

## NSQF QUALIFICATION FILE

**NSDA Reference**  
*To be added by NSDA*

Carpenter

### CONTACT DETAILS OF THE BODY SUBMITTING THE QUALIFICATION FILE

Directorate General of Training (DGT)  
Government of India, Ministry of Skill Development and Entrepreneurship,  
Shram Shakti Bhavan, Rafi Marg  
New Delhi-110001

#### **Name and address of submitting body:**

Directorate General of Training (DGT)  
Government of India, Ministry of Skill Development and Entrepreneurship,  
Shram Shakti Bhavan, Rafi Marg  
New Delhi-110001

#### **Name and contact details of individual dealing with the submission**

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#### **List of documents submitted in support of the Qualifications File**

1. Competency-based curriculum (Annexure 1)
2. Advertisements of different organisations for posts relevant to NTC in the trade
3. Placement figures of few ITIs

## SUMMARY

<b>Qualification Title</b>	Carpenter		
<b>Qualification Code</b>	N/A		
<b>Nature and purpose of the qualification</b>	National Trade Certificate; to train the 10th class pass students in Carpenter trade and thus changing a non-worker to worker		
<b>Body/bodies which will award the qualification</b>	National Council for Vocational Training (NCVT)		
<b>Body which will accredit providers to offer courses leading to the qualification</b>	<b>National Council for Vocational Training (NCVT)</b> affiliates the ITIs on the basis of accreditation by Quality Council of India (QCI).		
<b>Body/bodies which will carry out assessment of learners</b>	National Council for Vocational Training (NCVT)		
<b>Occupation(s) to which the qualification gives access</b>	<p>On successful completion of this course, the candidates shall be gainfully employed as:</p> <ul style="list-style-type: none"> <li>• Carpenter in general for making, fitting, assembly and repair of Wooden Furniture, articles, etc. and for cutting, shaping and installation of wooden items during the construction of buildings, ships, concrete formwork etc.</li> <li>• Trainees of Carpenter Trade have a wide scope of Employability ranging from self-employment, contractual employment to Industrial jobs.</li> </ul>		
<b>Licensing requirements</b>	N/A		
<b>Level of the qualification in the NSQF</b>	Level 4		
<b>Anticipated volume of training/learning required to complete the qualification</b>	<b>S. No.</b>	<b>Course Element</b>	<b>Notional Training Hours</b>
	1	Professional Skill (Trade Practical)	1075
	2	Professional Knowledge (Trade Theory)	258
	3	Workshop Calculation & Science	86
	4	Engineering Drawing	129
	5	Employability Skills	110
	6	Library & Extracurricular activities	62
	7	Project work	80
	8	Revision & Examination	280
	<b>Total</b>	<b>2080</b>	
	*The major change is the addition of revision component and project work, hence there is increase in the total no of notional hours.		
<b>Entry requirements and/or recommendations</b>	Passed 10th class examination under 10+2 System of education		
<b>Progression from the qualification</b>	<ul style="list-style-type: none"> <li>• Can join Apprenticeship programme in different types of industries leading to National Apprenticeship certificate (NAC) after which they will be employed in industry as skilled worker.</li> <li>• Can join Crafts Instructor Training Scheme (CITS) in the</li> </ul>		

	<p>‘Carpenter ’ trade to become instructor in ITIs.</p> <ul style="list-style-type: none"> <li>• Can join as skilled worker in the relevant industry</li> <li>• can become supervisor after doing diploma in relevant branch of Engineering</li> </ul>		
<b>Planned arrangements for the Recognition of Prior learning (RPL)</b>	<ol style="list-style-type: none"> <li>1. At present the students who have passed 10th class with minimum 3 years’ experience in relevant field can appear for NCVT theory and practical semester examination directly.</li> <li>2. The students who have passed SCVT examination in ‘Carpenter trade can also appear for the NCVT Examination in the relevant semester and trade directly.</li> </ol>		
<b>International comparability where known</b>	<ol style="list-style-type: none"> <li>1. Existence of any official document suggesting the comparability of the qualification with the qualifications in other countries is not known.</li> <li>2. However, ITI passed out trainees are getting employment in many Gulf countries, European countries, Australia, New Zealand, Singapore etc.</li> </ol>		
<b>Date of planned review of the qualification.</b>	January 2023		
<b>Formal structure of the qualification</b>			
<b>Title of component and identification code.</b>	<b>Mandatory/ Optional</b>	<b>Estimated size (learning hours)</b>	<b>Level</b>
<b>Semester – I</b>			
i) Identify timber/wood, apply measuring, marking and testing instrument and other holding and supporting hand Tools.	Mandatory	65	4
ii) Identify and apply various saws and portable power saw machines for Ripping, cross cutting, Oblique sawing and curve cutting etc.	Mandatory	100	5
iii) Analyze the surface finish with exact sizing by planning, operation, identifying and applying various shaving tools or portable power planning machine.	Mandatory	40	4
iv) Identify and apply various paring tools, analyze and choose the positioning and employ holding device for chiselling with better finish.	Mandatory	40	4
v) Identify and classify various types of joints, analyze and prepare correct joint at correct position, related with strength and appearance.	Mandatory	160	4
vi) Make small wooden job as per drawing with schedule sizes of timber or alternatives of timber i.e. FRP, MDF, FOAM using various hardware.	Mandatory	100	4
vii) Analyze and identify various carving tools and convert a wooden block/ piece into a decorative article.	Mandatory	160	4
viii) Demonstrate preservation of wooden item through surface finishing with various processes such as painting, polishing, varnishing etc.	Mandatory	160	5
<b>Semester – II</b>			
ix) Demonstrate ripping, cross cutting, curve			

cutting etc. on band saw/ circular saw machine and grinding and setting of blade/ cutter.	Mandatory	100	5
x) Demonstrate different operations on planing machine along with sharpening blades. (Range of operations – Surfacing, thickening, chamfering, edge bending etc.)	Mandatory	35	4
xi) Demonstrate working on pedestal grinding (Range of operations – grinding of mushroom head, cutting edge of tools, drills, etc.)	Mandatory	95	4
xii) Make holes of different sizes in correct location on wood work.	Mandatory	65	4
xiii) Demonstrate different operations on wood turning lathe along with sharpening of cutting tools.	Mandatory	95	5
xiv) Demonstrate different operations on Tenon and mortise machine.	Mandatory	125	5
xv) Demonstrate different operations on Sanding machine.			
xvi) Identify and prepare different types of pattern, core box, core print etc. for moulding application with proper allowances and colour codes.	Mandatory	40	4
xvii) Produce component involving different operations of fitting work and check for functionality.	Mandatory	65	4
xviii) Produce component involving different operations of sheet metal work and check for functionality.	Mandatory	65	4
xix) Prepare various roof truss, door and windows frame and shutters, assembling & fixing (wooden/ aluminium or PVC).	Mandatory	65	4
xx) Paint various door, windows frame, stair and furniture (wooden or aluminium).	Mandatory	65	4
xxi) Prepare various type of wooden floor, partition wall etc.	Mandatory	100	5
xxii) Check, identify, analyze and repair the wooden job.			
<b>Generic Learning Outcomes</b>			
xxiii) Recognize & comply with safe working practices, environment regulation and housekeeping.	Mandatory	65	4
xxiv) Understand and explain different mathematical calculation & science in the field of study including basic electrical. [Different mathematical calculation & science-Work, Power & Energy, Algebra, Geometry & Mensuration, Trigonometry, Heat & Temperature, elasticity]	Mandatory	160	4
xxv) Interpret specifications, different engineering drawing and apply for different application in the field of work. [Different engineering drawing-Geometrical construction, Dimensioning, Layout, Method of representation, Symbol, Different Projections, Assembly drawing, Sectional views, Estimation of material]	Mandatory	35	4
xxvi) Select and measure dimension of components and record data.	Mandatory	65	4
xxvii) Explain the concept in productivity, quality tools, and labour welfare legislation and apply such in day-to-day work to improve productivity & quality.	Mandatory	190	4

## NSQF QUALIFICATION FILE

Carpenter

xxviii) Explain energy conservation, global warming and pollution and contribute in day-to-day work by optimally using available resources.	Mandatory	95	4
xxix) Explain personnel finance, entrepreneurship and manage/organize related task in day-to-day work for personal & societal growth.	Mandatory	40	4
xxx) Plan and execute the work related to the occupation.	Mandatory	40	4

Please attach any document giving further detail about the structure of the qualification – eg a Curriculum Document or a Qualification Pack.

Give the titles and other relevant details of the document(s) here. Include page references showing where to find the relevant information.

## SECTION 1 ASSESSMENT

### Body/Bodies which will carry out assessment:

National Council for Vocational Training (NCVT)

### How will RPL assessment be managed and who will carry it out?

1. At present the students who have passed 10th class with minimum 3 years' experience in relevant field can appear for NCVT theory and practical semester examination directly.
2. The students who have passed SCVT examination in Carpenter trade can also appear for the NCVT Examination in the relevant semester and Trade directly. State Directorates advertise in newspapers for informing the prospective candidates and NCVT will carry out the assessment.

**Describe the overall assessment strategy and specific arrangements which have been put in place to ensure that assessment is always valid, reliable and fair and show that these are in line with the requirements of the NSQF.**

#### (1) Assessment process:

The assessment for the semester-based qualification is carried out by conducting formative assessments, and end-of-semester examinations. The internal assessments for theory subjects and practical are conducted by the concerned instructors for evaluating the knowledge and skill acquired by trainees and the behavioural transformation of the trainees. This internal assessment is primarily carried out by collecting evidence of competence gained by the trainees by evaluating them at work based on assessment criteria, asking questions and initiating formative discussions to assess understanding and by evaluating records and reports, and sessional marks are awarded to them. Theory and practical examinations are conducted in Trade theory, Workshop Calculation & Science, Engineering Drawing and Employability Skills. The question papers for the theory Examinations contain objective type questions. Trade practical examinations are conducted by the respective State Governments. However, the question papers for the Trade practical are prepared by NCVT.

The marking pattern and distribution of marks for the qualification are as under:

Marking Pattern		
Sl. No.	Subject for the trade test	Maximum marks for the each subject
a)	Practical	300
b)	Trade Theory	200 Objective type Written test of 200 marks (Trade Theory 150 marks & Employability Skills 50 marks)
c)	Employability Skills	
d)	Work shop Calculation and Science.	100 Objective Type Written test of 100 marks (Engineering Drawing 50 marks & Work shop Calculation and Science 50 marks)
e)	Engineering Drawing	
f)	Internal assessment	100
TOTAL:		700

**(2) Minimum pass marks:**

40% for each Theory Examination and 25% for each part/section of the Examination separately, and 60% marks for each Trade practical Examination.

**(3) Testing and certifications for the course:**

- OMR sheet based question paper.
- A panel of expert paper setters, who are graduates in the concerned field with minimum 5-7 years experience, is prepared for setting question papers for the Trade. The panel is vetted by the Member Secretary, NCVT.
- Paper setters are appointed from the panel after the approval of the competent authority for setting the question paper.
- The question papers are then moderated by the Board of Moderation to see if the paper is set as per the requirement and syllabus.
- The manuscripts of the moderated question papers are sent to Government Printing Presses for printing.
- Printed question papers, packed in sealed covers, are despatched to Banks/Police Stations for keeping in safe custody.
- The question papers are handed over to the Chairman/Principal of the Testing Centre two hours before the commencement of the Examination.
- An Examination Board consisting of representatives of industry/Employer/State Government are set up to supervise and monitor the conduct of Examinations at every Centre.
- Theory and practical Examinations are carried out with invigilators/examiners with the overall supervision of the Examination Board.
- Examiners called for evaluation of practical should have minimum technical qualification of a Diploma in the respective engineering field. However, when diploma holders not available, the qualification is suitably relaxed.
- Examiners for practical Examinations are appointed preferably from Polytechnics/Engineering colleges/Industry of repute. Government Departments or from amongst retired qualified personnel possessing requisite qualifications and sufficient experience in the trade/discipline.
- Each State Directorate prepares a panel of Examiners according to the norms as mentioned above and the Examiners are appointed from the panel.
- Flying squads from State Governments as well as the Central Government are constituted to check malpractices during the conduct of Examinations.
- OMR based answer sheets are evaluated by the third party evaluator only. Third party evaluator is selected for three years by open bidding process.
- Evaluation of every practical examination is carried out by the concerned examiner (from industry/polytechnics) with the overall supervision of the Examination Board in a free and fair manner as per the assessment criteria.
- Till 2014, the marks were compiled by the State Governments as per NCVT guidelines and the results were declared by the State Governments. At present, the marks are compiled by NCVT on its portal [www.ncvtmis.gov.in](http://www.ncvtmis.gov.in) and the results are declared by the State Governments.
- The successful trainees are awarded National Trade Certificates.

**Overall assessment strategy:**

Assessment of the qualification evaluates trainees to show that they can integrate knowledge, skills and values for carrying out relevant tasks as per the defined assessable outcomes and assessment criteria. The trainees may choose the preferred language for assessment. The underlying principle of

assessment is fairness and transparency. While assessing the trainee, assessor is directed to assess as per the defined assessment criteria against the assessable outcomes. The evidence of the competence acquired by the trainees can be obtained by conducting theory and practical examinations, observing the trainees at work, asking questions and initiating formative discussions to assess understanding and evaluating records and reports. The ultimate objective of the assessment is to assess the candidates as per the defined assessment criteria for the assessable/ learning outcomes.

### **Specific Arrangements for assessment:**

- Assessment is outcome-based.
- There are formative and summative assessments in Theory and Practical.
- Assessment is carried out in Trade theory, Trade Practical, Workshop Calculation and Science, Engineering Drawing and Employability Skills.
- While Trade Theory and Trade Practical are used for assessing Trade-related jobs, Workshop Calculation and Science is used to test trainee's numerical skills, Drawing is used to test the ability of the trainee to draw and read sketches and Employability skills is used to test the communication, professional language, leadership, entrepreneurship and team-work abilities of the trainee.
- In addition to demonstration of theory and practical knowledge, trainees get a chance to present total personality.

### **Quality assurance activities:**

- Question papers are set by external paper setters
- Evaluation of Theory Examinations is done by third-party agency. Third party evaluator is selected for three years by open bidding process.
- Trade Practical is examined by External Examiner (as explained above).

Please attach any documents giving further information about assessment and/or RPL.

Give the titles and other relevant details of the document(s) here. Include page references showing where to find the relevant information.

## ASSESSMENT EVIDENCE

**Complete a grid for each component as listed in "Formal structure of the the qualification" in the Summary.**

*NOTE: this grid can be replaced by any part of the qualification documentation which shows the same information – ie Learning Outcomes to be assessed, assessment criteria and the means of assessment.*



**Title of Component:** Carpenter

**Assessable Outcomes and Assessment Criteria**

**GENERIC LEARNING OUTCOME**

<b>LEARNING/ ASSESSABLE OUTCOME</b>	<b>ASSESSMENT CRITERIA</b>
<p>1. Recognize &amp; comply with safe working practices, environment regulation and housekeeping.</p>	1. 1. Follow and maintain procedures to achieve a safe working environment in line with occupational health and safety regulations and requirements.
	1. 2. Recognize and report all unsafe situations according to site policy.
	1. 3. Identify and take necessary precautions on fire and safety hazards and report according to site policy and procedures.
	1. 4. Identify, handle and store/ dispose of dangerous/unsalvageable goods and substances according to site policy and procedures following safety regulations and requirements.
	1. 5. Identify and observe site policies and procedures with regard to illness or accident.
	1. 6. Identify safety alarms accurately.
	1. 7. Report supervisor/ Competent of authority in the event of accident or sickness of any staff and record accident details correctly according to site accident/injury procedures.
	1. 8. Identify and observe site evacuation procedures according to site policy.
	1. 9. Identify Personal Productive Equipment (PPE) and use the same as per related working environment.
	1. 10. Identify basic first aid and use them under different circumstances.
	1. 11. Identify different fire extinguisher and use the same as per requirement.
	1. 12. Identify environmental pollution & contribute to avoidance of same.
	1. 13. Take opportunities to use energy and materials in an environmentally friendly manner.
	1. 14. Avoid waste and dispose waste as per procedure.
	1. 15. Recognize different components of 5S and apply the same in the working environment.
<p>2. Understand and explain different mathematical calculation &amp; science in the field of study including basic</p>	2.1 Explain concept of basic science related to the field such as Material science, Mass, weight, density, heat & temperature, heat treatment.
	2.2 Measure dimensions as per drawing
	2.3 Use scale/ tapes to measure for fitting to specification.

electrical. <i>[Different mathematical calculation &amp; science - Work, Power &amp; Energy, Algebra, Geometry, Mensuration, Trigonometry, Heat &amp; Temperature, elasticity]</i>	2.4 Comply with given tolerance.
	2.5 Prepare list of appropriate materials by interpreting detail drawings and determine quantities of such materials.
	2.6 Ensure dimensional accuracy of assembly by using different instruments/gauges.
	2.7 Explain basic electricity, insulation and earthing.
3. Interpret specifications, different engineering drawing and apply for different application in the field of work. <i>[Different engineering drawing-Geometrical construction, Dimensioning, Layout, Method of representation, Symbol, Different Projections, Assembly drawing, Sectional views, Estimation of material]</i>	3. 1. Read and interpret the information on drawings and apply in executing practical work.
	3. 2. Read & analyse the specification to ascertain the material requirement, tools, and assembly/maintenance parameters.
	3. 3. Encounter drawings with missing/unspecified key information and make own calculations to fill in missing dimension/parameters to carry out the work.
4. Select and measure dimension of components and record data.	4.1 Select appropriate measuring scale/tape/gauges.
	4.2 Measure dimension of the components/assembly & compare with given drawing/measurement.
5. Explain the concept in productivity, quality tools, and labour welfare legislation and apply such in day-to-day work to improve productivity & quality.	5.1 Explain the concept of productivity and quality tools and apply during execution of job.
	5.2 Understand the basic concept of labour welfare legislation and adhere to responsibilities and remain sensitive towards such laws.
	5.3 Knows benefits guaranteed under various acts.
6. Explain energy conservation, global warming and pollution and contribute in day-	6.1 Explain the concept of energy conservation, global warming, pollution and utilize the available recourses optimally & remain sensitive to avoid environment pollution.

	6.2 Dispose waste following standard procedure.
7. Explain personnel finance, entrepreneurship and manage/organize related task in day-to-day work for personal & societal growth.	7. 1. Explain personnel finance and entrepreneurship.
	7. 2. Explain role of various schemes and institutes for self-employment i.e. DIC, SIDA, SISI, NSIC, SIDO, Idea for financing/ non-financing support agencies to familiarize with the Policies/Programmes & procedure & the available scheme.
	7. 3. Prepare Project report to become an entrepreneur for submission to financial institutions.
8. Plan and execute the work related to the occupation.	8. 1. Use documents, drawings and recognize hazards in the work site.
	8. 2. Plan workplace/ assembly location with due consideration to operational stipulation.
	8. 3. Communicate effectively with others and plan project tasks.
	8. 4. Execute the task effectively.

**SPECIFIC LEARNING OUTCOME**

<b>LEARNING/ ASSESSABLE OUTCOMES</b>		<b>ASSESSMENT CRITERIA</b>	
<b>SEMESTER-I</b>			
9. Identify timber/ wood & apply measuring, marking and testing instrument and holding & supporting hand Tools.	9. 1. Demonstrate workshop safety & discipline.		
	9. 2. Identify different types of wood/ timber.		
	9. 3. Identify the measuring, marking, work holding and testing instrument.		
	9. 4. Mark as per drawing and measure dimensions for checking.		
	9. 5. Demonstrate use of testing instrument and other useable hand tools.		
10. Identify and apply various saws and portable power saw machines for Ripping, cross cutting, Oblique sawing and curve cutting etc.	10.1 Select material and inspect visually for defects.		
	10.2 Mark the job as per drawing and check measurements before sawing.		
	10.3 Mark an angle with the aid of bevel square and mitre square for oblique sawing.		
	10.4 Identify and arrange the required tools for desired operations and make the job.		
	10.5 Perform Ripping/cross, cutting/curve, sawing/ cutting operations according to the marking following safety norms.		
	10.6 Check for dimensional accuracy.		
	10.7 Avoid waste and plan for reuse/ dispose of the unused items.		

11. Analyze the surface finish with exact sizing by planning operation identify and apply various shaving tools or portable power planning machine.	11. 1 Select material and appropriate planner for required surface finish and size.
	11. 2 Set planner with sharpened cutting iron and perform required planning operation to obtain required size and finish.
	11. 3 Plane across the grain and end grain.
	11. 4 Check the size, flatness, squareness and finish of the job as per drawing.
	11. 5 Demonstrate removal, sharpening and fitting of planner blade observing standard operating procedures.
12. Identify and apply various paring tools and analyze and choose the positioning and employ holding device for chiselling with better finish.	12. 1 Arrange woods with vertical/ horizontal grains and required type of chisel for performing operation (chiselling across the grain)as per drawing.
	12. 2 Mark the work as per dimension of the drawing.
	12. 3 Perform chiselling as per drawing and ensure better finish.
	12. 4 Check the finished job as per drawing.
13. Identify and classify various types of joints, analyze and prepare correct joint at correct position, related with strength and appearance.	13. 1 Choose exact type of joint to employ and arrange materials, tools and equipments to perform the operation.
	13. 2 Perform framing joint (Sawing and chiselling) as required maintaining dimensions.
	13. 3 Assemble different parts and check for correctness, strength and finishing.
14. Make small wooden job as per drawing with schedule sizes of timber or alternatives of timber i.e. FRP, MDF, FOAM using various hardware.	14. 1 Arrange required material, tools etc. to make the job as per drawing.
	14. 2 Mark as per drawing.
	14. 3 Perform sawing, chiselling of different parts, prepare all the parts as per marking layout and check dimension.
	14. 4 Assemble different parts to make a complete job.
	14. 5 Overall finish and check dimensions as per drawing.
	14. 6 Avoid waste and plan for reuse/ dispose of the unused materials.
15. Analyze and identify various carving tools and convert a wooden block/ piece into a decorative article.	15. 1 Plan for wood carving as per drawing and arrange for material and tools for the purpose.
	15. 2 Mark layout as per drawing.
	15. 3 Perform wood carving operation to make a piece of wood as per drawing.
	15. 4 Check for corrections as per drawing.
	15. 5 Finish the product by smoothing.

16. Demonstrate preservation of wooden item through surface finishing with various processes such as painting, polishing, varnishing etc.	16.1	Plan for finish the surface of wooden product as per requirement and arrange required items and tools.
	16.2	Clean/ prepare surface for the purpose.
	16.3	Smoothen surface applying proper procedure.
	16.4	Apply varnish/ polish on the surface to get required finish.
	16.5	Check the quality of finish.
<b>SEMESTER-II</b>		
17. Demonstrate ripping, cross cutting, curve cutting etc. on band saw/ circular saw machine and grinding and setting of blade/ cutter.	17.1	Plan and select the job and set up machine accessories at position to perform desired operation.
	17.2	Check the saw or blade and cutter guard.
	17.3	Set the job and perform desired operation with proper adjustment of table, guide, fence and blade guard.
	17.4	Check the product shape, size and dimensions with the drawing.
	17.5	Sharpen cutter or saw teeth and set teeth of saw.
18. Demonstrate different operations on Jointer/ surface Planer/ Thickness planer machine along with sharpening blades. (Range of operations – Surfacing, thickening, chamfering, edge bending etc.)	18.1	Plan and set the job and machine for surfacing and thickening operation.
	18.2	Adjust the table, fence and blade guard as per the width and thickness of the job.
	18.3	Perform desired operation and check the correctness as per drawing.
19. Demonstrate working on pedestal grinding (Range of operations – grinding of mushroom head, cutting edge of tools, drills, etc.)	19.1	Plan for offhand grinding with required safety norms.
	19.2	Perform grinding operation to make required shape, size and dimension.
	19.3	Check the work for its dimensional accuracy and cutting efficiency.
20. Demonstrate working on pedestal/potable drilling machine, use of different	20.1	Plan and select material and machine for drill holes to make observing safety points.
	20.2	Mark the job as per drawing.

types of drill bits; make holes of different sizes in correct location on wood work.	20.3 Set the job and cutting tool properly.
	20.4 Perform operation to make drill holes as per drawing.
	20.5 Check dimensions for correctness.
21. Demonstrate different operations on wood turning lathe along with sharpening of cutting tools.	21.1 Plan and set the machine for desired turning operation.
	21.2 Hold the job between centres or in other work holding devices.
	21.3 Hold the tool and adjust tool rest
	21.4 Perform required turning operation observing standard operating procedure.
	21.5 Check dimensions and finish as per drawing.
22. Demonstrate different operations on Tenon and mortise machine.	22.1 Plan and set the Mortise machine for mortising operation and check sharpness of the tool.
	22.2 Mark the mortise on the job, select and set the chisel on the machine.
	22.3 Hold the job and adjust the table as per the depth and bench of mortise.
	22.4 Make the mortise to the required size and check the job for correctness.
	22.5 Plan and set the Tenoning machine for tenoning operation.
	22.6 Mark the tenon on the job for tenon cutting.
	22.7 Set the job on the tenoning machine and cut the hunched portion.
	22.8 Check the job for correctness.
23. Demonstrate different operations on Sanding machine.	23.1 Plan to perform and set the sanding machine for sanding operation.
	23.2 Perform sanding operation.
	23.3 Check the job for correctness.
24. Identify and prepare	24.1 Study the drawing and make a plan for making desired pattern.

different types of pattern, core box, core print etc. for moulding application with proper allowances and colour codes.	24.2	Select proper material and tool for making the pattern.
	24.3	Prepare layout for the pattern.
	24.4	Make the material as per layout considering contraction scale, drafting and machining allowances and check the dimensions.
	24.5	Perform removing material and make the pattern as per drawing.
	24.6	Check for accuracy of the pattern.
25. Produce component involving different operations of fitting work and check for functionality.	25.1	Study the drawing/ sketch and plan for the required steps of operation to produce the item.
	25.2	Arrange required materials, tools and machineries for smooth performance of the operations.
	25.3	Mark the job as per drawing.
	25.4	Perform required operation to prepare the job as per drawing.
	25.5	Check the dimensions of the product and its functionality.
26. Produce component involving different operations of sheet metal work and check for functionality.	26.1	Study the drawing/ sketch and plan for the required steps of operation to produce the item.
	26.2	Arrange required materials, tools and machineries for smooth performance of the operations.
	26.3	Develop and mark metal sheet to make the desired component as per drawing.
	26.4	Perform required operations to prepare the job as per drawing.
	26.5	Check the dimensions of the product and its functionality.
27. Prepare various roof truss, door and windows frame and shutters, assembling & fixing (wooden/ aluminium or PVC).	27.1	Study the drawing/ sketch and plan for the required steps of operation to produce the item.
	27.2	Arrange required materials, tools and machineries for smooth performance of the operations.
	27.3	Mark the job and perform required operation to prepare the item as per drawing.

	27.4 Assemble the components to make a complete item.
	27.5 Check the dimensions of the product and its functionality.
28. Paint various door, windows frame, stair and furniture (wooden or aluminium).	28.1 Plan and arrange materials and tools for painting wooden surface.
	28.2 Remove old paint and/ or clean, smoothen and prepare the surface to be painted.
	28.3 Prepare correct solution of primer/ paint.
	28.4 Apply primer/ paint on the surface with correct procedure.
	28.5 Check finishing of the work.
29. Prepare various type of wooden floor, partition wall etc.	29.1 Study the drawing/ sketch and plan for the required steps of operation to produce the item.
	29.2 Arrange required materials, tools and machineries for smooth performance of the operations.
	29.3 Mark the job and perform required operation to prepare the item as per drawing.
	29.4 Assemble the components to make a complete item.
	29.5 Check the dimensions of the product and its functionality.
30. Check, identify, analyze and repair the wooden job.	30.1 Check the wooden/ Aluminium/PVC or like item and identify the repair/ reconditioning work to be done.
	30.2 Plan for the repair/ reconditioning work and arrange required materials, tools and machineries for smooth performance of the work.
	30.3 Perform the repair/ reconditioning work.
	30.4 Check the item for its workability/ acceptability.



**Means of assessment 1**

Assessment will be evidence based comprising the following:

- Job carried out in labs/workshop
- Record book/ daily diary
- Answer sheet of assessment
- Viva-voce
- Progress chart
- Attendance and punctuality
- Assignment
- Project work

**Means of assessment 2****Pass/Fail**

The minimum pass percentage is 40% for each Theory Examination and 25% for each part/section of the Examination separately, and 60% marks for each Trade practical Examination.

**SECTION 2**  
**EVIDENCE OF LEVEL**

## NSQF QUALIFICATION FILE

### Carpenter

#### OPTION A

Title/Name of qualification/component: Carpenter		Level: 4	
NSQF Domain	Outcomes of the Qualification/Component	How the job role relates to the NSQF level descriptors	NSQF Level
Process	<p><b>Familiar, Predictable, Routine Situations of Clear Choice</b></p> <ul style="list-style-type: none"> <li>Analyze the surface finish with exact sizing by planning, operation, identifying and applying various shaving tools or portable power planning machine.</li> <li>Identify and apply various paring tools, analyze and choose the positioning and employ holding device for chiselling with better finish.</li> <li>Identify and classify various types of joints, analyze and prepare correct joint at correct position, related with strength and appearance.</li> <li>Make small wooden job as per drawing with schedule sizes of timber or alternatives of timber i.e. FRP, MDF, FOAM using various hardware.</li> <li>Analyze and identify various carving tools and convert a wooden block/ piece into a</li> </ul>	<p>In all the learning outcomes for example ‘Analyze the surface finish with exact sizing by planning, operation, identifying and applying various shaving tools or portable power planning machine’ and ‘Demonstrate preservation of wooden item through surface finishing with various processes such as painting, polishing, varnishing etc’, the learner will be required to choose appropriate tools, equipments, Procedures as per the requirement of the job. The work will however be done within a familiar, predictable and routine range of situations to achieve the tolerance levels and accuracy demanded as per the job.</p> <p>Thus the learner requires to demonstrate ability to work in familiar, predictable, routine, situation of clear choice.</p> <p>Hence the NSQF level as per this descriptor will be 4.</p>	4

## NSQF QUALIFICATION FILE

### Carpenter

Title/Name of qualification/component: Carpenter		Level: 4	
NSQF Domain	Outcomes of the Qualification/Component	How the job role relates to the NSQF level descriptors	NSQF Level
	<p>decorative article.</p> <ul style="list-style-type: none"> <li>• Demonstrate preservation of wooden item through surface finishing with various processes such as painting, polishing, varnishing etc.</li> <li>• Demonstrate ripping, cross cutting, curve cutting etc. on band saw/ circular saw machine and grinding and setting of blade/ cutter.</li> <li>• Demonstrate different operations on planing machine along with sharpening blades. (Range of operations – Surfacing, thickening, chamfering, edge bending etc.)</li> <li>• Demonstrate working on pedestal grinding (Range of operations – grinding of mushroom head, cutting edge of tools, drills, etc.)</li> <li>• Make holes of different sizes in correct location on wood work.</li> <li>• Demonstrate different operations on Tenon and mortise machine.</li> <li>• Demonstrate different operations on Sanding machine.</li> </ul>		

## NSQF QUALIFICATION FILE

### Carpenter

Title/Name of qualification/component: Carpenter		Level: 4	
NSQF Domain	Outcomes of the Qualification/Component	How the job role relates to the NSQF level descriptors	NSQF Level
Professional knowledge	<p><b>Factual Knowledge of field of Knowledge or study</b></p> <ul style="list-style-type: none"> <li>Occupational Safety &amp; Health: Health, Safety and Environment guidelines, legislations &amp; regulations as applicable.</li> <li>Identification, specifications, uses and maintenance of commonly used hand tools.</li> <li>Common Indian timbers</li> <li>Defects in timber, diseases of timber, knots, shakes, grains etc.</li> <li>Introduction of carpentry hand tools, classification and uses of marking, work holding devices.</li> <li>Type of bench vice and their uses</li> <li>Introduction of different saw and their uses</li> <li>Description of boring tools - Types, Parts, functions, size and application.</li> <li>Description of portable electrical drill machine.</li> <li>Drill bits, types, sizes etc.</li> <li>Hand augers description, sizes of augers, application of hand augers.</li> <li>Important instruments necessary for checking flatness and twistness of surface.</li> <li>Sharpening and grinding angle of cutter.</li> </ul>	<p>The learner demonstrates factual knowledge of field of Occupational Safety &amp; Health: Health, Safety and Environment guidelines, legislations &amp; regulations as applicable.</p> <p>The learner also demonstrates knowledge of Quality control as required while selection of Timber as per given job's requirement. The learner understands and is able to demonstrate knowledge of Characteristics of wood, physical and mechanical properties of wood, Application of plywood, block board, laminated board, hard board, insulation board, mica etc.</p> <p>Also the learner demonstrates knowledge of Conventional and Contemporary methods of Wood Cutting and Planning and finishing/Polishing of Furniture.</p> <p>Hence NSQF Level 4 for this Descriptor</p>	4

## NSQF QUALIFICATION FILE

### Carpenter

Title/Name of qualification/component: Carpenter		Level: 4	
NSQF Domain	Outcomes of the Qualification/Component	How the job role relates to the NSQF level descriptors	NSQF Level
	<ul style="list-style-type: none"> <li>• Portable power planer - useful in modern wood work and new technology.</li> <li>• Characteristics of wood, physical and mechanical properties of wood.</li> <li>• Quality of good timber.</li> <li>• Define the classification of wooden joint.</li> <li>• Description of different types joint.</li> <li>• Application of different types of preservation &amp; Process of each treatment.</li> <li>• Description of different dovetail joint and their function.</li> <li>• Uses of dovetail joint.</li> <li>• Glues - Types of glue and their uses.</li> <li>• Application of different lengthening joint.</li> <li>• Setting of two tapper wedges.</li> <li>• Application of plywood, block board, laminated board, hard board, insulation board, mica etc.</li> <li>• Application of portable disc sander.</li> <li>• Care &amp; maintenance of disc sander.</li> <li>• Properties and characteristics of different furniture wood.</li> <li>• Parallel sawing</li> <li>• Radial sawing</li> </ul>		

## NSQF QUALIFICATION FILE

### Carpenter

Title/Name of qualification/component: Carpenter		Level: 4	
NSQF Domain	Outcomes of the Qualification/Component	How the job role relates to the NSQF level descriptors	NSQF Level
	Quarter sawing Tangential sawing Process and advantage <ul style="list-style-type: none"> <li>• Types of door lock &amp; their different uses.</li> <li>• Uses of different grade sand paper.</li> <li>• Portable sander machine - uses</li> <li>• Description &amp; method of French polish.</li> <li>• Method of wax polish and its uses.</li> <li>• Methods of old furniture re-polish.</li> <li>• Estimation process of wooden furniture.</li> <li>• Care &amp; maintenance of band saw machine with oiling &amp; greasing.</li> <li>• Types of circular saw machine.</li> <li>• Care &amp; maintenance of circular saw machine with oiling &amp; greasing.</li> <li>• Function of surface/ thickness planning machine. Pedestal grinding machine - Description, Types, Sizes, Parts, Function, Operation of pedestal grinding machine.</li> <li>• Wood turning lathe – Description, Types, Sizes, Parts, Function, Types, Operation of wood turning lathe.</li> <li>• Mortise machine – Description, Types, Sizes,</li> </ul>		

## NSQF QUALIFICATION FILE

### Carpenter

Title/Name of qualification/component: Carpenter		Level: 4	
NSQF Domain	Outcomes of the Qualification/Component	How the job role relates to the NSQF level descriptors	NSQF Level
	<p>Parts, Function, Operation of mortise machine.</p> <ul style="list-style-type: none"> <li>• Sanding machine – Description, Types, Parts of sanding machine.</li> <li>• Introduction about building construction.</li> <li>• Different type door &amp; windows and different size.</li> <li>• Different type panel used for panel shutter, glazed shutter.</li> <li>• Description of aluminium</li> <li>• Anodising of the aluminium windows, channel, section etc.</li> <li>• Uses of P.V.C as substitute of wood.</li> <li>• Basic principal of repairing work, door window, staircase rack etc.</li> </ul>		
Professional skill	<ul style="list-style-type: none"> <li>• Identify timber/wood, apply measuring, marking and testing instrument and other holding and supporting hand Tools.</li> <li>• Identify and apply various saws and portable power saw machines for Ripping, cross cutting, Oblique sawing and curve cutting etc.</li> </ul>	The learner after the trainer will be able to work independently and recall and demonstrate practical skill, routine and repetitive in narrow range of application for the learning outcomes such as 'Demonstrate ripping, cross cutting, curve cutting etc. on band saw/ circular saw machine and grinding and setting of blade/ cutter'.	4



## NSQF QUALIFICATION FILE

### Carpenter

Title/Name of qualification/component: Carpenter		Level: 4	
NSQF Domain	Outcomes of the Qualification/Component	How the job role relates to the NSQF level descriptors	NSQF Level
	<ul style="list-style-type: none"> <li>Analyze the surface finish with exact sizing by planning, operation, identifying and applying various shaving tools or portable power planning machine.</li> <li>Identify and apply various paring tools, analyze and choose the positioning and employ holding device for chiselling with better finish.</li> <li>Identify and classify various types of joints, analyze and prepare correct joint at correct position, related with strength and appearance.</li> <li>Make small wooden job as per drawing with schedule sizes of timber or alternatives of timber i.e. FRP, MDF, FOAM using various hardware.</li> <li>Analyze and identify various carving tools and convert a wooden block/ piece into a decorative article.</li> <li>Demonstrate preservation of wooden item through surface finishing with various processes such as painting, polishing, varnishing etc.</li> </ul>	<p>This can be ascertained by reading the Assessment Criteria.</p> <p>The learning outcomes like “Make small wooden job as per drawing with schedule sizes of timber or alternatives of timber i.e. FRP, MDF, FOAM using various hardware”, “Demonstrate preservation of wooden item through surface finishing with various processes such as painting, polishing, varnishing etc”, all of which involve making independent decisions using appropriate rule and tools.</p> <p>The same can be ascertained by reading the Assessment Criteria.</p> <p>The learning outcomes like ” Check, identify, analyze and repair the wooden job” requires the learner to perform the tasks assigned as per quality standards using quality concepts.</p> <p>Hence NSQF Level is 4 for this descriptor</p>	

## NSQF QUALIFICATION FILE

### Carpenter

Title/Name of qualification/component: Carpenter		Level: 4	
NSQF Domain	Outcomes of the Qualification/Component	How the job role relates to the NSQF level descriptors	NSQF Level
	<ul style="list-style-type: none"> <li>• Demonstrate ripping, cross cutting, curve cutting etc. on band saw/ circular saw machine and grinding and setting of blade/ cutter.</li> <li>• Demonstrate different operations on planing machine along with sharpening blades. (Range of operations – Surfacing, thickening, chamfering, edge bending etc.)</li> <li>• Demonstrate working on pedestal grinding (Range of operations – grinding of mushroom head, cutting edge of tools, drills, etc.)</li> <li>• Make holes of different sizes in correct location on wood work.</li> <li>• Demonstrate different operations on wood turning lathe along with sharpening of cutting tools.</li> <li>• Demonstrate different operations on Tenon and mortise machine.</li> <li>• Demonstrate different operations on Sanding machine.</li> <li>• Identify and prepare different types of pattern, core box, core print etc. for</li> </ul>		

## NSQF QUALIFICATION FILE

### Carpenter

Title/Name of qualification/component: Carpenter		Level: 4	
NSQF Domain	Outcomes of the Qualification/Component	How the job role relates to the NSQF level descriptors	NSQF Level
	<p>moulding application with proper allowances and colour codes.</p> <ul style="list-style-type: none"> <li>• Produce component involving different operations of fitting work and check for functionality.</li> <li>• Produce component involving different operations of sheet metal work and check for functionality.</li> <li>• Prepare various roof truss, door and windows frame and shutters, assembling &amp; fixing (wooden/ aluminium or PVC).</li> <li>• Paint various door, windows frame, stair and furniture (wooden or aluminium).</li> <li>• Prepare various type of wooden floor, partition wall etc.</li> <li>• Check, identify, analyze and repair the wooden job.</li> </ul>		
Core skill	<p><b>Language to communicate written or oral, with required clarity</b></p> <ul style="list-style-type: none"> <li>• Obtain sources of information and recognize information.</li> <li>• Use and draw up technical drawings and documents.</li> </ul>	<p>The work of Carpenter involves Preparation of Wooden Jobs as per the provided Drawing which requires competence in written language with required clarity in order to understand the work enlisted as per the job</p> <p>The learner will also need to communicate with team</p>	4

## NSQF QUALIFICATION FILE

### Carpenter

Title/Name of qualification/component: Carpenter		Level: 4	
NSQF Domain	Outcomes of the Qualification/Component	How the job role relates to the NSQF level descriptors	NSQF Level
	<ul style="list-style-type: none"> <li>• Use documents and technical regulations and occupationally related provisions.</li> <li>• Conduct appropriate and target oriented discussions with higher authority and within the team.</li> <li>• Present facts and circumstances, possible solutions &amp; use English special terminology.</li> <li>• Resolve disputes within the team</li> <li>• Conduct written communication.</li> </ul> <p><b>Desired Mathematical Skills</b></p> <ul style="list-style-type: none"> <li>• Demonstrate basic mathematical concept and principles to perform practical operations.</li> <li>• Basic skills in Arithmetic, Algebra, Trigonometry and statistics and apply knowledge of specific area to perform practical operations.</li> </ul> <p><b>Basic understanding of social political and natural environment</b></p> <ul style="list-style-type: none"> <li>• Understand and explain the concept in productivity, quality tools, and labour welfare legislation and apply such in day to day work to improve productivity &amp; quality.</li> </ul>	<p>supervisor to understand the job and explain ones work which requires competence in oral language, with required clarity.</p> <p>The learner will also need to have basic understanding of social political and natural environment as mentioned in the learning outcome for example 'Comply environment regulation and housekeeping'</p> <p>Hence NSQF Level is 4 for this descriptor</p>	

## NSQF QUALIFICATION FILE

### Carpenter

Title/Name of qualification/component: Carpenter		Level: 4	
NSQF Domain	Outcomes of the Qualification/Component	How the job role relates to the NSQF level descriptors	NSQF Level
	<ul style="list-style-type: none"> <li>• Explain energy conservation, global warming and pollution and contribute in day to day work by optimally using available resources.</li> <li>• Explain entrepreneurship and manage/organize related task in day to day work for personal &amp; societal growth.</li> <li>• Comply environment regulation and housekeeping.</li> <li>• Identify environmental pollution &amp; contribute to the avoidance of instances of environmental pollution.</li> <li>• Deploy environmental protection legislation &amp; regulations</li> <li>• Take opportunities to use energy and materials in an environmentally friendly manner</li> <li>• Avoid waste and dispose waste as per procedure</li> <li>• Recognize different components of 5S and apply the same in the working environment.</li> </ul>		
Responsibility	<ul style="list-style-type: none"> <li>• Identify timber/wood, apply measuring, marking and testing instrument and other holding and supporting hand Tools.</li> <li>• Identify and apply various saws and portable power saw machines for Ripping,</li> </ul>	The role of Carpenter is independently responsible to perform the work as per specifications and their own analysis of what needs to be done based on their understanding of Wood, its properties , its concepts of selection, cutting and joining processes, principles and standards. This is indicated in all the learning	4

## NSQF QUALIFICATION FILE

### Carpenter

Title/Name of qualification/component: Carpenter		Level: 4	
NSQF Domain	Outcomes of the Qualification/Component	How the job role relates to the NSQF level descriptors	NSQF Level
	<p>cross cutting, Oblique sawing and curve cutting etc.</p> <ul style="list-style-type: none"> <li>Analyze the surface finish with exact sizing by planning, operation, identifying and applying various shaving tools or portable power planning machine.</li> <li>Identify and apply various paring tools, analyze and choose the positioning and employ holding device for chiselling with better finish.</li> <li>Identify and classify various types of joints, analyze and prepare correct joint at correct position, related with strength and appearance.</li> <li>Make small wooden job as per drawing with schedule sizes of timber or alternatives of timber i.e. FRP, MDF, FOAM using various hardware.</li> <li>Analyze and identify various carving tools and convert a wooden block/ piece into a decorative article.</li> <li>Demonstrate preservation of wooden item through surface finishing with various</li> </ul>	<p>outcomes.</p> <p>Hence NSQF Level is 4 for this descriptor</p>	

## NSQF QUALIFICATION FILE

### Carpenter

Title/Name of qualification/component: Carpenter		Level: 4	
NSQF Domain	Outcomes of the Qualification/Component	How the job role relates to the NSQF level descriptors	NSQF Level
	<p>processes such as painting, polishing, varnishing etc.</p> <ul style="list-style-type: none"> <li>• Demonstrate ripping, cross cutting, curve cutting etc. on band saw/ circular saw machine and grinding and setting of blade/ cutter.</li> <li>• Demonstrate different operations on planing machine along with sharpening blades. (Range of operations – Surfacing, thickening, chamfering, edge bending etc.)</li> <li>• Demonstrate working on pedestal grinding (Range of operations – grinding of mushroom head, cutting edge of tools, drills, etc.)</li> <li>• Make holes of different sizes in correct location on wood work.</li> <li>• Demonstrate different operations on wood turning lathe along with sharpening of cutting tools.</li> <li>• Demonstrate different operations on Tenon and mortise machine.</li> <li>• Demonstrate different operations on Sanding machine.</li> </ul>		

## NSQF QUALIFICATION FILE

### Carpenter

Title/Name of qualification/component: Carpenter		Level: 4	
NSQF Domain	Outcomes of the Qualification/Component	How the job role relates to the NSQF level descriptors	NSQF Level
	<ul style="list-style-type: none"> <li>• Identify and prepare different types of pattern, core box, core print etc. for moulding application with proper allowances and colour codes.</li> <li>• Produce component involving different operations of fitting work and check for functionality.</li> <li>• Produce component involving different operations of sheet metal work and check for functionality.</li> <li>• Prepare various roof truss, door and windows frame and shutters, assembling &amp; fixing (wooden/ aluminium or PVC).</li> <li>• Paint various door, windows frame, stair and furniture (wooden or aluminium).</li> <li>• Prepare various type of wooden floor, partition wall etc.</li> <li>• Check, identify, analyze and repair the wooden job.</li> </ul>		



### SECTION 3

#### EVIDENCE OF NEED

##### **What evidence is there that the qualification is needed?**

The Carpenter trade pass-outs will be mainly absorbed as Carpenter in general for making, fitting, assembly and repair of wooden furniture, articles, etc. and for cutting, shaping and installation of wooden items during the construction of buildings, ships, concrete formwork etc. in Construction Sector.

They form a part of Recruitment of Major PSUs like, National Centre for Antarctic and Ocean Research (NCAOR), Corps of Military Police Centre and School Bangalore, Cochin Shipyard Limited etc.

Placement records from few ITIs are enclosed.

##### **What is the estimated uptake of this qualification and what is the basis of this estimate?**

The employment prospect for this qualification is quite high. There is also high demand for starting the training programme on this trade amongst new institutes. As of now the total seating capacity of the training programme is 9906 (including 30% supernumeraries) approximately in 418 ITIs.

##### **What steps were taken to ensure that the qualification(s) does (do) not duplicate already existing or planned qualifications in the NSQF?**

The qualification is a long term course of one year originally designed and approved by NCVT for the Craftsmen Training Scheme and is in existence for the last 60 years. NCVT has been entrusted with the responsibilities of prescribing standards and curricula for craftsmen training, advising the Government of India on the overall policy and programmes, conducting All India Trade Tests and awarding National Trade Certificates.

No existing course is available with same content and duration.

##### **What arrangements are in place to monitor and review the qualification(s)? What data will be used and at what point will the qualification(s) be revised or updated?**

- Mentor Council (MC) for the Construction sector was formed in 2014 to review the curriculum of this qualification under the sector.
- CSTARI, the research wing of DGT, reviews and updates the qualification, in consultation with industries and other stakeholders, on a regular basis by conducting trade committee meetings.
- DGT will keep on doing continuous comparative study in the trade by referring to relevant upcoming qualifications in the National Qualifications Register (NQR) and relevant sectors.

Please attach any documents giving further information about any of the topics above.

Give the titles and other relevant details of the document(s) here. Include page references showing where to find the relevant information.

**SECTION 4****EVIDENCE OF PROGRESSION**

**What steps have been taken in the design of this or other qualifications to ensure that there is a clear path to other qualifications in this sector?**

- Qualifying trainee will obtain an NCVT Certificate in Carpenter trade which gives the following options of progression to the trainee:
  1. Can join Apprenticeship programme in different types of industries leading to National Apprenticeship certificate (NAC)
  2. Can join Crafts Instructor Training Scheme (CITS) in the relevant trade after which they will be employed in ITI/ Vocational Training Institute as instructor
  3. Can join as skilled worker in the relevant industry
  4. can become supervisor after doing diploma in relevant branch of Engineering

Please attach any documents giving further information about any of the topics above.

Give the titles and other relevant details of the document(s) here. Include page references showing where to find the relevant information.