workpieces onto and off the machine table or holding fixtures • Collaborate with the machine operator to feed workpieces through the drilling machine, maintaining a steady and controlled pace as instructed. • Apply the appropriate labelling or sorting techniques to identify routed workpieces accurately • Assist the operator in following standard operating procedures and safety guidelines for drilling machine operation, adhering to the specified procedures and safety protocols. • Assist the operator in drilling machine operation, adhering to the specified procedures and safety protocols. • Assist in monitoring machine operations, actively looking for irregularities or defects, and promptly communicating them to the machine operator.
Classroom Aids	
White Board, Board Marker, Duster, Projector, Tablet, Chairs, Tables, Smart Board (Optional).	
Tools, Equipment, and Other Requirements	
Drilling Machine, Drill Bits, Dust Extractor.	

Module 31: Workplace and equipment management for drilling machine

Mapped to FFS/N1007, v 1.0

Terminal Outcomes:

- Demonstrate knowledge and understanding of the cleaning and maintenance procedures for the drilling machine and its part.
- Apply organizational skills and principles to efficiently manage the workspace, including the proper storage of panels and the appropriate disposal of waste.
- Utilize their knowledge of quality standards and specifications to assist in inspecting drilling materials for defects.
- Utilizing appropriate record-keeping techniques and systems to prepare and maintain process documents.

Duration: *02:00*	**Duration**: *08:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Explain the specific cleaning procedures for the drilling machine and its components, ensuring proper maintenance. • Explain the proper techniques for cleaning, sharpening, or replacing cutting tools. • Describe the principles of organizing and managing the workspace for panels storage and waste disposal procedures. • List the visual and tactile indicators of defects in finished materials. • Explain the importance of maintaining accurate documentation of manufacturing specifications and quality control inspections for the drilling process.	• Assist the operator in cleaning and maintaining the drilling machine and its parts. • Employ appropriate techniques while cleaning, sharpening, or replacement of cutting tools, as instructed by the machine operator. • Organize and manage the workspace effectively, implementing proper storage techniques for panels and adhering to waste disposal procedures. • Assist in inspecting finished materials for defects following the specified procedures and guidelines. • Assist in maintaining proper documentation for manufacturing specifications and quality control inspections in the drilling process.
Classroom Aids	
White Board, Board Marker, Duster, Projector, Tablet, Chairs, Tables, Smart Board (Optional).	
Tools, Equipment, and Other Requirements	
Drilling Machine, Drill Bits, Dust Extractor.	

Module 32: On-the-Job Training while assisting in drilling machines

Mapped to FFS/N1007, v 1.0

Mandatory Duration: *60:00*	**Recommended Duration:** *00:00*
Module Name: On-the-Job Training **Location: On Site**	
Terminal Outcomes • Demonstrate the ability to stack and store materials and workpieces for machine operation at designated machine stations, ensuring organized workflow and easy accessibility. • Perform a thorough quality check on job work received for the drilling machine operation, identifying and documenting any defects or discrepancies that may affect the final product. • Collaborate with the machine operator to set up the drilling machine, including adjusting machine controls, installing drilling tools, and ensuring proper alignment for accurate and efficient drilling. • Support the machine operator in loading and unloading workpieces onto and off the machine table or holding fixtures, ensuring proper handling and alignment. • Collaborate with the machine operator to feed workpieces through the drilling operations at a steady and controlled pace, ensuring consistent drilling quality. • Assist in collecting and organizing the drilled workpieces, ensuring they are labeled or sorted according to project requirements for easy identification and traceability. • Assist the operator in following standard operating procedures and safety guidelines for the safe and efficient operation of the drilling machine. • Assist in adjusting the drilling machine during the drilling process to ensure consistent quality and dimensional accuracy of the drilled holes. • Assist in monitoring drilling operations to identify any irregularities or defects and effectively communicate them to the machine operator for corrective action. • Assist in cleaning and maintaining the drilling machine and its parts (machine bed, drill chamber, etc.), ensuring optimal performance and longevity. • Collaborate in the maintenance of cutting tools by helping to clean, sharpen, or replace them as instructed by the machine operator, ensuring optimal drilling performance. • Organize and manage the workspace, ensuring proper storage of drilling tools and efficient disposal of waste, contributing to a clean and organized work environment. • Assist in inspecting the drilled workpieces for any visible defects, irregularities, or incomplete cuts, ensuring they meet the required specifications. • Maintain proper documentation of manufacturing specifications and quality control inspections for the drilling process, ensuring accurate records for traceability and quality assurance.	

Module 33: Assist in workplace setup for routing machine

Mapped to FFS/N1008, v 1.0

Terminal Outcomes:

- Discuss the process of efficient stacking and storage of materials and workpieces at designated machine stations, employing proper handling techniques for routing machine operation.
- Employ critical thinking skills and understanding of quality standards to evaluate the quality of job work received for routing machine operation.
- Assist in perform machine setup process and prepare the machine for required routing machining operation.

Duration: *04:00*	**Duration**: *12:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Explain the importance of proper stacking and storage of materials and workpieces for routing operations. • List the key constraints involved in checking the quality of job work received for routing machine operation. • Describe the responsibilities while collaborating with the machine operator in adjusting machine settings for optimal edge routing results.	• Perform stacking and storage of materials and workpieces following the specified procedures and guidelines. • Employ appropriate quality standards and techniques to assess the quality of job work received for routing operation. • Collaborate with the machine operator to adjust machine settings, including machine controls, and install routing tools by following the specified procedures and guidelines.
Classroom Aids	
White Board, Board Marker, Duster, Projector, Tablet, Chairs, Tables, Smart Board (Optional).	
Tools, Equipment, and Other Requirements	
Routing Machine, Router Bits, Dust Extractor.	

Module 34: Assist in routing operation

Mapped to FFS/N1008, v 1.0

Terminal Outcomes:

- Demonstrate accurate and efficient handling and loading of workpieces onto the machine, using appropriate handling techniques.
- Discuss the process of configuring the routing machine depending on project requirements.
- Perform labeling or sorting techniques to track and monitor the workpieces after routing operation for further processes.
- Demonstrate the skills to assist in operating and monitor the routing machine for required job work.

Duration: *06:00*	**Duration**: *28:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Explain the process of proper loading and unloading techniques for safe and efficient machine operations. • Describe the importance of maintaining a steady and controlled feeding pace to achieve accurate and consistent results. • Explain the labelling or sorting techniques used to identify routed workpieces according to project requirements • Describe the importance of following standard operating procedures and safety guidelines to ensure safe and efficient machine operation. • Describe the techniques and parameters for adjusting machines, including speed, depth, feed rate, or tool selection, to achieve desired routing results. • Explain the importance of actively monitoring machine operations to ensure quality and identify any irregularities or defects.	• Support the machine operator in loading and unloading workpieces onto and off the machine table or holding fixtures • Collaborate with the machine operator to feed workpieces through the routing machine, maintaining a steady and controlled pace as instructed. • Apply the appropriate labelling or sorting techniques to identify routed workpieces accurately • Assist the operator in following standard operating procedures and safety guidelines for routing machine operation, adhering to the specified procedures and safety protocols. • Assist the operator in routing machine operation, adhering to the specified procedures and safety protocols. • Assist in monitoring machine operations, actively looking for irregularities or defects, and promptly communicating them to the machine operator.
Classroom Aids	
White Board, Board Marker, Duster, Projector, Tablet, Chairs, Tables, Smart Board (Optional).	
Tools, Equipment, and Other Requirements	
Routing Machine, Router Bits, Dust Extractor.	

Module 35: Workplace and equipment management for routing machine

Mapped to FFS/N1008, v 1.0

Terminal Outcomes:

- Demonstrate knowledge and understanding of the cleaning and maintenance procedures for the routing machine and its part.
- Apply organizational skills and principles to efficiently manage the workspace, including the proper storage of panels and the appropriate disposal of waste.
- Utilize their knowledge of quality standards and specifications to assist in inspecting routing materials for defects.
- Utilizing appropriate record-keeping techniques and systems to prepare and maintain process documents.

Duration: *02:00*	**Duration**: *08:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Explain the specific cleaning procedures for the routing machine and its components, ensuring proper maintenance. • Explain the proper techniques for cleaning, sharpening, or replacing cutting tools. • Describe the principles of organizing and managing the workspace for panels storage and waste disposal procedures. • List the visual and tactile indicators of defects in finished materials. • Explain the importance of maintaining accurate documentation of manufacturing specifications and quality control inspections for the routing process.	• Assist the operator in cleaning and maintaining the routing machine and its parts. • Employ appropriate techniques while cleaning, sharpening, or replacement of cutting tools, as instructed by the machine operator. • Organize and manage the workspace effectively, implementing proper storage techniques for panels and adhering to waste disposal procedures. • Assist in inspecting finished materials for defects following the specified procedures and guidelines. • Assist in maintaining proper documentation for manufacturing specifications and quality control inspections in the routing process.
Classroom Aids	
White Board, Board Marker, Duster, Projector, Tablet, Chairs, Tables, Smart Board (Optional).	
Tools, Equipment, and Other Requirements	
Routing Machine, Router Bits, Dust Extractor.	

Module 36: On-the-Job Training while assisting in routing machines

Mapped to FFS/N1008, v 1.0

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

Terminal Outcomes

- Demonstrate the ability to stack and store materials and workpieces for machine operation at designated machine stations, ensuring organized workflow and easy accessibility.
- Perform a thorough quality check on job work received for the routing machine operation, identifying and documenting any defects or discrepancies that may affect the final product.
- Collaborate with the machine operator to set up the routing machine, including adjusting machine controls, installing routing tools, and ensuring proper alignment for accurate and efficient routing.
- Support the machine operator in loading and unloading workpieces onto and off the machine table or holding fixtures, ensuring proper handling and alignment.
- Collaborate with the machine operator to feed workpieces through the routing operations at a steady and controlled pace, ensuring consistent routing quality.
- Assist in collecting and organizing the drilled workpieces, ensuring they are labeled or sorted according to project requirements for easy identification and traceability.
- Assist the operator in following standard operating procedures and safety guidelines for the safe and efficient operation of the routing machine.
- Assist in adjusting the routing machine during the routing process to ensure consistent quality and dimensional accuracy of the drilled holes.
- Assist in monitoring routing operations to identify any irregularities or defects and effectively communicate them to the machine operator for corrective action.
- Assist in cleaning and maintaining the routing machine and its parts (machine bed, routing chamber, etc.), ensuring optimal performance and longevity.
- Collaborate in the maintenance of cutting tools by helping to clean, sharpen, or replace them as instructed by the machine operator, ensuring optimal routing performance.
- Organize and manage the workspace, ensuring proper storage of routing tools and efficient disposal of waste, contributing to a clean and organized work environment.
- Assist in inspecting the drilled workpieces for any visible defects, irregularities, or incomplete cuts, ensuring they meet the required specifications.
- Maintain proper documentation of manufacturing specifications and quality control inspections for the routing process, ensuring accurate records for traceability and quality assurance.

Module 37: Assist in workplace setup for veneer cutting/splicing machine

Mapped to FFS/N1009, v 1.0

Terminal Outcomes:

- Discuss the process of efficient stacking and storage of materials and workpieces at designated machine stations, employing proper handling techniques for veneer cutting/splicing machine operation.
- Employ critical thinking skills and understanding of quality standards to evaluate the quality of job work received for veneer cutting/splicing machine operation.
- Assist in perform machine setup process and prepare the machine for required veneer cutting/splicing machining operation.

Duration: *04:00*	**Duration**: *12:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Explain the importance of proper stacking and storage of materials and workpieces for veneer cutting/splicing operations. • List the key constraints involved in checking the quality of job work received for veneer cutting/splicing machine operation. • Explain the importance of proper alignment and installation of tools, adhesives, and veneer materials in the veneer cutting/splicing process. • Explain the components and functions of machine setup, including time, pressure, thickness, etc to achieve accurate and consistent results.	• Perform stacking and storage of materials and workpieces following the specified procedures and guidelines. • Employ appropriate quality standards and techniques to assess the quality of job work received for veneer cutting/splicing operation. • Verify the alignment and installation of tools, adhesives, and veneer materials under the guidance of the machine operator. • Assist in setting up veneer cutting/splicing machines, including adjusting time, pressure, thickness, etc.
Classroom Aids	
White Board, Board Marker, Duster, Projector, Tablet, Chairs, Tables, Smart Board (Optional).	
Tools, Equipment, and Other Requirements	
Veneer Cutting Machine Veneer Splicing Machine Adhesive roll for veneer splicing machine, Dust Extractor.	

Module 38: Assist in veneer cutting/splicing operation

Mapped to FFS/N1009, v 1.0

Terminal Outcomes:

- Demonstrate accurate and efficient handling and loading of workpieces onto the machine, using appropriate handling techniques.
- Demonstrate the ability to assist in applying the appropriate adhesive or glue to veneer sheets using designated equipment and techniques.
- Demonstrate the skills to assist in operating and monitor the veneer cutting/splicing machine for required job work.
- Discuss the process of configuring the veneer cutting/splicing machine depending on project requirements.

Duration: *06:00*	**Duration**: *28:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Explain the process of proper loading and unloading techniques for safe and efficient machine operations. • Describe the importance of maintaining a steady and controlled feeding pace to achieve accurate and consistent results. • Explain the importance of accurate and consistent adhesive application and veneer cutting for quality results. • Describe the process and associated tools for tracing desired shapes and sizes on veneer materials. • Explain the importance of actively monitoring machine operations to ensure quality and identify any irregularities or defects.	• Support the machine operator in loading and unloading workpieces onto and off the machine table or holding fixtures • Collaborate with the machine operator to feed workpieces through the veneer cutting/splicing machine, maintaining a steady and controlled pace as instructed. • Support the machine operator in applying adhesive and cutting veneer materials. • Assist in tracing the desired shape and size on the veneer, following the specified techniques and guidelines. • Assist in monitoring machine operations, actively looking for irregularities or defects, and promptly communicating them to the machine operator.
Classroom Aids	
White Board, Board Marker, Duster, Projector, Tablet, Chairs, Tables, Smart Board (Optional).	
Tools, Equipment, and Other Requirements	
Veneer Cutting Machine Veneer Splicing Machine Adhesive roll for veneer splicing machine, Dust Extractor.	

Module 39: Workplace and equipment management for veneer cutting/splicing machine

Mapped to FFS/N1009, v 1.0

Terminal Outcomes:

- Demonstrate knowledge and understanding of the cleaning and maintenance procedures for the veneer cutting/splicing machine and its part.
- Apply organizational skills and principles to efficiently manage the workspace, including the proper storage of panels and the appropriate disposal of waste.
- Utilize their knowledge of quality standards and specifications to assist in inspecting veneer materials for defects.
- Utilizing appropriate record-keeping techniques and systems to prepare and maintain process documents.

Duration: *02:00*	**Duration**: *08:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Explain the specific cleaning procedures for the veneer cutting/splicing machine and its components, ensuring proper maintenance. • Explain the proper techniques for cleaning, sharpening, or replacing cutting tools. • Describe the principles of organizing and managing the workspace for panels storage and waste disposal procedures. • List the visual and tactile indicators of defects in finished materials. • Explain the importance of maintaining accurate documentation of manufacturing specifications and quality control inspections for the veneer cutting/splicing process.	• Assist the operator in cleaning and maintaining the veneer cutting/splicing machine and its parts. • Employ appropriate techniques while cleaning, sharpening, or replacement of cutting tools, as instructed by the machine operator. • Organize and manage the workspace effectively, implementing proper storage techniques for panels and adhering to waste disposal procedures. • Assist in inspecting finished materials for defects following the specified procedures and guidelines. • Assist in maintaining proper documentation for manufacturing specifications and quality control inspections in the veneer cutting/splicing process.
Classroom Aids	
White Board, Board Marker, Duster, Projector, Tablet, Chairs, Tables, Smart Board (Optional).	
Tools, Equipment, and Other Requirements	
Veneer Cutting Machine Veneer Splicing Machine Adhesive roll for veneer splicing machine, Dust Extractor.	

Module 40: On-the-Job Training while assisting in veneer cutting & splicing machines

Mapped to FFS/N1009, v 1.0

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

Terminal Outcomes

- Demonstrate the ability to stack and store materials and workpieces for machine operation at designated machine stations, ensuring organized workflow and easy accessibility.
- Assist in checking the quality of veneer sheets received for the machine operation, identifying any defects or inconsistencies that may impact the final product.
- Verify the alignment and installation of tools, adhesives, and veneer materials under the guidance of the machine operator, ensuring precise and accurate veneer cutting/splicing.
- Assist in setting up veneer cutting/splicing machines for parameters such as time, pressure, thickness, etc., according to job requirements, ensuring optimal results.
- Support the machine operator in loading and unloading workpieces onto and off the machine table or holding fixtures, ensuring proper handling and alignment.
- Collaborate with the machine operator to feed workpieces through the veneer cutting/splicing machine at a steady and controlled pace, ensuring consistent and precise cutting/splicing.
- Support the machine operator in applying adhesive and cutting veneer materials accurately and consistently, following established procedures and guidelines.
- Assist in tracing the desired shape and size on the veneer, ensuring accurate and precise cutting/splicing according to project requirements.
- Assist in monitoring machine operations to identify any irregularities or defects and effectively communicate them to the machine operator for corrective action.
- Assist in cleaning and maintaining the veneer cutting/splicing machine and its parts, including removing debris and residues, to ensure optimal performance and longevity.
- Collaborate in the maintenance of cutting tools by helping to clean, sharpen, or replace them as instructed by the machine operator, ensuring optimal veneer cutting/splicing performance.
- Organize and manage the workspace, ensuring proper storage of veneer sheets and efficient disposal of waste, contributing to a clean and organized work environment.
- Assist in inspecting the prepared veneer for accuracy, smoothness, and overall quality, ensuring they meet the required specifications.
- Maintain proper documentation of manufacturing specifications and quality control inspections for veneer preparation, ensuring accurate records for traceability and quality assurance.

Annexure

Trainer Requirements

Trainer Prerequisites – either one of the 4 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	3	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 Assistant Panelworks Machine Operator	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 4.5 Advanced Furniture Machinist 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.

Grade 8	Grade 8 Pass	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.

Trainer Certification	
Domain Certification	**Platform Certification**
Certified for Job Role: "Assistant Panelworks Machine Operator" mapped to QP: "FFS/Q1001, v1.0" Level 4. 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 4 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	3	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 Assistant Panelworks Machine Operator	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 4.5 Advanced Furniture Machinist 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.

Grade 8	Grade 8 Pass	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.

Assessor Certification

Domain Certification	Platform Certification
Certified for Job Role: "Assistant Panelworks Machine Operator" mapped to QP: "FFS/Q1001, v1.0" Level 4. 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 in gauging a candidate's performance, a holistic approach for Assessment is essential. We have devised a multi-tier process to keep track of candidate's overall progress at various stages. While a few techniques are imbibed as part of the training delivery program, others are explicit testing methods. 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 regularly to gauge the candidate's progress during the training program. These are a mix of Theory & 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. The Trainer can consult the Master Trainer/ Program Mentor regarding training delivery or conducting periodic assessments.

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

2. External

a. Assessment Partners/ Freelance Assessors:

Assessment Partners shall mandatorily conduct an external assessment via ToA certified Assessors or ToA certified Freelance Assessors. There are three critical 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 & Assessment Team or any other assigned authority by FFSC may conduct surprise or planned visits and checks from a quality assurance and monitoring perspective.

The requirements and details of each stage are 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 essential to be compiled:
    a. Check the availability of the Lab Equipment for the particular Job Role as per the mode of conducting the 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 & Assessment Monitoring Team for Assessment Quality Assurance checks.
    g. Ensure evidence of conducting Assessment gathered as per FFSC protocol:
        i. Time-stamped & 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 & geotagged assessment (Theory + Viva + Practical) photographs & 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 & photographs of the Assessment are uploaded/accessed from Cloud Storage
    d. Soft copies of the documents & 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
CAD	Computer Aided Design