

Qualification Pack



Lead Furniture Maker Bamboo

Options: Round Bamboo

QP Code: FFS/Q4102

Version: 2.0

NSQF Level: 4

Furniture and Fittings Skill Council || 407-408, DLF City Court, M G Road, Sikanderpur
Gurgaon - 122002

Qualification Pack

Contents

FFS/Q4102: Lead Furniture Maker Bamboo	3
<i>Brief Job Description</i>	3
Applicable National Occupational Standards (NOS)	3
<i>Compulsory NOS</i>	3
<i>Option: Round Bamboo</i>	3
<i>Qualification Pack (QP) Parameters</i>	3
FFS/N4103: Prepare for bamboo furniture making	5
FFS/N4104: Make bamboo furniture components	12
FFS/N8401: Quality Control	23
FFS/N8601: Ensure health and safety at workplace	28
FFS/N8801: Work effectively with others	36
FFS/N4101: Prepare to make round bamboo furniture	42
FFS/N4102: Make round bamboo furniture	49
Assessment Guidelines and Weightage	58
<i>Assessment Guidelines</i>	58
<i>Assessment Weightage</i>	58
Acronyms	60
Glossary	61

Qualification Pack

FFS/Q4102: Lead Furniture Maker Bamboo

Brief Job Description

The furniture maker is responsible for making full range of rough and finished product including making components, joining and assembling of parts using various hand and power tools. She/he should have thorough knowledge of methods, materials, tools, and equipment used.

Personal Attributes

The person should have good eyesight, hand eye coordination and the eye for detail. She/he should be able to take and comply with instructions and should be result oriented. She/he should have good communication and coordination skills and take initiative and manage self and work to improve efficiency and effectiveness.

Applicable National Occupational Standards (NOS)

Compulsory NOS:

1. [FFS/N4103: Prepare for bamboo furniture making](#)
2. [FFS/N4104: Make bamboo furniture components](#)
3. [FFS/N8401: Quality Control](#)
4. [FFS/N8601: Ensure health and safety at workplace](#)
5. [FFS/N8801: Work effectively with others](#)

Options(Not mandatory):

Option : Round Bamboo

She/he is responsible for making furniture from round bamboo by sizing and dressing bamboo pieces. She/he should have thorough knowledge of methods, materials, tools, and equipment used.

1. [FFS/N4101: Prepare to make round bamboo furniture](#)
2. [FFS/N4102: Make round bamboo furniture](#)

Qualification Pack (QP) Parameters

Sector	Furniture & Fittings
Sub-Sector	Bamboo and Cane Furniture
Occupation	Furniture making

Qualification Pack

Country	India
NSQF Level	4
Aligned to NCO/ISCO/ISIC Code	NCO-2015/7317.0300
Minimum Educational Qualification & Experience	8th Class
Minimum Level of Education for Training in School	
Pre-Requisite License or Training	NA
Minimum Job Entry Age	18 Years
Last Reviewed On	17/10/2019
Next Review Date	17/10/2023
Deactivation Date	17/10/2023
NSQC Approval Date	22/08/2019
Version	2.0

Qualification Pack

FFS/N4103: Prepare for bamboo furniture making

Description

Lead Furniture maker-bamboo is expected to make furniture which includes much higher complexity level of joining and assembling. This unit covers the key skills and knowledge required to plan and prepare for making the bamboo furniture.

Scope

This unit/task covers the following:

- Understand the work requirement
- Prepare work area for furniture making
- Read and Interpret sketches/drawings and design
- Prepare cost estimates

Elements and Performance Criteria

Understand the work requirement

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

- PC1.** obtain job instructions from responsible personnel job instruction: design, structural characteristics, frame instruction, durability factor, appearance, color, type of finish etc.
- PC2.** interact with supervisor in order to understand the client requirement
- PC3.** read and confirm that the given instructions and design are complete and correct
- PC4.** plan out an efficient sequence of work as per the job requirement and specification

Prepare work area for bamboo furniture making

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

- PC5.** obtain appropriate hand tools, power tools and material suitable to carry out the given task hand tools: e.g. dao, chisel set, dropping knife, width seizers, scissors, hammer, round planer/knot remover, scrapper, blow touch, vice, grinder, thicknesser, hand plane, v-shaped knife, pointed knife, mallet, wood saw, hacksaw, pliers, hand drill and bits, sand container, pencil, marker, measuring tape, steel rule, staple gun etc. power tools: e.g. power saw, power drill, hand cutting machine, hand splicer, surface planer, trowel, tumbler, shovel etc. material: e.g. treated bamboo of required diameter, adhesive, sand paper, nails, cane (3-4 mm for binding), wood pegs, bending wire, nut bolt etc.
- PC6.** report on any shortage or defect of tools and materials to the concerned person before commencement of work
- PC7.** check that the selected tools & machines are in safe working condition and ready for use
- PC8.** check the bamboo for treatment against insects, fungus and other weather exposures
- PC9.** check the bamboo for any splits that can affect the furniture strength and its making process

Read and Interpret sketches/drawings and design

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

Qualification Pack

- PC10.** use approved procedures to inspect bamboo visually for any possible defects as per required standard parameters prior to workdefects: splinters, cracks, unwanted cavities, exposed to fungus or any other insects, size/diameter variation, waviness, etc.
- PC11.** read and interpret the details from design/drawings relevant to bamboo furniture making
- PC12.** read and understand manufacturer's specification of material and its uses
- PC13.** identify the surfaces and dimensions as per the drawing
- PC14.** read and understand the scope of work

Prepare cost estimates

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

- PC15.** interact with client to decide on the procurement of material
- PC16.** suggest cost to the client considering bamboo furniture styles , durability, patterns, comfort, modern appearance etc.
- PC17.** prepare and provide cost estimate to the client after evaluating various factorsvarious factors: type of furniture, type of finish, cost of labour for complex design, cost of raw material etc.

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

1. applicable legislation, standards, policies, and procedures followed in the company
2. one's roles, responsibilities and expectations of the job
3. the organizations rules, codes, guidelines and standards
4. statutory responsibilities, organizational legislation and regulations
5. contact person in case of queries on procedure or products
6. method to handle tools and equipment safely and the health and safety implications of not doing so
7. escalation matrix
8. grievance handling as per organizational procedures
9. relevant health and safety requirements applicable in the work place
10. point of contact to obtain work related instructions, clarifications and support
11. importance of following health, hygiene, safety
12. importance of following quality standards
13. organizational procedure and government policy of waste disposal
14. work target and review mechanism in the organization
15. general rules and regulations in a bamboo and cane sector
16. different types of furniture made from bambootypes of bamboo furniture: chair, table, sofa, stool etc.
17. different type of bamboo and its use in furniture making
18. importance of using personal protective equipment appropriate to the work
19. hazards and risks associated with bamboo usage for furniture making and how to minimize accidents and injury to self and others

Qualification Pack

20. importance of maintaining healthy work environment
21. different types of tools, machines and material and their uses hand tools: e.g. dao, chisel set, dropping knife, width seizers, scissors, hammer, round planer/knot remover, scrapper, blow torch, vice, grinder, thickness, hand plane, v-shaped knife, pointed knife, mallet, wood saw, hacksaw, pliers, hand drill and bits, sand container, pencil, marker, measuring tape, steel rule, staple gun etc. power tools: e.g. power saw, power drill, hand cutting machine, hand splicer, surface planer, trowel, tumbler, shovel etc. material: e.g. treated bamboo of required diameter, adhesive, sand paper, nails, cane, wood pegs, bending wire, nut bolt etc.
22. how to read work instructions and specification correctly and accurately
23. one's own roles and responsibility at work place
24. methods used to identify defects
25. relevant methods used to rectify defects
26. safe disposal of waste materials
27. drawings and sketches for furniture making
28. how to carry out measuring and markings to guide activities of subordinates
29. cleaning and maintenance procedures
30. importance to bamboo treatment
31. safety procedures to be followed as applicable at work site
32. type of hazards and risk at work place and procedures for dealing with them hazards: inhaling dry chemical used for gluing, poorly designed and rusted tools, repetitive movements, and stressful working conditions including insufficient rest periods, inadequate lighting and poor temperature control, sharp/pointed tools like knives, saw, hammer, etc.
33. how to load and unload heavy bamboo furniture
34. common mistakes in handling of materials that affect the quality of work
35. how to prepare and provide cost estimate to the client after evaluating various factors various factors: type of furniture, type of finish, cost of labor for complex design cost of raw material etc.
36. how to interact with client to decide on the procurement of material to maintain a positive image about the organisation

Generic Skills (GS)

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

1. write in hindi or local language
2. fill logs, forms and formats in local language or hindi for recording quantity and quality of work figures, defects and other related information, etc. whenever needed
3. fill formats, logs and forms related to work in local language or hindi/english
4. document measurement appropriately whenever required
5. read instructions from supervisor provided in local language or hindi
6. read and understand manufacturers instructions and job specifications
7. interpret pictorial representations and written signs or instructions
8. read and interpret numbers written in hindi or local language
9. understand safety symbols and basic warning signs wherever needed

Qualification Pack

- 10.** communicate effectively with team members, supervisors, managers etc.
- 11.** seek clarification on any unclear instructions in locally understood language
- 12.** take decisions of ones own roles and responsibilities
- 13.** decide on material requirement related to one's work
- 14.** decide to accept or reject a work piece on the basis of quality parameter
- 15.** plan and organize own work in a way that all activities are completed in time and as per specifications
- 16.** plan work as per job specification
- 17.** plan and organize cleaning and maintenance activities
- 18.** work and deliver output as per client requirement
- 19.** identify any defects in materials, tools and equipment and ways to resolve them
- 20.** determine timely correction of errors to minimize rejection of pieces or re-work

Qualification Pack

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Understand the work requirement</i>	15	6	-	-
PC1. obtain job instructions from responsible personnel job instruction: design, structural characteristics, frame instruction, durability factor, appearance, color, type of finish etc.	2	3	-	-
PC2. interact with supervisor in order to understand the client requirement	2	3	-	-
PC3. read and confirm that the given instructions and design are complete and correct	6	-	-	-
PC4. plan out an efficient sequence of work as per the job requirement and specification	5	-	-	-
<i>Prepare work area for bamboo furniture making</i>	-	31	-	-
PC5. obtain appropriate hand tools, power tools and material suitable to carry out the given task hand tools: e.g. dao, chisel set, dropping knife, width seizers, scissors, hammer, round planer/knot remover, scrapper, blow touch, vice, grinder, thicknesser, hand plane, v-shaped knife, pointed knife, mallet, wood saw, hacksaw, pliers, hand drill and bits, sand container, pencil, marker, measuring tape, steel rule, staple gun etc. power tools: e.g. power saw, power drill, hand cutting machine, hand splicer, surface planer, trowel, tumbler, shovel etc. material: e.g. treated bamboo of required diameter, adhesive, sand paper, nails, cane (3-4 mm for binding), wood pegs, bending wire, nut bolt etc.	-	6	-	-
PC6. report on any shortage or defect of tools and materials to the concerned person before commencement of work	-	6	-	-
PC7. check that the selected tools & machines are in safe working condition and ready for use	-	5	-	-
PC8. check the bamboo for treatment against insects, fungus and other weather exposures	-	7	-	-

Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC9. check the bamboo for any splits that can affect the furniture strength and its making process	-	7	-	-
<i>Read and Interpret sketches/drawings and design</i>	21	9	-	-
PC10. use approved procedures to inspect bamboo visually for any possible defects as per required standard parameters prior to workdefects: splinters, cracks, unwanted cavities, exposed to fungus or any other insects, size/diameter variation, waviness, etc.	3	3	-	-
PC11. read and interpret the details from design/drawings relevant to bamboo furniture making	6	-	-	-
PC12. read and understand manufacturer's specification of material and its uses	6	-	-	-
PC13. identify the surfaces and dimensions as per the drawing	-	6	-	-
PC14. read and understand the scope of work	6	-	-	-
<i>Prepare cost estimates</i>	4	14	-	-
PC15. interact with client to decide on the procurement of material	-	6	-	-
PC16. suggest cost to the client considering bamboo furniture styles , durability, patterns, comfort, modern appearance etc.	1	5	-	-
PC17. prepare and provide cost estimate to the client after evaluating various factorsvarious factors: type of furniture, type of finish, cost of labour for complex design, cost of raw material etc.	3	3	-	-
NOS Total	40	60	-	-

Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	FFS/N4103
NOS Name	Prepare for bamboo furniture making
Sector	Furniture & Fittings
Sub-Sector	Bamboo and Cane Furniture
Occupation	Furniture Making
NSQF Level	4
Credits	TBD
Version	2.0
Last Reviewed Date	17/10/2019
Next Review Date	17/10/2023
NSQF Clearance Date	22/08/2019

Qualification Pack

FFS/N4104: Make bamboo furniture components

Description

Lead furniture maker bamboo is expected to make furniture which includes much higher complexity level of joining and assembling. This unit covers the key skills and knowledge required for making bamboo furniture components.

Scope

This unit/task covers the following:

- Measuring, marking and cutting bamboo
- Making furniture components
- Assembling and joining

Elements and Performance Criteria

Measuring, marking and cutting bamboo

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

- PC1.** read and confirm that the given instructions and design are correct
- PC2.** obtain appropriate materials and tools suitable to carry out marking activities
- PC3.** identify the surfaces and dimensions as per the drawing
- PC4.** take the size of the furniture component from the design and mark the same on bamboo culms
- PC5.** make markings using pencil and ruler or measuring tape as per drawing specification
- PC6.** hold the pieces correctly to take measurements
- PC7.** calculate height and width as per design
- PC8.** carryout marking activities using templates
- PC9.** carry out markings to guide activities of subordinates for cutting
- PC10.** cut bamboo culms in different sizes using cutting machine as per markings and design specification
- PC11.** check and ensure that the cut pieces are as per given specification and quality
- PC12.** minimise waste by following correct cutting techniques
- PC13.** take safety precautions while carrying out cutting activities

Make bamboo furniture components

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

- PC14.** use appropriate hand tools, power tools and material suitable to carry out the given task
hand tools: e.g. dao, chisel set, dropping knife, width seizers, scissors, hammer, round planer/knot remover, scrapper, blow torch, vice, grinder, thicknesser, hand plane, v-shaped knife, pointed knife, mallet, wood saw, hacksaw, pliers, hand drill and bits, sand container, pencil, marker, measuring tape, steel rule, staple gun etc. power tools: e.g. power saw, power drill, hand cutting machine, hand splicer, surface planer, trowel, tumbler, shovel etc. material: e.g. treated bamboo of required diameter, adhesive, sand paper, nails, cane (3-4mm for binding), wood pegs, bending wire, nut bolt etc.

Qualification Pack

- PC15.** procure material as per furniture component requirement and design specification material: treated bamboo of different diameter as per design requirement, battens made of bamboo, finished bamboo sticks, bamboo dowels etc. component requirement: selection of material is done in accordance with required properties like strength or flexibility that vary with different furniture components
- PC16.** bend the bamboo culms for making furniture components using appropriate method appropriate method: fill the culms with sand; apply heat using a blow torch; in proximity to the portion to be bent; move the blow torch back and forth; so as not to crack the bamboo culm; single point heating should be avoided; bend the culm by applying force on opposite ends; cool the bend of the culm with water to fix the fibers; in order to maintain its position; continue to apply heating and cooling till the desired curve has been obtained.
- PC17.** make different furniture components from bamboo culms furniture components: leg poles, stool leg support, mortise frame, bamboo or wooden plugs, surface supporting battens, bamboo nails, surface strips, concealing belt, flattened bamboo surface, back rest support, back rest, flat spokes, seat surface etc.
- PC18.** make leg poles using appropriate technique appropriate technique: cut the required number of legs out of a single culm, ensure that each leg pole has a node at one end for strength reasons, check if all the pieces are vertically upright and equal in length, make both the cut ends perpendicular to the culm length
- PC19.** make bent mortise using appropriate technique appropriate technique: determine the mortise groove length, mark reference lines on the culm, make a template stick, mark the culm using template stick, cut the mortise grooves, make the double pins and finally apply heat bending to bend the mortise
- PC20.** make surface support battens from bamboo culms of appropriate thickness for strength as per design specification appropriate thickness: approx. 8-10 mm thickness is normally used. for special cases follow the design specification
- PC21.** make flattened bamboo surface mat board manually using appropriate technique appropriate technique: split the culm in 2 halves, remove the inner nodes and put the halves on the ground with the opened side down, make multiple slits using an axe starting from one end of the culm, while crushing move towards the middle of the culm and then start at other end making sure that the starting point of the slit is not in line with the slits made from the other side, after making the bamboo flat, glue it to a veneer ply, cut the crushed bamboo surface into desired shape and size for their application
- PC22.** follow appropriate process of nailing in bamboo while making furniture appropriate process: nailing without pre-boring frequently results in splitting, moreover nails tend to become loose with time and may also corrode, both increase the risk of fungal attack

Assembling and Joining

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

- PC23.** make different kinds of joinery components of bamboo to assemble bamboo furniture like plug joint, pin joint, u-cut joint, c-shaped joint, flat spokes, round spokes etc.
- PC24.** make joints pin for bamboo furniture joining
- PC25.** make bamboo plugs to be used for joining that tightly fit in the cavity of the leg poles
- PC26.** make pointed bamboo nails for furniture joining by tapering the bamboo
- PC27.** make dowels of bamboo or wood for assembling furniture
- PC28.** make different kind of bamboo joints and connections like tongue and groove joint, male and female joint, bolt fastening joint, over lapping joint, horizontal joints vertical joint, double butt bent joint, etc.

Qualification Pack

- PC29.** identify and make different joints using various techniques
- PC30.** join bamboo using different lashing techniques
- PC31.** assemble furniture using joint appropriately
- PC32.** adjust the surface strips across the battens and fix them with nails or weave them together with fibre, removing any surplus material
- PC33.** assemble furniture using cane and nail fitting
- PC34.** assemble furniture using hollow bamboo joining technique
- PC35.** fix leg poles with the support of bend mortise grooves using appropriate technique
- PC36.** fix the supporting poles to the leg poles as per design specification using various joining techniques
- PC37.** fix the battens to the frame using nails, preferably made of bamboo
- PC38.** assemble back rest and back rest support
- PC39.** remove or chisel of the surplus material to get a smooth surface using appropriate tools
- PC40.** fill any cracks or unwanted cavities with the mix of saw dust and glue
- PC41.** sand the surface for smoothness
- PC42.** seal the joints neatly with glue/adhesive

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

1. applicable legislation, standards, policies, and procedures followed in the company
2. one's roles, responsibilities and expectations of the job
3. the organizations rules, codes, guidelines and standards
4. statutory responsibilities, organizational legislation and regulations
5. contact person in case of queries on procedure or products
6. method to handle tools and equipment safely and the health and safety implications of not doing so
7. escalation matrix
8. grievance handling as per organizational procedures
9. relevant health and safety requirements applicable in the work place
10. point of contact to obtain work related instructions, clarifications and support
11. importance of following health, hygiene, safety
12. importance of following quality standards
13. organizational procedure and government policy of waste disposal
14. work target and review mechanism in the organization
15. general rules and regulations in a bamboo and cane sector
16. different types of furniture made from bamboo types of furniture: chair, table, sofa, stool etc.
17. different type of bamboo and its use in furniture making
18. importance of using personal protective equipment appropriate to the work
19. hazards and risks associated with bamboo usage for furniture making and how to minimize accidents and injury to self and others

Qualification Pack

20. importance of maintaining healthy work environment
21. different types of tools, machines and material and their uses hand tools: e.g. dao, chisel set, dropping knife, width seizers, scissors, hammer, round planer/knot remover, scrapper, blow torch, vice, grinder, thickness, hand plane, v-shaped knife, pointed knife, mallet, wood saw, hacksaw, pliers, hand drill and bits, sand container, pencil, marker, measuring tape, steel rule, staple gun etc. power tools: e.g. power saw, power drill, hand cutting machine, hand splicer, surface planer, trowel, tumbler, shovel etc. material: e.g. treated bamboo of required diameter, adhesive, sand paper, nails, cane, wood pegs, bending wire, nut bolt etc.
22. how to read work instructions and specification correctly and accurately
23. one's own roles and responsibility at work place
24. methods used to identify defects
25. relevant methods used to rectify defects
26. safe disposal of waste materials
27. drawings and sketches for furniture making
28. basic dimensions & measurement techniques
29. different types of measuring and marking tools and templates used
30. importance of correct holding technique of tools while measuring and marking
31. safety precautions while carrying out cutting activities
32. process of bending the bamboo culms for making furniture components using appropriate method appropriate method: fill the culms with sand; apply heat using a blow torch, in proximity to the portion to be bent, move the blow torch back and forth, so as not to crack the bamboo culm. single point heating should be avoided, bend the culm by applying force on opposite ends, .cool the bend of the culm with water to fix the fibers, in order to maintain its position, continue to apply heating and cooling till the desired curve has been obtained.
33. step by step process to make different furniture components from bamboo culms furniture components: leg poles, stool leg support, mortise frame, bamboo or wooden plugs, surface supporting battens, bamboo nails, surface strips, concealing belt, flattened bamboo surface, back rest support, back rest, flat spokes, seat surface etc.
34. how to make leg poles using appropriate technique appropriate technique: cut the required number of legs out of a single culm, ensure that each leg pole has a node at one end for strength reasons, check if all the pieces are vertically upright and equal in length, make both the cut ends perpendicular to the culm length.
35. how to make bent mortise using appropriate technique appropriate technique: determine the mortise groove length, mark reference lines on the culm, make a template stick, mark the culm using template stick, cut the mortise grooves, make the double pins and finally apply heat bending to bend the mortise
36. how to make surface support battens from bamboo culms of appropriate thickness for strength as per design specification appropriate thickness: approx. 8-10 mm thickness is normally used. for special cases follow the design specification
37. how to make flattened bamboo surface mat board manually using appropriate technique appropriate technique: split the culm in 2 halves, remove the inner nodes and put the halves on the ground with the opened side down, make multiple slits using an axe starting from one end of the culm, while crushing move towards the middle of the culm and then start at other end making sure that the starting point of the slit is not in line with the slits made from the other side, after making the bamboo flat, glue it to a veneer ply, cut the crushed bamboo surface into desired shape and size for their application

Qualification Pack

38. appropriate process of nailing in bamboo while making furniture appropriate process: nailing without pre-boring frequently results in splitting. moreover, nails tend to become loose with time and may also corrode, both increase the risk of fungal attack
39. how to carry out measuring and markings to guide activities of subordinates
40. importance to bamboo treatment
41. safety procedures to be followed as applicable at work site
42. type of hazards and risk at work place and procedures for dealing with them hazards: poorly designed and rusted tools, repetitive movements, and stressful working conditions including insufficient rest periods, inadequate lighting and poor temperature control, sharp/pointed tools like knives, saw, hammer, etc.
43. how to load and unload the heavy bamboo furniture
44. cleaning and maintenance procedures
45. different ways of minimizing waste
46. common mistakes in handling of materials that affect the quality of work

Generic Skills (GS)

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

1. write in hindi or local language
2. fill logs, forms and formats in local language or hindi for recording quantity and quality of work figures, defects and other related information, etc. whenever needed
3. fill formats, logs and forms related to work in local language or hindi/english
4. document measurement appropriately whenever required
5. read instructions from supervisor provided in local language or hindi
6. read and understand manufacturers instructions and job specifications
7. interpret pictorial representations and written signs or instructions
8. read and interpret numbers written in hindi or local language
9. understand safety symbols and basic warning signs wherever needed
10. communicate effectively with team members, supervisors, managers etc.
11. seek clarification on any unclear instructions in locally understood language
12. take decisions of one's own roles and responsibilities
13. decide on material requirement related to one's work
14. decide on accept or reject a work piece on the basis of quality parameter
15. plan and organize own work in a way that all activities are completed in time and as per specifications
16. plan work as per job specification
17. plan and organize cleaning and maintenance activities
18. work and deliver output as per client requirement
19. identify any defects in materials, tools and equipment and ways to resolve them
20. determine timely correction of errors to minimize rejection of pieces or re-work

Qualification Pack

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Measuring, marking and cutting bamboo</i>	10	10	-	-
PC1. read and confirm that the given instructions and design are correct	1	-	-	-
PC2. obtain appropriate materials and tools suitable to carry out marking activities	-	1	-	-
PC3. identify the surfaces and dimensions as per the drawing	1	-	-	-
PC4. take the size of the furniture component from the design and mark the same on bamboo culms	-	1	-	-
PC5. make markings using pencil and ruler or measuring tape as per drawing specification	1	1	-	-
PC6. hold the pieces correctly to take measurements	-	1	-	-
PC7. calculate height and width as per design	2	-	-	-
PC8. carryout marking activities using templates	1	1	-	-
PC9. carry out markings to guide activities of subordinates for cutting	-	3	-	-
PC10. cut bamboo culms in different sizes using cutting machine as per markings and design specification	2	1	-	-
PC11. check and ensure that the cut pieces are as per given specification and quality	-	1	-	-
PC12. minimise waste by following correct cutting techniques	1	-	-	-
PC13. take safety precautions while carrying out cutting activities	1	-	-	-
<i>Make bamboo furniture components</i>	3	18	-	-

Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<p>PC14. use appropriate hand tools, power tools and material suitable to carry out the given task hand tools: e.g. dao, chisel set, dropping knife, width seizers, scissors, hammer, round planer/knot remover, scrapper, blow torch, vice, grinder, thicknesser, hand plane, v-shaped knife, pointed knife, mallet, wood saw, hacksaw, pliers, hand drill and bits, sand container, pencil, marker, measuring tape, steel rule, staple gun etc. power tools: e.g. power saw, power drill, hand cutting machine, hand splicer, surface planer, trowel, tumbler, shovel etc. material: e.g. treated bamboo of required diameter, adhesive, sand paper, nails, cane (3-4mm for binding), wood pegs, bending wire, nut bolt etc.</p>	2	2	-	-
<p>PC15. procure material as per furniture component requirement and design specification material: treated bamboo of different diameter as per design requirement, battens made of bamboo, finished bamboo sticks, bamboo dowels etc. component requirement: selection of material is done in accordance with required properties like strength or flexibility that vary with different furniture components</p>	1	1	-	-
<p>PC16. bend the bamboo culms for making furniture components using appropriate method appropriate method: fill the culms with sand; apply heat using a blow torch; in proximity to the portion to be bent; move the blow torch back and forth; so as not to crack the bamboo culm; single point heating should be avoided; bend the culm by applying force on opposite ends; cool the bend of the culm with water to fix the fibers; in order to maintain its position; continue to apply heating and cooling till the desired curve has been obtained.</p>	-	2	-	-
<p>PC17. make different furniture components from bamboo culms furniture components: leg poles, stool leg support, mortise frame, bamboo or wooden plugs, surface supporting battens, bamboo nails, surface strips, concealing belt, flattened bamboo surface, back rest support, back rest, flat spokes, seat surface etc.</p>	-	2	-	-

Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC18. make leg poles using appropriate techniqueappropriate technique: cut the required number of legs out of a single culm, ensure that each leg pole has a node at one end for strength reasons, check if all the pieces are vertically upright and equal in length, make both the cut ends perpendicular to the culm length	-	2	-	-
PC19. make bent mortise using appropriate techniqueappropriate technique: determine the mortise groove length, mark reference lines on the culm, make a template stick, mark the culm using template stick, cut the mortise grooves, make the double pins and finally apply heat bending to bend the mortise	-	4	-	-
PC20. make surface support battens from bamboo culms of appropriate thickness for strength as per design specificationappropriate thickness: approx. 8-10 mm thickness is normally used. for special cases follow the design specification	-	2	-	-
PC21. make flattened bamboo surface mat board manually using appropriate techniqueappropriate technique: split the culm in 2 halves, remove the inner nodes and put the halves on the ground with the opened side down, make multiple slits using an axe starting from one end of the culm, while crushing move towards the middle of the culm and then start at other end making sure that the starting point of the slit is not in line with the slits made from the other side, after making the bamboo flat, glue it to a veneer ply, cut the crushed bamboo surface into desired shape and size for their application	-	2	-	-
PC22. follow appropriate process of nailing in bamboo while making furnitureappropriate process: nailing without pre-boring frequently results in splitting, moreover nails tend to become loose with time and may also corrode, both increase the risk of fungal attack	-	1	-	-
<i>Assembling and Joining</i>	17	42	-	-

Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC23. make different kinds of joinery components of bamboo to assemble bamboo furniture like plug joint, pin joint, u-cut joint, c-shaped joint, flat spokes, round spokes etc.	1	3	-	-
PC24. make joints pin for bamboo furniture joining	1	3	-	-
PC25. make bamboo plugs to be used for joining that tightly fit in the cavity of the leg poles	1	3	-	-
PC26. make pointed bamboo nails for furniture joining by tapering the bamboo	1	3	-	-
PC27. make dowels of bamboo or wood for assembling furniture	1	3	-	-
PC28. make different kind of bamboo joints and connections like tongue and groove joint, male and female joint, bolt fastening joint, over lapping joint, horizontal joints vertical joint, double butt bent joint, etc.	1	3	-	-
PC29. identify and make different joints using various techniques	1	3	-	-
PC30. join bamboo using different lashing techniques	1	3	-	-
PC31. assemble furniture using joint appropriately	1	3	-	-
PC32. adjust the surface strips across the battens and fix them with nails or weave them together with fibre, removing any surplus material	1	1	-	-
PC33. assemble furniture using cane and nail fitting	1	3	-	-
PC34. assemble furniture using hollow bamboo joining technique	1	3	-	-
PC35. fix leg poles with the support of bend mortise grooves using appropriate technique	2	1	-	-
PC36. fix the supporting poles to the leg poles as per design specification using various joining techniques	2	2	-	-
PC37. fix the battens to the frame using nails, preferably made of bamboo	-	1	-	-
PC38. assemble back rest and back rest support	1	-	-	-

Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC39. remove or chisel of the surplus material to get a smooth surface using appropriate tools	-	1	-	-
PC40. fill any cracks or unwanted cavities with the mix of saw dust and glue	-	1	-	-
PC41. sand the surface for smoothness	-	1	-	-
PC42. seal the joints neatly with glue/adhesive	-	1	-	-
NOS Total	30	70	-	-

Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	FFS/N4104
NOS Name	Make bamboo furniture components
Sector	Furniture & Fittings
Sub-Sector	Bamboo and Cane Furniture
Occupation	Furniture making
NSQF Level	4
Credits	TBD
Version	2.0
Last Reviewed Date	17/10/2019
Next Review Date	17/10/2023
NSQC Clearance Date	22/08/2019

FFS/N8401: Quality Control

Description

This unit covers the key skills and knowledge required to monitor the quality at different stages of furniture making.

Scope

This unit/task covers the following:

- Quality check at different stages of furniture making

Elements and Performance Criteria

Quality check at different stages of furniture making

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

- PC1.** check and use raw material as per the specified quality standards
- PC2.** identify defects and communicate to the appropriate personnel when raw material do not confirm to quality standards
- PC3.** check for any irregularities like splinters, protruding nails, cracks and unwanted cavities
- PC4.** check for sliver sizes
- PC5.** check for proper structural strength by applying load
- PC6.** identify amendable or adjustable defects and modify them
- PC7.** carry out quality checks at specified intervals according to instructions
- PC8.** check and ensure that the final sliver is as per client requirement
- PC9.** take appropriate action for fault rectification
- PC10.** check for appropriate moisture content in bamboo for quality processing
- PC11.** check the quality of bamboo slivers
- PC12.** Clean and maintain the machine after completion of work
- PC13.** Sharpen the blades/ cutting tools of the machine regularly

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

1. applicable legislation, standards, policies, and procedures followed in the company
2. once roles, responsibilities and expectations of the job
3. the organizations rules, codes, guidelines and standards
4. statutory responsibilities, organizational legislation and regulations
5. contact person in case of queries on procedure or products
6. method to handle tools and equipment safely and the health and safety implications of not doing so

Qualification Pack

7. escalation matrix
8. grievance handling as per organizational procedures
9. relevant health and safety requirements applicable in the work place
10. point of contact to obtain work related instructions, clarifications and support
11. importance of following health, hygiene, safety
12. importance of following quality standards
13. organizational procedure and government policy of waste disposal
14. work target and review mechanism in the organization
15. general rules and regulations in a bamboo and cane sector
16. different types of furniture made from bamboo.
17. different type of bamboo and its use in furniture making
18. various types of slivering machines and their uses
19. correct operation of the machine controls in both hand and power modes
20. various parts of machine
21. steps to stop the machine in both normal and emergency situations, and the procedure for restarting after an emergency
22. various relevant slivering techniques available in the industry
23. cleaning and maintenance procedures and its importance
24. safe disposal of waste materials
25. importance of using appropriate personal protective equipment compatible to the work and compliant to relevant occupational health and safety guidelines Personal protective equipment: masks, safety glasses, head protection, ear Safe conditions: correctly isolated; cleaning the machine; removing and disposing of waste correctly, remove the plug safely etc.
26. hazards associated with the cutting operations and how they can be minimized Hazards: revolving/moving parts of machinery; sparks/airborne particles; insecure components; burrs and sharp edges on components, etc.
27. process of making bamboo sliver using slivering machine
28. sorting and storing of bamboo slivers

Generic Skills (GS)

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

1. write in Hindi or local language
2. fill formats, logs and forms related to work in local language Hindi/English
3. document measurement appropriately whenever required
4. read instructions from supervisor provided in local language or Hindi
5. read and understand manufacturers instructions and job specifications
6. interpret pictorial representations and written signs or instructions
7. read and interpret numbers written in Hindi or local language
8. understand safety symbols and basic warning signs wherever needed
9. Communicate effectively with team members, supervisors, managers etc.

Qualification Pack

- 10.** seek clarification on any unclear instructions in locally understood language
- 11.** take decisions of once own roles and responsibilities
- 12.** decide on material requirement for related to once work
- 13.** decide on to accept or reject a work piece on the basis of quality parameter
- 14.** plan and organize own work in a way that all activities are completed in time and as per specifications
- 15.** plan word as per job specification
- 16.** plan and organize cleaning and maintenance activities
- 17.** work and deliver output as per client requirement and satisfaction
- 18.** Identify any defects in materials, tools and equipment and ways to resolve them
- 19.** determine timely correction of errors to minimize rejection of pieces or rework

Qualification Pack

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Quality check at different stages of furniture making</i>	25	75	-	-
PC1. check and use raw material as per the specified quality standards	4	5	-	-
PC2. identify defects and communicate to the appropriate personnel when raw material do not confirm to quality standards	4	5	-	-
PC3. check for any irregularities like splinters, protruding nails, cracks and unwanted cavities	3	6	-	-
PC4. check for sliver sizes	-	9	-	-
PC5. check for proper structural strength by applying load	-	9	-	-
PC6. identify amendable or adjustable defects and modify them	-	9	-	-
PC7. carry out quality checks at specified intervals according to instructions	-	9	-	-
PC8. check and ensure that the final sliver is as per client requirement	9	-	-	-
PC9. take appropriate action for fault rectification	-	4	-	-
PC10. check for appropriate moisture content in bamboo for quality processing	5	5	-	-
PC11. check the quality of bamboo slivers	-	4	-	-
PC12. Clean and maintain the machine after completion of work	-	5	-	-
PC13. Sharpen the blades/ cutting tools of the machine regularly	-	5	-	-
NOS Total	25	75	-	-

Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	FFS/N8401
NOS Name	Quality Control
Sector	Furniture & Fittings
Sub-Sector	Bamboo and Cane Furniture
Occupation	Production- Bamboo and Cane Furniture
NSQF Level	3
Credits	TBD
Version	1.0
Last Reviewed Date	17/10/2019
Next Review Date	17/10/2023
NSQC Clearance Date	22/08/2019

Qualification Pack

FFS/N8601: Ensure health and safety at workplace

Description

This OS unit covers health, safety and security at the workplace. This includes procedures and practices that candidate need to follow to help maintain a healthy, safe and secure work environment.

Scope

This unit/task covers the following:

- Health and safety-Dealing with emergencies

Elements and Performance Criteria

Health and Safety

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

- PC1.** work safely at all times, complying with health and safety legislation, regulations and other relevant guidelines
- PC2.** ensure that health and safety instructions applicable to the work place are being followed
- PC3.** check the worksite for any possible health and safety hazards
- PC4.** Follow manufacturers instructions and job specifications relating to safe use of materials specifically chemicals and power equipment
- PC5.** ensure safe handling and disposal of waste and debris
- PC6.** identify and report any hazards and potential risks/ threats to supervisors or other authorized personnel
Hazards: sharp edged tools, hazardous surfaces, physical hazards, electrical hazards, health hazards from chemicals and other such toxic material etc.
- PC7.** undertake first aid activities in case of any accident, if required and asked to do so
- PC8.** select and use appropriate personal protective equipment compatible to the work and compliant to relevant occupational health and safety guidelines
Personal Protective Equipment: masks, safety glasses, head protection, ear muffs, safety footwear, gloves, aprons etc.
- PC9.** maintain correct body posture while standing and working for long hours and carrying heavy materials
- PC10.** lift, carry or move heavy wooden furniture and accessories from one place to another using approved safe working practices
- PC11.** handle all required tools, machines , materials & equipment safely
- PC12.** adhere to relevant occupational safety policies while handling sharp tools to make and install furniture and fittings
- PC13.** take safety measures while handling glass, heavy wood, materials, chemicals etc.
- PC14.** apply good housekeeping practices at all times
Good Housekeeping Practices: clean/tidy work areas, removal/disposal of waste products, protect surfaces
- PC15.** report accident/incident report to authorized personal
- PC16.** perform basic safety checks before operation of all machines, tools and electrical equipment
- PC17.** follow recommended material handling procedure to control damage and personal injury

Qualification Pack

PC18. follow safe working practices at all times

Dealing with Emergencies

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

PC19. follow appropriate procedure in case a of fire emergency

PC20. follow electrical safety measures while working with electrically powered tools & equipment

PC21. follow agreed work location procedures in the event of an emergency or an accident

PC22. follow emergency and evacuation procedures in case of accidents, fires, natural calamities

PC23. Check and ensure general health and safety equipment are available at work site. General Health and Safety Equipment: fire extinguishers; first aid equipment; safety instruments and clothing; safety installations (e.g. fire exits, exhaust fans)

PC24. Comply with restrictions imposed on harmful chemicals inside work area during working hours

PC25. correctly demonstrate rescue techniques applied during fire hazard

PC26. demonstrate good housekeeping in order to prevent fire hazards

PC27. demonstrate the correct use of a fire extinguisher

PC28. demonstrate how to free a person from electrocution

PC29. respond promptly and appropriately to an accident situation or medical emergency

PC30. participate in emergency procedures Emergency Procedures: raising alarm, safe/efficient, evacuation, correct means of escape, correct assembly point, roll call, correct return to work

PC31. use the various appropriate fire extinguishers on different types of fires correctly. Types of fires: Class A: e.g. ordinary solid combustibles, such as wood, paper, cloth, plastic, charcoal, etc.; Class B: flammable liquids and gases, such as gasoline, propane, diesel fuel, tar, cooking oil, and similar substances; Class C: e.g. electrical equipment such as appliances, wiring, breaker panels, etc. These categories of fires become Class A, B, and D fires when the electrical equipment that initiated the fire is no longer receiving electricity); Class D: combustible metals such as magnesium, titanium, and sodium (These fires burn at extremely high temperatures and require special suppression agents)

PC32. state methods of accident prevention in the work environment. Methods of accident prevention: training in health and safety procedures; using health and safety procedures; use of equipment and working practices (such as safe carrying procedures); safety notices, advice; instruction from colleagues and supervisors

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

1. organizational procedures for safe handling of equipment and machine operations
2. how to respond to emergency situation in line with organisational procedures
3. reporting protocol and documentation required
4. whom to contact in case of an emergency
5. Where to get the list of contact in case of an emergency in the organization
6. common health and safety hazards in a work environment and related precautions
7. organizational procedures for safe handling of tools and equipment
8. how to respond to an emergency situation

Qualification Pack

9. potential risks and threats
10. organizational reporting protocol
11. health and safety practices at work place
12. potential hazards and risks which may be present at furniture and fittings related workplace
13. storage and handling of hazardous substances
14. importance of good housekeeping
15. procedure to be followed for safe disposal of waste
16. safe working practices in a furniture and fittings related workplace
17. how to deal with an accident which involve human life
18. different types of personal protective equipment and their use
19. how to follow safe working practices while at work
20. different risks associated with the use of electrical equipment
21. preventative and remedial actions to be taken in the case of exposure to toxic materials, Exposure: ingested, contact with skin, inhaled Preventative action: ventilation, masks, protective clothing/ equipment); Remedial action: immediate first aid, report to supervisor Toxic materials: solvents, flux, lead
22. importance of using protective clothing/equipment while working
23. Various causes of fire
24. techniques of using the different fire extinguishers
25. different type of fire extinguishers and their use
26. various types of safety signs and what they mean
27. Appropriate basic first aid treatment relevant to the condition eg. shock, electrical shock, bleeding, breaks to bones, minor burns, resuscitation, poisoning, eye injuries, etc.
28. importance of safe lifting practices and correct body postures
29. list of names (and job titles if applicable), and the contact details of all the people responsible for health and safety in a workplace

Generic Skills (GS)

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

1. write in Hindi or local language
2. fill logs, forms and formats in local language or Hindi for recording quantity and quality of work figures, defects and other related information, etc. whenever needed
3. document measurement appropriately whenever required
4. read all organizational and equipment related health and safety manuals and documents
5. read and comprehend safety related documents
6. communicate effectively with team members, supervisors, managers etc
7. seek clarification on any unclear instructions in locally understood language
8. take decisions of once own roles and responsibilities
9. decide on material requirement for related to once work
10. decide on to accept or reject a work piece on the basis of quality parameter

Qualification Pack

- 11.** plan and organize own work in a way that all activities are completed in time and as per specifications
- 12.** plan work as per job specification
- 13.** plan and organize cleaning and maintenance activities
- 14.** work and deliver output as per client requirement and satisfaction
- 15.** identify any defects in materials, tools and equipment and ways to resolve them
- 16.** determine timely correction of errors to minimize rejection of pieces or rework
- 17.** analyse the situation and take appropriate actions while dealing with team members
- 18.** analyse, evaluate and apply the information gathered from observation, experience, reasoning, or communication to act efficiently

Qualification Pack

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Health and Safety</i>	17	39	-	-
PC1. work safely at all times, complying with health and safety legislation, regulations and other relevant guidelines	2	1	-	-
PC2. ensure that health and safety instructions applicable to the work place are being followed	1	2	-	-
PC3. check the worksite for any possible health and safety hazards	1	2	-	-
PC4. Follow manufacturers instructions and job specifications relating to safe use of materials specifically chemicals and power equipment	1	2	-	-
PC5. ensure safe handling and disposal of waste and debris	-	3	-	-
PC6. identify and report any hazards and potential risks/ threats to supervisors or other authorized personnel Hazards: sharp edged tools, hazardous surfaces, physical hazards, electrical hazards, health hazards from chemicals and other such toxic material etc.	1	2	-	-
PC7. undertake first aid activities in case of any accident, if required and asked to do so	-	3	-	-
PC8. select and use appropriate personal protective equipment compatible to the work and compliant to relevant occupational health and safety guidelines Personal Protective Equipment: masks, safety glasses, head protection, ear muffs, safety footwear, gloves, aprons etc.	-	3	-	-
PC9. maintain correct body posture while standing and working for long hours and carrying heavy materials	-	3	-	-
PC10. lift, carry or move heavy wooden furniture and accessories from one place to another using approved safe working practices	2	2	-	-

Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC11. handle all required tools, machines , materials & equipment safely	2	2	-	-
PC12. adhere to relevant occupational safety policies while handling sharp tools to make and install furniture and fittings	-	3	-	-
PC13. take safety measures while handling glass, heavy wood, materials, chemicals etc.	-	3	-	-
PC14. apply good housekeeping practices at all times Good Housekeeping Practices: clean/tidy work areas, removal/disposal of waste products, protect surfaces	2	1	-	-
PC15. report accident/incident report to authorized personal	1	2	-	-
PC16. perform basic safety checks before operation of all machines, tools and electrical equipment	2	1	-	-
PC17. follow recommended material handling procedure to control damage and personal injury	1	2	-	-
PC18. follow safe working practices at all times	1	2	-	-
<i>Dealing with Emergencies</i>	13	31	-	-
PC19. follow appropriate procedure in case a of fire emergency	1	2	-	-
PC20. follow electrical safety measures while working with electrically powered tools & equipment	2	2	-	-
PC21. follow agreed work location procedures in the event of an emergency or an accident	1	2	-	-
PC22. follow emergency and evacuation procedures in case of accidents, fires, natural calamities	1	2	-	-
PC23. Check and ensure general health and safety equipment are available at work site. General Health and Safety Equipment: fire extinguishers; first aid equipment; safety instruments and clothing; safety installations (e.g. fire exits, exhaust fans)	1	3	-	-
PC24. Comply with restrictions imposed on harmful chemicals inside work area during working hours	-	3	-	-

Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC25. correctly demonstrate rescue techniques applied during fire hazard	-	3	-	-
PC26. demonstrate good housekeeping in order to prevent fire hazards	-	3	-	-
PC27. demonstrate the correct use of a fire extinguisher	2	1	-	-
PC28. demonstrate how to free a person from electrocution	1	2	-	-
PC29. respond promptly and appropriately to an accident situation or medical emergency	-	3	-	-
PC30. participate in emergency procedures Emergency Procedures: raising alarm, safe/efficient, evacuation, correct means of escape, correct assembly point, roll call, correct return to work	-	3	-	-
PC31. use the various appropriate fire extinguishers on different types of fires correctly. Types of fires: Class A: e.g. ordinary solid combustibles, such as wood, paper, cloth, plastic, charcoal, etc.; Class B: flammable liquids and gases, such as gasoline, propane, diesel fuel, tar, cooking oil, and similar substances; Class C: e.g. electrical equipment such as appliances, wiring, breaker panels, etc. These categories of fires become Class A, B, and D fires when the electrical equipment that initiated the fire is no longer receiving electricity); Class D: combustible metals such as magnesium, titanium, and sodium (These fires burn at extremely high temperatures and require special suppression agents)	1	2	-	-
PC32. state methods of accident prevention in the work environment. Methods of accident prevention: training in health and safety procedures; using health and safety procedures; use of equipment and working practices (such as safe carrying procedures); safety notices, advice; instruction from colleagues and supervisors	3	-	-	-
NOS Total	30	70	-	-

Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	FFS/N8601
NOS Name	Ensure health and safety at workplace
Sector	Furniture & Fittings
Sub-Sector	Generic
Occupation	Generic
NSQF Level	3
Credits	NA
Version	1.0
Last Reviewed Date	17/10/2019
Next Review Date	17/10/2023
NSQC Clearance Date	22/08/2019

Qualification Pack

FFS/N8801: Work effectively with others

Description

This OS unit is about communicating and coordinating with team members including subordinates and superiors.

Scope

This unit/task covers the following:

- Interaction with seniors
- Work effectively

Elements and Performance Criteria

Interaction with Seniors

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

- PC1.** seek assistance from supervisor or any such appropriate authority as and when required
- PC2.** ask questions and seek clarifications on work tasks whenever required handling procedures
- PC3.** seek and obtain clarifications on policies and procedures, from the supervisor or other authorized personnel
- PC4.** identify and report any possible deviations to appropriate authority
- PC5.** address the problems effectively and report if required to immediate supervisor appropriately
- PC6.** Receive instructions clearly from superiors and respond effectively on the same
- PC7.** follow escalation matrix in case of any grievance
- PC8.** accurately receive information and instructions from the supervisor related to one's work

Work effectively

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

- PC9.** coordinate and cooperate with colleagues to achieve work objectives
- PC10.** display courteous behaviour at all times
- PC11.** respond politely to customer queries and other team members
- PC12.** follow work place dress code
- PC13.** keep work area in a tidy and organized state
- PC14.** adhere to time lines and quality standards
- PC15.** follow organizational policies and procedures
- PC16.** share information with team wherever and whenever required to enhance quality and productivity at work place
- PC17.** work together with co-workers in a synchronized manner
- PC18.** communicate with others clearly, at a pace and in a manner that helps them to understand
- PC19.** show respect to other and their work
- PC20.** display active listening skills while interacting with others at work

Qualification Pack

PC21. Demonstrate responsible and disciplined behaviors at the workplace disciplined behaviors: e.g. punctuality; completing tasks as per given time and standards; not gossiping and idling time; eliminating waste, honesty, etc.

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

1. legislation, standards, policies, and procedures followed in the company relevant to own employment and performance conditions
2. reporting structure, inter-dependent functions, lines and procedures in the work area
3. relevant people and their responsibilities within the work area
4. escalation matrix and procedures for reporting work and employment relate issue clarifications and support
5. importance of working effectively with others to achieve organizations goals
6. importance of effective communication and establishing good working relationships with other
7. responsibilities and objectives of the role
8. own roles and responsibilities
9. principle of furniture and fittings manufacturing and installation
10. importance of having correct understanding of work task and objective
11. how to keep work area clean and tidy and its importance
12. applicable quality standards for assigned work task and objective
13. Reporting procedure in case of deviations
14. importance and need of supporting co-workers facing problems for smooth functioning of work
15. different type of people that one is required to communicate and coordinate within the organization
16. various components of communication cycle
17. importance of active listening
18. importance of discipline and ethics for professional success
19. what constitutes disciplined behavior for a working professional
20. expressing and addressing grievances appropriately and effectively
21. importance and ways of managing interpersonal conflict effectively

Generic Skills (GS)

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

1. write in Hindi or local language
2. fill formats, logs and forms related to work in local language or Hindi/English
3. document measurement appropriately whenever required
4. read instructions from supervisor provided in local language or Hindi
5. read and understand manufacturers instructions and job specifications
6. interpret pictorial representations and written signs or instructions

Qualification Pack

7. read and interpret numbers written in Hindi or local language
8. understand safety symbols and basic warning signs wherever needed
9. communicate effectively with team members, supervisors, managers etc.
10. seek clarification on any unclear instructions in locally understood language
11. take decisions of once own roles and responsibilities
12. decide on material requirement for related to once work
13. decide on to accept or reject a work piece on the basis of quality parameter
14. Plan and organize own work in a way that all activities are completed in time and as per specifications
15. plan word as per job specification
16. plan and organize cleaning and maintenance activities
17. work and deliver output as per client requirement and satisfaction
18. identify any defects in materials, tools and equipment and ways to resolve them
19. determine timely correction of errors to minimize rejection of pieces or rework
20. analyse the situation and take appropriate actions while dealing with team members
21. analyse, evaluate and apply the information gathered from observation, experience, reasoning, or communication to act efficiently

Qualification Pack

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Interaction with Seniors</i>	18	15	-	-
PC1. seek assistance from supervisor or any such appropriate authority as and when required	1	2	-	-
PC2. ask questions and seek clarifications on work tasks whenever required handling procedures	1	2	-	-
PC3. seek and obtain clarifications on policies and procedures, from the supervisor or other authorized personnel	5	-	-	-
PC4. identify and report any possible deviations to appropriate authority	1	2	-	-
PC5. address the problems effectively and report if required to immediate supervisor appropriately	2	3	-	-
PC6. Receive instructions clearly from superiors and respond effectively on the same	1	2	-	-
PC7. follow escalation matrix in case of any grievance	4	2	-	-
PC8. accurately receive information and instructions from the supervisor related to one's work	3	2	-	-
<i>Work effectively</i>	12	55	-	-
PC9. coordinate and cooperate with colleagues to achieve work objectives	-	5	-	-
PC10. display courteous behaviour at all times	-	5	-	-
PC11. respond politely to customer queries and other team members	1	4	-	-
PC12. follow work place dress code	-	5	-	-
PC13. keep work area in a tidy and organized state	-	5	-	-
PC14. adhere to time lines and quality standards	2	3	-	-

Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC15. follow organizational policies and procedures	4	-	-	-
PC16. share information with team wherever and whenever required to enhance quality and productivity at work place	2	3	-	-
PC17. work together with co-workers in a synchronized manner	-	6	-	-
PC18. communicate with others clearly, at a pace and in a manner that helps them to understand	3	3	-	-
PC19. show respect to other and their work	-	5	-	-
PC20. display active listening skills while interacting with others at work	-	5	-	-
PC21. Demonstrate responsible and disciplined behaviors at the workplace disciplined behaviors: e.g. punctuality; completing tasks as per given time and standards; not gossiping and idling time; eliminating waste, honesty, etc.	-	6	-	-
NOS Total	30	70	-	-

Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	FFS/N8801
NOS Name	Work effectively with others
Sector	Furniture & Fittings
Sub-Sector	Generic
Occupation	Generic
NSQF Level	3
Credits	NA
Version	1.0
Last Reviewed Date	17/10/2019
Next Review Date	17/10/2023
NSQC Clearance Date	22/08/2019

Qualification Pack

FFS/N4101: Prepare to make round bamboo furniture

Description

Round bamboo furniture maker is expected to make furniture out of round bamboo by sizing and dressing bamboo pieces. This OS include skills and knowledge required to prepare for round bamboo furniture making. The job holder must comply with relevant health and safety standards while carrying out the tasks.

Scope

This unit/task covers the following:

- Understand the work requirement
- Prepare work area for furniture making
- Read and Interpret sketches/drawings and design
- Prepare cost estimates

Elements and Performance Criteria

Understand the work requirement

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

- PC1.** obtain job instructions from responsible personnel Job Instruction: design, structural characteristics, frame instruction, durability factor, appearance, color, type of finish etc.
- PC2.** interact with supervisor in order to understand the client requirement
- PC3.** read and confirm that the given instructions and design are complete and correct
- PC4.** plan out an efficient sequence of work as per the job requirement and specification

Prepare work area for furniture making

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

- PC5.** obtain appropriate hand tools, power tools and material suitable to carry out the given tasks
Hand Tools: e.g. dao, chisel set, dropping knife, width seizers, scissors, hammer, round planer/knot remover, scrapper, blow torch, vice, grinder, thicknesses, hand plane, v-shaped knife, pointed knife, mallet, wood saw, hacksaw, pliers, hand drill and bits, sand container, pencil, marker, measuring tape, steel rule, staple gun etc. power tools: e.g. power saw, power drill, hand cutting machine, hand splicer, surface planer, trowel, tumbler, shovel etc. material: e.g. treated bamboo of required diameter, adhesive, sand paper, nails, cane, wood pegs, bending wire, nut bolt etc.
- PC6.** report on any shortage or defect of tools and materials to the concerned person before commencement of work
- PC7.** check that the selected tools & machines are in safe working condition and ready for use
- PC8.** check the bamboo for treatment against insects, fungus and other weather exposures
- PC9.** check the bamboo for any splits that can affect the furniture strength and its making process
- PC10.** use approved procedures to inspect bamboo visually for any possible defects as per required standard parameters prior to work Defects: splinters, cracks, unwanted cavities, exposed to fungus or any other insects, size/diameter variation, waviness, etc.

Read and Interpret sketches/drawings and design

Qualification Pack

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

PC11. read and interpret the details from design/drawings relevant to furniture making

PC12. read and understand manufacturer's specification of material and its uses

PC13. identify the surfaces and dimensions as per the drawing

PC14. read and understand the scope of work

Prepare cost estimates

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

PC15. interact with client to decide on the procurement of material

PC16. suggest cost to the client considering furniture styles , durability, patterns, comfort, modern appearance etc.

PC17. prepare and provide cost estimate to the client after evaluating various factors
Various Factors: type of furniture, type of finish, cost of labour for complex design cost of raw material etc.

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

1. applicable legislation, standards, policies, and procedures followed in the company
2. one's roles, responsibilities and expectations of the job
3. the organizations rules, codes, guidelines and standards
4. statutory responsibilities, organizational legislation and regulations
5. contact person in case of queries on procedure or products
6. method to handle tools and equipment safely and the health and safety implications of not doing so
7. escalation matrix
8. grievance handling as per organizational procedures
9. relevant health and safety requirements applicable in the work place
10. point of contact to obtain work related instructions, clarifications and support
11. importance of following health, hygiene, safety
12. importance of following quality standards
13. organizational procedure and government policy of waste disposal
14. work target and review mechanism in the organization
15. general rules and regulations in a bamboo and cane sector
16. different types of furniture made from round bambootypes of furniture: chair, table, sofa, stool etc.
17. different type of bamboo and its use in furniture making
18. defects in the structure of bamboo pole
19. importance of using personal protective equipment appropriate to the work
20. hazards and risks associated with bamboo usage for furniture making and how to minimize accidents and injury to self and others
21. importance of maintaining healthy work environment

Qualification Pack

22. how to read work instructions and specification correctly and accurately
23. one's own roles and responsibility at work place
24. different types of tools, machines and material and their uses hand tools: e.g. dao, chisel set, dropping knife, width seizers, scissors, hammer, round planer/knot remover, scrapper, blow torch, vice, grinder, thickness, hand plane, v-shaped knife, pointed knife, mallet, wood saw, hacksaw, pliers, hand drill and bits, sand container, pencil, marker, measuring tape, steel rule, staple gun etc. power tools: e.g. power saw, power drill, hand cutting machine, hand splicer, surface planer, trowel, tumbler, shovel etc. material: e.g. treated bamboo of required diameter, adhesive, sand paper, nails, cane, wood pegs, bending wire, nut bolt etc.
25. terminology, pictorial representation, symbols, etc. related to furniture drawings
26. basic measurement units
27. basic calculations and mathematics
28. methods used to identify defects
29. relevant methods used to rectify defects
30. safe disposal of waste materials
31. drawings and sketches for round furniture making
32. how to carry out measuring and markings to guide activities of subordinates
33. fastening methods to be used
34. cleaning and maintenance procedures
35. safety procedures to be followed as applicable at work site
36. precaution to be taken for handling and storage of chemicals
37. type of hazards and risk at work place and procedures for dealing with them hazards: inhaling dry chemical used for gluing, poorly designed and rusted tools, repetitive movements, and stressful working conditions including insufficient rest periods, inadequate lighting and poor temperature control, sharp/pointed tools like knives, saw, hammer, etc.
38. how to load and unload heavy bamboo furniture
39. common mistakes in handling of materials that affect the quality of work
40. importance of bamboo treatment
41. approved procedures to inspect bamboo visually for any possible defects as per required standard parameters prior to work defects: splinters, cracks, unwanted cavities, exposed to fungus or any other insects, size/diameter variation, waviness, etc.
42. how to prepare and provide cost estimate to the client after evaluating various factors various factors: type of furniture, type of finish, cost of labor for complex design cost of raw material etc.

Generic Skills (GS)

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

1. write in hindi or local language
2. fill logs, forms and formats in local language or hindi for recording quantity and quality of work figures, defects and other related information, etc. whenever needed
3. fill formats, logs and forms related to work in local language or hindi/english
4. document measurement appropriately whenever required

Qualification Pack

5. read instructions from supervisor provided in local language or hindi
6. read and understand manufacturers instructions and job specifications
7. interpret pictorial representations and written signs or instructions
8. read and interpret numbers written in hindi or local language
9. understand safety symbols and basic warning signs wherever needed
10. communicate effectively with team members, supervisors, managers etc.
11. seek clarification on any unclear instructions in locally understood language
12. take decisions of one's own roles and responsibilities
13. decide on material requirement related to one's work
14. decide to accept or reject a work piece on the basis of quality parameter
15. plan and organize own work in a way that all activities are completed in time and as per specifications
16. plan work as per job specification
17. plan and organize cleaning and maintenance activities
18. work and deliver output as per client requirement
19. identify any defects in materials, tools and equipment and ways to resolve them
20. determine timely correction of errors to minimize rejection of pieces or re-work

Qualification Pack

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Understand the work requirement</i>	15	6	-	-
PC1. obtain job instructions from responsible personnel Job Instruction: design, structural characteristics, frame instruction, durability factor, appearance, color, type of finish etc.	2	3	-	-
PC2. interact with supervisor in order to understand the client requirement	2	3	-	-
PC3. read and confirm that the given instructions and design are complete and correct	6	-	-	-
PC4. plan out an efficient sequence of work as per the job requirement and specification	5	-	-	-
<i>Prepare work area for furniture making</i>	3	34	-	-
PC5. obtain appropriate hand tools, power tools and material suitable to carry out the given tasks Hand Tools: e.g. dao, chisel set, dropping knife, width seizers, scissors, hammer, round planer/knot remover, scrapper, blow torch, vice, grinder, thicknesses, hand plane, v-shaped knife, pointed knife, mallet, wood saw, hacksaw, pliers, hand drill and bits, sand container, pencil, marker, measuring tape, steel rule, staple gun etc. power tools: e.g. power saw, power drill, hand cutting machine, hand splicer, surface planer, trowel, tumbler, shovel etc. material: e.g. treated bamboo of required diameter, adhesive, sand paper, nails, cane, wood pegs, bending wire, nut bolt etc.	-	6	-	-
PC6. report on any shortage or defect of tools and materials to the concerned person before commencement of work	-	6	-	-
PC7. check that the selected tools & machines are in safe working condition and ready for use	-	5	-	-
PC8. check the bamboo for treatment against insects, fungus and other weather exposures	-	7	-	-
PC9. check the bamboo for any splits that can affect the furniture strength and its making process	-	7	-	-

Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC10. use approved procedures to inspect bamboo visually for any possible defects as per required standard parameters prior to work Defects: splinters, cracks, unwanted cavities, exposed to fungus or any other insects, size/diameter variation, waviness, etc.	3	3	-	-
<i>Read and Interpret sketches/drawings and design</i>	9	15	-	-
PC11. read and interpret the details from design/drawings relevant to furniture making	6	-	-	-
PC12. read and understand manufacturer's specification of material and its uses	3	3	-	-
PC13. identify the surfaces and dimensions as per the drawing	-	6	-	-
PC14. read and understand the scope of work	-	6	-	-
<i>Prepare cost estimates</i>	3	15	-	-
PC15. interact with client to decide on the procurement of material	-	6	-	-
PC16. suggest cost to the client considering furniture styles , durability, patterns, comfort, modern appearance etc.	1	5	-	-
PC17. prepare and provide cost estimate to the client after evaluating various factors Various Factors: type of furniture, type of finish, cost of labour for complex design cost of raw material etc.	2	4	-	-
NOS Total	30	70	-	-

Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	FFS/N4101
NOS Name	Prepare to make round bamboo furniture
Sector	Furniture & Fittings
Sub-Sector	Bamboo and Cane Furniture
Occupation	Furniture making
NSQF Level	4
Credits	TBD
Version	1.0
Last Reviewed Date	17/10/2019
Next Review Date	17/10/2023
NSQC Clearance Date	22/08/2019

Qualification Pack

FFS/N4102: Make round bamboo furniture

Description

Furniture maker is expected to make furniture out of round bamboo by sizing and dressing bamboo pieces. The job holder must comply with relevant health and safety standards while carrying out the tasks. This unit covers the key skills and knowledge required for making the furniture out of round bamboo.

Scope

This unit/task covers the following:

- Carry out marking activities
- Making round bamboo furniture
- Finishing
- Working Safely

Elements and Performance Criteria

Carry out marking activities

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

- PC1.** read and confirm that the given instructions and design are correct
- PC2.** obtain appropriate materials and tools suitable to carry out marking activities
- PC3.** identify the surfaces and dimensions as per the drawing
- PC4.** take the size of the furniture component from the design and mark the same on bamboo culms
- PC5.** make markings using pencil and ruler or measuring tape as per drawing specification
- PC6.** hold the pieces correctly to take measurements
- PC7.** calculate height and width as per design
- PC8.** carryout marking activities using templates
- PC9.** carry out markings to guide activities of subordinates for cutting

Making round bamboo furniture

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

- PC10.** use appropriate hand tools, power tools and material suitable to carry out the given task
hand tools: e.g. dao, chisel set, dropping knife, width seizers, scissors, hammer, round planer/knot remover, scrapper, blow torch, vice, grinder, thicknesser, hand plane, v-shaped knife, pointed knife, mallet, wood saw, hacksaw, pliers, hand drill and bits, sand container, pencil, marker, measuring tape, steel rule, staple gun etc.
power tools: e.g. power saw, power drill, hand cutting machine, hand splicer, surface planer, trowel, tumbler, sovel etc.
material: e.g. treated bamboo of required diameter, adhesive, sand paper, nails, cane (3-4mm for binding), wood pegs, bending wire, nut bolt etc.
- PC11.** procure material as per furniture component requirement and design specification
material: treated bamboo of different diameter as per design requirement, battens made of bamboo, furniture frame components, bamboo dowels etc.
component requirement: selection of material is done in accordance with required properties like strength or flexibility that vary with different furniture components

Qualification Pack

- PC12.** cut bamboo culms in different sizes using cutting machine as per markings and design specification
- PC13.** check and ensure that the cut pieces are as per given specification and quality
- PC14.** minimise waste by following correct cutting techniques
- PC15.** drill holes in bamboo as per design specification using drill machine
- PC16.** make furniture frame by inserting frame rails into drilled holes
- PC17.** join furniture frame using adhesive and pegs
- PC18.** assemble furniture components using hollow bamboo joining technique
- PC19.** perform binding of joints using cane and nail fitting
- PC20.** join bamboo using different lashing techniques different lashing techniques: square lashing, round lashing, diagonal lashing, shear lashing, tripod lashing, floor lashing, or ladder lashing
- PC21.** weave the seat, back and other parts as per design requirement

Finishing

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

- PC22.** remove or chisel of the surplus material to get a smooth surface using appropriate tools
- PC23.** fill any cracks or unwanted cavities with the mix of saw dust and glue
- PC24.** sand the surface for smoothness

Working safely

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

- PC25.** return all the used tools and materials safely to the appropriate personal
- PC26.** work safely at all times, complying with health and safety legislation, regulations and other relevant guidelines
- PC27.** maintain correct body posture while sitting and working for long hours and carrying heavy materials
- PC28.** lift, carry or move heavy furniture from one place to another using approved safe working practices
- PC29.** select and use appropriate personal protective equipment compatible to the work and compliant to relevant occupational health and safety guidelines personal protective equipment: masks, safety glasses, head protection, ear muffs, safety footwear, gloves, aprons etc.
- PC30.** follow electrical safety measures while working with electrically powered tools & equipment

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

1. applicable legislation, standards, policies, and procedures followed in the company
2. one's roles, responsibilities and expectations of the job
3. the organizations rules, codes, guidelines and standards
4. statutory responsibilities, organizational legislation and regulations
5. contact person in case of queries on procedure or products
6. method to handle tools and equipment safely and the health and safety implications of not doing so

Qualification Pack

7. escalation matrix
8. grievance handling as per organizational procedures
9. relevant health and safety requirements applicable in the work place
10. point of contact to obtain work related instructions, clarifications and support
11. importance of following health, hygiene, safety
12. importance of following quality standards
13. organizational procedure and government policy of waste disposal
14. work target and review mechanism in the organization
15. general rules and regulations in a bamboo and cane sector
16. different types of furniture made from round bamboo
17. types of furniture: chair, table, sofa, stool etc.
18. different type of bamboo and its use in furniture making
19. defects in the structure of bamboo pole
20. importance of using personal protective equipment appropriate to the work
21. hazards and risks associated with bamboo usage for furniture making and how to minimize accidents and injury to self and others
22. importance of maintaining healthy work environment
23. how to read work instructions and specification correctly and accurately
24. ones's own roles and responsibility at work place
25. basic dimensions & measurement techniques
26. different types of measuring and marking tools and templates used
27. importance of correct holding technique of tools while measuring and marking
28. safety precautions while carrying out cutting activities
29. different types of tools, machines and material and their uses hand tools: e.g. dao, chisel set, dropping knife, width seizers, scissors, hammer, round planer/knot remover, scrapper, blow torch, vice, grinder, thickness, hand plane, v-shaped knife, pointed knife, mallet, wood saw, hacksaw, pliers, hand drill and bits, sand container, pencil, marker, measuring tape, steel rule, staple gun etc. power tools: e.g. power saw, power drill, hand cutting machine, hand splicer, surface planer, trowel, tumbler, shovel etc. material: e.g. treated bamboo of required diameter, adhesive, sand paper, nails, cane, wood pegs, bending wire, nut bolt etc.
30. terminology, pictorial representation, symbols, etc. related to furniture drawings
31. basic measurement units
32. basic calculations and mathematics
33. how to cut bamboo culms in different sizes using cutting machine as per markings and design specification
34. process to check the quality of cut pieces
35. how to drill holes in bamboo using drill machine
36. steps to make furniture frame by inserting frame rails into drilled holes
37. how to join furniture frame using adhesive and pegs
38. how to assemble furniture components using hollow bamboo joining technique
39. process of binding joints using cane and nail fitting

Qualification Pack

40. how to join bamboo using different lashing techniques different lashing techniques: square lashing, round lashing, diagonal lashing, shear lashing, tripod lashing, floor lashing, or ladder lashing
41. how to weave the seat, back and other parts as per design requirement
42. methods used to identify defects
43. relevant methods used to rectify defects
44. safe disposal of waste materials
45. drawings and sketches for round furniture making
46. how to carry out measuring and markings to guide activities of subordinates
47. cleaning and maintenance procedures
48. Safety procedures to be followed as applicable at work site
49. Precaution to be taken for handling and storage of chemicals
50. Type of hazards and risk at work place and procedures for dealing with them Hazards: inhaling dry chemical used for gluing , poorly designed and rusted tools, repetitive movements, and stressful working conditions including insufficient rest periods, inadequate lighting and poor temperature control, sharp/pointed tools like knives, saw, hammer, etc.
51. How to load and unload heavy bamboo furniture
52. Common mistakes in handling of materials that affect the quality of work
53. Importance of bamboo treatment
54. how to weave the seat, back and other parts of the furniture
55. step by step process of finishing the final product

Generic Skills (GS)

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

1. write in hindi or local language
2. fill logs, forms and formats in local language or hindi for recording quantity and quality of work figures, defects and other related information, etc. whenever needed
3. fill formats, logs and forms related to work in local language or hindi/english
4. document measurement appropriately whenever required
5. read instructions from supervisor provided in local language or hindi
6. read and understand manufacturers instructions and job specifications
7. interpret pictorial representations and written signs or instructions
8. read and interpret numbers written in hindi or local language
9. understand safety symbols and basic warning signs wherever needed
10. communicate effectively with team members, supervisors, managers etc.
11. seek clarification on any unclear instructions in locally understood language
12. take decisions of once own roles and responsibilities
13. decide on material requirement for related to once work
14. decide on to accept or reject a work piece on the basis of quality parameter

Qualification Pack

15. plan and organize own work in a way that all activities are completed in time and as per specifications
16. plan work as per job specification
17. plan and organize cleaning and maintenance activities
18. work and deliver output as per client requirement
19. identify any defects in materials, tools and equipment and ways to resolve them
20. determine timely correction of errors to minimize rejection of pieces or re-work

Qualification Pack

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Carry out marking activities</i>	11	16	-	-
PC1. read and confirm that the given instructions and design are correct	3	-	-	-
PC2. obtain appropriate materials and tools suitable to carry out marking activities	-	3	-	-
PC3. identify the surfaces and dimensions as per the drawing	-	3	-	-
PC4. take the size of the furniture component from the design and mark the same on bamboo culms	2	2	-	-
PC5. make markings using pencil and ruler or measuring tape as per drawing specification	1	1	-	-
PC6. hold the pieces correctly to take measurements	-	2	-	-
PC7. calculate height and width as per design	3	-	-	-
PC8. carryout marking activities using templates	2	2	-	-
PC9. carry out markings to guide activities of subordinates for cutting	-	3	-	-
<i>Making round bamboo furniture</i>	4	36	-	-
PC10. use appropriate hand tools, power tools and material suitable to carry out the given task hand tools: e.g. dao, chisel set, dropping knife, width seizers, scissors, hammer, round planer/knot remover, scrapper, blow torch, vice, grinder, thicknesser, hand plane, v-shaped knife, pointed knife, mallet, wood saw, hacksaw, pliers, hand drill and bits, sand container, pencil, marker, measuring tape, steel rule, staple gun etc. power tools: e.g. power saw, power drill, hand cutting machine, hand splicer, surface planer, trowel, tumbler, sovel etc. material: e.g. treated bamboo of required diameter, adhesive, sand paper, nails, cane (3-4mm for binding), wood pegs, bending wire, nut bolt etc.	-	3	-	-

Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC11. procure material as per furniture component requirement and design specification material: treated bamboo of different diameter as per design requirement, battens made of bamboo, furniture frame components, bamboo dowels etc. component requirement: selection of material is done in accordance with required properties like strength or flexibility that vary with different furniture components	1	2	-	-
PC12. cut bamboo culms in different sizes using cutting machine as per markings and design specification	-	3	-	-
PC13. check and ensure that the cut pieces are as per given specification and quality	1	1	-	-
PC14. minimise waste by following correct cutting techniques	-	1	-	-
PC15. drill holes in bamboo as per design specification using drill machine	2	2	-	-
PC16. make furniture frame by inserting frame rails into drilled holes	-	4	-	-
PC17. join furniture frame using adhesive and pegs	-	4	-	-
PC18. assemble furniture components using hollow bamboo joining technique	-	4	-	-
PC19. perform binding of joints using cane and nail fitting	-	4	-	-
PC20. join bamboo using different lashing techniques different lashing techniques: square lashing, round lashing, diagonal lashing, shear lashing, tripod lashing, floor lashing, or ladder lashing	-	4	-	-
PC21. weave the seat, back and other parts as per design requirement	-	4	-	-
<i>Finishing</i>	-	7	-	-
PC22. remove or chisel of the surplus material to get a smooth surface using appropriate tools	-	2	-	-

Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC23. fill any cracks or unwanted cavities with the mix of saw dust and glue	-	3	-	-
PC24. sand the surface for smoothness	-	2	-	-
<i>Working safely</i>	15	11	-	-
PC25. return all the used tools and materials safely to the appropriate personal	3	2	-	-
PC26. work safely at all times, complying with health and safety legislation, regulations and other relevant guidelines	4	-	-	-
PC27. maintain correct body posture while sitting and working for long hours and carrying heavy materials	-	4	-	-
PC28. lift, carry or move heavy furniture from one place to another using approved safe working practices	-	4	-	-
PC29. select and use appropriate personal protective equipment compatible to the work and compliant to relevant occupational health and safety guidelinespersonal protective equipment: masks, safety glasses, head protection, ear muffs, safety footwear, gloves, aprons etc.	4	-	-	-
PC30. follow electrical safety measures while working with electrically powered tools & equipment	4	1	-	-
NOS Total	30	70	-	-

Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	FFS/N4102
NOS Name	Make round bamboo furniture
Sector	Furniture & Fittings
Sub-Sector	Bamboo and Cane Furniture
Occupation	Furniture making
NSQF Level	4
Credits	TBD
Version	1.0
Last Reviewed Date	17/10/2019
Next Review Date	17/10/2023
NSQC Clearance Date	22/08/2019

Qualification Pack

Assessment Guidelines and Assessment Weightage

Assessment Guidelines

1. Criteria for assessment for each Qualification Pack will be created by the Sector Skill Council. Each Performance Criteria (PC) (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 PC.
2. The assessment for the theory part will be based on knowledge bank of questions created by the SSC.
3. Individual assessment agencies will create unique question papers for theory part for each candidate at each examination/training center (as per assessment criteria below).
4. Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/ training center based on these criteria.
5. In case of successfully passing only certain number of NOSs, the trainee is eligible to take subsequent assessment on the balance NOS's to pass the Qualification Pack.
6. In case of unsuccessful completion, the trainee may seek reassessment on the Qualification Pack

Recommended Pass % : 70

Assessment Weightage

Compulsory NOS

National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
FFS/N4103.Prepare for bamboo furniture making	40	60	-	-	100	25
FFS/N4104.Make bamboo furniture components	30	70	-	-	100	25
FFS/N8401.Quality Control	25	75	-	-	100	20
FFS/N8601.Ensure health and safety at workplace	30	70	-	-	100	20
FFS/N8801.Work effectively with others	30	70	-	-	100	10
Total	155	345	-	-	500	100

Optional: 1 Round Bamboo

Qualification Pack

National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
FFS/N4101.Prepare to make round bamboo furniture	30	70	-	-	100	25
FFS/N4102.Make round bamboo furniture	30	70	-	-	100	25
Total	60	140	-	-	200	50

Acronyms

NOS	National Occupational Standard(s)
NSQF	National Skills Qualifications Framework
QP	Qualifications Pack
TVET	Technical and Vocational Education and Training

Qualification Pack

Glossary

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

Qualification Pack

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