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MARBLE TECHNICIAN

Assessment Package

National Vocational
Certificate Level 4

Version 1 - July 2020



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Instruction Sheet for the Candidate

Qualification	Marble Technician Level - 4
Competency Standard(s)	Perform CAD/CAM Operations
Purpose of Assessment	Formative Assessment

Candidate Details	Name _____ Registration/Roll Number _____
Guidance for Candidate	<p>To meet this standard you are required to complete the following within the given time frame (for practical demonstration & assessment):</p> <ol style="list-style-type: none"> 1. Interpret Drawing & Design using CAD 2. Draw & Design the job using CAD 3. Load the desired Tools 4. Perform Simulation 5. Perform Material Loading 6. Perform CAM Operations
Time: 5 Hours	<p>During a practical assessment, under observation by an assessor, you are required to</p>
Minimum Evidence Required	<ol style="list-style-type: none"> 1. Interpret the desired drawing & design 2. Set Interface in CAD software 3. Make Multiview drawing & design of the job 4. Make 3D drawing & design of the job/ part 5. Render the job as per client's demand 6. Plot/ print the job 7. Identify the required tools as per process 8. Select the tools in the CAD/CAM software 9. Load the tools in CAD/CAM software 10. Convert CAD to CAM codes using the software 11. Run Simulation to check accuracy of process 12. Identify required parts of the job 13. Set the clamping/ vacuum sucking units as per parts of the job 14. Load the job parts on the machine bed 15. Ensure the loading of desired tools/ bits in ATC. 16. Calibrate the machine. 17. Execute the machine to complete the process 18. Take out the completed part

Self-Assessment Checklist

Candidate Name	
Registration No.	
Qualification	Marble Technician Level - 4
Competency Standards	Perform CAD/CAM Operations
Assessment Task	<ol style="list-style-type: none"> 1. Interpret Drawing & Design using CAD 2. Draw & Design the job using CAD 3. Load the desired Tools 4. Perform Simulation 5. Perform Material Loading. 6. Perform CAM Operations

I can.....

Performance Criteria	Yes	No
1. Interpret the desired drawing & design	<input type="checkbox"/>	<input type="checkbox"/>
2. Set Interface in CAD software	<input type="checkbox"/>	<input type="checkbox"/>
3. Make Multiview drawing & design of the job	<input type="checkbox"/>	<input type="checkbox"/>
4. Make 3D drawing & design of the job/ part	<input type="checkbox"/>	<input type="checkbox"/>
5. Render the job as per client's demand	<input type="checkbox"/>	<input type="checkbox"/>
6. Plot/ print the job	<input type="checkbox"/>	<input type="checkbox"/>
7. Identify the required tools as per process	<input type="checkbox"/>	<input type="checkbox"/>
8. Select the tools in the CAD/CAM software	<input type="checkbox"/>	<input type="checkbox"/>
9. Load the tools in CAD/CAM software	<input type="checkbox"/>	<input type="checkbox"/>
10. Convert CAD to CAM codes using the software	<input type="checkbox"/>	<input type="checkbox"/>
11. Run Simulation to check accuracy of process	<input type="checkbox"/>	<input type="checkbox"/>
12. Identify required parts of the job	<input type="checkbox"/>	<input type="checkbox"/>
13. Set the clamping/ vacuum sucking units as per parts of the job	<input type="checkbox"/>	<input type="checkbox"/>
14. Load the job parts on the machine bed	<input type="checkbox"/>	<input type="checkbox"/>
15. Ensure the loading of desired tools/ bits in ATC.	<input type="checkbox"/>	<input type="checkbox"/>
16. Calibrate the machine.	<input type="checkbox"/>	<input type="checkbox"/>
17. Execute the machine to complete the process	<input type="checkbox"/>	<input type="checkbox"/>
18. Take out the completed part	<input type="checkbox"/>	<input type="checkbox"/>

Candidate's Signature _____ Assessor's Signature _____

Date: _____

Assessors Judgment Guide

Qualification	Marble Technician Level - 4
Competency Standard(s)	Perform CAD/CAM Operations
Candidate Details	Name: _____ Registration/Roll Number: _____ Signature: _____
Assessment Outcome	COMPETENT <input type="checkbox"/> NOT YET COMPETENT <input type="checkbox"/> Name of the Assessor _____ Assessor's code: _____ Signature: _____

Assessment Summary (to be filled by the assessor)							
Activity	Method					Result	
	Written	Oral	Observation	Portfolio	Role Play	Competent	Not Yet Competent
Nature of Activity							
Practical Skill Demonstration			✓				
Knowledge Assessment		✓					
Other Requirement							

Observation Checklist

Assessment Task	<ol style="list-style-type: none"> 1. Interpret Drawing & Design using CAD 2. Draw & Design the job using CAD 3. Load the desired Tools 4. Perform Simulation 5. Perform Material Loading. 6. Perform CAM Operations 			
During the practical assessment, candidate demonstrated the following:		Yes	No	Remarks
1.	Interpret the desired drawing & design			
2.	Set Interface in CAD software			
3.	Make Multiview drawing & design of the job			
4.	Make 3D drawing & design of the job/ part			
5.	Render the job as per client's demand			
6.	Plot/ print the job			
7.	Identify the required tools as per process			
8.	Select the tools in the CAD/CAM software			
9.	Load the tools in CAD/CAM software			
10.	Convert CAD to CAM codes using the software			
11.	Run Simulation to check accuracy of process			
12.	Identify required parts of the job			
13.	Set the clamping/vacuum sucking units as per parts of the job			
14.	Load the job parts on the machine bed			
15.	Ensure the loading of desired tools/ bits in ATC.			
16.	Calibrate the machine.			
17.	Execute the machine to complete the process			
18.	Take out the completed part			
Competent <input type="checkbox"/>		Not Yet Competent <input type="checkbox"/>		

Knowledge Assessment

Qualification	Marble Technician Level - 4
Competency Standard(s)	Perform CAD/CAM Operations
Candidate Details	Name: _____ Registration/Roll Number: _____ Candidate Signature: _____
Assessment Outcome	COMPETENT <input type="checkbox"/> NOT YET COMPETENT <input type="checkbox"/> Name of the Assessor: _____ Assessor's code: _____ Signature of the Assessor: _____

Candidate's response is not required to be identical, but similar concepts and/or keywords must be used. Oral questioning may be used to clarify candidate understanding of topic and its application.

Questions (Candidate confidently answered questions correctly and demonstrated understanding of the topics and their application)	Satisfactory	Not Satisfactory
1. What CAD and CAM stand for? _____		
2. Name Tools/commands used for drawing in CAD software. _____		
3. What is 3D drawings? _____		
4. What CNC stand for? _____		
5. Name various Bits/cutters of CNC machines. _____		
6. Name different CAM operations. _____		
7. What is vacuum system? _____		
8. What is Automatic tool changer? _____		
9. What is calibration of CNC machine? _____		
10. What is Simulation of CNC machine? _____		

Feedback to the Candidate

Candidate's Signature _____ **Assessor's Signature** _____

Instruction Sheet for the Candidate

Qualification	Marble Technician Level - 3
Competency Standard(s)	Cut Marble
Purpose of Assessment	Formative Assessment

Candidate Details	Name _____ Registration/Roll Number _____
Guidance for Candidate	<p>To meet this standard you are required to complete the following within the given time frame (for practical demonstration & assessment):</p> <ol style="list-style-type: none"> 1. Perform loading/unloading by Crane 2. Prepare Machine for cutting Marble 3. Perform vertical cutting 4. Perform cutting with Gang saw 5. Perform bridge Cutting. 6. Perform cross cutting 7. Perform section cutting 8. Perform cutting with resizing machine. 9. Perform Table Cutting
Time: 5 Hours	<p>During a practical assessment, under observation by an assessor, you are required to</p>
Minimum Evidence Required	<ol style="list-style-type: none"> 1. Load Marble stone on Trolley of vertical cutting machine. 2. Adjust vertical cutting Machine 3. Regulate flow of water. 4. Adopt personal safety (Gloves, Boots, and apron). 5. Perform cutting with vertical cutting machine as per standard. 6. Transport cut slabs for cross cutting 7. Load block/stone on trolley of Gang Saw. 8. Operate Gang saw. 9. Perform punching on the base line of slabs with chisel 10. Shift slabs to the other trolley. 11. Adjust stone on trolley of Bridge cutter. 12. Perform cutting with Bridge cutter as per standard. 13. Transport cut slabs to cross cutting/table cutter. 14. Prepare machine for cross cutting. 15. Perform cross cutting as per standard. 16. Adjust the guide for standard thickness. 17. Perform section cutting. 18. Adjust both the cutter for the required size of slabs. 19. Perform cutting to get the slabs in square/rectangle shape. 20. Perform cutting with table cutter to get the slabs in shape as required.

Self-Assessment Checklist

Candidate Name	
Registration No.	
Qualification	Marble Technician Level - 3
Competency Standards	Cut Marble
Assessment Task	<ol style="list-style-type: none"> 1. Perform loading/unloading by Crane 2. Prepare Machine for cutting Marble 3. Perform vertical cutting 4. Perform cutting with Gang saw 5. Perform bridge Cutting. 6. Perform cross cutting 7. Perform section cutting 8. Perform cutting with resizing machine. 9. Perform Table Cutting

I can.....

Performance Criteria	Yes	No
1. Load Marble stone on Trolley of vertical cutting machine.	<input type="checkbox"/>	<input type="checkbox"/>
2. Adjust vertical cutting Machine	<input type="checkbox"/>	<input type="checkbox"/>
3. Regulate flow of water.	<input type="checkbox"/>	<input type="checkbox"/>
4. Adopt personal safety (Gloves, Boots, and apron).	<input type="checkbox"/>	<input type="checkbox"/>
5. Perform cutting with vertical cutting machine as per standard.	<input type="checkbox"/>	<input type="checkbox"/>
6. Transport cut slabs for cross cutting	<input type="checkbox"/>	<input type="checkbox"/>
7. Load block/stone on trolley of Gang Saw.	<input type="checkbox"/>	<input type="checkbox"/>
8. Operate Gang saw.	<input type="checkbox"/>	<input type="checkbox"/>
9. Perform punching on the base line of slabs with chisel	<input type="checkbox"/>	<input type="checkbox"/>
10. Shift slabs to the other trolley.	<input type="checkbox"/>	<input type="checkbox"/>
11. Adjust stone on trolley of Bridge cutter.	<input type="checkbox"/>	<input type="checkbox"/>
12. Perform cutting with Bridge cutter as per standard.	<input type="checkbox"/>	<input type="checkbox"/>
13. Transport cut slabs to cross cutting/table cutter.	<input type="checkbox"/>	<input type="checkbox"/>
14. Prepare machine for cross cutting.	<input type="checkbox"/>	<input type="checkbox"/>
15. Perform cross cutting as per standard.	<input type="checkbox"/>	<input type="checkbox"/>
16. Adjust the guide for standard thickness.	<input type="checkbox"/>	<input type="checkbox"/>
17. Perform section cutting.	<input type="checkbox"/>	<input type="checkbox"/>
18. Adjust both the cutter for the required size of slabs.	<input type="checkbox"/>	<input type="checkbox"/>
19. Perform cutting to get the slabs in square/rectangle shape.	<input type="checkbox"/>	<input type="checkbox"/>
20. Perform cutting with table cutter to get the slabs in shape as required.	<input type="checkbox"/>	<input type="checkbox"/>

Candidate's Signature _____ Assessor's Signature _____

Date: _____

Assessors Judgment Guide

Qualification	Marble Technician Level - 3
Competency Standard(s)	Cut Marble
Candidate Details	Name: _____ Registration/Roll Number: _____ Signature: _____
Assessment Outcome	COMPETENT <input type="checkbox"/> NOT YET COMPETENT <input type="checkbox"/> Name of the Assessor _____ Assessor's code: _____ Signature: _____

Assessment Summary (to be filled by the assessor)							
Activity	Method					Result	
Nature of Activity	Written	Oral	Observation	Portfolio	Role Play	Competent	Not Yet Competent
Practical Skill Demonstration			✓				
Knowledge Assessment		✓					
Other Requirement							

Observation Checklist

Assessment Task	<ol style="list-style-type: none"> 1. Perform loading/unloading by Crane 2. Prepare Machine for cutting Marble 3. Perform vertical cutting 4. Perform cutting with Gang saw 5. Perform bridge Cutting. 6. Perform cross cutting 7. Perform section cutting 8. Perform cutting with resizing machine. 9. Perform Table Cutting 			
During the practical assessment, candidate demonstrated the following:		Yes	No	Remarks
1.	Load Marble stone on Trolley of vertical cutting machine.			
2.	Adjust vertical cutting Machine			
3.	Regulate flow of water.			
4.	Adopt personal safety (Gloves, Boots, and apron).			
5.	Perform cutting with vertical cutting machine as per standard.			
6.	Transport cut slabs for cross cutting			
7.	Load block/stone on trolley of Gang Saw.			
8.	Operate Gang saw.			
9.	Perform punching on the base line of slabs with chisel			
10.	Shift slabs to the other trolley.			
11.	Adjust stone on trolley of Bridge cutter.			
12.	Perform cutting with Bridge cutter as per standard.			
13.	Transport cut slabs to cross cutting/table cutter.			
14.	Prepare machine for cross cutting.			
15.	Perform cross cutting as per standard.			
16.	Adjust the guide for standard thickness.			
17.	Perform section cutting.			
18.	Adjust both the cutter for the required size of slabs.			
19.	Perform cutting to get the slabs in square/rectangle shape.			
20.	Perform cutting with table cutter to get the slabs in shape as required.			
Competent <input type="checkbox"/>		Not Yet Competent <input type="checkbox"/>		

Knowledge Assessment

Qualification	Marble Technician Level - 3
Competency Standard(s)	Cut Marble
Candidate Details	Name: _____ Registration/Roll Number: _____ Candidate Signature: _____
Assessment Outcome	COMPETENT <input type="checkbox"/> NOT YET COMPETENT <input type="checkbox"/> Name of the Assessor: _____ Assessor's code: _____ Signature of the Assessor: _____

Candidate's response is not required to be identical, but similar concepts and/or keywords must be used. Oral questioning may be used to clarify candidate understanding of topic and its application.

	Questions (Candidate confidently answered questions correctly and demonstrated understanding of the topics and their application)	Satisfactory	Not Satisfactory
1.	Name different types of Marble cutting machine _____		
2.	What safety precaution will be observed while operating machines? _____		
3.	How the Capacity of trolley can be measured? _____		
4.	What is the operating procedure of a vertical cutting machine? _____		
5.	What is the function of a Gang saw machine _____		
6.	What is the Operational Procedure of Bridge Cutter _____		
7.	What is the difference between cross cutter and section cutter? _____		
8.	Differentiate between Resizing cutter and Table cutter. _____		
9.	_____ _____		

Feedback to the Candidate

Candidate's Signature _____ Assessor's Signature _____

Instruction Sheet for the Candidate

Qualification	Marble Technician Level - 3
Competency Standard(s)	Perform Polishing of Marble
Purpose of Assessment	Formative Assessment

Candidate Details	Name _____ Registration/Roll Number _____
Guidance for Candidate	<p>To meet this standard you are required to complete the following within the given time frame (for practical demonstration & assessment):</p> <ol style="list-style-type: none"> 1. Identify polishing tools & equipment 2. Apply polishing pads 3. Apply sand paper 4. Apply chemicals 5. Apply Buff for Shining.
Time: 4 Hours	During a practical assessment, under observation by an assessor, you are required to
Minimum Evidence Required	<ol style="list-style-type: none"> 1. Identify polishing tools/materials 2. Ensure safe handling of polishing tools/equipment 3. Segregate tiles for polishing. 4. Place big tiles on machine /Table 5. Fix small tiles on fixture 6. Perform grinding with grinding disc. 7. Apply polishing materials. 8. Apply sand paper. 9. Wear Personal Protective Equipment 10. Select chemicals. 11. Apply chemicals to the surface. 12. Apply Buff for shining. 13. Assess surface finishing of tiles

Self-Assessment Checklist

Candidate Name	
Registration No.	
Qualification	Marble Technician Level - 3
Competency Standards	Perform Polishing of Marble
Assessment Task	<ol style="list-style-type: none"> 1. Identify polishing tools & equipment 2. Apply polishing pads 3. Apply sand paper 4. Apply chemicals 5. Apply Buff for Shining.

I can.....

Performance Criteria	Yes	No
1. Identify polishing tools/materials	<input type="checkbox"/>	<input type="checkbox"/>
2. Ensure safe handling of polishing tools/equipment	<input type="checkbox"/>	<input type="checkbox"/>
3. Segregate tiles for polishing.	<input type="checkbox"/>	<input type="checkbox"/>
4. Place big tiles on machine /Table	<input type="checkbox"/>	<input type="checkbox"/>
5. Fix small tiles on fixture	<input type="checkbox"/>	<input type="checkbox"/>
6. Perform grinding with grinding disc.	<input type="checkbox"/>	<input type="checkbox"/>
7. Apply polishing materials.	<input type="checkbox"/>	<input type="checkbox"/>
8. Apply sand paper.	<input type="checkbox"/>	<input type="checkbox"/>
9. Wear Personal Protective Equipment	<input type="checkbox"/>	<input type="checkbox"/>
10. Select chemicals.	<input type="checkbox"/>	<input type="checkbox"/>
11. Apply chemicals to the surface.	<input type="checkbox"/>	<input type="checkbox"/>
12. Apply Buff for shining.	<input type="checkbox"/>	<input type="checkbox"/>
13. Assess surface finishing of tiles	<input type="checkbox"/>	<input type="checkbox"/>

Candidate's Signature _____

Assessor's

Signature _____

Date: _____

Assessors Judgment Guide

Qualification	Marble Technician Level - 3
Competency Standard(s)	Perform Polishing of Marble
Candidate Details	Name: _____ Registration/Roll Number: _____ Signature: _____
Assessment Outcome	COMPETENT <input type="checkbox"/> NOT YET COMPETENT <input type="checkbox"/> Name of the Assessor _____ Assessor's code: _____ Signature: _____

Assessment Summary (to be filled by the assessor)							
Activity	Method					Result	
	Written	Oral	Observation	Portfolio	Role Play	Competent	Not Yet Competent
Nature of Activity							
Practical Skill Demonstration			✓				
Knowledge Assessment		✓					
Other Requirement							

Observation Checklist

Assessment Task	1. Identify polishing tools & equipment 2. Apply polishing pads 3. Apply sand paper 4. Apply chemicals 5. Apply Buff for Shining.			
During the practical assessment, candidate demonstrated the following:		Yes	No	Remarks
1.	Identify polishing tools/materials			
2.	Ensure safe handling of polishing tools/equipment			
3.	Segregate tiles for polishing.			
4.	Place big tiles on machine /Table			
5.	Fix small tiles on fixture			
6.	Perform grinding with grinding disc.			
7.	Apply polishing materials.			
8.	Apply sand paper.			
9.	Wear Personal Protective Equipment			
10.	Select chemicals.			
11.	Apply chemicals to the surface.			
12.	Apply Buff for shining.			
13.	Assess surface finishing of tiles			
Competent <input type="checkbox"/>		Not Yet Competent <input type="checkbox"/>		

Knowledge Assessment

Qualification	Marble Technician Level - 3
Competency Standard(s)	Perform Polishing of Marble
Candidate Details	Name: _____ Registration/Roll Number: _____ Candidate Signature: _____
Assessment Outcome	COMPETENT <input type="checkbox"/> NOT YET COMPETENT <input type="checkbox"/> Name of the Assessor: _____ Assessor's code: _____ Signature of the Assessor: _____


Candidate's response is not required to be identical, but similar concepts and/or keywords must be used. Oral questioning may be used to clarify candidate understanding of topic and its application.


	Questions (Candidate confidently answered questions correctly and demonstrated understanding of the topics and their application)	Satisfactory	Not Satisfactory
1.	Name different Polishing tools _____		
2.	What is fixture? _____		
3.	Name various polishing materials/Chemicals _____		
4.	What is Sand paper? _____		
5.	Describe different types and sizes of sand paper. _____		
6.	How chemicals are apply to marble surface? _____		
7.	Describe applying techniques of sand paper _____		
8.	What is Buffing? _____		
9.	Name various Buffing materials. _____		
10.	Name different Buffing methods. _____		

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