



Carpenter

Electives: Wooden Doors and Windows with Frames/ Wooden Cladding and Panelling/ Wooden Flooring/ Kitchen, Cabinets, and Beds/ Wooden House Structure/ General Repairs and Maintenance

QP Code: FFS/Q2203

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NSQF Level: 4

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FFS/Q2203: Carpenter

Brief Job Description

The Carpenter plays the role of conducting physical site surveys and recce of the worksite. The person is responsible for reading and interpreting blueprints, drawings, and sketches to determine specifications and calculate requirements while making suitable preparations for the worksite. The individual will perform measuring, cutting, shaping, assembly, joining, and installing materials made of wood and wood substitutes into finished products using various hand tools and machines.

Personal Attributes

The individual must have physical strength, good stamina, problem-solving and analytical skills, with a willingness to learn and perform. The person must be organized, diligent, methodical, safety-conscious, and a prompt decision-maker. The individual must be a good listener with skills to comprehend and communicate. The individual should be honest, trustworthy, reliable, flexible, and innovative.

Applicable National Occupational Standards (NOS)

Compulsory NOS:

1. [FFS/N2210: Assist in client coordination, team supervision, and quality check of the project](#)
2. [FFS/N2211: Ensure proper material management and preparation of the worksite](#)
3. [FFS/N2212: Set-out, mark and fabricate the various components of the products at worksite](#)
4. [FFS/N2213: Perform assembly, finishing, and installation of different components of the product at the worksite](#)
5. [FFS/N8203: Maintain health, safety, and greening practices at the worksite](#)
6. [FFS/N8204: Work effectively with the supervisors and co-workers involving gender and PwD sensitive practices](#)
7. [FFS/N8206: Undertake entrepreneurship and business development activities](#)

Electives(mandatory to select at least one):

Elective 1: Wooden Doors and Windows with Frames

This unit describes the performance outcomes required to fabricate, assemble and install wooden doors and windows with frames.

1. [FFS/N2214: Perform fabrication, assembly, and installation of Wooden Doors and Windows with Frames](#)

Elective 2: Wooden Cladding and Panelling

This unit describes the performance outcomes required to fabricate, assemble and install various types of wooden cladding and panelling.

1. [FFS/N2215: Perform fabrication, assembly, and installation of Wooden Cladding and Panelling](#)

Elective 3: Wooden Flooring

This unit describes the performance outcomes required to fabricate, assemble and install various types of wooden floorings.

1. [FFS/N2216: Perform fabrication, assembly, and installation of Wooden Flooring](#)

Elective 4: Kitchen, Cabinets, and Beds

This unit describes the performance outcomes required to fabricate, assemble and install various types of kitchen, cabinets, and beds.

1. [FFS/N2217: Perform fabrication, assembly, and installation of Kitchen, Cabinets, and Beds](#)

Elective 5: Wooden House Structure

This unit describes the performance outcomes required to fabricate, assemble and install wooden structures for houses.

1. [FFS/N2218: Perform fabrication, assembly, and installation of a Wooden House Structure](#)

Elective 6: General Repairs and Maintenance

This unit describes the performance outcomes required to perform dismantling, repairing, and maintenance of the furniture and other accessories at the worksite.

1. [FFS/N2219: Perform General Repairs and Maintenance of the furniture at the worksite](#)

Qualification Pack (QP) Parameters

Sector	Furniture & Fittings
Sub-Sector	Furniture Sales, Installation & After Sales
Occupation	Furniture Installation
Country	India
NSQF Level	4

Aligned to NCO/ISCO/ISIC Code	NCO-2015/7115.0300
Minimum Educational Qualification & Experience	Diploma (ITI/Govt. recognized with Min. 1 year in Carpentry) with 2 Years of experience (Relevant) OR Graduate with 2 Years of experience (Relevant) OR Certificate-NSQF (Level-3, Assistant Carpenter) with 2 Years of experience (Relevant)
Minimum Level of Education for Training in School	10th Class
Pre-Requisite License or Training	NA
Minimum Job Entry Age	18 Years
Last Reviewed On	NA
Next Review Date	NA
NSQC Approval Date	
Version	1.0

FFS/N2210: Assist in client coordination, team supervision, and quality check of the project

Description

This unit describes the performance outcomes required to assist in coordination with clients, supervision of work, and organizing physical site surveys with a supervisor.

Scope

The scope covers the following :

- Assist in coordinating with the client POCs and other agencies
- Assist in the supervision of teams and quality check during the project execution
- Conduct site survey and recce

Elements and Performance Criteria

Assist in coordinating with the client POCs and other agencies

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

- PC1.** interpret the supervisor's instructions about the project requirement correctly regarding quality, style, material preference, etc.
- PC2.** interact with the client POC and other agencies for coordination of assigned tasks
- PC3.** prepare and maintain the required documents for project execution purposes
- PC4.** assist in the preparation of cost estimates and delivery timelines

Assist in the supervision of teams and quality check during the project execution

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

- PC5.** ensure that the assigned team understands the job cards and address their issues
- PC6.** ensure that the team follows all the health and safety guidelines
- PC7.** conduct a timely quality check of the work done by the team
- PC8.** ensure that the dimensions and ergonomics of the products are within the specified requirements
- PC9.** assist in training and mentoring of the team on various operations as required during project execution

Conduct site survey and recce

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

- PC10.** assist in planning for recce based on project requirements with supervisor
- PC11.** ensure proper logistics arrangements for conducting recce at the worksite
- PC12.** ensure the worksite is appropriately prepared and material required for survey/recce gets arranged timely
- PC13.** conduct the site survey as per the layout with assistance from the team
- PC14.** mark the worksite as per the layout and collaborate with teams to take measurements
- PC15.** analyze the measurement sheets and prepare the layouts and recce reports

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 different styles of designing, vastu shastra, design process, color schemes, space planning, ventilation, natural lighting, light effect, etc.
- KU9.** the process of interpreting work targets and requirements
- KU10.** the importance of effective communication and establishing good working relationships with clients and other agencies
- KU11.** the importance of workflow management and documentation compliances
- KU12.** how to break down each task/ activity in the production schedule into cost heads for estimating budget (e.g., salaries, contractual staff, equipment hire, location costs, perishables, materials, licenses/ approvals, etc.)
- KU13.** the process of preparing production and delivery timelines
- KU14.** how to interpret the job cards and its implementation in the project execution
- KU15.** how the science of ergonomics affects product development in terms of comfort, efficiency, and aesthetics
- KU16.** the standards sizes associated with the different categories of furniture
- KU17.** the process of selecting an appropriate technique for imparting training on various project operations
- KU18.** how to assess the pros and cons of a location while conducting recce based on project requirements
- KU19.** the various technical infrastructure requirements at the worksite
- KU20.** the process of conducting recce at the worksite
- KU21.** the process of estimating the quantities of tools, equipment, and materials required for the recce
- KU22.** the usage of various tools, materials, and their applications in surveying the location
- KU23.** the different components of a building structure and their significance in a layout plan
- KU24.** the relevant metric system, basic mathematics, and geometry skills
- KU25.** the basics of measuring tapes and tools, operational guides
- KU26.** how to prepare the measurement sheet and its importance

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

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Assist in coordinating with the client POCs and other agencies</i>	1	8	16	-
PC1. interpret the supervisor's instructions about the project requirement correctly regarding quality, style, material preference, etc.	1	2	4	-
PC2. interact with the client POC and other agencies for coordination of assigned tasks	-	2	4	-
PC3. prepare and maintain the required documents for project execution purposes	-	2	4	-
PC4. assist in the preparation of cost estimates and delivery timelines	-	2	4	-
<i>Assist in the supervision of teams and quality check during the project execution</i>	5	8	16	2
PC5. ensure that the assigned team understands the job cards and address their issues	1	2	4	-
PC6. ensure that the team follows all the health and safety guidelines	1	2	-	1
PC7. conduct a timely quality check of the work done by the team	1	2	4	-
PC8. ensure that the dimensions and ergonomics of the products are within the specified requirements	1	2	4	1
PC9. assist in training and mentoring of the team on various operations as required during project execution	1	-	4	-
<i>Conduct site survey and recce</i>	5	12	24	3
PC10. assist in planning for recce based on project requirements with supervisor	-	2	4	-
PC11. ensure proper logistics arrangements for conducting recce at the worksite	1	2	4	1
PC12. ensure the worksite is appropriately prepared and material required for survey/recce gets arranged timely	1	2	4	1

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC13. conduct the site survey as per the layout with assistance from the team	1	2	4	-
PC14. mark the worksite as per the layout and collaborate with teams to take measurements	1	2	4	1
PC15. analyze the measurement sheets and prepare the layouts and recce reports	1	2	4	-
NOS Total	11	28	56	5

National Occupational Standards (NOS) Parameters

NOS Code	FFS/N2210
NOS Name	Assist in client coordination, team supervision, and quality check of the project
Sector	Furniture & Fittings
Sub-Sector	Furniture Sales, Installation & After Sales
Occupation	Furniture Installation
NSQF Level	4
Credits	TBD
Version	1.0
Next Review Date	NA

FFS/N2211: Ensure proper material management and preparation of the worksite

Description

This unit describes the performance outcomes required to plan and prioritize resources and work activities while working at the worksite.

Scope

The scope covers the following :

- Interpret project requirements
- Assist in planning and prioritizing work activities
- Ensure proper resource management at the worksite
- Ensure worksite preparation for fabrication, assembly, finishing, and installation purposes

Elements and Performance Criteria

Interpret project requirements

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

- PC1.** interpret given drawings, optimizing the potential for efficient project execution with the supervisor
- PC2.** ensure selection of appropriate materials to comply with drawing and specifications
- PC3.** ensure daily filling and timely submission of job cards to the supervisor

Assist in planning and prioritizing work activities

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

- PC4.** assist in defining the process flow as per client/project needs during project execution
- PC5.** assist in the proper demarcation of people and resources with the supervisor
- PC6.** assist in creating schedules and rosters for the team to ensure they understand individual work requirements
- PC7.** maintain all the required documentation for project execution
- PC8.** maintain efficiency and productivity while performing role/responsibility

Ensure proper resource management at the worksite

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

- PC9.** plan and organize the loading/ unloading/ handling of the materials as per the instruction sheet
- PC10.** ensure coordination with the various departments for material movement at multiple intervals
- PC11.** ensure the proper functioning of the handling equipment for material movement
- PC12.** select appropriate stacking method for easy identification and traceability
- PC13.** ensure the proper segregation and storage of materials, tools, and equipment at the worksite
- PC14.** ensure the use of suitable mediums to store or carry rivets, bolts, drift pins, etc.
- PC15.** comply with relevant health and safety legislation, regulations, and obligations
- PC16.** check the quality of the materials before loading and unloading at regular intervals

Ensure worksite preparation for fabrication, assembly, finishing, and installation purposes

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

- PC17.** ensure organization of all the necessary tools, materials, and equipment for the specified operations
- PC18.** ensure that the appropriate floor and machine guards are in place
- PC19.** install signage and barriers, as required, to maximize protection of public health and safety during project execution according to company requirements
- PC20.** implement security measures to control unauthorized access to the worksite
- PC21.** ensure the use of appropriate methods for worksite cleaning and maintenance of the tools and equipment at regular intervals
- PC22.** identify and prevent hazards and control risks at work site according to company requirements

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 preparing and interpreting 2D / 3D drawings, i.e., terminology, pictorial representation, symbols, etc. related to architectural drawings and specifications
- KU9.** the importance of process optimization during project execution
- KU10.** the types of material, tools, and equipment required for various tasks
- KU11.** the process of interpreting and managing job cards daily
- KU12.** the various stages involved in project execution, from client interaction to the project handover
- KU13.** the importance of job role demarcation and teamwork
- KU14.** the importance of work monitoring and delegation of the tasks to the team members
- KU15.** the relevance of maintaining documentation and detailing during project execution
- KU16.** the factors contributing to the efficiency of a project execution
- KU17.** the various elements of the instruction sheet related to loading/ unloading/ handling
- KU18.** the basics of various types of material handling equipment such as trolley, forklift, lifter, etc. and its application
- KU19.** the process of handling and stacking different types of material, tools, and equipment

- KU20.** the different types of storage options appropriate to the type of material, tools, and equipment
- KU21.** the various parameters involved in the intrinsic quality checking of loading and unloading operations
- KU22.** the importance of planning and organizing the work area, materials, tools, and equipment
- KU23.** the significance, types, and usage of various types of workbench
- KU24.** the usage and application of the different safety guards during working
- KU25.** the application of various safety signage and pictorial representations at the worksite
- KU26.** the techniques to check the accuracy and functioning of tools and equipment and their maintenance procedures

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

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Interpret project requirements</i>	2	6	6	1
PC1. interpret given drawings, optimizing the potential for efficient project execution with the supervisor	1	2	2	-
PC2. ensure selection of appropriate materials to comply with drawing and specifications	1	2	2	1
PC3. ensure daily filling and timely submission of job cards to the supervisor	-	2	2	-
<i>Assist in planning and prioritizing work activities</i>	5	-	10	-
PC4. assist in defining the process flow as per client/project needs during project execution	1	-	2	-
PC5. assist in the proper demarcation of people and resources with the supervisor	1	-	2	-
PC6. assist in creating schedules and rosters for the team to ensure they understand individual work requirements	1	-	2	-
PC7. maintain all the required documentation for project execution	1	-	2	-
PC8. maintain efficiency and productivity while performing role/responsibility	1	-	2	-
<i>Ensure proper resource management at the worksite</i>	5	14	12	6
PC9. plan and organize the loading/ unloading/ handling of the materials as per the instruction sheet	-	2	2	-
PC10. ensure coordination with the various departments for material movement at multiple intervals	-	-	2	1
PC11. ensure the proper functioning of the handling equipment for material movement	1	2	2	1
PC12. select appropriate stacking method for easy identification and traceability	1	2	2	1

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC13. ensure the proper segregation and storage of materials, tools, and equipment at the worksite	1	2	2	1
PC14. ensure the use of suitable mediums to store or carry rivets, bolts, drift pins, etc.	-	2	-	-
PC15. comply with relevant health and safety legislation, regulations, and obligations	1	2	-	1
PC16. check the quality of the materials before loading and unloading at regular intervals	1	2	2	1
<i>Ensure worksite preparation for fabrication, assembly, finishing, and installation purposes</i>	5	12	12	4
PC17. ensure organization of all the necessary tools, materials, and equipment for the specified operations	1	2	2	1
PC18. ensure that the appropriate floor and machine guards are in place	1	2	2	1
PC19. install signage and barriers, as required, to maximize protection of public health and safety during project execution according to company requirements	1	2	2	1
PC20. implement security measures to control unauthorized access to the worksite	-	2	2	-
PC21. ensure the use of appropriate methods for worksite cleaning and maintenance of the tools and equipment at regular intervals	1	2	2	-
PC22. identify and prevent hazards and control risks at work site according to company requirements	1	2	2	1
NOS Total	17	32	40	11

National Occupational Standards (NOS) Parameters

NOS Code	FFS/N2211
NOS Name	Ensure proper material management and preparation of the worksite
Sector	Furniture & Fittings
Sub-Sector	Furniture Sales, Installation & After Sales
Occupation	Furniture Installation
NSQF Level	4
Credits	TBD
Version	1.0
Next Review Date	NA

FFS/N2212: Set-out, mark and fabricate the various components of the products at worksite

Description

This unit describes the performance outcomes required to prepare a worksite by setting out, marking, measuring, and cutting required materials for project execution at the worksite.

Scope

The scope covers the following :

- Mark and measure various timber and timber-based materials
- Perform woodworking operations on different components of the product
- Fabricate internal and external joints for product assembly

Elements and Performance Criteria

Mark and measure various timber and timber-based materials

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

- PC1.** check all tools and machines are in good working order and available/are on site
- PC2.** ensure proper selection of appropriate timber and timber-based materials
- PC3.** identify different components of the products as per the given specifications
- PC4.** prepare a cutting list of various components of the product based on materials and design specifications
- PC5.** perform the measurement and marking on timber and timber-based materials based on layout plan and cutting list
- PC6.** use geometric methods to determine complex angles, joints, and intersections from product drawings
- PC7.** ensure timely preparation and handover of the measurement sheet

Perform woodworking operations on different components of the product

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

- PC8.** select and safely use hand and power tools to cut and shape various components of the product
- PC9.** perform cutting of the wood/panels as per cutting list
- PC10.** ensure that the cut components are in line with the design specifications
- PC11.** prepare the wood/panels into the required shape as per the specified measurements
- PC12.** prepare jigs or fixtures of required specifications to shape the various components of the product
- PC13.** ensure that all the measurements of the components meet specifications
- PC14.** perform cutting of laminate/veneer sheet to specified specifications and paste using adhesives on the surface of product components
- PC15.** mark and drill the required holes and grooves for product assembly

Fabricate internal and external joints for product assembly

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

- PC16.** check and confirm the joint geometry conforms with the product drawing
- PC17.** undertake the preparation of accurate joints and intersections with no gaps
- PC18.** use appropriate hand tools and machines for joint preparation, e.g., traditional tenon saws, Japanese pull saws, band saw, powered hand router, and miter saw
- PC19.** prepare joints that are parallel, clean, and correct in size to the drawing
- PC20.** ensure faces, edges, and all shoulders are square straight and to the drawing
- PC21.** ensure proper checking of joints for strength and durability

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 serviceability and operating procedures associated with various types of tools and equipment
- KU9.** different varieties of timber and timber-based materials along with their properties
- KU10.** the importance of preparing a cutting list and part list for product fabrication
- KU11.** the basics of measuring tapes and tools, operational guides
- KU12.** how to mark and measure using various techniques and drawing specifications
- KU13.** basic principles of measurement, geometry, and arithmetic calculation
- KU14.** the importance of preparing measurement sheet and its process
- KU15.** usage of appropriate hand tools/ power tools/ machines as per the job work, i.e., cutting/ planning/ shaping/ finishing, etc.
- KU16.** how to perform cutting operations on timber and timber-based materials using specific tools and equipment
- KU17.** the techniques to check the accuracy and build quality of parts or the complete product, and criteria for rejection
- KU18.** how to perform shaping operations on timber and timber-based materials using specific tools and equipment
- KU19.** the type of tools, jigs, and techniques used for furniture fabrication
- KU20.** the process of marking and drilling using specific tools and equipment
- KU21.** usage of appropriate hand tools/ power tools/ machines as per the job work, i.e., cutting/ planning/ shaping/ finishing, etc.
- KU22.** the importance of correct joints and proportions

- KU23.** how solid wood and manufactured panel material components are joined to create and assemble items using appropriate techniques and tools
- KU24.** how to make pieces of joinery to the correct specifications
- KU25.** the need for close-fitting joints and surfaces to form a good surface area for gluing
- KU26.** how to check the strength and durability of the joints for accurate product assembly

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

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Mark and measure various timber and timber-based materials</i>	4	14	14	4
PC1. check all tools and machines are in good working order and available/are on site	1	2	2	1
PC2. ensure proper selection of appropriate timber and timber-based materials	1	2	2	1
PC3. identify different components of the products as per the given specifications	-	2	2	-
PC4. prepare a cutting list of various components of the product based on materials and design specifications	-	2	2	-
PC5. perform the measurement and marking on timber and timber-based materials based on layout plan and cutting list	1	2	2	1
PC6. use geometric methods to determine complex angles, joints, and intersections from product drawings	1	2	2	1
PC7. ensure timely preparation and handover of the measurement sheet	-	2	2	-
<i>Perform woodworking operations on different components of the product</i>	2	14	16	2
PC8. select and safely use hand and power tools to cut and shape various components of the product	1	2	2	-
PC9. perform cutting of the wood/panels as per cutting list	-	2	2	-
PC10. ensure that the cut components are in line with the design specifications	-	2	2	-
PC11. prepare the wood/panels into the required shape as per the specified measurements	-	2	2	-
PC12. prepare jigs or fixtures of required specifications to shape the various components of the product	1	-	2	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC13. ensure that all the measurements of the components meet specifications	-	2	2	-
PC14. perform cutting of laminate/veneer sheet to specified specifications and paste using adhesives on the surface of product components	-	2	2	1
PC15. mark and drill the required holes and grooves for product assembly	-	2	2	1
<i>Fabricate internal and external joints for product assembly</i>	3	12	12	3
PC16. check and confirm the joint geometry conforms with the product drawing	1	2	2	1
PC17. undertake the preparation of accurate joints and intersections with no gaps	-	2	2	-
PC18. use appropriate hand tools and machines for joint preparation, e.g., traditional tenon saws, Japanese pull saws, band saw, powered hand router, and miter saw	1	2	2	1
PC19. prepare joints that are parallel, clean, and correct in size to the drawing	1	2	2	-
PC20. ensure faces, edges, and all shoulders are square straight and to the drawing	-	2	2	1
PC21. ensure proper checking of joints for strength and durability	-	2	2	-
NOS Total	9	40	42	9

National Occupational Standards (NOS) Parameters

NOS Code	FFS/N2212
NOS Name	Set-out, mark and fabricate the various components of the products at worksite
Sector	Furniture & Fittings
Sub-Sector	Furniture Sales, Installation & After Sales
Occupation	Furniture Installation
NSQF Level	4
Credits	TBD
Version	1.0
Next Review Date	NA

FFS/N2213: Perform assembly, finishing, and installation of different components of the product at the worksite

Description

This unit describes the performance outcomes required to perform woodworking operations for assembly, finishing, and installation of the products at the worksite.

Scope

The scope covers the following :

- Assemble the various components of the product
- Finish the surface of the product
- Install the product along with hardware fittings
- Perform quality check of the product before handover

Elements and Performance Criteria

Assemble the various components of the product

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

- PC1.** interpret the assembly drawings and use the appropriate method for assembly
- PC2.** measure the dimensions of various components of the product and perform marking operations to facilitate the assembly of components
- PC3.** ensure that the product components are assembled as per instruction using appropriate fasteners or/ add adhesives as applicable
- PC4.** ensure that the structures are assembled and erected accurately without damage to components
- PC5.** check the assembled components functioning as per the control plan, work instructions
- PC6.** ensure quality checks at regular intervals during assembly to avoid any defects/ error detection at a later stage

Finish the surface of the product

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

- PC7.** identify and select the appropriate wood fillers to finish the product to a specified standard
- PC8.** use appropriate tools to smoothen the surface (curves, edges, molds, etc.) of the product through sanding by machine and/or by hand to a specified standard
- PC9.** maintain the quality of the surface during assembly and installation, e.g., free from glue and any defects or chips

Install the product along with hardware fittings

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

- PC10.** check the location of the installation to prepare requisite cut-outs for electrical outlets, plumbing points, wiring, and other arrangements in the assembled product
- PC11.** identify and select the appropriate tools and equipment for installation of components/parts and sub-assemblies of the product
- PC12.** install the moldings/ finish accessories (crown molding, decorative panels, etc.) in accordance with the manual/instructions provided

- PC13.** install the furniture fittings (like locks, latch, closure, handles, etc.) in the finished product
- PC14.** ensure quality checks at regular intervals during installation to avoid any defects/ error detection at a later stage
- PC15.** supervise the cleaning of the installed product thoroughly before handover

Perform quality check of the product before handover

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

- PC16.** conduct post- completion quality check of the furniture and fitting in line with the organization practice
- PC17.** check and ensure that the final finish of the product is as per client requirement and design specification
- PC18.** inspect and mark the defects, if any, such as in paint, dents, grooves, cracks, rough edges, etc. on the physical body of the product
- PC19.** take appropriate action for fault rectification in consultation with supervisors
- PC20.** take note of inputs/ feedback received by supervisor /client to incorporate at the work
- PC21.** maintain all the requisite documents post completion of project in compliance with organization policies

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.** how to interpret the assembly drawing of a project and their various elements involved in it
- KU9.** how to measure and mark the part dimensions for product assembly
- KU10.** the different types of adhesives/ glues and their usage in the assembly process
- KU11.** relevance safety precautions associated with the product assembly and handling during the fabrication process
- KU12.** about the usage of the control plan and their importance in the efficient project execution
- KU13.** the importance of checking product assembly at regular intervals
- KU14.** the various types of wood fillers, sanding papers, sanding tools, and equipment used in the finishing process
- KU15.** the importance of checking finish against client requirements and expectations and personal standards
- KU16.** how to interpret the project layout and its elements used in the

- KU17.** the usage of appropriate tools, equipment, hardware, and fittings in the assembly and installation process
- KU18.** the different techniques associated with the fixing and installation of furniture and fittings
- KU19.** the importance of checking product installation at regular intervals
- KU20.** various housekeeping processes and equipment used for cleaning worksite, tools, and product
- KU21.** the various defects and deformations associated with the product and the relevant methods to rectify them
- KU22.** the significance of employing valuable feedback and suggestions in the overall improvement of the process
- KU23.** the importance of maintaining required documentation and detailing during project execution

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

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Assemble the various components of the product</i>	4	12	12	2
PC1. interpret the assembly drawings and use the appropriate method for assembly	-	2	2	-
PC2. measure the dimensions of various components of the product and perform marking operations to facilitate the assembly of components	1	2	2	1
PC3. ensure that the product components are assembled as per instruction using appropriate fasteners or/ add adhesives as applicable	1	2	2	1
PC4. ensure that the structures are assembled and erected accurately without damage to components	-	2	2	-
PC5. check the assembled components functioning as per the control plan, work instructions	1	2	2	-
PC6. ensure quality checks at regular intervals during assembly to avoid any defects/ error detection at a later stage	1	2	2	-
<i>Finish the surface of the product</i>	3	4	6	3
PC7. identify and select the appropriate wood fillers to finish the product to a specified standard	1	2	2	1
PC8. use appropriate tools to smoothen the surface (curves, edges, molds, etc.) of the product through sanding by machine and/or by hand to a specified standard	1	2	2	1
PC9. maintain the quality of the surface during assembly and installation, e.g., free from glue and any defects or chips	1	-	2	1
<i>Install the product along with hardware fittings</i>	5	8	12	2
PC10. check the location of the installation to prepare requisite cut-outs for electrical outlets, plumbing points, wiring, and other arrangements in the assembled product	1	-	2	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC11. identify and select the appropriate tools and equipment for installation of components/parts and sub-assemblies of the product	1	2	2	1
PC12. install the moldings/ finish accessories (crown molding, decorative panels, etc.) in accordance with the manual/instructions provided	-	2	2	-
PC13. install the furniture fittings (like locks, latch, closure, handles, etc.) in the finished product	1	2	2	-
PC14. ensure quality checks at regular intervals during installation to avoid any defects/ error detection at a later stage	1	2	2	-
PC15. supervise the cleaning of the installed product thoroughly before handover	1	-	2	1
<i>Perform quality check of the product before handover</i>	3	12	10	2
PC16. conduct post- completion quality check of the furniture and fitting in line with the organization practice	1	2	2	1
PC17. check and ensure that the final finish of the product is as per client requirement and design specification	-	2	-	-
PC18. inspect and mark the defects, if any, such as in paint, dents, grooves, cracks, rough edges, etc. on the physical body of the product	1	2	2	1
PC19. take appropriate action for fault rectification in consultation with supervisors	1	2	2	-
PC20. take note of inputs/ feedback received by supervisor /client to incorporate at the work	-	2	2	-
PC21. maintain all the requisite documents post completion of project in compliance with organization policies	-	2	2	-
NOS Total	15	36	40	9

National Occupational Standards (NOS) Parameters

NOS Code	FFS/N2213
NOS Name	Perform assembly, finishing, and installation of different components of the product at the worksite
Sector	Furniture & Fittings
Sub-Sector	Furniture Sales, Installation & After Sales
Occupation	Furniture Installation
NSQF Level	4
Credits	TBD
Version	1.0
Next Review Date	NA

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
- 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
- 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

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	-
PC12. undertake first aid activities in case of an accident, if required and asked to do so	1	1	2	1

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<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

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	4
Credits	TBD
Version	1.0
Next Review Date	NA

FFS/N8204: Work effectively with the supervisors and co-workers involving gender and PwD sensitive practices

Description

This unit describes the performance outcomes required to communicate and coordinate with team members including subordinates, co-workers, and supervisors while ensuring gender and PwD sensitive practices at the worksite.

Scope

The scope covers the following :

- Interaction with supervisors
- Communicate effectively with co-workers
- Follow gender and PwD sensitive practices at the worksite

Elements and Performance Criteria

Interaction with supervisors

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

- PC1.** seek assistance and clarifications from supervisor or any such appropriate authority as and when required
- PC2.** interpret instructions clearly from superiors and respond effectively on the same
- PC3.** engage in decision making by providing relevant facts and figures
- PC4.** achieve productivity and quality of work as per the company procedure
- PC5.** follow escalation matrix in case of any grievance and report any unresolved problem to the supervisor immediately
- PC6.** document the completed work schedule in the desired format and handover to the supervisor

Communicate effectively with co-workers

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

- PC7.** coordinate and cooperate with colleagues to achieve work objectives
- PC8.** communicate to team members/ subordinates for appropriate work technique and method
- PC9.** communicate with co-workers clearly, concisely, and at a pace and in a manner that helps them to understand
- PC10.** maintain the etiquette, use polite language, demonstrate responsible and disciplined behaviours to the colleagues
- PC11.** pass on essential information to colleagues in line with organizational requirements
- PC12.** take the necessary initiatives to resolve the issues while working in team
- PC13.** prioritize team and organization goals above personal goals

Follow gender and PwD sensitive practices at the worksite

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

- PC14.** ensure a conducive environment for all the genders at the worksite
- PC15.** ensure gender neutral practices are followed at the worksite

- PC16.** communicate with everyone without any personal bias based on gender, disability, caste, religion, colour, sexual orientation, and culture
- PC17.** ensure equal participation of the people across different genders in the process
- PC18.** treat women equally across both the horizontal as well as vertical segregation of roles in the workplace
- PC19.** report incidents of any harassment and discrimination to the appropriate authority
- PC20.** practice appropriate verbal and non-verbal communication while interaction with persons with disability (PwD)
- PC21.** adapt communication styles and behaviour that are in line with the organisation's policies for people with disabilities
- PC22.** assist colleagues with disability in a manner without causing any damage to their self-respect
- PC23.** encourage appropriate behaviour and conduct with people across genders and PwD
- PC24.** identify relevant medical and infra support requirements for PwD.
- PC25.** ensure to adhere with the guidelines laid in Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act
- PC26.** the right way to use the laws, acts, and provisions defined for PwD by the statutory bodies

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.** basic concepts of work productivity including waste reduction, efficient material usage and optimization of time
- KU9.** the escalation matrix and procedure of expressing grievances appropriately
- KU10.** importance of teamwork and collaboration
- KU11.** importance of effective communication and establishing working relationships with others
- KU12.** the professional code of conduct, work ethics, and discipline
- KU13.** the importance of understanding problems from your colleague's perspective and how to provide support, where necessary, to resolve these
- KU14.** expressing and addressing interpersonal conflict effectively
- KU15.** importance of managing and prioritizing work based on project requirements
- KU16.** organization standards and guidelines on gender inclusivity, PwD, POSH, etc

- KU17.** gender differences, gender diversity, gender issues, consequences of gender-based behavior, legislation, etc.
- KU18.** importance of gender-neutral behavior at the worksite
- KU19.** harassment and discrimination based on gender, disability, caste, religion, and culture and how to recognize it
- KU20.** key elements of active listening and assertive communication
- KU21.** organizational guidelines, prevalent legislation, and accessibility norms and processes to support PwD at the worksite
- KU22.** how to assist people with special needs at the worksite the importance of displaying empathy towards PwD
- KU23.** various medical and infra conditions associated with PWD at the worksite
- KU24.** the methods of workplace communication

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

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Interaction with supervisors</i>	1	5	12	-
PC1. seek assistance and clarifications from supervisor or any such appropriate authority as and when required	-	1	2	-
PC2. interpret instructions clearly from superiors and respond effectively on the same	-	1	2	-
PC3. engage in decision making by providing relevant facts and figures	-	1	2	-
PC4. achieve productivity and quality of work as per the company procedure	1	-	2	-
PC5. follow escalation matrix in case of any grievance and report any unresolved problem to the supervisor immediately	-	1	2	-
PC6. document the completed work schedule in the desired format and handover to the supervisor	-	1	2	-
<i>Communicate effectively with co-workers</i>	3	7	14	2
PC7. coordinate and cooperate with colleagues to achieve work objectives	1	1	2	-
PC8. communicate to team members/ subordinates for appropriate work technique and method	-	1	2	-
PC9. communicate with co-workers clearly, concisely, and at a pace and in a manner that helps them to understand	-	1	2	1
PC10. maintain the etiquette, use polite language, demonstrate responsible and disciplined behaviours to the colleagues	1	1	2	1
PC11. pass on essential information to colleagues in line with organizational requirements	1	1	2	-
PC12. take the necessary initiatives to resolve the issues while working in team	-	1	2	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC13. prioritize team and organization goals above personal goals	-	1	2	-
<i>Follow gender and PwD sensitive practices at the worksite</i>	10	13	26	8
PC14. ensure a conducive environment for all the genders at the worksite	1	1	2	-
PC15. ensure gender neutral practices are followed at the worksite	1	1	2	1
PC16. communicate with everyone without any personal bias based on gender, disability, caste, religion, colour, sexual orientation, and culture	-	1	2	-
PC17. ensure equal participation of the people across different genders in the process	1	1	2	1
PC18. treat women equally across both the horizontal as well as vertical segregation of roles in the workplace	1	1	2	-
PC19. report incidents of any harassment and discrimination to the appropriate authority	1	1	2	1
PC20. practice appropriate verbal and non-verbal communication while interaction with persons with disability (PwD)	-	1	2	1
PC21. adapt communication styles and behaviour that are in line with the organisation's policies for people with disabilities	1	1	2	-
PC22. assist colleagues with disability in a manner without causing any damage to their self-respect	-	1	2	-
PC23. encourage appropriate behaviour and conduct with people across genders and PwD	1	1	2	1
PC24. identify relevant medical and infra support requirements for PwD.	1	1	2	1
PC25. ensure to adhere with the guidelines laid in Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act	1	1	2	1

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC26. the right way to use the laws, acts, and provisions defined for PwD by the statutory bodies	1	1	2	1
NOS Total	14	25	52	10

National Occupational Standards (NOS) Parameters

NOS Code	FFS/N8204
NOS Name	Work effectively with the supervisors and co-workers involving gender and PwD sensitive practices
Sector	Furniture & Fittings
Sub-Sector	Generic
Occupation	Generic
NSQF Level	4
Credits	TBD
Version	1.0
Next Review Date	NA

FFS/N8206: Undertake entrepreneurship and business development activities

Description

This unit describes the performance outcomes required to develop entrepreneurship and business development skills for starting a new venture.

Scope

The scope covers the following :

- Understand entrepreneurial and business development activities
- Understand digital aspects of a business
- Understand the financial aspects of a business

Elements and Performance Criteria

Understand entrepreneurial and business development activities

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

- PC1.** identify the target customers and assess their needs and expectations concerning the quality and price of the products/ services
- PC2.** identify various types of furniture entrepreneurship/ business opportunities
- PC3.** ensure compliance with the government structural reforms and framework along with the applicable rules and regulations while setting up the enterprise/ business
- PC4.** undertake competition analysis to assess the market condition of a products/ services
- PC5.** conduct a risk assessment and identify opportunities for scaling up the business
- PC6.** develop a resource plan for the business and estimate costs for the same
- PC7.** identify avenues for relevant skills and knowledge development for oneself in preparation for entrepreneurial activity
- PC8.** identify personnel who can assist in supporting business development, by providing guidance and feedback

Understand digital aspects of a business

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

- PC9.** identify and select the suitable digital technologies for project implementation and promotions
- PC10.** analyze the different e-commerce opportunities available for product/service promotions
- PC11.** ensure effective utilization of social media platforms for promotions and marketing of the product/service

Understand the financial aspects of a business

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

- PC12.** implement processes that help in minimizing costs and maximizing profits
- PC13.** set a pricing strategy for the product/service based on the value of the product and modify pricing as and when required
- PC14.** prepare a basic business plan for the furniture entrepreneurship/ business activities

PC15. identify appropriate sources of funding for the furniture entrepreneurship/ business activities

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 process of identifying and evaluating the target customers needs and expectations concerning the quality and price of the produce
- KU9.** how to analyze the demand and supply of the relevant product/ service in the market
- KU10.** how to identify different types of furniture entrepreneurship/ business opportunities
- KU11.** the relevant government schemes and programs available in the sector
- KU12.** the importance of ensuring compliance with the government structural reforms and framework, along with the applicable rules and regulations
- KU13.** how to analyze the strength and weaknesses of the current industries offering the exact product/ service
- KU14.** the importance, elements of, and tools and techniques for - risk analysis and minimization
- KU15.** the relevant basic business terminologies and implementation strategies
- KU16.** the relevance of different entrepreneurial skills like communication, management, human resource management, etc.
- KU17.** the importance of selecting the appropriate team and work resources for efficient execution of a project
- KU18.** the terminologies associated with cloud computing, artificial intelligence, AR/VR, IoT, etc., and their significance
- KU19.** the various e-marketing opportunities available in the sector
- KU20.** the usage of different social media platforms like YouTube, Facebook, WhatsApp, etc.
- KU21.** the critical factors affecting project costing and timeline for execution
- KU22.** how to select the price range of product based on market condition and business growth analysis
- KU23.** how to prepare a basic business plan for the furniture entrepreneurship/business activities
- KU24.** how to identify the proper authorities for the financing of furniture entrepreneurship/ businesses

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

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Understand entrepreneurial and business development activities</i>	10	14	32	-
PC1. identify the target customers and assess their needs and expectations concerning the quality and price of the products/ services	-	2	4	-
PC2. identify various types of furniture entrepreneurship/ business opportunities	2	2	4	-
PC3. ensure compliance with the government structural reforms and framework along with the applicable rules and regulations while setting up the enterprise/ business	2	2	4	-
PC4. undertake competition analysis to assess the market condition of a products/ services	2	-	4	-
PC5. conduct a risk assessment and identify opportunities for scaling up the business	2	2	4	-
PC6. develop a resource plan for the business and estimate costs for the same	-	2	4	-
PC7. identify avenues for relevant skills and knowledge development for oneself in preparation for entrepreneurial activity	2	2	4	-
PC8. identify personnel who can assist in supporting business development, by providing guidance and feedback	-	2	4	-
<i>Understand digital aspects of a business</i>	6	2	12	-
PC9. identify and select the suitable digital technologies for project implementation and promotions	2	-	4	-
PC10. analyze the different e-commerce opportunities available for product/service promotions	2	-	4	-
PC11. ensure effective utilization of social media platforms for promotions and marketing of the product/service	2	2	4	-
<i>Understand the financial aspects of a business</i>	4	4	16	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC12. implement processes that help in minimizing costs and maximizing profits	2	-	4	-
PC13. set a pricing strategy for the product/service based on the value of the product and modify pricing as and when required	2	-	4	-
PC14. prepare a basic business plan for the furniture entrepreneurship/ business activities	-	2	4	-
PC15. identify appropriate sources of funding for the furniture entrepreneurship/ business activities	-	2	4	-
NOS Total	20	20	60	-

National Occupational Standards (NOS) Parameters

NOS Code	FFS/N8206
NOS Name	Undertake entrepreneurship and business development activities
Sector	Furniture & Fittings
Sub-Sector	Generic
Occupation	Generic
NSQF Level	4
Credits	TBD
Version	1.0
Next Review Date	NA

FFS/N2214: Perform fabrication, assembly, and installation of Wooden Doors and Windows with Frames

Description

This unit describes the performance outcomes required to fabricate, assemble and install wooden doors and windows with frames.

Scope

The scope covers the following :

- Prepare the resources for wooden doors and windows assemblage
- Install flashings for door and window frames
- Perform assembly and installation of wooden doors, windows, and frames
- Install architectural hardware, fittings, and accessories

Elements and Performance Criteria

Prepare the resources for wooden doors and windows assemblage

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

- PC1.** identify and select the timber based on design specifications of the given door/ window
- PC2.** maintain the moisture content of the timber within specified limits
- PC3.** plan and organize required materials, tools, and equipment for door/window fabrication and installation
- PC4.** check that the selected tools and equipment are in safe working condition and ready for use
- PC5.** verify dimensions and type of the opening are as per the size of the frame
- PC6.** perform the required woodworking operation on the materials as per design specifications
- PC7.** measure the dimensions of the door/window panel to ensure the correct size of the frame
- PC8.** prepare the material pieces into the required shape as per the specified measurements
- PC9.** check visually for any surface damage on the components before assembly and installation processes
- PC10.** ensure that the work area is free of clutters to carry out installation work smoothly

Install flashings for door and window frames

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

- PC11.** identify suitable flashing materials to be used with frame installation
- PC12.** plan out the installation of flashing with suitable overlapping of sides to avoid water spillage
- PC13.** mark the measurement on the flashing for frame installation and trim the extra pieces
- PC14.** make use of the bottom to top approach while installing flashings
- PC15.** ensure proper pasting of flashing using small flat block, tapping, and running down on the frame
- PC16.** apply sealants at the exposed edges and corners once the flashings get installed on the frame

Perform assembly and installation of wooden doors, windows, and frames

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

- PC17.** ensure correct methods of holding and centering the work piece
- PC18.** ensure the use of appropriate lifting devices for lifting doors/ windows
- PC19.** grout the gap between the wall and the door frame, if required, perform chipping and chiseling of the masonry structure
- PC20.** ensure proper alignment of the door frame against the setting out the lines
- PC21.** install the door/window frame and sub-frame as per specification
- PC22.** install the door/window panels as per the given design specifications
- PC23.** ensure a consistent gap between door/window panel and door/window frame
- PC24.** ensure the miter joints are flat and square at corners for a seamless finish

Install architectural hardware, fittings, and accessories

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

- PC25.** interpret the product drawing and identify the type of hardware and accessories required for the doors and windows installation
- PC26.** identify and use required tools and equipment for installation of hardware and accessories
- PC27.** measure and mark the dimensions on the product to determine hardware positioning
- PC28.** make provisions for the installation of fittings by preparing slots and cut-outs
- PC29.** install hardware and accessories in accordance with the job and manufacturer specifications
- PC30.** ensure the proper functioning of the hardware after installation and make necessary adjustments as required

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 various types of doors and windows and the architectural hardware as per the same
- KU9.** how to identify and select suitable timber based on type, requirement, coding, area of application, etc.
- KU10.** the structural properties associated with different types of timber
- KU11.** how to plan and organize work activities based on assigned tasks
- KU12.** the operational and maintenance guide for different types of tools and equipment required during doors, windows, and frames fabrication and installation work
- KU13.** the standard sizes and specifications associated with the doors and windows fabrication

- KU14.** the process of determining the opening type of the doors and windows based on design specifications
- KU15.** the relevant basics of various woodworking operations and their procedural guides
- KU16.** the relevant basics of measurement and marking using appropriate tools and equipment
- KU17.** the importance of workplace management during the project execution
- KU18.** the various types of flashings based on functioning and design requirements
- KU19.** the installations process associated with the different types of flashings
- KU20.** how to interpret the flashing measurements based on different types of frames and their requirements
- KU21.** different techniques for assembly and installation of flashing on frames
- KU22.** the procedures for conducting visual checks required during the various stages of operations and their importance
- KU23.** how to select the appropriate sealant based on flashing material and the effect of water and sunlight on it
- KU24.** the different types of work holding devices used to hold a workpiece while working
- KU25.** the procedures for conducting visual checks required during the various stages of operations and their importance
- KU26.** the basics of the masonry structure and its components in a building
- KU27.** the various tools and equipment employed to check the vertical and horizontal alignment of the panels
- KU28.** the assembly and installation process associated with the frames
- KU29.** the assembly and installation process associated with the doors and windows
- KU30.** the procedural steps associated with the final finishing of doors, windows, and frames
- KU31.** how to interpret the job work requirement and design specifications for the doors and windows installation
- KU32.** the operational guide of tools and equipment required for hardware and accessories installation
- KU33.** the basics of relevant woodworking operations required for installation of fittings on the furniture
- KU34.** the assembly and installation process associated with the various hardware and accessories
- KU35.** how to check the functionality of the installed hardware and accessories

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

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Prepare the resources for wooden doors and windows assemblage</i>	8	10	8	7
PC1. identify and select the timber based on design specifications of the given door/ window	1	1	1	1
PC2. maintain the moisture content of the timber within specified limits	1	1	1	1
PC3. plan and organize required materials, tools, and equipment for door/window fabrication and installation	1	1	1	1
PC4. check that the selected tools and equipment are in safe working condition and ready for use	1	1	-	1
PC5. verify dimensions and type of the opening are as per the size of the frame	1	1	-	-
PC6. perform the required woodworking operation on the materials as per design specifications	1	1	1	1
PC7. measure the dimensions of the door/window panel to ensure the correct size of the frame	1	1	1	1
PC8. prepare the material pieces into the required shape as per the specified measurements	-	1	1	-1
PC9. check visually for any surface damage on the components before assembly and installation processes	1	1	1	1
PC10. ensure that the work area is free of clutters to carry out installation work smoothly	-	1	1	1
<i>Install flashings for door and window frames</i>	4	6	6	3
PC11. identify suitable flashing materials to be used with frame installation	1	1	1	-
PC12. plan out the installation of flashing with suitable overlapping of sides to avoid water spillage	-	1	1	-
PC13. mark the measurement on the flashing for frame installation and trim the extra pieces	1	1	1	1

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC14. make use of the bottom to top approach while installing flashings	1	1	1	1
PC15. ensure proper pasting of flashing using small flat block, tapping, and running down on the frame	-	1	1	-
PC16. apply sealants at the exposed edges and corners once the flashings get installed on the frame	1	1	1	1
<i>Perform assembly and installation of wooden doors, windows, and frames</i>	5	8	8	4
PC17. ensure correct methods of holding and centering the work piece	1	1	1	-
PC18. ensure the use of appropriate lifting devices for lifting doors/ windows	1	1	1	1
PC19. grout the gap between the wall and the door frame, if required, perform chipping and chiseling of the masonry structure	-	1	1	1
PC20. ensure proper alignment of the door frame against the setting out the lines	1	1	1	1
PC21. install the door/window frame and sub-frame as per specification	-	1	1	-
PC22. install the door/window panels as per the given design specifications	-	1	1	-
PC23. ensure a consistent gap between door/window panel and door/window frame	1	1	1	-
PC24. ensure the miter joints are flat and square at corners for a seamless finish	1	1	1	1
<i>Install architectural hardware, fittings, and accessories</i>	5	6	6	6
PC25. interpret the product drawing and identify the type of hardware and accessories required for the doors and windows installation	1	1	1	1
PC26. identify and use required tools and equipment for installation of hardware and accessories	1	1	1	1

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC27. measure and mark the dimensions on the product to determine hardware positioning	1	1	1	1
PC28. make provisions for the installation of fittings by preparing slots and cut-outs	-	1	1	1
PC29. install hardware and accessories in accordance with the job and manufacturer specifications	1	1	1	1
PC30. ensure the proper functioning of the hardware after installation and make necessary adjustments as required	1	1	1	1
NOS Total	22	30	28	20

National Occupational Standards (NOS) Parameters

NOS Code	FFS/N2214
NOS Name	Perform fabrication, assembly, and installation of Wooden Doors and Windows with Frames
Sector	Furniture & Fittings
Sub-Sector	Furniture Sales, Installation & After Sales
Occupation	Furniture Installation
NSQF Level	4
Credits	TBD
Version	1.0
Next Review Date	NA

FFS/N2215: Perform fabrication, assembly, and installation of Wooden Cladding and Panelling

Description

This unit describes the performance outcomes required to fabricate, assemble and install various types of wooden cladding and panelling.

Scope

The scope covers the following :

- Prepare the resources for cladding/ panelling assemblage
- Perform assembly and installation of cladding/ panelling

Elements and Performance Criteria

Prepare the resources for cladding/ panelling assemblage

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

- PC1.** identify and select the timber based on design specifications
- PC2.** maintain the moisture content of the timber within specified limits
- PC3.** plan and organize required materials, tools, and equipment for cladding/ panelling fabrication and installation
- PC4.** check that the selected tools and equipment are in safe working condition and ready for use
- PC5.** interpret the quantity of the panels required for the room based on design specifications
- PC6.** ensure proper measurement of every length, opening, bulge, and recess of the room/area
- PC7.** identify the types of adhesives to be used based on the condition of the wall and area of installation
- PC8.** perform the required woodworking operation on the materials as per design specifications
- PC9.** prepare the material pieces into the required shape as per the specified measurements
- PC10.** check visually for any surface damage on the components before assembly and installation
- PC11.** ensure that the work area is free of clutters to carry out installation work smoothly

Perform assembly and installation of cladding/ panelling

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

- PC12.** measure and mark the dimension of the panels on the wall to determine the installation position
- PC13.** ensure proper joinery of panels to avoid gaps and loose pieces while accommodating the natural seasonal movement of the timber
- PC14.** make provision for drained and ventilated cavity open at the top and bottom to prevent moisture into the panels
- PC15.** ensure correct methods of holding and centering the workpiece
- PC16.** check the vertical and horizontal alignment of panels using appropriate tools
- PC17.** undertake requisite cut-outs for electrical outlets, plumbing points, and other arrangements
- PC18.** ensure removal of masking tape after installation of panels

PC19. apply sealants at the exposed edges and corners once the panels get installed

PC20. ensure a final sanding of panels and edges to get a finished look

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 various types of claddings and panellings and the architectural hardware as per the same
- KU9.** how to identify and select suitable timber based on type, requirement, coding, area of application, etc.
- KU10.** the structural properties associated with different types of timber
- KU11.** how to plan and organize work activities based on assigned tasks
- KU12.** the operational and maintenance guide for different types of tools and equipment required during cladding and panelling fabrication and installation work
- KU13.** the process of interpreting various components of the furniture based on design specifications
- KU14.** the relevant basics of measurement and marking using appropriate tools and equipment
- KU15.** different types of adhesives for specific requirements & applications
- KU16.** the relevant basics of various woodworking operations and their procedural guides
- KU17.** the importance of workplace management during the project execution
- KU18.** the standard sizes and specifications associated with the fabrication and installation of cladding and panelling's
- KU19.** the various environmental factors affecting the timber compositions
- KU20.** the importance of providing a cavity for controlling moisture into the panels
- KU21.** the different types of work holding devices used to hold a workpiece while working
- KU22.** the various tools and equipment employed to check the vertical and horizontal alignment of the panels
- KU23.** the various hindrances to be encountered during installation of cladding and panelling's at the worksite
- KU24.** the cleaning and housekeeping procedures during project execution
- KU25.** the selection and application process for sealants based area of application

KU26. the procedural steps associated with the final finishing of cladding and panelling's after installation

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

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Prepare the resources for cladding/ panelling assemblage</i>	11	22	20	8
PC1. identify and select the timber based on design specifications	1	2	2	1
PC2. maintain the moisture content of the timber within specified limits	1	2	2	1
PC3. plan and organize required materials, tools, and equipment for cladding/ panelling fabrication and installation	1	2	2	1
PC4. check that the selected tools and equipment are in safe working condition and ready for use	1	2	2	1
PC5. interpret the quantity of the panels required for the room based on design specifications	1	2	2	1
PC6. ensure proper measurement of every length, opening, bulge, and recess of the room/area	1	2	2	1
PC7. identify the types of adhesives to be used based on the condition of the wall and area of installation	1	2	-	1
PC8. perform the required woodworking operation on the materials as per design specifications	1	2	2	-
PC9. prepare the material pieces into the required shape as per the specified measurements	1	2	2	-
PC10. check visually for any surface damage on the components before assembly and installation	1	2	2	1
PC11. ensure that the work area is free of clutters to carry out installation work smoothly	1	2	2	-
<i>Perform assembly and installation of cladding/ panelling</i>	5	16	18	1
PC12. measure and mark the dimension of the panels on the wall to determine the installation position	1	2	2	1

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC13. ensure proper joinery of panels to avoid gaps and loose pieces while accommodating the natural seasonal movement of the timber	-	2	2	-
PC14. make provision for drained and ventilated cavity open at the top and bottom to prevent moisture into the panels	-	2	2	-
PC15. ensure correct methods of holding and centering the workpiece	1	2	2	-
PC16. check the vertical and horizontal alignment of panels using appropriate tools	1	2	2	-
PC17. undertake requisite cut-outs for electrical outlets, plumbing points, and other arrangements	-	2	2	-
PC18. ensure removal of masking tape after installation of panels	1	-	2	-
PC19. apply sealants at the exposed edges and corners once the panels get installed	1	2	2	-
PC20. ensure a final sanding of panels and edges to get a finished look	-	2	2	-
NOS Total	16	38	38	9

National Occupational Standards (NOS) Parameters

NOS Code	FFS/N2215
NOS Name	Perform fabrication, assembly, and installation of Wooden Cladding and Panelling
Sector	Furniture & Fittings
Sub-Sector	Furniture Sales, Installation & After Sales
Occupation	Furniture Installation
NSQF Level	4
Credits	TBD
Version	1.0
Next Review Date	NA

FFS/N2216: Perform fabrication, assembly, and installation of Wooden Flooring

Description

This unit describes the performance outcomes required to fabricate, assemble and install various types of wooden floorings.

Scope

The scope covers the following :

- Prepare the resources for flooring assemblage
- Perform assembly and installation of flooring

Elements and Performance Criteria

Prepare the resources for flooring assemblage

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

- PC1.** identify and select the timber based on design specifications
- PC2.** maintain the moisture content of the timber within specified limits
- PC3.** plan and organize required materials, tools, and equipment for flooring fabrication and installation
- PC4.** check that the selected tools and equipment are in safe working condition and ready for use
- PC5.** interpret the quantity of the panels required for the room based on design specifications
- PC6.** ensure proper measurement of every length, opening, bulge, and recess of the room/area
- PC7.** identify the types of adhesives to be used based on the condition of the wall and area of installation
- PC8.** perform the required woodworking operation on the materials as per design specifications
- PC9.** prepare the material pieces into the required shape as per the specified measurements
- PC10.** check visually for any surface damage on the components before assembly and installation processes
- PC11.** ensure that the work area is free of clutters to carry out installation work smoothly

Perform assembly and installation of flooring

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

- PC12.** check the sub-floor to make sure that there are no squeaks in the floor and make necessary arrangements, if required
- PC13.** roll out the strips of vapor barrier paper and staple securely to the sub-floor
- PC14.** make use of the installation approach, which focuses on the largest unobstructed wall
- PC15.** ensure correct methods of holding and centering the workpiece
- PC16.** ensure the alignment of the board edge with the guiding line and drill holes as per specified measurements
- PC17.** make use of the pneumatic nail gun, placing the gun lip over the edge of the board and driving the staple into the tongue of the hardwood plank
- PC18.** install the panels of the flooring as per drawing specification

- PC19.** ensure proper grain matching while installation of panels
- PC20.** check for the end matching of the panels while assembling of panels
- PC21.** check the vertical and horizontal alignment of panels using appropriate tools
- PC22.** undertake requisite cut-outs for electrical outlets, plumbing points, and other arrangements
- PC23.** ensure removal of masking tape after installation of panels
- PC24.** apply sealants at the exposed edges and corners once the panels get installed
- PC25.** ensure a final sanding of panels and edges to get a finished look

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 various types of wooden floorings and the architectural hardware as per the same
- KU9.** how to identify and select suitable timber based on type, requirement, coding, area of application, etc.
- KU10.** the structural properties associated with different types of timber
- KU11.** how to plan and organize work activities based on assigned tasks
- KU12.** the operational and maintenance guide for different types of tools and equipment required during flooring fabrication and installation work
- KU13.** the process of interpreting various components of the furniture based on design specifications
- KU14.** the relevant basics of measurement and marking using appropriate tools and equipment
- KU15.** different types of adhesives for specific conditions & applications
- KU16.** the relevant basics of various woodworking operations and their procedural guides
- KU17.** the importance of workplace management during the project execution
- KU18.** the effect of different types of sub-floors on the look and longevity of the floorings
- KU19.** the installation guide for the strips of vapor barrier during installation of flooring
- KU20.** the different types of work holding devices used to hold a workpiece while working
- KU21.** different types of nails and screws based on their area of application in the products
- KU22.** the assembly and installation process associated with different types of floorings
- KU23.** the effect of grain matching and patterns on panels concerning the appearance and aesthetics of the furniture

- KU24.** various techniques employed for ensuring proper assembly of parts using appropriate tools and equipment
- KU25.** the various tools and equipment employed to check the vertical and horizontal alignment of the panels
- KU26.** the various hindrances to be encountered during installation of flooring at the worksite
- KU27.** the cleaning and housekeeping procedures associated with the panels during project execution
- KU28.** the selection and application process for sealants based area of application
- KU29.** the procedural steps associated with the final finishing of flooring after installation

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

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Prepare the resources for flooring assemblage</i>	8	11	22	6
PC1. identify and select the timber based on design specifications	1	1	2	1
PC2. maintain the moisture content of the timber within specified limits	1	1	2	1
PC3. plan and organize required materials, tools, and equipment for flooring fabrication and installation	1	1	2	1
PC4. check that the selected tools and equipment are in safe working condition and ready for use	1	1	2	1
PC5. interpret the quantity of the panels required for the room based on design specifications	1	1	2	1
PC6. ensure proper measurement of every length, opening, bulge, and recess of the room/area	1	1	2	1
PC7. identify the types of adhesives to be used based on the condition of the wall and area of installation	1	1	2	-
PC8. perform the required woodworking operation on the materials as per design specifications	-	1	2	-
PC9. prepare the material pieces into the required shape as per the specified measurements	-	1	2	-
PC10. check visually for any surface damage on the components before assembly and installation processes	1	1	2	-
PC11. ensure that the work area is free of clutters to carry out installation work smoothly	-	1	2	-
<i>Perform assembly and installation of flooring</i>	5	14	28	6
PC12. check the sub-floor to make sure that there are no squeaks in the floor and make necessary arrangements, if required	1	1	2	1

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC13. roll out the strips of vapor barrier paper and staple securely to the sub-floor	-	1	2	1
PC14. make use of the installation approach, which focuses on the largest unobstructed wall	1	1	2	-
PC15. ensure correct methods of holding and centering the workpiece	1	1	2	-
PC16. ensure the alignment of the board edge with the guiding line and drill holes as per specified measurements	-	1	2	1
PC17. make use of the pneumatic nail gun, placing the gun lip over the edge of the board and driving the staple into the tongue of the hardwood plank	1	1	2	1
PC18. install the panels of the flooring as per drawing specification	-	1	2	-
PC19. ensure proper grain matching while installation of panels	-	1	2	-
PC20. check for the end matching of the panels while assembling of panels	-	1	2	-
PC21. check the vertical and horizontal alignment of panels using appropriate tools	-	1	2	-
PC22. undertake requisite cut-outs for electrical outlets, plumbing points, and other arrangements	-	1	2	-
PC23. ensure removal of masking tape after installation of panels	-	1	2	-
PC24. apply sealants at the exposed edges and corners once the panels get installed	-	1	2	1
PC25. ensure a final sanding of panels and edges to get a finished look	1	1	2	1
NOS Total	13	25	50	12

National Occupational Standards (NOS) Parameters

NOS Code	FFS/N2216
NOS Name	Perform fabrication, assembly, and installation of Wooden Flooring
Sector	Furniture & Fittings
Sub-Sector	Furniture Sales, Installation & After Sales
Occupation	Furniture Installation
NSQF Level	4
Credits	TBD
Version	1.0
Next Review Date	NA

FFS/N2217: Perform fabrication, assembly, and installation of Kitchen, Cabinets, and Beds

Description

This unit describes the performance outcomes required to fabricate, assemble and install various types of kitchen, cabinets, and beds.

Scope

The scope covers the following :

- Prepare the resources for cabinets assemblage
- Perform assembly and installation of kitchen, cabinets, and beds
- Install architectural hardware, fittings, and accessories

Elements and Performance Criteria

Prepare the resources for cabinets assemblage

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

- PC1.** identify and select the timber and panels based on design specifications
- PC2.** maintain the moisture content of the timber within specified limits
- PC3.** plan and organize required materials, tools, and equipment for cabinets fabrication and installation
- PC4.** check that the selected tools and equipment are in safe working condition and ready for use
- PC5.** identify different components of the products as per the given specifications
- PC6.** prepare a cutting list of various components of the product based on materials and design specifications
- PC7.** perform the required woodworking operation on the materials as per design specifications
- PC8.** prepare the material pieces into the required shape as per the specified measurements
- PC9.** check visually for any surface damage on the components before assembly and installation
- PC10.** ensure that the work area is free of clutters to carry out installation work smoothly

Perform assembly and installation of kitchen, cabinets, and beds

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

- PC11.** ensure correct methods of holding and centering the workpiece
- PC12.** ensure all parts are in desired sizes and thickness as per design requirements
- PC13.** measure and mark the position of cabinet installation on the wall
- PC14.** assemble and install the panels of the cabinets as per drawing specification
- PC15.** make use of the pneumatic nail gun, placing the gun lip over the edge of the board and driving the staple into the tongue of the panel
- PC16.** ensure proper grain matching while installation of panels
- PC17.** check for the end matching of the panels while assembling of panels
- PC18.** check the vertical and horizontal alignment of panels using appropriate tools
- PC19.** undertake requisite cut-outs for electrical outlets, plumbing points, and other arrangements

PC20. ensure removal of masking tape after installation of panels

PC21. prepare the necessary mounting for furniture to be installed

Install architectural hardware, fittings, and accessories

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

PC22. interpret the product drawing and identify the type of hardware and accessories required for cabinets installation

PC23. identify and use required tools and equipment for installation of hardware and accessories

PC24. measure and mark the dimensions on the product to determine hardware positioning

PC25. make provisions for the installation of fittings by preparing slots and cut-outs

PC26. install hardware and accessories in accordance with the job and manufacturer specifications

PC27. ensure the proper functioning of the hardware after installation and make necessary adjustments as required

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 various types of modular furniture cabinets and the architectural hardware as per the same

KU9. how to identify and select suitable timber based on type, requirement, coding, area of application, etc.

KU10. the structural properties associated with different types of timber

KU11. how to plan and organize work activities based on assigned tasks

KU12. the operational and maintenance guide for different types of tools and equipment required during cabinets fabrication and installation work

KU13. the process of interpreting various components of the furniture based on design specifications

KU14. the process guide for the preparation of cutting list/part list of the furniture based on design requirements

KU15. the relevant basics of various woodworking operations and their procedural guides

KU16. the importance of workplace management during the project execution

KU17. the different types of work holding devices used to hold a workpiece while working

- KU18.** the standard sizes and specifications associated with the different types of cabinets fabrication
- KU19.** the relevant basics of measurement and marking using appropriate tools and equipment
- KU20.** the assembly and installation process associated with the different types of cabinets
- KU21.** different types of nails and screws based on their area of application in the products
- KU22.** the effect of grain matching and patterns on panels concerning the appearance and aesthetics of the furniture
- KU23.** various techniques employed for ensuring proper assembly of parts using appropriate tools and equipment
- KU24.** the various tools and equipment employed to check the vertical and horizontal alignment of the panels
- KU25.** the various hindrances to be encountered during installation of cabinets at the worksite
- KU26.** the cleaning and housekeeping procedures associated with the panels during project execution
- KU27.** different types of mounting arrangements which can be employed for furniture installation
- KU28.** how to interpret the job work requirement and design specifications for cabinets installation
- KU29.** the operational guide of tools and equipment required for hardware and accessories installation
- KU30.** the basics of relevant woodworking operations required for installation of fittings on the furniture
- KU31.** the assembly and installation process associated with the various hardware and accessories
- KU32.** how to check the functionality of the installed hardware and accessories

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

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Prepare the resources for cabinets assemblage</i>	6	10	20	4
PC1. identify and select the timber and panels based on design specifications	1	1	2	1
PC2. maintain the moisture content of the timber within specified limits	1	1	2	1
PC3. plan and organize required materials, tools, and equipment for cabinets fabrication and installation	1	1	2	1
PC4. check that the selected tools and equipment are in safe working condition and ready for use	1	1	2	1
PC5. identify different components of the products as per the given specifications	-	1	2	-
PC6. prepare a cutting list of various components of the product based on materials and design specifications	1	1	2	-
PC7. perform the required woodworking operation on the materials as per design specifications	-	1	2	-
PC8. prepare the material pieces into the required shape as per the specified measurements	-	1	2	-
PC9. check visually for any surface damage on the components before assembly and installation	1	1	2	-
PC10. ensure that the work area is free of clutters to carry out installation work smoothly	-	1	2	-
<i>Perform assembly and installation of kitchen, cabinets, and beds</i>	3	10	22	2
PC11. ensure correct methods of holding and centering the workpiece	-	1	2	-
PC12. ensure all parts are in desired sizes and thickness as per design requirements	1	1	2	1
PC13. measure and mark the position of cabinet installation on the wall	1	1	2	1

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC14. assemble and install the panels of the cabinets as per drawing specification	-	1	2	-
PC15. make use of the pneumatic nail gun, placing the gun lip over the edge of the board and driving the staple into the tongue of the panel	-	1	2	-
PC16. ensure proper grain matching while installation of panels	-	1	2	-
PC17. check for the end matching of the panels while assembling of panels	-	1	2	-
PC18. check the vertical and horizontal alignment of panels using appropriate tools	-	1	2	-
PC19. undertake requisite cut-outs for electrical outlets, plumbing points, and other arrangements	-	1	2	-
PC20. ensure removal of masking tape after installation of panels	1	-	2	-
PC21. prepare the necessary mounting for furniture to be installed	-	1	2	-
<i>Install architectural hardware, fittings, and accessories</i>	3	6	12	2
PC22. interpret the product drawing and identify the type of hardware and accessories required for cabinets installation	-	1	2	-
PC23. identify and use required tools and equipment for installation of hardware and accessories	1	1	2	1
PC24. measure and mark the dimensions on the product to determine hardware positioning	1	1	2	1
PC25. make provisions for the installation of fittings by preparing slots and cut-outs	-	1	2	-
PC26. install hardware and accessories in accordance with the job and manufacturer specifications	-	1	2	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC27. ensure the proper functioning of the hardware after installation and make necessary adjustments as required	1	1	2	-
NOS Total	12	26	54	8

National Occupational Standards (NOS) Parameters

NOS Code	FFS/N2217
NOS Name	Perform fabrication, assembly, and installation of Kitchen, Cabinets, and Beds
Sector	Furniture & Fittings
Sub-Sector	Furniture Sales, Installation & After Sales
Occupation	Furniture Installation
NSQF Level	4
Credits	TBD
Version	1.0
Next Review Date	NA

FFS/N2218: Perform fabrication, assembly, and installation of a Wooden House Structure

Description

This unit describes the performance outcomes required to fabricate, assemble and install wooden structures for houses.

Scope

The scope covers the following :

- Prepare the resources for house frame structure assemblage
- Perform assembly and installation of house frame structure

Elements and Performance Criteria

Prepare the resources for house frame structure assemblage

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

- PC1.** identify and select the timber and panels based on design specifications
- PC2.** maintain the moisture content of the timber within specified limits
- PC3.** plan and organize required materials, tools, and equipment for wooden structure fabrication and installation
- PC4.** identify different components of the products as per the given specifications
- PC5.** prepare a cutting list of various components of the product based on materials and design specifications
- PC6.** apply woodwork skills to measure, mark out, cut, joint, fit the pieces of the structure
- PC7.** prepare the material pieces into the required shape as per the specified measurements
- PC8.** design the repetitive framing members to withstand the load of the occupants
- PC9.** select the framing type of the structure based on required design specifications
- PC10.** plan house layouts and room sizes for efficient use of space and to avoid excessive building area and heated volume
- PC11.** identify and select the framing method, depth, and spacing of members based on insulation levels of the structure
- PC12.** check visually for any surface damage on the components before assembly and installation processes
- PC13.** ensure that the work area is free of clutters to carry out installation work smoothly

Perform assembly and installation of house frame structure

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

- PC14.** ensure that the repetitive framing members such as trusses or wood I-joists spaced as per standard sizes
- PC15.** perform laying of the sill plate based on the level of the foundation top
- PC16.** prepare the thickness of the sheathing panels based on the amount of structural strength requirement

- PC17.** prepare a connection between the roof/ floor, wall, and foundation to provide a continuous and complete load path
- PC18.** factor the loads on the subfloor and floor by placing the joist with a bow edgewise in a crown on top position
- PC19.** install the joists based on the clearance under the wood beam
- PC20.** select and install the sub-floor based on floor stiffness and vibration requirement
- PC21.** apply appropriate adhesives to reduce the deflection between adjacent joists
- PC22.** install insulation carefully on top of the soffit finish preventing air leakage through the cantilevered floor assembly
- PC23.** follow the code-acceptable practices that use fewer framing materials such as advanced framing techniques
- PC24.** ensure a final sanding of panels and edges to get a finished look

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.** how to identify and select suitable timber based on type, requirement, coding, area of application, etc.
- KU9.** the structural properties associated with different types of timber
- KU10.** how to plan and organize work activities based on assigned tasks
- KU11.** the process of interpreting various components of the furniture based on design specifications
- KU12.** the process guide for the preparation of cutting list/part list of the furniture based on design requirements
- KU13.** the relevant basics of various woodworking operations and their procedural guides
- KU14.** the load and ergonomics considerations while designing framing members
- KU15.** different members of a framing structure and their significance
- KU16.** the importance of space management while planning and lay-outing of the project
- KU17.** the importance of different types of insulation and its effects on the dimensional stability of the structure
- KU18.** the importance of worksite management during the project execution
- KU19.** the standard sizes and specifications associated with the wooden structure fabrication for houses

- KU20.** the process of fitting and assembly of still plate based on structural load requirements
- KU21.** the correlation of the sheathing panels thickness with the various housing structural requirements
- KU22.** various requirements of structural timber for use in buildings and factors affecting strength, tolerances on the dimension on structures
- KU23.** how to calculate various factors affecting the wooden housing structure such as loads, trusses, vibrations, etc.
- KU24.** the process guide for the installation of joists in a structure
- KU25.** different types of adhesives for specific conditions and applications
- KU26.** the relevant basics of cantilevered floor assembly and installation
- KU27.** the codes and standards for structural wood products and their usage
- KU28.** the procedural steps associated with the final finishing of the wooden structure after installation

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

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Prepare the resources for house frame structure assemblage</i>	8	13	26	7
PC1. identify and select the timber and panels based on design specifications	1	1	2	1
PC2. maintain the moisture content of the timber within specified limits	1	1	2	1
PC3. plan and organize required materials, tools, and equipment for wooden structure fabrication and installation	1	1	2	1
PC4. identify different components of the products as per the given specifications	-	1	2	-
PC5. prepare a cutting list of various components of the product based on materials and design specifications	-	1	2	-
PC6. apply woodworking skills to measure, mark out, cut, joint, fit the pieces of the structure	1	1	2	1
PC7. prepare the material pieces into the required shape as per the specified measurements	-	1	2	-
PC8. design the repetitive framing members to withstand the load of the occupants	1	1	2	-
PC9. select the framing type of the structure based on required design specifications	1	1	2	1
PC10. plan house layouts and room sizes for efficient use of space and to avoid excessive building area and heated volume	-	1	2	-
PC11. identify and select the framing method, depth, and spacing of members based on insulation levels of the structure	1	1	2	1
PC12. check visually for any surface damage on the components before assembly and installation processes	1	1	2	1
PC13. ensure that the work area is free of clutters to carry out installation work smoothly	-	1	2	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Perform assembly and installation of house frame structure</i>	8	11	22	5
PC14. ensure that the repetitive framing members such as trusses or wood I-joists spaced as per standard sizes	1	1	2	1
PC15. perform laying of the sill plate based on the level of the foundation top	-	1	2	-
PC16. prepare the thickness of the sheathing panels based on the amount of structural strength requirement	1	1	2	-
PC17. prepare a connection between the roof/ floor, wall, and foundation to provide a continuous and complete load path	-	1	2	-
PC18. factor the loads on the subfloor and floor by placing the joist with a bow edgewise in a crown on top position	1	1	2	1
PC19. install the joists based on the clearance under the wood beam	-	1	2	-
PC20. select and install the sub-floor based on floor stiffness and vibration requirement	1	1	2	-
PC21. apply appropriate adhesives to reduce the deflection between adjacent joists	1	1	2	1
PC22. install insulation carefully on top of the soffit finish preventing air leakage through the cantilevered floor assembly	1	1	2	1
PC23. follow the code-acceptable practices that use fewer framing materials such as advanced framing techniques	1	1	2	1
PC24. ensure a final sanding of panels and edges to get a finished look	1	1	2	-
NOS Total	16	24	48	12

National Occupational Standards (NOS) Parameters

NOS Code	FFS/N2218
NOS Name	Perform fabrication, assembly, and installation of a Wooden House Structure
Sector	Furniture & Fittings
Sub-Sector	Furniture Sales, Installation & After Sales
Occupation	Furniture Installation
NSQF Level	4
Credits	TBD
Version	1.0
Next Review Date	NA

FFS/N2219: Perform General Repairs and Maintenance of the furniture at the worksite

Description

This unit describes the performance outcomes required to perform dismantling, repairing, and maintenance of the furniture and other accessories at the worksite.

Scope

The scope covers the following :

- Prepare the resources for dismantling, repair, and maintenance of furniture
- Dismantling and movement of various components of furniture
- Maintain, repair, and re-install the furniture
- Perform cleaning of furniture

Elements and Performance Criteria

Prepare the resources for dismantling, repair, and maintenance of furniture

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

- PC1.** examine and identify the various components of the existing furniture to determine the scope of repair and maintenance
- PC2.** plan and organize required materials, tools, and equipment for furniture repair and restoration
- PC3.** check that the selected tools and equipment are in safe working condition and ready for use
- PC4.** measure the various components of the furniture to determine the product specifications
- PC5.** ensure that the work area is free of clutters to carry out work smoothly

Dismantling and movement of various components of furniture

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

- PC6.** ensure that the furniture should be emptied from inside before dismantling
- PC7.** follow the approach of dismantling the parts in order of assembling them at last at the end of the process
- PC8.** dismantle and detach sofa legs, bookcase shelves, beds, and anything else that needs repair or maintenance
- PC9.** ensure proper stacking of all the labeled parts neatly to avoid scratches and other types of damages
- PC10.** ensure proper arrangement of small parts like screws and other fasteners after dismantling of furniture
- PC11.** plan and organize the movement/displacement of the furniture and its parts
- PC12.** examine the surroundings and the route whereby the furniture is to be moved
- PC13.** identify potential troubles like light fixtures which can be damaged during moving or detaching the furniture
- PC14.** clear the route by moving or removing fragile or obstructive items
- PC15.** make use of soft padding or wrap the furniture in a blanket pad to protect it while moving

PC16. perform lifting and movement based on the type of furniture and its compositions to avoid any mishaps

Maintain, repair, and re-install the furniture

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

- PC17.** plan out the repair and maintenance process in accordance with the scope of the work
- PC18.** perform stripping of the old and damaged layer of the furniture using a scrapper based on repair requirements
- PC19.** repair the joints or cracks in furniture using appropriate adhesives and clamp the joints, if required
- PC20.** prepare the material pieces into the required shape as per the specified measurements
- PC21.** perform sanding on the surface of the components to remove small scratches and marks
- PC22.** tighten the various components of furniture together using appropriate steel brackets and screws
- PC23.** perform reupholstering of the furniture using suitable padding and fabric as per requirement
- PC24.** assemble and install the panels of the furniture as per product specification
- PC25.** ensure proper grain matching while installation of panels
- PC26.** check the vertical and horizontal alignment of panels using appropriate tools
- PC27.** identify and select appropriate polishes and waxes on furniture based on the type of wood/panels
- PC28.** ensure the proper functioning of the hardware after furniture assembly and make necessary adjustments as required.
- PC29.** evaluate if surface or coating is not susceptible to be damaged by the contact required in cleaning and polishing
- PC30.** perform dusting and cleaning carefully using appropriate tools and equipment
- PC31.** ensure that only unfinished wood, painted wood, or wood with a sturdy finish should be cleaned using appropriate water-soluble solutions
- PC32.** carefully wipe off the dust on the furniture using a damp cloth

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 process of interpreting various components of the furniture based on design specifications

- KU9.** how to plan and organize work activities based on assigned tasks
- KU10.** the operational and maintenance guide for different types of tools and equipment required during furniture repairs and maintenance work
- KU11.** the relevant basics of measurement and marking using appropriate tools and equipment
- KU12.** the importance of workplace management during the project execution
- KU13.** precautions to be followed while dismantling and movement of a furniture
- KU14.** the various installation techniques used for the dismantling a furniture
- KU15.** the importance of stacking and marking for easy accessibility and identification
- KU16.** the importance of documenting the dismantling process with details of each small part for ease in assembly and installation
- KU17.** the importance of workplace management and planning to avoid any mishaps
- KU18.** the various hindrances to be encountered during installation of furniture at the worksite
- KU19.** the importance of using suitable padding during safe movement of a furniture
- KU20.** the correct body postures for safe lifting and movement of a furniture
- KU21.** the precautions to be followed while lifting and movement process for a furniture
- KU22.** the importance of the furniture fabrication process while planning the repair and maintenance work
- KU23.** the woodworking process associated with the cutting, stripping, pasting, chiseling of products
- KU24.** the usage of different types of clamps and relevant adhesives based on product specifications
- KU25.** the structural problems in wooden furniture in terms of the material used, the way it's put together, and the way it functions
- KU26.** different grades of sanding paper used for performing sanding based on the requirement
- KU27.** the usage of different types of connector accessories while assembling different components of a product
- KU28.** the upholstering process involves webbing, foaming, marking, fabric cutting, and fitting on the product
- KU29.** the relevant basics of assembly and installation guide for different types of furniture
- KU30.** the effect of grain matching and patterns on panels with reference to the appearance and aesthetics of the furniture
- KU31.** the various tools and equipment employed to check the vertical and horizontal alignment of the panels
- KU32.** the different types of coating and their effect on various materials
- KU33.** how to check the functionality of the installed hardware and accessories
- KU34.** the precautions to be followed while polishing and waxing the coating on the furniture surface
- KU35.** various housekeeping processes and equipment used for cleaning worksite, tools, and products
- KU36.** various types of soluble solution to be used in the housekeeping process based on requirements
- KU37.** the importance of maintaining cleanliness at the worksite

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

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Prepare the resources for dismantling, repair, and maintenance of furniture</i>	2	5	10	2
PC1. examine and identify the various components of the existing furniture to determine the scope of repair and maintenance	-	1	2	-
PC2. plan and organize required materials, tools, and equipment for furniture repair and restoration	1	1	2	1
PC3. check that the selected tools and equipment are in safe working condition and ready for use	1	1	2	1
PC4. measure the various components of the furniture to determine the product specifications	-	1	2	-
PC5. ensure that the work area is free of clutters to carry out work smoothly	-	1	2	-
<i>Dismantling and movement of various components of furniture</i>	5	11	14	-
PC6. ensure that the furniture should be emptied from inside before dismantling	-	1	-	-
PC7. follow the approach of dismantling the parts in order of assembling them at last at the end of the process	-	1	2	-
PC8. dismantle and detach sofa legs, bookcase shelves, beds, and anything else that needs repair or maintenance	-	1	2	-
PC9. ensure proper stacking of all the labeled parts neatly to avoid scratches and other types of damages	1	1	2	-
PC10. ensure proper arrangement of small parts like screws and other fasteners after dismantling of furniture	1	1	-	-
PC11. plan and organize the movement/displacement of the furniture and its parts	-	1	2	-
PC12. examine the surroundings and the route whereby the furniture is to be moved	1	1	2	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC13. identify potential troubles like light fixtures which can be damaged during moving or detaching the furniture	1	1	2	-
PC14. clear the route by moving or removing fragile or obstructive items	-	1	-	-
PC15. make use of soft padding or wrap the furniture in a blanket pad to protect it while moving	-	1	-	-
PC16. perform lifting and movement based on the type of furniture and its compositions to avoid any mishaps	1	1	2	-
<i>Maintain, repair, and re-install the furniture</i>	7	16	24	4
PC17. plan out the repair and maintenance process in accordance with the scope of the work	-	1	2	-
PC18. perform stripping of the old and damaged layer of the furniture using a scrapper based on repair requirements	-	1	2	-
PC19. repair the joints or cracks in furniture using appropriate adhesives and clamp the joints, if required	1	1	2	1
PC20. prepare the material pieces into the required shape as per the specified measurements	-	1	2	-
PC21. perform sanding on the surface of the components to remove small scratches and marks	1	1	2	-
PC22. tighten the various components of furniture together using appropriate steel brackets and screws	-	1	2	-
PC23. perform reupholstering of the furniture using suitable padding and fabric as per requirement	1	1	2	1
PC24. assemble and install the panels of the furniture as per product specification	-	1	2	-
PC25. ensure proper grain matching while installation of panels	-	1	2	-
PC26. check the vertical and horizontal alignment of panels using appropriate tools	-	1	2	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC27. identify and select appropriate polishes and waxes on furniture based on the type of wood/panels	1	1	2	1
PC28. ensure the proper functioning of the hardware after furniture assembly and make necessary adjustments as required.	1	1	2	1
PC29. evaluate if surface or coating is not susceptible to be damaged by the contact required in cleaning and polishing	-	1	-	-
PC30. perform dusting and cleaning carefully using appropriate tools and equipment	1	1	-	-
PC31. ensure that only unfinished wood, painted wood, or wood with a sturdy finish should be cleaned using appropriate water-soluble solutions	1	1	-	-
PC32. carefully wipe off the dust on the furniture using a damp cloth	-	1	-	-
NOS Total	14	32	48	6

National Occupational Standards (NOS) Parameters

NOS Code	FFS/N2219
NOS Name	Perform General Repairs and Maintenance of the furniture at the worksite
Sector	Furniture & Fittings
Sub-Sector	Furniture Sales, Installation & After Sales
Occupation	Furniture Installation
NSQF Level	4
Credits	TBD
Version	1.0
Next Review Date	NA

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 proportion of marks for Theory and Skills Practical for each Element/ PC.
2. The assessment for the theory part will be based on 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 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 Core NOS.
7. In case of unsuccessful completion, the trainee may seek reassessment on the 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: 70

(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/N2210.Assist in client coordination, team supervision, and quality check of the project	11	28	56	5	100	15
FFS/N2211.Ensure proper material management and preparation of the worksite	17	32	40	11	100	15
FFS/N2212.Set-out, mark and fabricate the various components of the products at worksite	9	40	42	9	100	15
FFS/N2213.Perform assembly, finishing, and installation of different components of the product at the worksite	15	36	40	9	100	15
FFS/N8203.Maintain health, safety, and greening practices at the worksite	16	24	48	12	100	5
FFS/N8204.Work effectively with the supervisors and co-workers involving gender and PwD sensitive practices	14	25	52	10	101	5
FFS/N8206.Undertake entrepreneurship and business development activities	20	20	60	0	100	5
Total	102	205	338	56	701	75

Elective: 1 Wooden Doors and Windows with Frames

National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
FFS/N2214.Perform fabrication, assembly, and installation of Wooden Doors and Windows with Frames	22	30	28	20	100	25
Total	22	30	28	20	100	25

Elective: 2 Wooden Cladding and Panelling

National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
FFS/N2215.Perform fabrication, assembly, and installation of Wooden Cladding and Panelling	16	38	38	9	101	25
Total	16	38	38	9	101	25

Elective: 3 Wooden Flooring

National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
FFS/N2216.Perform fabrication, assembly, and installation of Wooden Flooring	13	25	50	12	100	25
Total	13	25	50	12	100	25

Elective: 4 Kitchen, Cabinets, and Beds

National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
FFS/N2217.Perform fabrication, assembly, and installation of Kitchen, Cabinets, and Beds	12	26	54	8	100	25
Total	12	26	54	8	100	25

Elective: 5 Wooden House Structure

National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
FFS/N2218.Perform fabrication, assembly, and installation of a Wooden House Structure	16	24	48	12	100	25
Total	16	24	48	12	100	25

Elective: 6 General Repairs and Maintenance

National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
FFS/N2219.Perform General Repairs and Maintenance of the furniture at the worksite	14	32	48	6	100	25
Total	14	32	48	6	100	25

Acronyms

NOS	National Occupational Standard(s)
NSQF	National Skills Qualifications Framework
QP	Qualifications Pack
TVET	Technical and Vocational Education and Training
POC	Point Of Contact
PwD	Person with Disability
POSH	Prevention Of Sexual Harassment
OHS	Occupational Health and Safety
AR	Augmented Reality
VR	Virtual Reality
IoT	Internet of Things

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.
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.