

Qualification Pack



Panelworks Machine Operator

Pasting and Pressing machines/ Cutting and Sizing machines/ Edge Band machines/ Drilling machines/ Routing machines/ Veneer Cutting and Splicing machines/ CNC machines

QP Code: FFS/Q1002

Version: 1.0

NSQF Level: 4.5

Furniture and Fittings Skill Council || 407-408, DLF City Court, M G Road, Sikanderpur
Gurgaon - 122002 || email:shubham.agrawal@ffsc.in



Qualification Pack

Contents

FFS/Q1002: Panelworks Machine Operator	3
<i>Brief Job Description</i>	3
Applicable National Occupational Standards (NOS)	3
<i>Compulsory NOS</i>	3
<i>Elective 1: Pasting and Pressing machines</i>	3
<i>Elective 2: Cutting and Sizing machines</i>	3
<i>Elective 3: Edge Band machines</i>	3
<i>Elective 4: Drilling machines</i>	4
<i>Elective 5: Routing machines</i>	4
<i>Elective 6: Veneer Cutting and Splicing machines</i>	4
<i>Elective 7: CNC machines</i>	4
<i>Qualification Pack (QP) Parameters</i>	4
FFS/N1010: Perform team & task management for required machining operations	6
FFS/N1011: Manage the worksite for required machine operations	10
FFS/N1012: Perform Machine Operations for required job work	14
FFS/N1013: Perform machine maintenance and quality checking for required specifications	20
FFS/N8203: Maintain health, safety, and greening practices at the worksite	25
DGT/VSQ/N0102: Employability Skills (60 Hours)	31
FFS/N1014: Setup and operate pasting and pressing machines	39
FFS/N1015: Setup and operate cutting and sizing machines	45
FFS/N1016: Setup and operate edge band machines	51
FFS/N1017: Setup and operate drilling machines	57
FFS/N1018: Setup and operate routing machines	63
FFS/N1019: Setup and operate veneer cutting and splicing machines	69
FFS/N1020: Setup and operate panelworks CNC Machines	75
Assessment Guidelines and Weightage	80
<i>Assessment Guidelines</i>	80
<i>Assessment Weightage</i>	81
Acronyms	85
Glossary	86



Qualification Pack

FFS/Q1002: Panelworks Machine Operator

Brief Job Description

The Panelworks Machine Operator plays the role of operating and monitoring machinery used in the production of panels for various applications. The responsibilities include setting up the machines, ensuring smooth operation, conducting quality checks, and maintaining a safe working environment. The individual may choose a specialization from a range of options, such as pasting/pressing, cutting/sizing, edge banding, drilling, routing, and veneer cutting/splicing operations.

Personal Attributes

This job requires an individual to have effective problem-solving skills and a proactive attitude are essential to troubleshoot any technical issues that may arise during the manufacturing process. Additionally, a strong commitment to safety protocols and the ability to work collaboratively within a team environment are vital attributes for success in this role

Applicable National Occupational Standards (NOS)

Compulsory NOS:

1. [FFS/N1010: Perform team & task management for required machining operations](#)
2. [FFS/N1011: Manage the worksite for required machine operations](#)
3. [FFS/N1012: Perform Machine Operations for required job work](#)
4. [FFS/N1013: Perform machine maintenance and quality checking for required specifications](#)
5. [FFS/N8203: Maintain health, safety, and greening practices at the worksite](#)
6. [DGT/VSQ/N0102: Employability Skills \(60 Hours\)](#)

Electives (mandatory to select at least one):

Elective 1: Pasting and Pressing machines

1. [FFS/N1014: Setup and operate pasting and pressing machines](#)

Elective 2: Cutting and Sizing machines

1. [FFS/N1015: Setup and operate cutting and sizing machines](#)



Qualification Pack

Elective 3: Edge Band machines

1. [FFS/N1016: Setup and operate edge band machines](#)

Elective 4: Drilling machines

1. [FFS/N1017: Setup and operate drilling machines](#)

Elective 5: Routing machines

1. [FFS/N1018: Setup and operate routing machines](#)

Elective 6: Veneer Cutting and Splicing machines

1. [FFS/N1019: Setup and Operate veneer cutting and splicing machines](#)

Elective 7: CNC machines

1. [FFS/N1020: Setup and operate panelworks CNC Machines](#)

Qualification Pack (QP) Parameters

Sector	Furniture & Fittings
Sub-Sector	Furniture Design & Production
Occupation	Furniture Production (Machine Shop)
Country	India
NSQF Level	4.5
Credits	47
Aligned to NCO/ISCO/ISIC Code	NCO-2015/7523.9900

Qualification Pack

<p>Minimum Educational Qualification & Experience</p>	<p>Completed 1st year of UG (UG Certificate) (3-year/ 4-years UG) with NA of experience OR Pursuing 1st year of UG (3-year/ 4-years UG and continuing education) with NA of experience OR Pursuing 3rd year of 3-year diploma after 10th (and continuing education) with NA of experience OR Completed 3 year diploma after 10th with NA of experience OR Completed 1st year of diploma (after 12th) (2-year program) with NA of experience OR Pursuing 2nd year of 2-year diploma after 12th (and continuing education) with NA of experience OR 12th grade Pass with 1 Year of experience OR 10th grade pass (with 2 years of any combination of NTC/NAC/CITS or equivalent) with 1 Year of experience OR 10th grade pass with 3 Years of experience OR Previous relevant Qualification of NSQF Level (Assistant Panelworks Machine Operator at Level-4) with 1-2 Years of experience</p>
<p>Minimum Level of Education for Training in School</p>	<p>Not Applicable</p>
<p>Pre-Requisite License or Training</p>	<p>NA</p>
<p>Minimum Job Entry Age</p>	<p>18 Years</p>
<p>Last Reviewed On</p>	<p>NA</p>
<p>Next Review Date</p>	<p>31/08/2026</p>
<p>NSQC Approval Date</p>	<p>31/08/2023</p>
<p>Version</p>	<p>1.0</p>
<p>Reference code on NQR</p>	<p>QG-4.5-WC-00821-2023-V1-FFSC</p>
<p>NQR Version</p>	<p>1</p>



Qualification Pack

FFS/N1010: Perform team & task management for required machining operations

Description

This unit describes the performance criteria required to perform team & task management activities for the panel works machine operation

Scope

The scope covers the following :

- Task planning and allocation
- Team management & documentation

Elements and Performance Criteria

Task planning and allocation

To be competent, the user/individual on the job must be able to:

- PC1.** analyse work orders and project details to identify job work requirements
- PC2.** assist in planning & scheduling with supervisor to operate machine to its maximum capacity
- PC3.** allocate tasks to team members based on their skills and capabilities
- PC4.** foster effective communication with the assistants, ensuring clarity and understanding of assigned tasks
- PC5.** oversee timely filling and submission of job cards to the supervisor.

Team management & documentation

To be competent, the user/individual on the job must be able to:

- PC6.** evaluate team members' performance and provide constructive feedback and guidance to facilitate improvement.
- PC7.** assist in addressing any performance issues or conflicts within the team promptly.
- PC8.** perform documentation of the deliverables based on the scope of the project
- PC9.** provide work updates to the supervisor at regular intervals

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** the organization structure, its purpose, and objective, various departments, hierarchy, reporting matrix, code of conduct, etc
- KU2.** the products and services provided by the company to clients and its quality standards
- KU3.** the Key Result Areas (KRA) and its importance in the employee performance and growth
- KU4.** different types of personal protective equipment such as gloves, goggles, masks, etc. and their uses

Qualification Pack

- KU5.** common hazards in the worksite and relevant safety and security procedures/manuals to be followed
- KU6.** the procedures for conducting visual checks required during the various stages of operations and their importance
- KU7.** the importance of reporting relevant information to the appropriate authority
- KU8.** the work order specifications, project requirements, and production processes.
- KU9.** the relevant production planning principles, machine capabilities, and optimization techniques.
- KU10.** the team dynamics, individual competencies, and task allocation strategies.
- KU11.** the role of strong communication and interpersonal skills, including active listening and clear articulation in work productivity.
- KU12.** the relevant job card filling and submission procedures, documentation standards, and project tracking systems.
- KU13.** the performance evaluation methods, feedback techniques, and coaching principles.
- KU14.** the basics of conflict resolution strategies, problem-solving techniques, and team dynamics.
- KU15.** the project documentation standards, templates, and organizational requirements.
- KU16.** the significance of communication protocols, reporting formats, and supervisor expectations.

Generic Skills (GS)

User/individual on the job needs to know how to:

- GS1.** read company policy documents, information displayed at the worksite, job cards, etc.
- GS2.** effectively communicate with team members and supervisors respectfully as per the protocol of the organization
- GS3.** work constructively and collaboratively with others
- GS4.** fill up documents about one's role at the worksite (involves attendance, daily work update, etc.)
- GS5.** apply domain information/ knowledge and assess day to day tasks through experience and observation
- GS6.** evaluate the complexity of the tasks to determine if any guidance is required from the supervisor
- GS7.** interpret instructions related to the usage of machines and tools for fabrication, assembling, and installation of the various products
- GS8.** use reasoning skills to make appropriate decisions and troubleshoot concerns related to own responsibilities
- GS9.** plan and prioritize the tasks efficiently and accurately within the specified time frame
- GS10.** build and maintain positive and effective relationships with clients

Qualification Pack

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Task planning and allocation</i>	6	24	24	-
PC1. analyse work orders and project details to identify job work requirements	-	8	6	-
PC2. assist in planning & scheduling with supervisor to operate machine to its maximum capacity	-	8	6	-
PC3. allocate tasks to team members based on their skills and capabilities	2	-	6	-
PC4. foster effective communication with the assistants, ensuring clarity and understanding of assigned tasks	2	-	6	-
PC5. oversee timely filling and submission of job cards to the supervisor.	2	8	-	-
<i>Team management & documentation</i>	4	24	18	-
PC6. evaluate team members' performance and provide constructive feedback and guidance to facilitate improvement.	-	8	6	-
PC7. assist in addressing any performance issues or conflicts within the team promptly.	-	8	6	-
PC8. perform documentation of the deliverables based on the scope of the project	2	8	-	-
PC9. provide work updates to the supervisor at regular intervals	2	-	6	-
NOS Total	10	48	42	-

Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	FFS/N1010
NOS Name	Perform team & task management for required machining operations
Sector	Furniture & Fittings
Sub-Sector	Furniture Design & Production
Occupation	Furniture Production (Machine Shop)
NSQF Level	4.5
Credits	2
Version	1.0
Last Reviewed Date	31/08/2023
Next Review Date	31/08/2026
NSQF Clearance Date	31/08/2023

Qualification Pack

FFS/N1011: Manage the worksite for required machine operations

Description

This unit describes the performance criteria required to manage the worksite for the panel works machine operations.

Scope

The scope covers the following :

- Prepare the work site for machine operation
- Machine and job work setup

Elements and Performance Criteria

Prepare the work site for machine operation

To be competent, the user/individual on the job must be able to:

- PC1.** Prepare the work site for machine operation
- PC2.** identify and select suitable machining methods, tools, equipment, and consumables for a given machining task.
- PC3.** ensure organization of all the necessary tools, materials, and components based on job work requirements
- PC4.** verify the availability and quality of materials to comply with drawing and specifications
- PC5.** maintain health and safety (WHS) requirements, including personal protective equipment, during operations.
- PC6.** perform the cleaning and maintenance of the worksite at regular intervals

Machine and job work setup

To be competent, the user/individual on the job must be able to:

- PC7.** setout and adjust the machining program based on job work specifications
- PC8.** select and feed the suitable machine consumables (like glue, adhesives, edge bands, etc.) based on job work details
- PC9.** monitor the loading and unloading of the job work on/from the machine bed
- PC10.** perform measurement and marking operations based on job work specifications

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** the organization structure, its purpose, and objective, various departments, hierarchy, reporting matrix, code of conduct, etc
- KU2.** the products and services provided by the company to clients and its quality standards
- KU3.** the Key Result Areas (KRA) and its importance in the employee performance and growth
- KU4.** different types of personal protective equipment such as gloves, goggles, masks, etc. and their uses

Qualification Pack

- KU5.** common hazards in the worksite and relevant safety and security procedures/manuals to be followed
- KU6.** the procedures for conducting visual checks required during the various stages of operations and their importance
- KU7.** the importance of reporting relevant information to the appropriate authority
- KU8.** how to interpret technical drawing, bill of materials, and machining requirements.
- KU9.** various machining methods, tools, equipment, and consumables used in panelworks machine department based on specific operations.
- KU10.** the relevant tool and material organization principles and best practices.
- KU11.** the material verification techniques, quality standards, and compliance requirements.
- KU12.** the workplace health and safety regulations, hazard identification, and personal protective equipment (PPE) usage.
- KU13.** the relevant worksite cleanliness and maintenance procedures for panelworks machine operations.
- KU14.** how to set out machining programs for relevant machines and programming principles.
- KU15.** the relevant machine consumables, their properties, and their application in panelworks machine operations.
- KU16.** the machine bed loading and unloading procedures, safety precautions, and equipment handling relevant to different machines.
- KU17.** the usage of relevant measurement tools, techniques, and marking principles in panelworks machine operation.

Generic Skills (GS)

User/individual on the job needs to know how to:

- GS1.** read company policy documents, information displayed at the worksite, job cards, etc.
- GS2.** effectively communicate with team members and supervisors respectfully as per the protocol of the organization
- GS3.** work constructively and collaboratively with others
- GS4.** fill up documents about one's role at the worksite (involves attendance, daily work update, etc.)
- GS5.** apply domain information/ knowledge and assess day to day tasks through experience and observation
- GS6.** evaluate the complexity of the tasks to determine if any guidance is required from the supervisor
- GS7.** interpret instructions related to the usage of machines and tools for fabrication, assembling, and installation of the various products
- GS8.** use reasoning skills to make appropriate decisions and troubleshoot concerns related to own responsibilities
- GS9.** plan and prioritize the tasks efficiently and accurately within the specified time frame
- GS10.** build and maintain positive and effective relationships with clients

Qualification Pack

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Prepare the work site for machine operation</i>	6	30	20	3
PC1. Prepare the work site for machine operation	-	6	4	-
PC2. identify and select suitable machining methods, tools, equipment, and consumables for a given machining task.	-	6	4	-
PC3. ensure organization of all the necessary tools, materials, and components based on job work requirements	-	6	4	-
PC4. verify the availability and quality of materials to comply with drawing and specifications	2	6	-	1
PC5. maintain health and safety (WHS) requirements, including personal protective equipment, during operations.	2	-	4	1
PC6. perform the cleaning and maintenance of the worksite at regular intervals	2	6	4	1
<i>Machine and job work setup</i>	6	18	16	1
PC7. setout and adjust the machining program based on job work specifications	-	6	4	-
PC8. select and feed the suitable machine consumables (like glue, adhesives, edge bands, etc.) based on job work details	2	6	4	-
PC9. monitor the loading and unloading of the job work on/from the machine bed	2	-	4	-
PC10. perform measurement and marking operations based on job work specifications	2	6	4	1
NOS Total	12	48	36	4

Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	FFS/N1011
NOS Name	Manage the worksite for required machine operations
Sector	Furniture & Fittings
Sub-Sector	Furniture Design & Production
Occupation	Furniture Production (Machine Shop)
NSQF Level	4.5
Credits	2
Version	1.0
Last Reviewed Date	31/08/2023
Next Review Date	31/08/2026
NSQF Clearance Date	31/08/2023

Qualification Pack

FFS/N1012: Perform Machine Operations for required job work

Description

This unit describes the performance criteria required to operate the panel works-related machines efficiently and safely.

Scope

The scope covers the following :

- Perform machine initiation process
- Perform machining operation

Elements and Performance Criteria

Perform machine initiation process

To be competent, the user/individual on the job must be able to:

- PC1.** supervise the checking of fundamental systems such as air pressure, duct collector, stabilizers, etc. as per the machine initiation checklist
- PC2.** perform installation and adjustment of appropriate tools and equipment per the project requirements (e.g., blades, edge bands, drill bits, etc.)
- PC3.** ensure proper checking of the safety equipment, including emergency stops, gauges, guards and controls, before machine initiation
- PC4.** perform marking on the dust extraction connections using machine marker as recommended by supervisor
- PC5.** monitor the machine trial run to evaluate a required operation, accuracy, and quality and make necessary adjustments, if required.

Perform machining operation

To be competent, the user/individual on the job must be able to:

- PC6.** perform feeding and handling of the job work in the machine for required operation
- PC7.** perform the operation in accordance with its designed capacity and purpose, and to manufacturer recommendations
- PC8.** monitor the operation periodically to evaluate product quality and yield.
- PC9.** follow standard operating procedures and safety protocols during machine operation
- PC10.** oversee material handling and movement after the operation
- PC11.** ensure machine is operated to full efficiency and safety

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** the organization structure, its purpose, and objective, various departments, hierarchy, reporting matrix, code of conduct, etc
- KU2.** the products and services provided by the company to clients and its quality standards

Qualification Pack

- KU3.** the Key Result Areas (KRA) and its importance in the employee performance and growth
- KU4.** different types of personal protective equipment such as gloves, goggles, masks, etc. and their uses
- KU5.** common hazards in the worksite and relevant safety and security procedures/manuals to be followed
- KU6.** the procedures for conducting visual checks required during the various stages of operations and their importance
- KU7.** the importance of reporting relevant information to the appropriate authority
- KU8.** the basics of fundamental systems in panelworks machines, machine initiation procedures, and safety protocols.
- KU9.** the relevant tools and equipment used in panelworks machine operations, their installation, adjustment procedures, and project requirements.
- KU10.** the process of checking safety equipment used in panelworks machines, their functions, and the importance of pre-initiation checks.
- KU11.** the importance of machine trial run and their relevant procedures, operation evaluation criteria, and adjustment techniques.
- KU12.** the job work handling techniques, machine feeding procedures, and safety considerations.
- KU13.** the machine's designed capacity, purpose, operation procedures, and manufacturer recommendations for different panelworks machines.
- KU14.** the product quality evaluation techniques, yield assessment methods, and monitoring procedures.
- KU15.** the standard operating procedures (SOPs), safety protocols, and the importance of their adherence in different machine operations.
- KU16.** different material handling techniques, post-operation movement procedures, and safety considerations.
- KU17.** the machine operation optimization techniques and efficiency measures for different panelwork machines.

Generic Skills (GS)

User/individual on the job needs to know how to:

- GS1.** read company policy documents, information displayed at the worksite, job cards, etc.
- GS2.** effectively communicate with team members and supervisors respectfully as per the protocol of the organization
- GS3.** work constructively and collaboratively with others
- GS4.** fill up documents about one's role at the worksite (involves attendance, daily work update, etc.)
- GS5.** apply domain information/ knowledge and assess day to day tasks through experience and observation
- GS6.** evaluate the complexity of the tasks to determine if any guidance is required from the supervisor
- GS7.** interpret instructions related to the usage of machines and tools for fabrication, assembling, and installation of the various products



Qualification Pack

- GS8.** use reasoning skills to make appropriate decisions and troubleshoot concerns related to own responsibilities
- GS9.** plan and prioritize the tasks efficiently and accurately within the specified time frame
- GS10.** build and maintain positive and effective relationships with clients

Qualification Pack

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Perform machine initiation process</i>	10	24	16	3
PC1. supervise the checking of fundamental systems such as air pressure, duct collector, stabilizers, etc. as per the machine initiation checklist	2	-	4	1
PC2. perform installation and adjustment of appropriate tools and equipment per the project requirements (e.g., blades, edge bands, drill bits, etc.)	2	8	-	1
PC3. ensure proper checking of the safety equipment, including emergency stops, gauges, guards and controls, before machine initiation	2	8	4	1
PC4. perform marking on the dust extraction connections using machine marker as recommended by supervisor	2	8	4	-
PC5. monitor the machine trial run to evaluate a required operation, accuracy, and quality and make necessary adjustments, if required.	2	-	4	-
<i>Perform machining operation</i>	10	16	20	1
PC6. perform feeding and handling of the job work in the machine for required operation	2	8	-	-
PC7. perform the operation in accordance with its designed capacity and purpose, and to manufacturer recommendations	-	8	4	-
PC8. monitor the operation periodically to evaluate product quality and yield.	2	-	4	1
PC9. follow standard operating procedures and safety protocols during machine operation	2	-	4	-
PC10. oversee material handling and movement after the operation	2	-	4	-
PC11. ensure machine is operated to full efficiency and safety	2	-	4	-



Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
NOS Total	20	40	36	4

Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	FFS/N1012
NOS Name	Perform Machine Operations for required job work
Sector	Furniture & Fittings
Sub-Sector	Furniture Design & Production
Occupation	Furniture Production (Machine Shop)
NSQF Level	4.5
Credits	2
Version	1.0
Last Reviewed Date	31/08/2023
Next Review Date	31/08/2026
NSQF Clearance Date	31/08/2023

Qualification Pack

FFS/N1013: Perform machine maintenance and quality checking for required specifications

Description

This unit describes the performance criteria required to maintain machines and perform quality checks at regular intervals.

Scope

The scope covers the following :

- Perform machine maintenance activities
- Perform quality checking for finished job work
- Clean up and maintain work area

Elements and Performance Criteria

Perform machine maintenance activities

To be competent, the user/individual on the job must be able to:

- PC1.** record and report any machine malfunctions or deviations from standard procedures.
- PC2.** conduct routine maintenance checks on machines to ensure proper functioning
- PC3.** perform necessary cleaning, lubrication, and calibration of machines as per maintenance schedules
- PC4.** inspect tools and equipment's for any wear, tear and take appropriate action as required

Perform quality checking for finished job work

To be competent, the user/individual on the job must be able to:

- PC5.** inspect finished panels for measurement, quality, accuracy, and adherence to specifications.
- PC6.** inspect and mark the defects, if any, such as wear & tear, paint, dents, grooves, cracks, rough edges, etc.

Clean up and maintain work area

To be competent, the user/individual on the job must be able to:

- PC7.** ensure identification and storage of material after machining operation for re-use purpose
- PC8.** ensure collection and disposal of the waste/ offcut material in the designated bay
- PC9.** perform internal cleaning of tools and machines after machining operation
- PC10.** ensure cleanliness at the machine station, tools and equipment at regular intervals

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** the organization structure, its purpose, and objective, various departments, hierarchy, reporting matrix, code of conduct, etc
- KU2.** the products and services provided by the company to clients and its quality standards

Qualification Pack

- KU3.** the Key Result Areas (KRA) and its importance in the employee performance and growth
- KU4.** different types of personal protective equipment such as gloves, goggles, masks, etc. and their uses
- KU5.** common hazards in the worksite and relevant safety and security procedures/manuals to be followed
- KU6.** the procedures for conducting visual checks required during the various stages of operations and their importance
- KU7.** the importance of reporting relevant information to the appropriate authority
- KU8.** Explain how to report machine faults and deviations from regular processes
- KU9.** Discuss the significance of conducting routine maintenance checks on machines and the procedures involved in conducting inspections.
- KU10.** Describe the importance of performing necessary cleaning, lubrication, and calibration of machines and the procedures involved in these tasks.
- KU11.** Explain the importance of inspecting tools and equipment for wear and tear and the actions to be taken based on the inspection findings.
- KU12.** Discuss the process of inspecting finished panels for measurement, quality, accuracy, and the techniques and tools used in the inspection.
- KU13.** Explain the types of defects commonly found in panels, the visual inspection techniques used to identify defects, and the procedures for marking identified defects.
- KU14.** Describe the key constraints and procedures involved in identifying and storing material after machining operations for re-use purposes
- KU15.** Discuss the process of collecting and disposing of waste/offcut material in the designated bay.
- KU16.** Illustrate the process of cleaning tools and machines after machining operations using appropriate cleaning agents and tools.
- KU17.** Describe the importance of maintaining cleanliness at the machine station, tools, and equipment and the procedures for regular cleaning and maintenance.

Generic Skills (GS)

User/individual on the job needs to know how to:

- GS1.** read company policy documents, information displayed at the worksite, job cards, etc.
- GS2.** effectively communicate with team members and supervisors respectfully as per the protocol of the organization
- GS3.** work constructively and collaboratively with others
- GS4.** fill up documents about one's role at the worksite (involves attendance, daily work update, etc.)
- GS5.** evaluate the complexity of the tasks to determine if any guidance is required from the supervisor
- GS6.** apply domain information/ knowledge and assess day to day tasks through experience and observation
- GS7.** interpret instructions related to the usage of machines and tools for fabrication, assembling, and installation of the various products



Qualification Pack

- GS8.** use reasoning skills to make appropriate decisions and troubleshoot concerns related to own responsibilities
- GS9.** plan and prioritize the tasks efficiently and accurately within the specified time frame
- GS10.** build and maintain positive and effective relationships with clients

Qualification Pack

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Perform machine maintenance activities</i>	6	24	12	2
PC1. record and report any machine malfunctions or deviations from standard procedures.	-	6	4	-
PC2. conduct routine maintenance checks on machines to ensure proper functioning	2	6	4	1
PC3. perform necessary cleaning, lubrication, and calibration of machines as per maintenance schedules	2	6	-	-
PC4. inspect tools and equipment's for any wear, tear and take appropriate action as required	2	6	4	1
<i>Perform quality checking for finished job work</i>	4	12	4	2
PC5. inspect finished panels for measurement, quality, accuracy, and adherence to specifications.	2	6	-	1
PC6. inspect and mark the defects, if any, such as wear & tear, paint, dents, grooves, cracks, rough edges, etc.	2	6	4	1
<i>Clean up and maintain work area</i>	8	12	12	2
PC7. ensure identification and storage of material after machining operation for re-use purpose	2	-	4	-
PC8. ensure collection and disposal of the waste/ offcut material in the designated bay	2	6	4	1
PC9. perform internal cleaning of tools and machines after machining operation	2	6	-	-
PC10. ensure cleanliness at the machine station, tools and equipment at regular intervals	2	-	4	1
NOS Total	18	48	28	6

Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	FFS/N1013
NOS Name	Perform machine maintenance and quality checking for required specifications
Sector	Furniture & Fittings
Sub-Sector	Furniture Design & Production
Occupation	Furniture Production (Machine Shop)
NSQF Level	4.5
Credits	2
Version	1.0
Last Reviewed Date	31/08/2023
Next Review Date	31/08/2026
NSQC Clearance Date	31/08/2023

Qualification Pack

FFS/N8203: Maintain health, safety, and greening practices at the worksite

Description

This unit describes the performance outcomes required to maintain a healthy, safe and secure work environment.

Scope

The scope covers the following :

- Maintain health and hygiene protocols
- Dealing with emergencies
- Precautionary measures to avoid work hazards
- Ensure material conservation and optimization of resources

Elements and Performance Criteria

Maintain health and hygiene protocols

To be competent, the user/individual on the job must be able to:

- PC1.** comply with health and personal hygiene-related protocols
- PC2.** maintain adequate inventory of cleaning materials and consumables
- PC3.** identify and report poor organizational practices concerning hygiene, food handling, cleaning
- PC4.** ensure that the trash cans or waste collection points are cleared every day
- PC5.** maintain records for cleanliness and maintenance schedule
- PC6.** use appropriate personal protective equipment compatible with the work and compliant with relevant Occupational Health and Safety (OHS) guidelines: masks, safety glasses, head protection, ear muffs, safety footwear, gloves, aprons, etc.
- PC7.** wear clean clothes as per the dress code of the worksite
- PC8.** wash hands regularly using suggested material such as soap, one-use disposable tissue, warm water, etc.

Dealing with emergencies

To be competent, the user/individual on the job must be able to:

- PC9.** use emergency equipment in accordance with manufacturers' specifications as per requirement
- PC10.** follow emergency and evacuation procedures in case of accidents, fires, natural calamities
- PC11.** respond promptly and appropriately to an accident situation or medical emergency
- PC12.** undertake first aid activities in case of an accident, if required and asked to do so

Precautionary measures to avoid work hazards

To be competent, the user/individual on the job must be able to:

- PC13.** ensure that safety instructions applicable to the work place are being followed
- PC14.** monitor the usage of harmful chemicals inside the work area as per the specified guidelines only

Qualification Pack

- PC15.** plan out the routine cleaning of tools, machines, and equipment
- PC16.** employ an effective process to dispose off the hazardous material and wastage
- PC17.** employ safe working practices to perform a lift, carry or move heavy wooden furniture and accessories from one place to another

Ensure material conservation and optimization of resources

To be competent, the user/individual on the job must be able to:

- PC18.** plan out the process to ensure optimal material utilization
- PC19.** collect information on the pattern of electricity and fuel consumption
- PC20.** identify possibilities of using renewable energy and environment-friendly fuels
- PC21.** plan the implementation of energy-efficient systems in a phased manner
- PC22.** plan and utilize the reusable materials and wastage in the process
- PC23.** perform segregation of waste based on the type of material
- PC24.** ensure to keep the electrical appliances in OFF position when not in use

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** the organization structure, its purpose, and objective, various departments, hierarchy, reporting matrix, code of conduct, etc
- KU2.** the products and services provided by the company to clients and its quality standards
- KU3.** the Key Result Areas (KRA) and its importance in the employee performance and growth
- KU4.** different types of personal protective equipment such as gloves, goggles, masks, etc. and their uses
- KU5.** common hazards in the worksite and relevant safety and security procedures/manuals to be followed
- KU6.** the procedures for conducting visual checks required during the various stages of operations and their importance
- KU7.** the importance of reporting relevant information to the appropriate authority
- KU8.** types of cleaning equipment and consumables such as chemicals, liquids, etc.
- KU9.** the operational and relevant guidelines for usage and handling of different emergency equipment
- KU10.** the organization's legislative requirements and emergency procedures
- KU11.** various causes of fire, and usage of different fire prevention equipment
- KU12.** know different types of fire and fire extinguishers
- KU13.** the process and role in responding to an emergency situation in line with organizational procedures
- KU14.** the basic first aid process and techniques in case of an emergency
- KU15.** various types of safety signs and what they mean
- KU16.** types of cleaning equipment and consumables such as chemicals, liquids, etc.
- KU17.** importance of safe lifting practices and correct body postures
- KU18.** importance of material usage planning and utilization



Qualification Pack

- KU19.** material and water conservation process
- KU20.** types of cleaning equipment and consumables such as chemicals, liquids, etc.
- KU21.** the importance of efficient energy usage and its technologies
- KU22.** the importance of utilizing reusable materials and wastage
- KU23.** the process of segregation of waste based on reusable and non-recyclable materials
- KU24.** the safety processes associated with the handling and usage of electrical appliances

Generic Skills (GS)

User/individual on the job needs to know how to:

- GS1.** read company policy documents, information displayed at the worksite, job cards, etc.
- GS2.** effectively communicate with team members and supervisors respectfully as per the protocol of the organization
- GS3.** work constructively and collaboratively with others
- GS4.** fill up documents about one's role at the worksite (involves attendance, daily work update, etc.)
- GS5.** apply domain information/ knowledge and assess day to day tasks through experience and observation
- GS6.** evaluate the complexity of the tasks to determine if any guidance is required from the supervisor
- GS7.** interpret instructions related to the usage of machines and tools for fabrication, assembling, and installation of the various products
- GS8.** use reasoning skills to make appropriate decisions and troubleshoot concerns related to own responsibilities
- GS9.** plan and prioritize the tasks efficiently and accurately within the specified time frame
- GS10.** build and maintain positive and effective relationships with clients

Qualification Pack

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Maintain health and hygiene protocols</i>	6	8	16	5
PC1. comply with health and personal hygiene-related protocols	1	1	2	1
PC2. maintain adequate inventory of cleaning materials and consumables	1	1	2	1
PC3. identify and report poor organizational practices concerning hygiene, food handling, cleaning	1	1	2	-
PC4. ensure that the trash cans or waste collection points are cleared every day	1	1	2	1
PC5. maintain records for cleanliness and maintenance schedule	-	1	2	-
PC6. use appropriate personal protective equipment compatible with the work and compliant with relevant Occupational Health and Safety (OHS) guidelines: masks, safety glasses, head protection, ear muffs, safety footwear, gloves, aprons, etc.	1	1	2	1
PC7. wear clean clothes as per the dress code of the worksite	-	1	2	-
PC8. wash hands regularly using suggested material such as soap, one-use disposable tissue, warm water, etc.	1	1	2	1
<i>Dealing with emergencies</i>	2	4	8	1
PC9. use emergency equipment in accordance with manufacturers' specifications as per requirement	-	1	2	-
PC10. follow emergency and evacuation procedures in case of accidents, fires, natural calamities	1	1	2	-
PC11. respond promptly and appropriately to an accident situation or medical emergency	-	1	2	-

Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC12. undertake first aid activities in case of an accident, if required and asked to do so	1	1	2	1
<i>Precautionary measures to avoid work hazards</i>	3	5	10	2
PC13. ensure that safety instructions applicable to the work place are being followed	-	1	2	-
PC14. monitor the usage of harmful chemicals inside the work area as per the specified guidelines only	1	1	2	-
PC15. plan out the routine cleaning of tools, machines, and equipment	-	1	2	-
PC16. employ an effective process to dispose off the hazardous material and wastage	1	1	2	1
PC17. employ safe working practices to perform a lift, carry or move heavy wooden furniture and accessories from one place to another	1	1	2	1
<i>Ensure material conservation and optimization of resources</i>	5	7	14	4
PC18. plan out the process to ensure optimal material utilization	1	1	2	1
PC19. collect information on the pattern of electricity and fuel consumption	-	1	2	-
PC20. identify possibilities of using renewable energy and environment-friendly fuels	1	1	2	-
PC21. plan the implementation of energy-efficient systems in a phased manner	-	1	2	1
PC22. plan and utilize the reusable materials and wastage in the process	1	1	2	1
PC23. perform segregation of waste based on the type of material	1	1	2	1
PC24. ensure to keep the electrical appliances in OFF position when not in use	1	1	2	-
NOS Total	16	24	48	12

Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	FFS/N8203
NOS Name	Maintain health, safety, and greening practices at the worksite
Sector	Furniture & Fittings
Sub-Sector	Generic
Occupation	Generic
NSQF Level	5
Credits	1
Version	3.0
Last Reviewed Date	31/08/2023
Next Review Date	31/08/2026
NSQC Clearance Date	31/08/2023

Qualification Pack

DGT/VSQ/N0102: Employability Skills (60 Hours)

Description

This unit is about employability skills, Constitutional values, becoming a professional in the 21st Century, digital, financial, and legal literacy, diversity and Inclusion, English and communication skills, customer service, entrepreneurship, and apprenticeship, getting ready for jobs and career development.

Scope

The scope covers the following :

- Introduction to Employability Skills
- Constitutional values - Citizenship
- Becoming a Professional in the 21st Century
- Basic English Skills
- Career Development & Goal Setting
- Communication Skills
- Diversity & Inclusion
- Financial and Legal Literacy
- Essential Digital Skills
- Entrepreneurship
- Customer Service
- Getting ready for Apprenticeship & Jobs

Elements and Performance Criteria

Introduction to Employability Skills

To be competent, the user/individual on the job must be able to:

- PC1.** identify employability skills required for jobs in various industries
- PC2.** identify and explore learning and employability portals

Constitutional values - Citizenship

To be competent, the user/individual on the job must be able to:

- PC3.** recognize the significance of constitutional values, including civic rights and duties, citizenship, responsibility towards society etc. and personal values and ethics such as honesty, integrity, caring and respecting others, etc.
- PC4.** follow environmentally sustainable practices

Becoming a Professional in the 21st Century

To be competent, the user/individual on the job must be able to:

- PC5.** recognize the significance of 21st Century Skills for employment
- PC6.** practice the 21st Century Skills such as Self-Awareness, Behaviour Skills, time management, critical and adaptive thinking, problem-solving, creative thinking, social and cultural awareness, emotional awareness, learning to learn for continuous learning etc. in personal and professional life

Basic English Skills

To be competent, the user/individual on the job must be able to:

Qualification Pack

- PC7.** use basic English for everyday conversation in different contexts, in person and over the telephone
- PC8.** read and understand routine information, notes, instructions, mails, letters etc. written in English
- PC9.** write short messages, notes, letters, e-mails etc. in English

Career Development & Goal Setting

To be competent, the user/individual on the job must be able to:

- PC10.** understand the difference between job and career
- PC11.** prepare a career development plan with short- and long-term goals, based on aptitude

Communication Skills

To be competent, the user/individual on the job must be able to:

- PC12.** follow verbal and non-verbal communication etiquette and active listening techniques in various settings
- PC13.** work collaboratively with others in a team

Diversity & Inclusion

To be competent, the user/individual on the job must be able to:

- PC14.** communicate and behave appropriately with all genders and PwD
- PC15.** escalate any issues related to sexual harassment at workplace according to POSH Act

Financial and Legal Literacy

To be competent, the user/individual on the job must be able to:

- PC16.** select financial institutions, products and services as per requirement
- PC17.** carry out offline and online financial transactions, safely and securely
- PC18.** identify common components of salary and compute income, expenses, taxes, investments etc
- PC19.** identify relevant rights and laws and use legal aids to fight against legal exploitation

Essential Digital Skills

To be competent, the user/individual on the job must be able to:

- PC20.** operate digital devices and carry out basic internet operations securely and safely
- PC21.** use e- mail and social media platforms and virtual collaboration tools to work effectively
- PC22.** use basic features of word processor, spreadsheets, and presentations

Entrepreneurship

To be competent, the user/individual on the job must be able to:

- PC23.** identify different types of Entrepreneurship and Enterprises and assess opportunities for potential business through research
- PC24.** develop a business plan and a work model, considering the 4Ps of Marketing Product, Price, Place and Promotion
- PC25.** identify sources of funding, anticipate, and mitigate any financial/ legal hurdles for the potential business opportunity

Customer Service

To be competent, the user/individual on the job must be able to:

- PC26.** identify different types of customers
- PC27.** identify and respond to customer requests and needs in a professional manner.

Qualification Pack

PC28. follow appropriate hygiene and grooming standards

Getting ready for apprenticeship & Jobs

To be competent, the user/individual on the job must be able to:

PC29. create a professional Curriculum vitae (Résumé)

PC30. search for suitable jobs using reliable offline and online sources such as Employment exchange, recruitment agencies, newspapers etc. and job portals, respectively

PC31. apply to identified job openings using offline /online methods as per requirement

PC32. answer questions politely, with clarity and confidence, during recruitment and selection

PC33. identify apprenticeship opportunities and register for it as per guidelines and requirements

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. need for employability skills and different learning and employability related portals

KU2. various constitutional and personal values

KU3. different environmentally sustainable practices and their importance

KU4. Twenty first (21st) century skills and their importance

KU5. how to use English language for effective verbal (face to face and telephonic) and written communication in formal and informal set up

KU6. importance of career development and setting long- and short-term goals

KU7. about effective communication

KU8. POSH Act

KU9. Gender sensitivity and inclusivity

KU10. different types of financial institutes, products, and services

KU11. how to compute income and expenditure

KU12. importance of maintaining safety and security in offline and online financial transactions

KU13. different legal rights and laws

KU14. different types of digital devices and the procedure to operate them safely and securely

KU15. how to create and operate an e- mail account and use applications such as word processors, spreadsheets etc.

KU16. how to identify business opportunities

KU17. types and needs of customers

KU18. how to apply for a job and prepare for an interview

KU19. apprenticeship scheme and the process of registering on apprenticeship portal

Generic Skills (GS)

User/individual on the job needs to know how to:

GS1. read and write different types of documents/instructions/correspondence

GS2. communicate effectively using appropriate language in formal and informal settings



Qualification Pack

- GS3.** behave politely and appropriately with all
- GS4.** how to work in a virtual mode
- GS5.** perform calculations efficiently
- GS6.** solve problems effectively
- GS7.** pay attention to details
- GS8.** manage time efficiently
- GS9.** maintain hygiene and sanitization to avoid infection

Qualification Pack

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Introduction to Employability Skills</i>	1	1	-	-
PC1. identify employability skills required for jobs in various industries	-	-	-	-
PC2. identify and explore learning and employability portals	-	-	-	-
<i>Constitutional values - Citizenship</i>	1	1	-	-
PC3. recognize the significance of constitutional values, including civic rights and duties, citizenship, responsibility towards society etc. and personal values and ethics such as honesty, integrity, caring and respecting others, etc.	-	-	-	-
PC4. follow environmentally sustainable practices	-	-	-	-
<i>Becoming a Professional in the 21st Century</i>	2	4	-	-
PC5. recognize the significance of 21st Century Skills for employment	-	-	-	-
PC6. practice the 21st Century Skills such as Self-Awareness, Behaviour Skills, time management, critical and adaptive thinking, problem-solving, creative thinking, social and cultural awareness, emotional awareness, learning to learn for continuous learning etc. in personal and professional life	-	-	-	-
<i>Basic English Skills</i>	2	3	-	-
PC7. use basic English for everyday conversation in different contexts, in person and over the telephone	-	-	-	-
PC8. read and understand routine information, notes, instructions, mails, letters etc. written in English	-	-	-	-
PC9. write short messages, notes, letters, e-mails etc. in English	-	-	-	-
<i>Career Development & Goal Setting</i>	1	2	-	-

Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC10. understand the difference between job and career	-	-	-	-
PC11. prepare a career development plan with short- and long-term goals, based on aptitude	-	-	-	-
<i>Communication Skills</i>	2	2	-	-
PC12. follow verbal and non-verbal communication etiquette and active listening techniques in various settings	-	-	-	-
PC13. work collaboratively with others in a team	-	-	-	-
<i>Diversity & Inclusion</i>	1	2	-	-
PC14. communicate and behave appropriately with all genders and PwD	-	-	-	-
PC15. escalate any issues related to sexual harassment at workplace according to POSH Act	-	-	-	-
<i>Financial and Legal Literacy</i>	2	3	-	-
PC16. select financial institutions, products and services as per requirement	-	-	-	-
PC17. carry out offline and online financial transactions, safely and securely	-	-	-	-
PC18. identify common components of salary and compute income, expenses, taxes, investments etc	-	-	-	-
PC19. identify relevant rights and laws and use legal aids to fight against legal exploitation	-	-	-	-
<i>Essential Digital Skills</i>	3	4	-	-
PC20. operate digital devices and carry out basic internet operations securely and safely	-	-	-	-
PC21. use e- mail and social media platforms and virtual collaboration tools to work effectively	-	-	-	-
PC22. use basic features of word processor, spreadsheets, and presentations	-	-	-	-

Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Entrepreneurship</i>	2	3	-	-
PC23. identify different types of Entrepreneurship and Enterprises and assess opportunities for potential business through research	-	-	-	-
PC24. develop a business plan and a work model, considering the 4Ps of Marketing Product, Price, Place and Promotion	-	-	-	-
PC25. identify sources of funding, anticipate, and mitigate any financial/ legal hurdles for the potential business opportunity	-	-	-	-
<i>Customer Service</i>	1	2	-	-
PC26. identify different types of customers	-	-	-	-
PC27. identify and respond to customer requests and needs in a professional manner.	-	-	-	-
PC28. follow appropriate hygiene and grooming standards	-	-	-	-
<i>Getting ready for apprenticeship & Jobs</i>	2	3	-	-
PC29. create a professional Curriculum vitae (Résumé)	-	-	-	-
PC30. search for suitable jobs using reliable offline and online sources such as Employment exchange, recruitment agencies, newspapers etc. and job portals, respectively	-	-	-	-
PC31. apply to identified job openings using offline /online methods as per requirement	-	-	-	-
PC32. answer questions politely, with clarity and confidence, during recruitment and selection	-	-	-	-
PC33. identify apprenticeship opportunities and register for it as per guidelines and requirements	-	-	-	-
NOS Total	20	30	-	-

Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	DGT/VSQ/N0102
NOS Name	Employability Skills (60 Hours)
Sector	Cross Sectoral
Sub-Sector	Professional Skills
Occupation	Employability
NSQF Level	4
Credits	2
Version	1.0
Last Reviewed Date	31/08/2023
Next Review Date	31/08/2026
NSQC Clearance Date	31/08/2023

Qualification Pack

FFS/N1014: Setup and operate pasting and pressing machines

Description

This unit describes the performance criteria required to setup and operate pasting and pressing machines

Scope

The scope covers the following :

- Prepare and setup the worksite
- Perform pasting operation
- Execute pasting/pressing operation
- Maintain equipment and tools
- Quality assurance and documentation

Elements and Performance Criteria

Prepare and setup the worksite

To be competent, the user/individual on the job must be able to:

- PC1.** ensure materials and workpieces are prepared appropriately for machine operation, meeting job specifications, and quality standards.
- PC2.** identify and select appropriate adhesives or glue for the job work, considering bonding strength, drying time, and compatibility factors.
- PC3.** set up, configure, and calibrate pasting/pressing machines for various production requirements.
- PC4.** perform adjustment of machine settings, such as time, temperature and pressure, to ensure optimal pasting/pressing results.

Perform pasting operation

To be competent, the user/individual on the job must be able to:

- PC5.** apply adhesive or glue accurately and evenly to the materials, utilizing specialized tools or equipment such as rollers, sprayers, or applicators.
- PC6.** check proper alignment and positioning of the materials, using guides, jigs, or templates, to achieve precise and consistent bonding.
- PC7.** verify the compatibility and adherence of different material types and sizes to ensure successful pasting.

Execute pasting/pressing operation

To be competent, the user/individual on the job must be able to:

- PC8.** perform loading and unloading of the job work into the pasting/pressing equipment, ensuring proper alignment using offcut materials
- PC9.** ensure the setting up of pasting/pressing parameters, such as pressure, thickness, and duration, etc.
- PC10.** operate appropriate pasting/pressing machines in accordance with standard operating procedures and safety guidelines.
- PC11.** monitor the pasting/pressing operation periodically to evaluate product quality and yield.

Qualification Pack

Maintain equipment and tools

To be competent, the user/individual on the job must be able to:

PC12. perform routine maintenance tasks on the pasting/pressing machine, such as cleaning, lubricating, and replacing worn parts.

PC13. ensure management of the workspace by arranging and disposing off materials after the machining operation.

Quality assurance and documentation

To be competent, the user/individual on the job must be able to:

PC14. perform quality checks and inspections on the pasted/pressed materials, evaluating the bond strength, alignment, and overall appearance.

PC15. ensuring manufacturing specifications, quality control inspections, and modifications are accurately recorded and maintained.

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. the organization structure, its purpose, and objective, various departments, hierarchy, reporting matrix, code of conduct, etc

KU2. the products and services provided by the company to clients and its quality standards

KU3. the Key Result Areas (KRA) and its importance in the employee performance and growth

KU4. different types of personal protective equipment such as gloves, goggles, masks, etc. and their uses

KU5. common hazards in the worksite and relevant safety and security procedures/manuals to be followed

KU6. the procedures for conducting visual checks required during the various stages of operations and their importance

KU7. the importance of reporting relevant information to the appropriate authority

KU8. the material preparation techniques, job specifications, and quality standards relating to pasting and pressing operation.

KU9. different types of adhesives, their properties, and selection criteria.

KU10. the process of pasting/pressing machine setup, configuration, and its calibration procedures.

KU11. the technical specifications associated with different machine settings and their impact on pasting/pressing results.

KU12. different application methods and tools for applying adhesive or glue.

KU13. different alignment techniques and tools for achieving precise bonding.

KU14. the relevant material compatibility and factors affecting adherence for pasting and pressing operations.

KU15. different loading and unloading techniques and alignment methods.

KU16. the relevant pasting/pressing parameters and their impact on the process.

KU17. the constraints associated with the operation of pasting/pressing machines and adherence to safety protocols.

KU18. the quality evaluation techniques and monitoring procedures for pasting and pressing operation.

Qualification Pack

- KU19.** the details of routine maintenance tasks for pasting and pressing machines, including cleaning, lubrication, and replacement of worn parts.
- KU20.** the organizational principles associated with workspace organization and material disposal procedures.
- KU21.** the quality standards, inspection techniques, and evaluation criteria for pasted/pressed materials.
- KU22.** the details of preparing requisite documents for quality control processes

Generic Skills (GS)

User/individual on the job needs to know how to:

- GS1.** read company policy documents, information displayed at the worksite, job cards, etc.
- GS2.** effectively communicate with team members and supervisors respectfully as per the protocol of the organization
- GS3.** work constructively and collaboratively with others
- GS4.** fill up documents about one's role at the worksite (involves attendance, daily work update, etc.)
- GS5.** apply domain information/ knowledge and assess day to day tasks through experience and observation
- GS6.** evaluate the complexity of the tasks to determine if any guidance is required from the supervisor
- GS7.** interpret instructions related to the usage of machines and tools for fabrication, assembling, and installation of the various products
- GS8.** use reasoning skills to make appropriate decisions and troubleshoot concerns related to own responsibilities
- GS9.** plan and prioritize the tasks efficiently and accurately within the specified time frame
- GS10.** build and maintain positive and effective relationships with clients

Qualification Pack

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Prepare and setup the worksite</i>	6	10	8	3
PC1. ensure materials and workpieces are prepared appropriately for machine operation, meeting job specifications, and quality standards.	2	4	-	1
PC2. identify and select appropriate adhesives or glue for the job work, considering bonding strength, drying time, and compatibility factors.	-	6	4	1
PC3. set up, configure, and calibrate pasting/pressing machines for various production requirements.	2	-	2	-
PC4. perform adjustment of machine settings, such as time, temperature and pressure, to ensure optimal pasting/pressing results.	2	-	2	1
<i>Perform pasting operation</i>	4	12	10	1
PC5. apply adhesive or glue accurately and evenly to the materials, utilizing specialized tools or equipment such as rollers, sprayers, or applicators.	2	6	4	1
PC6. check proper alignment and positioning of the materials, using guides, jigs, or templates, to achieve precise and consistent bonding.	2	-	2	-
PC7. verify the compatibility and adherence of different material types and sizes to ensure successful pasting.	-	6	4	-
<i>Execute pasting/pressing operation</i>	6	10	8	-
PC8. perform loading and unloading of the job work into the pasting/pressing equipment, ensuring proper alignment using offcut materials	-	6	4	-
PC9. ensure the setting up of pasting/pressing parameters, such as pressure, thickness, and duration, etc.	2	4	-	-

Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC10. operate appropriate pasting/pressing machines in accordance with standard operating procedures and safety guidelines.	2	-	2	-
PC11. monitor the pasting/pressing operation periodically to evaluate product quality and yield.	2	-	2	-
<i>Maintain equipment and tools</i>	4	4	2	1
PC12. perform routine maintenance tasks on the pasting/pressing machine, such as cleaning, lubricating, and replacing worn parts.	2	4	-	1
PC13. ensure management of the workspace by arranging and disposing off materials after the machining operation.	2	-	2	-
<i>Quality assurance and documentation</i>	4	4	2	1
PC14. perform quality checks and inspections on the pasted/pressed materials, evaluating the bond strength, alignment, and overall appearance.	2	4	-	1
PC15. ensuring manufacturing specifications, quality control inspections, and modifications are accurately recorded and maintained.	2	-	2	-
NOS Total	24	40	30	6

Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	FFS/N1014
NOS Name	Setup and operate pasting and pressing machines
Sector	Furniture & Fittings
Sub-Sector	Furniture Design & Production
Occupation	Furniture Production (Machine Shop)
NSQF Level	4.5
Credits	5
Version	1.0
Last Reviewed Date	31/08/2023
Next Review Date	31/08/2026
NSQC Clearance Date	31/08/2023

Qualification Pack

FFS/N1015: Setup and operate cutting and sizing machines

Description

This unit describes the performance criteria required to setup and operate cutting and sizing machines

Scope

The scope covers the following :

- Prepare the worksite
- Execute cutting/sizing operation
- Maintain equipment and tools
- Quality assurance and documentation

Elements and Performance Criteria

Prepare the worksite

To be competent, the user/individual on the job must be able to:

- PC1.** ensure materials and workpieces are prepared appropriately for machine operation, meeting job specifications, and quality standards.
- PC2.** select and install appropriate cutting blades or tools based on the material type, thickness, and desired cutting outcome.
- PC3.** set up, configure, and calibrate cutting/sizing machines for various production requirements like blade height, alignment, mitre angles, etc

Execute cutting/sizing operation

To be competent, the user/individual on the job must be able to:

- PC4.** perform loading and unloading of the job work into the cutting/sizing equipment, ensuring proper alignment using offcut materials
- PC5.** position and secure panel materials on the machine, ensuring proper alignment and stability.
- PC6.** ensure cutting/sizing parameters are set up accurately, such as speed, depth, or angle, for efficient and precise results.
- PC7.** measure and mark the materials accurately based on the project specifications and cutting requirements.
- PC8.** operate cutting/sizing machines in accordance with standard operating procedures and safety guidelines.
- PC9.** make use of advanced techniques and jigs to achieve intricate cuts, angles, or patterns as required by the project specifications.
- PC10.** monitor the cutting/sizing operation periodically to evaluate product quality and yield.

Maintain equipment and tools

To be competent, the user/individual on the job must be able to:

- PC11.** perform routine maintenance tasks on the cutting/sizing machine, such as cleaning, lubricating, and replacing worn parts.
- PC12.** ensure management of the workspace by arranging and disposing off materials after the machining operation.

Qualification Pack

Quality assurance and documentation

To be competent, the user/individual on the job must be able to:

- PC13.** perform quality checks and inspections on the cut and sized materials, verifying dimensional accuracy, surface finish, and overall quality.
- PC14.** ensuring manufacturing specifications, quality control inspections, and modifications are accurately recorded and maintained.

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** the organization structure, its purpose, and objective, various departments, hierarchy, reporting matrix, code of conduct, etc
- KU2.** the products and services provided by the company to clients and its quality standards
- KU3.** the Key Result Areas (KRA) and its importance in the employee performance and growth
- KU4.** different types of personal protective equipment such as gloves, goggles, masks, etc. and their uses
- KU5.** common hazards in the worksite and relevant safety and security procedures/manuals to be followed
- KU6.** the procedures for conducting visual checks required during the various stages of operations and their importance
- KU7.** the importance of reporting relevant information to the appropriate authority
- KU8.** the material preparation techniques, job specifications, and quality standards relating to cutting and sizing operation.
- KU9.** different cutting blades or tools and their suitability for various materials and cutting requirements.
- KU10.** the machine setup, configuration, and calibration procedures for cutting/sizing machines.
- KU11.** the relevant loading and unloading procedures, job work alignment, and the use of offcut materials for alignment purposes.
- KU12.** the significance of panel material positioning and securing techniques for cutting/sizing operations.
- KU13.** the process of cutting/sizing parameter setup, including speed, depth, angle, and other relevant factors for different materials and cutting requirements.
- KU14.** the measurement techniques, project specifications, and cutting requirements.
- KU15.** standard operating procedures and safety guidelines for operating cutting/sizing machines.
- KU16.** advanced cutting techniques, angles, patterns, and the use of jigs for achieving intricate cuts.
- KU17.** different monitoring techniques, quality evaluation methods, and yield assessment in cutting/sizing operations.
- KU18.** the details of routine maintenance tasks for cutting and sizing machines, including cleaning, lubrication, and replacement of worn parts.
- KU19.** the organizational principles associated with workspace organization and material disposal procedures.
- KU20.** the quality standards, inspection techniques, and evaluation criteria for cut/sized materials.



Qualification Pack

KU21. the details of preparing requisite documents for quality control processes

Generic Skills (GS)

User/individual on the job needs to know how to:

- GS1.** read company policy documents, information displayed at the worksite, job cards, etc.
- GS2.** effectively communicate with team members and supervisors respectfully as per the protocol of the organization
- GS3.** work constructively and collaboratively with others
- GS4.** fill up documents about one's role at the worksite (involves attendance, daily work update, etc.)
- GS5.** apply domain information/ knowledge and assess day to day tasks through experience and observation
- GS6.** evaluate the complexity of the tasks to determine if any guidance is required from the supervisor
- GS7.** interpret instructions related to the usage of machines and tools for fabrication, assembling, and installation of the various products
- GS8.** use reasoning skills to make appropriate decisions and troubleshoot concerns related to own responsibilities
- GS9.** plan and prioritize the tasks efficiently and accurately within the specified time frame
- GS10.** build and maintain positive and effective relationships with clients

Qualification Pack

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Prepare the worksite</i>	6	8	8	2
PC1. ensure materials and workpieces are prepared appropriately for machine operation, meeting job specifications, and quality standards.	2	4	-	1
PC2. select and install appropriate cutting blades or tools based on the material type, thickness, and desired cutting outcome.	2	4	4	1
PC3. set up, configure, and calibrate cutting/sizing machines for various production requirements like blade height, alignment, mitre angles, etc	2	-	4	-
<i>Execute cutting/sizing operation</i>	10	20	16	2
PC4. perform loading and unloading of the job work into the cutting/sizing equipment, ensuring proper alignment using offcut materials	2	4	2	-
PC5. position and secure panel materials on the machine, ensuring proper alignment and stability.	-	4	2	-
PC6. ensure cutting/sizing parameters are set up accurately, such as speed, depth, or angle, for efficient and precise results.	2	4	-	-
PC7. measure and mark the materials accurately based on the project specifications and cutting requirements.	2	4	2	1
PC8. operate cutting/sizing machines in accordance with standard operating procedures and safety guidelines.	2	-	4	-
PC9. make use of advanced techniques and jigs to achieve intricate cuts, angles, or patterns as required by the project specifications.	-	4	2	-
PC10. monitor the cutting/sizing operation periodically to evaluate product quality and yield.	2	-	4	1
<i>Maintain equipment and tools</i>	4	8	2	1

Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC11. perform routine maintenance tasks on the cutting/sizing machine, such as cleaning, lubricating, and replacing worn parts.	2	4	-	1
PC12. ensure management of the workspace by arranging and disposing off materials after the machining operation.	2	4	2	-
<i>Quality assurance and documentation</i>	4	4	4	1
PC13. perform quality checks and inspections on the cut and sized materials, verifying dimensional accuracy, surface finish, and overall quality.	2	4	-	1
PC14. ensuring manufacturing specifications, quality control inspections, and modifications are accurately recorded and maintained.	2	-	4	-
NOS Total	24	40	30	6

Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	FFS/N1015
NOS Name	Setup and operate cutting and sizing machines
Sector	Furniture & Fittings
Sub-Sector	Furniture Design & Production
Occupation	Furniture Production (Machine Shop)
NSQF Level	4.5
Credits	5
Version	1.0
Last Reviewed Date	31/08/2023
Next Review Date	31/08/2026
NSQF Clearance Date	31/08/2023

Qualification Pack

FFS/N1016: Setup and operate edge band machines

Description

This unit describes the performance criteria required to setup and operate edge band machines

Scope

The scope covers the following :

- Prepare the worksite
- Execute edge banding operation
- Maintain equipment and tools
- Quality assurance and documentation

Elements and Performance Criteria

Prepare the worksite

To be competent, the user/individual on the job must be able to:

- PC1.** ensure materials and workpieces are prepared appropriately for machine operation, meeting job specifications, and quality standards.
- PC2.** select and install appropriate cutting tools, edge banding materials, adhesives, and other consumables.
- PC3.** perform adjustment of machine settings, such as feed rate, temperature, pressure, and trimming tools, to ensure optimal edge banding results.

Execute edge banding operation

To be competent, the user/individual on the job must be able to:

- PC4.** set up, configure, and calibrate edge band machines based on job work requirement like adhesive type, panel thickness, edge band thickness, etc.
- PC5.** prepare the desired program on the machine to perform edge banding operation in required configurations
- PC6.** execute the machine initialization process to preheat the machine prior to operation, ensuring the appropriate temperature for the glue is maintained
- PC7.** operate edge banding machines in accordance with standard operating procedures and safety guidelines.
- PC8.** feed panel materials into the machine and guide them through the edge banding process.
- PC9.** ensure proper alignment and positioning of the edge band material to achieve precise edge banding results.
- PC10.** perform the manual application of adhesive and edge banding material to the panel edges with precision and consistency using hand or power tools.
- PC11.** monitor the edge band operation periodically to evaluate product quality and yield.

Maintain equipment and tools

To be competent, the user/individual on the job must be able to:

- PC12.** perform routine maintenance tasks on the edge banding machine, such as cleaning, lubricating, consumables re-filling, and replacing worn parts.

Qualification Pack

PC13. ensure management of the workspace by arranging and disposing off materials after the machining operation.

Quality assurance and documentation

To be competent, the user/individual on the job must be able to:

PC14. perform quality checks and inspections on the edge banding results for adherence, smoothness, and overall quality.

PC15. ensuring manufacturing specifications, quality control inspections, and modifications are accurately recorded and maintained.

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** the organization structure, its purpose, and objective, various departments, hierarchy, reporting matrix, code of conduct, etc
- KU2.** the products and services provided by the company to clients and its quality standards
- KU3.** the Key Result Areas (KRA) and its importance in the employee performance and growth
- KU4.** different types of personal protective equipment such as gloves, goggles, masks, etc. and their uses
- KU5.** common hazards in the worksite and relevant safety and security procedures/manuals to be followed
- KU6.** the procedures for conducting visual checks required during the various stages of operations and their importance
- KU7.** the importance of reporting relevant information to the appropriate authority
- KU8.** the material preparation techniques, job specifications, and quality standards relating to edge banding operation.
- KU9.** different types of cutting tools, edge banding materials, adhesives, and other consumables used in edge banding operations.
- KU10.** the advanced machine settings, including feed rate, temperature, pressure, and trimming tools adjustment for achieving optimal edge banding results.
- KU11.** machine setup, configuration, and calibration procedures specific to edge banding operations, considering job work requirements such as adhesive type, panel thickness, edge band thickness, etc.
- KU12.** relevant programming methods and techniques for creating edge banding programs on the machine.
- KU13.** the machine initialization process and the importance of preheating the machine for proper glue temperature in edge banding operations.
- KU14.** the standard operating procedures and safety guidelines for operating edge banding machines.
- KU15.** different feeding and guiding techniques for panel materials in edge banding machines.
- KU16.** advanced alignment and positioning techniques for edge band materials in edge banding machines.
- KU17.** the manual application techniques for adhesive and edge banding material to panel edges using hand or power tools.

Qualification Pack

- KU18.** different monitoring techniques and quality evaluation methods for edge banding operations.
- KU19.** the details of routine maintenance tasks for edge banding machines, including cleaning, lubrication, and replacement of worn parts.
- KU20.** the organizational principles associated with workspace organization and material disposal procedures.
- KU21.** the quality standards, inspection techniques, and evaluation criteria for processed materials.
- KU22.** the details of preparing requisite documents for quality control processes

Generic Skills (GS)

User/individual on the job needs to know how to:

- GS1.** read company policy documents, information displayed at the worksite, job cards, etc.
- GS2.** effectively communicate with team members and supervisors respectfully as per the protocol of the organization
- GS3.** work constructively and collaboratively with others
- GS4.** fill up documents about one's role at the worksite (involves attendance, daily work update, etc.)
- GS5.** apply domain information/ knowledge and assess day to day tasks through experience and observation
- GS6.** evaluate the complexity of the tasks to determine if any guidance is required from the supervisor
- GS7.** interpret instructions related to the usage of machines and tools for fabrication, assembling, and installation of the various products
- GS8.** use reasoning skills to make appropriate decisions and troubleshoot concerns related to own responsibilities
- GS9.** plan and prioritize the tasks efficiently and accurately within the specified time frame
- GS10.** build and maintain positive and effective relationships with clients

Qualification Pack

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Prepare the worksite</i>	4	8	6	2
PC1. ensure materials and workpieces are prepared appropriately for machine operation, meeting job specifications, and quality standards.	2	4	-	1
PC2. select and install appropriate cutting tools, edge banding materials, adhesives, and other consumables.	-	4	2	-
PC3. perform adjustment of machine settings, such as feed rate, temperature, pressure, and trimming tools, to ensure optimal edge banding results.	2	-	4	1
<i>Execute edge banding operation</i>	12	20	22	1
PC4. set up, configure, and calibrate edge band machines based on job work requirement like adhesive type, panel thickness, edge band thickness, etc.	2	4	-	-
PC5. prepare the desired program on the machine to perform edge banding operation in required configurations	-	4	4	-
PC6. execute the machine initialization process to preheat the machine prior to operation, ensuring the appropriate temperature for the glue is maintained	2	-	4	1
PC7. operate edge banding machines in accordance with standard operating procedures and safety guidelines.	2	-	4	-
PC8. feed panel materials into the machine and guide them through the edge banding process.	-	4	4	-
PC9. ensure proper alignment and positioning of the edge band material to achieve precise edge banding results.	2	4	-	-

Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC10. perform the manual application of adhesive and edge banding material to the panel edges with precision and consistency using hand or power tools.	2	4	2	-
PC11. monitor the edge band operation periodically to evaluate product quality and yield.	2	-	4	-
<i>Maintain equipment and tools</i>	4	4	4	1
PC12. perform routine maintenance tasks on the edge banding machine, such as cleaning, lubricating, consumables re-filling, and replacing worn parts.	2	4	-	1
PC13. ensure management of the workspace by arranging and disposing off materials after the machining operation.	2	-	4	-
<i>Quality assurance and documentation</i>	4	4	4	-
PC14. perform quality checks and inspections on the edge banding results for adherence, smoothness, and overall quality.	2	4	-	-
PC15. ensuring manufacturing specifications, quality control inspections, and modifications are accurately recorded and maintained.	2	-	4	-
NOS Total	24	36	36	4

Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	FFS/N1016
NOS Name	Setup and operate edge band machines
Sector	Furniture & Fittings
Sub-Sector	Furniture Design & Production
Occupation	Furniture Production (Machine Shop)
NSQF Level	4.5
Credits	5
Version	1.0
Last Reviewed Date	31/08/2023
Next Review Date	31/08/2026
NSQF Clearance Date	31/08/2023

Qualification Pack

FFS/N1017: Setup and operate drilling machines

Description

This unit describes the performance criteria required to setup and operate drilling machines

Scope

The scope covers the following :

- Prepare the worksite
- Execute drilling operation
- Maintain equipment and tools
- Quality assurance and documentation

Elements and Performance Criteria

Prepare the worksite

To be competent, the user/individual on the job must be able to:

- PC1.** ensure materials and workpieces are prepared appropriately for machine operation, meeting job specifications, and quality standards.
- PC2.** select and install appropriate drill bits, and cutting tools, ensuring they are securely mounted and aligned for precise cutting.
- PC3.** set up, configure, and calibrate drilling machines for various production requirements.

Execute drilling operation

To be competent, the user/individual on the job must be able to:

- PC4.** safely load and position workpieces onto the machine table or holding fixtures, ensuring they are securely clamped or held in place.
- PC5.** perform the machine initiation and guide the workpieces through the drilling operations, maintaining proper feed rates and tool engagement.
- PC6.** perform drilling operations, accurately creating holes or recesses in the workpieces according to the specified locations and dimensions.
- PC7.** ensure drilling parameters are set up accurately, such as speed, depth, or angle, for efficient and precise results.
- PC8.** monitor the drilling operation periodically to evaluate product quality and yield.

Maintain equipment and tools

To be competent, the user/individual on the job must be able to:

- PC9.** perform routine maintenance tasks on the drilling machine, such as cleaning, lubricating, and replacing worn parts.
- PC10.** conduct regular inspections of the machine's components, checking for loose screws, belts, or bearings, sharpening, and tightening as needed.
- PC11.** ensure management of the workspace by arranging and disposing off materials after the machining operation.

Quality assurance and documentation

To be competent, the user/individual on the job must be able to:

Qualification Pack

- PC12.** inspect the drilled workpieces using measuring tools, such as callipers or rulers, to verify hole diameters, depths, etc.
- PC13.** ensuring manufacturing specifications, quality control inspections, and modifications are accurately recorded and maintained.

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** the organization structure, its purpose, and objective, various departments, hierarchy, reporting matrix, code of conduct, etc
- KU2.** the products and services provided by the company to clients and its quality standards
- KU3.** the Key Result Areas (KRA) and its importance in the employee performance and growth
- KU4.** different types of personal protective equipment such as gloves, goggles, masks, etc. and their uses
- KU5.** common hazards in the worksite and relevant safety and security procedures/manuals to be followed
- KU6.** the procedures for conducting visual checks required during the various stages of operations and their importance
- KU7.** the importance of reporting relevant information to the appropriate authority
- KU8.** the material preparation techniques, job specifications, and quality standards relating to drilling operation.
- KU9.** the usage and specifications of different drill bits, cutting tools, and their installation techniques.
- KU10.** the process of setting up the drilling machine, configuration, and its calibration procedures.
- KU11.** technical skills associated with safe loading and positioning for workpieces on drilling machines and the importance of secure clamping or holding.
- KU12.** advanced of machine initiation procedures, drilling operation techniques, and the importance of maintaining proper feed rates and tool engagement.
- KU13.** standard operating procedures and safety guidelines for operating drilling machines.
- KU14.** different drilling parameters, including speed, depth, angle, and their impact on drilling efficiency and precision.
- KU15.** different monitoring techniques and quality evaluation methods for drilling operations.
- KU16.** the details of routine maintenance tasks for drilling machines, including cleaning, lubrication, and replacement of worn parts.
- KU17.** the inspection techniques, and adjustment procedures with different machine components and their effect on machine performance.
- KU18.** the organizational principles associated with workspace organization and material disposal procedures.
- KU19.** the quality standards, inspection techniques, and evaluation criteria for processed materials.
- KU20.** the details of preparing requisite documents for quality control processes

Generic Skills (GS)



Qualification Pack

User/individual on the job needs to know how to:

- GS1.** read company policy documents, information displayed at the worksite, job cards, etc.
- GS2.** effectively communicate with team members and supervisors respectfully as per the protocol of the organization
- GS3.** work constructively and collaboratively with others
- GS4.** fill up documents about one's role at the worksite (involves attendance, daily work update, etc.)
- GS5.** apply domain information/ knowledge and assess day to day tasks through experience and observation
- GS6.** evaluate the complexity of the tasks to determine if any guidance is required from the supervisor
- GS7.** interpret instructions related to the usage of machines and tools for fabrication, assembling, and installation of the various products
- GS8.** use reasoning skills to make appropriate decisions and troubleshoot concerns related to own responsibilities
- GS9.** plan and prioritize the tasks efficiently and accurately within the specified time frame
- GS10.** build and maintain positive and effective relationships with clients

Qualification Pack

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Prepare the worksite</i>	6	12	6	3
PC1. ensure materials and workpieces are prepared appropriately for machine operation, meeting job specifications, and quality standards.	2	6	-	1
PC2. select and install appropriate drill bits, and cutting tools, ensuring they are securely mounted and aligned for precise cutting.	2	6	2	1
PC3. set up, configure, and calibrate drilling machines for various production requirements.	2	-	4	1
<i>Execute drilling operation</i>	8	18	12	-
PC4. safely load and position workpieces onto the machine table or holding fixtures, ensuring they are securely clamped or held in place.	2	6	2	-
PC5. perform the machine initiation and guide the workpieces through the drilling operations, maintaining proper feed rates and tool engagement.	2	-	4	-
PC6. perform drilling operations, accurately creating holes or recesses in the workpieces according to the specified locations and dimensions.	-	6	2	-
PC7. ensure drilling parameters are set up accurately, such as speed, depth, or angle, for efficient and precise results.	2	6	-	-
PC8. monitor the drilling operation periodically to evaluate product quality and yield.	2	-	4	-
<i>Maintain equipment and tools</i>	6	6	8	1
PC9. perform routine maintenance tasks on the drilling machine, such as cleaning, lubricating, and replacing worn parts.	2	6	-	1

Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC10. conduct regular inspections of the machine's components, checking for loose screws, belts, or bearings, sharpening, and tightening as needed.	2	-	4	-
PC11. ensure management of the workspace by arranging and disposing off materials after the machining operation.	2	-	4	-
<i>Quality assurance and documentation</i>	4	6	4	-
PC12. inspect the drilled workpieces using measuring tools, such as callipers or rulers, to verify hole diameters, depths, etc.	2	6	-	-
PC13. ensuring manufacturing specifications, quality control inspections, and modifications are accurately recorded and maintained.	2	-	4	-
NOS Total	24	42	30	4

Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	FFS/N1017
NOS Name	Setup and operate drilling machines
Sector	Furniture & Fittings
Sub-Sector	Furniture Design & Production
Occupation	Furniture Production (Machine Shop)
NSQF Level	4.5
Credits	5
Version	1.0
Last Reviewed Date	31/08/2023
Next Review Date	31/08/2026
NSQF Clearance Date	31/08/2023

Qualification Pack

FFS/N1018: Setup and operate routing machines

Description

This unit describes the performance criteria required to setup and operate routing machines

Scope

The scope covers the following :

- Prepare the worksite
- Execute routing operation
- Maintain equipment and tools
- Quality assurance and documentation

Elements and Performance Criteria

Prepare the worksite

To be competent, the user/individual on the job must be able to:

- PC1.** ensure materials and workpieces are prepared appropriately for machine operation, meeting job specifications, and quality standards.
- PC2.** select and install appropriate router bits, and cutting tools, ensuring they are securely mounted and aligned for precise cutting.
- PC3.** set up, configure, and calibrate routing machines for various production requirements.

Execute routing operation

To be competent, the user/individual on the job must be able to:

- PC4.** safely load and position workpieces onto the machine table or holding fixtures, ensuring they are securely clamped or held in place
- PC5.** perform the machine initiation and guide the workpieces through the routing operations, maintaining proper feed rates and tool engagement.
- PC6.** perform routing operations, accurately creating holes or recesses in the workpieces according to the specified locations and dimensions.
- PC7.** perform routing operations with attention to detail, following the provided patterns or guidelines to shape, trim, or carve the workpieces.
- PC8.** ensure routing parameters are set up accurately, such as speed, depth, or angle, for efficient and precise results.
- PC9.** monitor the routing operation periodically to evaluate product quality and yield.

Maintain equipment and tools

To be competent, the user/individual on the job must be able to:

- PC10.** perform routine maintenance tasks on the routing machine, such as cleaning, lubricating, and replacing worn parts.
- PC11.** conduct regular inspections of the machine's components, checking for loose screws, belts, or bearings, sharpening, and tightening as needed.
- PC12.** ensure management of the workspace by arranging and disposing off materials after the machining operation.

Qualification Pack

Quality assurance and documentation

To be competent, the user/individual on the job must be able to:

- PC13.** inspect the routed workpieces using measuring tools, such as callipers or rulers, to verify hole diameters, depths, or routing dimensions
- PC14.** ensuring manufacturing specifications, quality control inspections, and modifications are accurately recorded and maintained.

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** the organization structure, its purpose, and objective, various departments, hierarchy, reporting matrix, code of conduct, etc
- KU2.** the products and services provided by the company to clients and its quality standards
- KU3.** the Key Result Areas (KRA) and its importance in the employee performance and growth
- KU4.** different types of personal protective equipment such as gloves, goggles, masks, etc. and their uses
- KU5.** common hazards in the worksite and relevant safety and security procedures/manuals to be followed
- KU6.** the procedures for conducting visual checks required during the various stages of operations and their importance
- KU7.** the importance of reporting relevant information to the appropriate authority
- KU8.** the material preparation techniques, job specifications, and quality standards relating to routing operation.
- KU9.** the usage and specifications of different router bits, cutting tools, and their installation techniques.
- KU10.** the process of setting up the routing machine, configuration, and its calibration procedures.
- KU11.** technical skills associated with safe loading and positioning for workpieces on routing machines and the importance of secure clamping or holding.
- KU12.** advanced of machine initiation procedures, routing operation techniques, and the importance of maintaining proper feed rates and tool engagement.
- KU13.** different routing techniques, tools, and equipment, for preparing holes or recesses.
- KU14.** standard operating procedures and safety guidelines for operating routing machines.
- KU15.** different routing parameters, including speed, depth, angle, and their impact on routing efficiency and precision.
- KU16.** different monitoring techniques and quality evaluation methods for routing operations.
- KU17.** the details of routine maintenance tasks for routing machines, including cleaning, lubrication, and replacement of worn parts.
- KU18.** the inspection techniques, and adjustment procedures with different machine components and their effect on machine performance.
- KU19.** the organizational principles associated with workspace organization and material disposal procedures.
- KU20.** the quality standards, inspection techniques, and evaluation criteria for processed materials.
- KU21.** the details of preparing requisite documents for quality control processes



Qualification Pack

Generic Skills (GS)

User/individual on the job needs to know how to:

- GS1.** read company policy documents, information displayed at the worksite, job cards, etc.
- GS2.** effectively communicate with team members and supervisors respectfully as per the protocol of the organization
- GS3.** work constructively and collaboratively with others
- GS4.** fill up documents about one's role at the worksite (involves attendance, daily work update, etc.)
- GS5.** apply domain information/ knowledge and assess day to day tasks through experience and observation
- GS6.** evaluate the complexity of the tasks to determine if any guidance is required from the supervisor
- GS7.** interpret instructions related to the usage of machines and tools for fabrication, assembling, and installation of the various products
- GS8.** use reasoning skills to make appropriate decisions and troubleshoot concerns related to own responsibilities
- GS9.** plan and prioritize the tasks efficiently and accurately within the specified time frame
- GS10.** build and maintain positive and effective relationships with clients

Qualification Pack

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Prepare the worksite</i>	6	10	6	3
PC1. ensure materials and workpieces are prepared appropriately for machine operation, meeting job specifications, and quality standards.	2	6	-	1
PC2. select and install appropriate router bits, and cutting tools, ensuring they are securely mounted and aligned for precise cutting.	2	4	2	1
PC3. set up, configure, and calibrate routing machines for various production requirements.	2	-	4	1
<i>Execute routing operation</i>	10	14	16	-
PC4. safely load and position workpieces onto the machine table or holding fixtures, ensuring they are securely clamped or held in place	2	4	2	-
PC5. perform the machine initiation and guide the workpieces through the routing operations, maintaining proper feed rates and tool engagement.	2	-	4	-
PC6. perform routing operations, accurately creating holes or recesses in the workpieces according to the specified locations and dimensions.	-	4	2	-
PC7. perform routing operations with attention to detail, following the provided patterns or guidelines to shape, trim, or carve the workpieces.	2	-	4	-
PC8. ensure routing parameters are set up accurately, such as speed, depth, or angle, for efficient and precise results.	2	6	-	-
PC9. monitor the routing operation periodically to evaluate product quality and yield.	2	-	4	-
<i>Maintain equipment and tools</i>	6	6	8	1

Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC10. perform routine maintenance tasks on the routing machine, such as cleaning, lubricating, and replacing worn parts.	2	6	-	1
PC11. conduct regular inspections of the machine's components, checking for loose screws, belts, or bearings, sharpening, and tightening as needed.	2	-	4	-
PC12. ensure management of the workspace by arranging and disposing off materials after the machining operation.	2	-	4	-
<i>Quality assurance and documentation</i>	4	6	4	-
PC13. inspect the routed workpieces using measuring tools, such as callipers or rulers, to verify hole diameters, depths, or routing dimensions	2	6	-	-
PC14. ensuring manufacturing specifications, quality control inspections, and modifications are accurately recorded and maintained.	2	-	4	-
NOS Total	26	36	34	4

Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	FFS/N1018
NOS Name	Setup and operate routing machines
Sector	Furniture & Fittings
Sub-Sector	Furniture Design & Production
Occupation	Furniture Production (Machine Shop)
NSQF Level	4.5
Credits	5
Version	1.0
Last Reviewed Date	31/08/2023
Next Review Date	31/08/2026
NSQC Clearance Date	31/08/2023

Qualification Pack

FFS/N1019: Setup and operate veneer cutting and splicing machines

Description

This unit describes the performance criteria required to setup and operate the veneer cutting and splicing machines

Scope

The scope covers the following :

- Prepare the worksite
- Execute veneer cutting/splicing operation
- Maintain equipment and tools
- Quality assurance and documentation

Elements and Performance Criteria

Prepare the worksite

To be competent, the user/individual on the job must be able to:

- PC1.** ensure materials and workpieces are prepared appropriately for machine operation, meeting job specifications, and quality standards.
- PC2.** select and install appropriate tools, adhesives, and veneer materials based on the material type, thickness, and desired cutting outcome.
- PC3.** set up, configure, and calibrate veneer cutting/splicing machines for optimal results such as time, pressure, thickness, etc.

Execute veneer cutting/splicing operation

To be competent, the user/individual on the job must be able to:

- PC4.** safely load and position workpieces onto the machine table or holding fixtures, ensuring they are securely clamped or held in place.
- PC5.** perform the machine initiation and guide the workpieces through the veneer cutting/splicing machine
- PC6.** measure, mark out, and cut veneers within the specified tolerances using veneer cutting machine to meet specifications
- PC7.** joint veneers using veneer splicing machine ensuring edges are correctly aligned with required tolerances and without distortion
- PC8.** prepare the veneer sheets with desired size, shape, and pattern by marking, tracing, cutting, and joining the veneer sheets
- PC9.** monitor the veneer cutting/splicing operation periodically to evaluate product quality and yield.

Maintain equipment and tools

To be competent, the user/individual on the job must be able to:

- PC10.** perform routine maintenance tasks on the veneer cutting/splicing machine, such as cleaning, lubricating, and replacing worn parts.

Qualification Pack

PC11. conduct regular inspections of the machine's components, checking for loose screws, belts, or bearings, sharpening, and tightening as needed.

PC12. ensure management of the workspace by arranging and disposing off materials after the machining operation.

Quality assurance and documentation

To be competent, the user/individual on the job must be able to:

PC13. perform quality checks and inspections on the materials, verifying dimensional accuracy, surface finish, and overall quality.

PC14. ensuring manufacturing specifications, quality control inspections, and modifications are accurately recorded and maintained.

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. the organization structure, its purpose, and objective, various departments, hierarchy, reporting matrix, code of conduct, etc

KU2. the products and services provided by the company to clients and its quality standards

KU3. the Key Result Areas (KRA) and its importance in the employee performance and growth

KU4. different types of personal protective equipment such as gloves, goggles, masks, etc. and their uses

KU5. common hazards in the worksite and relevant safety and security procedures/manuals to be followed

KU6. the procedures for conducting visual checks required during the various stages of operations and their importance

KU7. the importance of reporting relevant information to the appropriate authority

KU8. the material preparation techniques, job specifications, and quality standards relating to veneer cutting and splicing operation.

KU9. the usage and specifications of different tools, adhesives, veneer materials, and their properties.

KU10. the process of setting up the veneer cutting and splicing machine, configuration, and its calibration procedures.

KU11. the safe loading and positioning techniques for workpieces on veneer cutting/splicing machines and the importance of secure clamping or holding.

KU12. the machine initiation procedures, operation techniques, and the importance of guiding workpieces through the veneer cutting/splicing machine.

KU13. different measurement techniques, marking out procedures, and the ability to cut veneers within specified tolerances.

KU14. different veneer splicing techniques, alignment methods, and the importance of maintaining correct edge alignment without distortion.

KU15. advanced veneer preparation techniques, including marking, tracing, cutting, and joining methods to achieve the desired size, shape, and pattern.

KU16. different monitoring techniques and quality evaluation methods for veneer cutting/splicing operations.

Qualification Pack

- KU17.** the details of routine maintenance tasks for veneer cutting and splicing machines, including cleaning, lubrication, and replacement of worn parts.
- KU18.** the inspection techniques, and adjustment procedures with different machine components and their effect on machine performance.
- KU19.** the organizational principles associated with workspace organization and material disposal procedures.
- KU20.** the quality standards, inspection techniques, and evaluation criteria for processed materials.
- KU21.** the details of preparing requisite documents for quality control processes

Generic Skills (GS)

User/individual on the job needs to know how to:

- GS1.** read company policy documents, information displayed at the worksite, job cards, etc.
- GS2.** effectively communicate with team members and supervisors respectfully as per the protocol of the organization
- GS3.** work constructively and collaboratively with others
- GS4.** fill up documents about one's role at the worksite (involves attendance, daily work update, etc.)
- GS5.** apply domain information/ knowledge and assess day to day tasks through experience and observation
- GS6.** evaluate the complexity of the tasks to determine if any guidance is required from the supervisor
- GS7.** interpret instructions related to the usage of machines and tools for fabrication, assembling, and installation of the various products
- GS8.** use reasoning skills to make appropriate decisions and troubleshoot concerns related to own responsibilities
- GS9.** plan and prioritize the tasks efficiently and accurately within the specified time frame
- GS10.** build and maintain positive and effective relationships with clients

Qualification Pack

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Prepare the worksite</i>	4	12	8	1
PC1. ensure materials and workpieces are prepared appropriately for machine operation, meeting job specifications, and quality standards.	2	6	-	1
PC2. select and install appropriate tools, adhesives, and veneer materials based on the material type, thickness, and desired cutting outcome.	-	6	4	-
PC3. set up, configure, and calibrate veneer cutting/splicing machines for optimal results such as time, pressure, thickness, etc.	2	-	4	-
<i>Execute veneer cutting/splicing operation</i>	10	24	8	1
PC4. safely load and position workpieces onto the machine table or holding fixtures, ensuring they are securely clamped or held in place.	2	4	2	-
PC5. perform the machine initiation and guide the workpieces through the veneer cutting/splicing machine	2	4	2	-
PC6. measure, mark out, and cut veneers within the specified tolerances using veneer cutting machine to meet specifications	2	6	-	1
PC7. joint veneers using veneer splicing machine ensuring edges are correctly aligned with required tolerances and without distortion	-	4	2	-
PC8. prepare the veneer sheets with desired size, shape, and pattern by marking, tracing, cutting, and joining the veneer sheets	2	6	-	-
PC9. monitor the veneer cutting/splicing operation periodically to evaluate product quality and yield.	2	-	2	-
<i>Maintain equipment and tools</i>	6	6	6	1
PC10. perform routine maintenance tasks on the veneer cutting/splicing machine, such as cleaning, lubricating, and replacing worn parts.	2	6	-	1

Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC11. conduct regular inspections of the machine's components, checking for loose screws, belts, or bearings, sharpening, and tightening as needed.	2	-	4	-
PC12. ensure management of the workspace by arranging and disposing off materials after the machining operation.	2	-	2	-
<i>Quality assurance and documentation</i>	4	6	2	1
PC13. perform quality checks and inspections on the materials, verifying dimensional accuracy, surface finish, and overall quality.	2	6	-	1
PC14. ensuring manufacturing specifications, quality control inspections, and modifications are accurately recorded and maintained.	2	-	2	-
NOS Total	24	48	24	4

Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	FFS/N1019
NOS Name	Setup and operate veneer cutting and splicing machines
Sector	Furniture & Fittings
Sub-Sector	Furniture Design & Production
Occupation	Furniture Production (Machine Shop)
NSQF Level	4.5
Credits	5
Version	1.0
Last Reviewed Date	31/08/2023
Next Review Date	31/08/2026
NSQF Clearance Date	31/08/2023

Qualification Pack

FFS/N1020: Setup and operate panelworks CNC Machines

Description

This unit describes the performance criteria required to setup and operate panel works CNC Machines

Scope

The scope covers the following :

- Prepare worksite & set up machine
- Perform CNC operation
- Maintain workspace and equipment
- Quality control and inspection

Elements and Performance Criteria

Prepare worksite & set up machine

To be competent, the user/individual on the job must be able to:

- PC1.** perform stacking and storage of materials and workpieces for machine operation at the designated machine stations
- PC2.** check the quality of job work received for the CNC operation
- PC3.** configure the CNC program to align with the task requirements
- PC4.** adjust machine settings and perform necessary modifications based on job requirements and instructions provided by the machine and tool manufacturers.
- PC5.** make final adjustments to CNC programs and equipment according to the task requirements and workplace protocols.

Perform CNC operation

To be competent, the user/individual on the job must be able to:

- PC6.** support in handling and loading of the workpieces onto the machine accurately and efficiently.
- PC7.** support in positioning and securing the materials on the CNC machines, utilizing clamps, jigs, or other appropriate methods.
- PC8.** assist in performing measurement and marking on the job work for CNC operation
- PC9.** operate the machine in line with its designated capacity, intended purpose, and the manufacturer's recommendations
- PC10.** monitor machine operation to ensure the production of high-quality outputs.

Maintain workspace and equipment

To be competent, the user/individual on the job must be able to:

- PC11.** assist the operator in cleaning and maintaining the CNC machine and its parts (machine bed, blade chamber, etc.).
- PC12.** organize and manage the workspace, ensuring proper storage of panels and disposal of waste.

Quality control and inspection

Qualification Pack

To be competent, the user/individual on the job must be able to:

- PC13.** assist in inspecting the materials for dimensional accuracy, cleanliness, and quality, ensuring they meet the required specifications.
- PC14.** maintain proper documentation of manufacturing specifications and quality control inspections for the CNC process.

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** the organization structure, its purpose, and objective, various departments, hierarchy, reporting matrix, code of conduct, etc
- KU2.** the products and services provided by the company to clients and its quality standards
- KU3.** the Key Result Areas (KRA) and its importance in the employee performance and growth
- KU4.** different types of personal protective equipment such as gloves, goggles, masks, etc. and their uses
- KU5.** common hazards in the worksite and relevant safety and security procedures/manuals to be followed
- KU6.** the procedures for conducting visual checks required during the various stages of operations and their importance
- KU7.** the importance of reporting relevant information to the appropriate authority
- KU8.** the basics of stacking and storage procedures for materials and workpieces during panelworks CNC machine operations.
- KU9.** the relevant quality standards and criteria for job work received for the panelworks CNC machine operation
- KU10.** the basics of CNC programming and its alignment with task requirements.
- KU11.** the basics of machine settings and modifications based on job requirements and manufacturer instructions.
- KU12.** the process of final adjustments to CNC programs and equipment based on task requirements and workplace protocols.
- KU13.** the loading and unloading process for the panelworks CNC machine and the associated fixtures.
- KU14.** different methods for positioning and securing materials on panelworks CNC machines, including clamps, jigs, or other appropriate methods.
- KU15.** principles and techniques of measurement and marking for panelworks CNC operations.
- KU16.** the usage of different machine operation, including its capacity, purpose, and manufacturer's recommendations.
- KU17.** the basics of machine operation monitoring techniques and the identification of irregularities or defects.
- KU18.** specific cleaning and maintenance procedures for the panelworks CNC machine and its components
- KU19.** principles of organizing and managing the workspace, including proper storage techniques for panels and waste disposal procedures.
- KU20.** the quality standards, inspection techniques, and evaluation criteria for processed materials.

Qualification Pack

KU21. the details of preparing requisite documents for quality control processes

Generic Skills (GS)

User/individual on the job needs to know how to:

- GS1.** read company policy documents, information displayed at the worksite, job cards, etc.
- GS2.** effectively communicate with team members and supervisors respectfully as per the protocol of the organization
- GS3.** work constructively and collaboratively with others
- GS4.** fill up documents about one's role at the worksite (involves attendance, daily work update, etc.)
- GS5.** apply domain information/ knowledge and assess day to day tasks through experience and observation
- GS6.** evaluate the complexity of the tasks to determine if any guidance is required from the supervisor
- GS7.** interpret instructions related to the usage of machines and tools for fabrication, assembling, and installation of the various products
- GS8.** use reasoning skills to make appropriate decisions and troubleshoot concerns related to own responsibilities
- GS9.** plan and prioritize the tasks efficiently and accurately within the specified time frame
- GS10.** build and maintain positive and effective relationships with clients

Qualification Pack

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Prepare worksite & set up machine</i>	4	24	8	2
PC1. perform stacking and storage of materials and workpieces for machine operation at the designated machine stations	2	6	-	1
PC2. check the quality of job work received for the CNC operation	-	6	2	1
PC3. configure the CNC program to align with the task requirements	2	-	2	-
PC4. adjust machine settings and perform necessary modifications based on job requirements and instructions provided by the machine and tool manufacturers.	-	6	2	-
PC5. make final adjustments to CNC programs and equipment according to the task requirements and workplace protocols.	-	6	2	-
<i>Perform CNC operation</i>	8	18	10	1
PC6. support in handling and loading of the workpieces onto the machine accurately and efficiently.	2	6	2	-
PC7. support in positioning and securing the materials on the CNC machines, utilizing clamps, jigs, or other appropriate methods.	-	6	2	-
PC8. assist in performing measurement and marking on the job work for CNC operation	2	6	2	1
PC9. operate the machine in line with its designated capacity, intended purpose, and the manufacturer's recommendations	2	-	2	-
PC10. monitor machine operation to ensure the production of high-quality outputs.	2	-	2	-
<i>Maintain workspace and equipment</i>	4	6	2	1

Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC11. assist the operator in cleaning and maintaining the CNC machine and its parts (machine bed, blade chamber, etc.).	2	6	-	1
PC12. organize and manage the workspace, ensuring proper storage of panels and disposal of waste.	2	-	2	-
<i>Quality control and inspection</i>	4	6	2	-
PC13. assist in inspecting the materials for dimensional accuracy, cleanliness, and quality, ensuring they meet the required specifications.	2	6	-	-
PC14. maintain proper documentation of manufacturing specifications and quality control inspections for the CNC process.	2	-	2	-
NOS Total	20	54	22	4

Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	FFS/N1020
NOS Name	Setup and operate panelworks CNC Machines
Sector	Furniture & Fittings
Sub-Sector	Furniture Design & Production
Occupation	Furniture Production (Machine Shop)
NSQF Level	4.5
Credits	5
Version	1.0
Last Reviewed Date	31/08/2023
Next Review Date	31/08/2026
NSQC Clearance Date	31/08/2023

Assessment Guidelines and Assessment Weightage

Assessment Guidelines

1. Criteria for assessment for each Qualification Pack will be created by the Sector Skill Council. Each Element/ Performance Criteria (PC) will be assigned marks proportional to its importance in NOS. SSC will also lay down the proportion of marks for Theory and Skills Practical for each Element/ PC.
2. The assessment for the theory part will be based on a knowledge bank of questions created by the SSC.
3. Assessment will be conducted for all compulsory NOS, and where applicable, on the selected elective/option NOS/set of NOS.
4. Individual assessment agencies will create unique question papers for the theory part for each candidate at each examination/training center (as per assessment criteria below).
5. Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/ training center based on these criteria.
6. To pass the Qualification Pack assessment, every trainee should score a minimum aggregate passing percentage of 70% for the QP and a minimum of 70% for each NOS.
7. In case of unsuccessful completion, the trainee may seek reassessment on the Qualification Pack

Qualification Pack

Minimum Aggregate Passing % at QP Level : 70

(Please note: Every Trainee should score a minimum aggregate passing percentage as specified above, to successfully clear the Qualification Pack assessment.)

Minimum Passing % at NOS Level: 50

(Please note: A Trainee must score the minimum percentage for each NOS separately as well as on the QP as a whole.)

Assessment Weightage

Compulsory NOS

National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
FFS/N1010.Perform team & task management for required machining operations	10	48	42	-	100	10
FFS/N1011.Manage the worksite for required machine operations	12	48	36	4	100	15
FFS/N1012.Perform Machine Operations for required job work	20	40	36	4	100	20
FFS/N1013.Perform machine maintenance and quality checking for required specifications	18	48	28	6	100	20
FFS/N8203.Maintain health, safety, and greening practices at the worksite	16	24	48	12	100	5
DGT/VSQ/N0102.Employability Skills (60 Hours)	20	30	-	-	50	5
Total	96	238	190	26	550	75

Elective: 1 Pasting and Pressing machines

Qualification Pack

National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
FFS/N1014.Setup and operate pasting and pressing machines	24	40	30	6	100	25
Total	24	40	30	6	100	25

Elective: 2 Cutting and Sizing machines

National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
FFS/N1015.Setup and operate cutting and sizing machines	24	40	30	6	100	25
Total	24	40	30	6	100	25

Elective: 3 Edge Band machines

National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
FFS/N1016.Setup and operate edge band machines	24	36	36	4	100	25
Total	24	36	36	4	100	25

Elective: 4 Drilling machines

Qualification Pack

National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
FFS/N1017.Setup and operate drilling machines	24	42	30	4	100	25
Total	24	42	30	4	100	25

Elective: 5 Routing machines

National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
FFS/N1018.Setup and operate routing machines	26	36	34	4	100	25
Total	26	36	34	4	100	25

Elective: 6 Veneer Cutting and Splicing machines

National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
FFS/N1019.Setup and Operate veneer cutting and splicing machines	24	48	24	4	100	25
Total	24	48	24	4	100	25

Elective: 7 CNC machines



Qualification Pack

National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
FFS/N1020.Setup and operate panelworks CNC Machines	20	54	22	4	100	25
Total	20	54	22	4	100	25

Qualification Pack

Acronyms

NOS	National Occupational Standard(s)
NSQF	National Skills Qualifications Framework
QP	Qualifications Pack
TVET	Technical and Vocational Education and Training
NCO	National Classification of Occupation
NTC	National Training Certificate
NAC	National Apprenticeship Certificate
CITS	Craft Instructor Training Scheme
NA	Not Applicable
PwD	Person with Disability
POSH	Prevention of Sexual Harassment
CNC	Computer Numeric Control

Qualification Pack

Glossary

Sector	Sector is a conglomeration of different business operations having similar business and interests. It may also be defined as a distinct subset of the economy whose components share similar characteristics and interests.
Sub-sector	Sub-sector is derived from a further breakdown based on the characteristics and interests of its components.
Occupation	Occupation is a set of job roles, which perform similar/ related set of functions in an industry.
Job role	Job role defines a unique set of functions that together form a unique employment opportunity in an organisation.
Occupational Standards (OS)	OS specify the standards of performance an individual must achieve when carrying out a function in the workplace, together with the Knowledge and Understanding (KU) they need to meet that standard consistently. Occupational Standards are applicable both in the Indian and global contexts.
Performance Criteria (PC)	Performance Criteria (PC) are statements that together specify the standard of performance required when carrying out a task.
National Occupational Standards (NOS)	NOS are occupational standards which apply uniquely in the Indian context.
Qualifications Pack (QP)	QP comprises the set of OS, together with the educational, training and other criteria required to perform a job role. A QP is assigned a unique qualifications pack code.
Unit Code	Unit code is a unique identifier for an Occupational Standard, which is denoted by an 'N'
Unit Title	Unit title gives a clear overall statement about what the incumbent should be able to do.
Description	Description gives a short summary of the unit content. This would be helpful to anyone searching on a database to verify that this is the appropriate OS they are looking for.
Scope	Scope is a set of statements specifying the range of variables that an individual may have to deal with in carrying out the function which have a critical impact on quality of performance required.

Qualification Pack

Knowledge and Understanding (KU)	Knowledge and Understanding (KU) are statements which together specify the technical, generic, professional and organisational specific knowledge that an individual needs in order to perform to the required standard.
Organisational Context	Organisational context includes the way the organisation is structured and how it operates, including the extent of operative knowledge managers have of their relevant areas of responsibility.
Technical Knowledge	Technical knowledge is the specific knowledge needed to accomplish specific designated responsibilities.
Core Skills/ Generic Skills (GS)	Core skills or Generic Skills (GS) are a group of skills that are the key to learning and working in today's world. These skills are typically needed in any work environment in today's world. These skills are typically needed in any work environment. In the context of the OS, these include communication related skills that are applicable to most job roles.
Electives	Electives are NOS/set of NOS that are identified by the sector as contributive to specialization in a job role. There may be multiple electives within a QP for each specialized job role. Trainees must select at least one elective for the successful completion of a QP with Electives.
Options	Options are NOS/set of NOS that are identified by the sector as additional skills. There may be multiple options within a QP. It is not mandatory to select any of the options to complete a QP with Options.