

CONTACT DETAILS OF THE BODY SUBMITTING THE QUALIFICATION FILE

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List of documents submitted in support of the Qualifications File

1. Qualification document- Plumber
2. Curriculum for Plumber under Construction Sector for Modular Employable Scheme (MES)
3. Executive Summary of Human Resource and Skill Requirements in Construction by NSDC

SUMMARY

1	Qualification Title	Plumber
2	Qualification Code, if any	CON 715
3	NCO code and occupation	7126.0101: Plumber
4	Nature and purpose of the qualification (Please specify whether qualification is short term or long term)	Nature of the Qualification is Certificate in job role of Plumber The purpose of the qualification is to introduction with different tools used in plumbing work and to promote safety measures while performing job.
5	Body/bodies which will award the qualification	National Council for Vocational Training (NCVT)
6	Body which will accredit providers to offer courses leading to the qualification	GOI Ministries and State departments who have adopted MES qualifications, accredit training providers for their programs and schemes (only in case of SDIS schemes Training providers accredited by States on behalf of NCVT)
7	Whether accreditation/affiliation norms are already in place or not , if applicable (if yes, attach a copy)	-NA-
8	Occupation(s) to which the qualification gives access	After completion of the course the trainees shall be qualified for one or more of the following job roles: Plumber Pipe Fitter
9	Job description of the occupation	Plumber, lays out, assembles, installs and maintains sanitary fittings and fixtures, sewage and drainage systems, heating and sanitary systems, gas and water pipe lines etc. Receives instructions from Sanitary Engineer or Civil Engineer regarding lay out of pipes, gas or water mains, position of fixtures and fittings, etc. Examines drawings or other specifications regarding size and dimensions of area where sanitary fittings or pipe are to be fitted or laid. Marks points at places to indicate position for fixing brackets and laying pipes. Drills passage holes in walls or floor of premises and fixes necessary brackets, stands, holders etc. to

		<p>keep orhold fittings and fixtures in position, usingnuts, bolts, clamps etc. and tightens themwith hand tools. Cuts reams, threads andbends pipes as appropriate. Ensures that</p> <p>pipe lines are laid properly by Pipe Fitter.Joins pipes with sockets, Tees, elbow etc.or with molten lead or lead wool. Caulksjoints (operation of making joint seamtight to withstand pressure) and teststhem for leaks with pneumatic orhydraulic pressure. May repair andmaintain sewerage and pipe lines byreplacing washers on leaky faucets, mending burst pipes, opening cloggeddrains, etc. May do lead burning, dressingand bossing of lead pipe and sheet lead,inlaying of wooden tanks, construction ofseptic tanks etc.</p>
10	Licensing requirements	-NA-
11	Statutory and Regulatory requirement of the relevant sector (documentary evidence to be provided)	-NA-
12	Level of the qualification in the NSQF	Level 3
13	Anticipated volume of training/learning required to complete the qualification	500 Hours
14	Indicative list of training tools required to deliver this qualification	Mentioned in curriculum attached
15	Entry requirements and/or recommendations and minimum age	Passed 5th class examination& Minimum 18 years of age
16	Progression from the qualification (Please show Professional and academic progression)	<p>An individual can pursue their career in any sector for installation and maintenance of water system or maintenance of draining system.</p> <p>Plumbers generally are employed by construction contractors, plumbing repair shop. Individual can be able to start a start-up to provide installation and maintenance services.</p> <p>After experience one can be promote as a supervisor such as foreman.</p>

17	Arrangements for the Recognition of Prior learning (RPL)	RPL arrangements are not planned under this qualification.	
18	International comparability where known (research evidence to be provided)	-NA-	
19	Date of planned review of the qualification.	5 years after approval of the Qualification	
20	Formal structure of the qualification		
	Mandatory components		
	Title of component and identification code/NOSs/Learning outcomes	Estimated size (learning hours)	Level
(i)	DGT/MES/ICT/N08: Get Familiarized with the Safety Methods and Precautions	10	3
(ii)	DGT/MES/ICT/N09: Identification of proper Tools and Equipment used for Plumbing.	50	3
(iii)	DGT/MES/ICT/N10: Understand the Basic concept of Cutting/Threading/Bending and Jointing/ Assembling of GI Pipes.	70	3
(iv)	DGT/MES/ICT/N11: Perform P.V.C. Pipes Bending and jointing.	70	3
(v)	DGT/MES/ICT/N12: Understand the SW Pipes Laying / Jointing and Cast Iron pipes Cutting/ Joining.	100	3
(vi)	DGT/MES/ICT/N13: To have knowledge of Fixing Sanitary fixtures and Installation of Water pump, Connecting supply pipe.	200	3
	Sub Total (A)	500	
	Optional components		
	Title of component and identification code/NOSs/ Learning outcomes	Estimated size (learning hours)	Level
	Sub Total (B)		
Total (A+B)		500	

SECTION 1
ASSESSMENT

21	<p>Body/Bodies which will carry out assessment:</p> <p>DGT empaneled Assessing Bodies (ABs)</p>
22	<p>How will RPL assessment be managed and who will carry it out?</p> <p>RPL arrangements are not planned under this qualification.</p>
23	<p>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.</p> <p>Criteria for selection of Assessment body</p> <p>Minimum Eligibility Criteria</p> <ul style="list-style-type: none"> • The applicant shall be a legal entity, registered in India. • The applicant should have in last two years carried out competency / skill assessment for minimum 1000 persons or should have trained minimum 1000 persons and got tested by some agencies such as NCVT, Sector Skill Council, State, board/ council and reputed industry Association. Organizations having experience in testing of competencies would be preferred. • In case more number of applications is received, preference will be given to those organizations that have trained/assessed larger number of persons. • The applicant is not a Training Provider (TP) in the same sector and in same State, but it can be TP in other States, other Sectors or other scheme. • The applicant shall have access to technically qualified personnel of repute and integrity in different industrial trades and technology. • The applicant shall develop dedicated human resource for handling the processes in assessment process. • The applicant shall declare its linkages with other organization(s), if any to ensure independence and avoid any conflict of interest. • Institutions/ Firms blacklisted by any Government Department shall not be considered in this RFP. • The Applicant shall provide the information and supporting documents towards their claims. • Initially provisional empanelment will be awarded to the organizations based on the evaluation of eligibility of the Assessing Body based on the criteria.

- Based on the module and sector that will be handled by the assessor, the assessing body shall send its assessor for competency evaluation in the institutions which will be notified by DGT time to time. The assessor will be assessed to ascertain the competency to carry out competency based assessment.
- Final empanelment would be granted subject to the Assessing Body fulfilling the following conditions of getting the competencies of 2 assessors of each module per State evaluated in the institutes notified by the DGT. Testing charges for evaluating the competencies of the assessors will be borne by the Assessing Bodies.

(1) Assessment process:

The assessment process aims to test and certify the competency of the persons through Assessing Bodies who seek certification of their skills acquired informally or the persons who have been trained at the registered TPs. The competency assessment of the candidate is being done by the Assessor Competency Evaluation (ACE) qualified assessor of the independent Assessing Bodies (AB) which is not involved in training delivery, to ensure an impartial assessment. ACE is conducted to evaluate the competency of the assessor. In the assessment process, identification of competency, ways to measure the competency and deciding on the type of evidence that has to be collected are the responsibility of the Assessing bodies whereas administering the assessment and collecting the evidence and reporting the results are the responsibility of the assessors. The assessment process consists of following components:

Theory Test:

- It must assess the knowledge which is essential for a person to do the job. Without this knowledge, the person will not be able to do the job.
- The questions shall be of objective type involving selection of correct response.
- The question paper should contain sketches/ diagrams/ photographs/ drawing to overcome the problems of reading comprehension.
- The test shall be of short duration.

Practical Test:

It shall be able to test:

- Manipulative skills to handle tools and equipment.
- Speed in doing work.
- Accuracy maintained
- Quality in workmanship.
- Sequence of performance.
- Economical use of material.

- Neatness & housekeeping.
- All the competencies prescribed in the course curriculum.

The Assessment Parameters adopted during assessment:

- Knowledge of equipment, limitation of use of tools and equipment, and methods & procedure.
- Understanding of functioning of equipment & tool, criteria to be used in selecting tools for given job, and the process of measurement.
- Skill in finishing to required measurement, handling measurement & calculations, handling tools and equipment with ease, finishing neatly.
- Abilities to take corrective steps, use correct work habits, take measurements, complete the job within stipulated time, and adopt safe practices.
- Attitude towards the work, accurate & precise work and co-workers and supervisor.

(2) Duration of Test:

The duration of test vary according to the task. Theory test shall be of 1 hour duration and practical test for engineering trade shall be 6 to 8 hours minimum and non-engineering it shall be of 4 hours minimum. Assessing Bodies while preparing practical test shall ensure that candidate shall be tested on all the competencies prescribed in the course module.

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

Terminal competency	Maximum marks
Application of knowledge	30
Care for tools & equipment	15
Economic use of materials	15
Safety consciousness	10
Speed	10
Accuracy	15
Quality of workmanship	20
Amount of work	15
No. of attempts	10
Attitude	10
Total maximum marks for Practical	150

Maximum marks for theory	50
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(3) Minimum pass mark:

Minimum passing marks for Practical is 60%

Minimum pass marks for theory is 40%

(4) Testing and certifications process for the course:**Pre- Assessment**

- Regional Directorate of Apprenticeship Training (RDAT) allot batches to the Assessing Bodies on rotational basis depending on the presence of assessing body in that region sector wise and the assessing body in coordination with Training Provider and assessor should confirm and schedule the assessment.
- The Assessing Body confirms the date of assessment in consultation with Training Provider and communicates to the RDAT/State.
- The Assessing Body forms a panel of ACE qualified assessors of high repute and integrity, sector wise and location wise.
- The assessment of the candidates is done by the Assessing Bodies in designated Testing Centre (TC). The Testing Centre where the assessment is carried out and Testing Centre can be Training Center also. The Assessing Body select the TC based on the location, accessibility and the infrastructure facilities available for conducting the test.
- The testing center is approved by the RDAT incase of courses run by DGT,MSDE. Incase where the courses are run by the Sate Govt., TC is approved by State Govt.. Training conducted by other dept. at their accredited Training Centre, same training centre is designated as Testing centre.
- The Assessing Body provide details of selected TC along with skill areas in which assessment can be done at the TC, to the RDAT and respective States/UTs.
- The Assessing Bodies depute ACE qualified assessors for assessments whose details are furnished by Assessing Bodies to DGT in advance.
- Assessing Body has to communicate to the Testing Centre following:
 - Details of the candidates to appear for assessment in various MES courses.
 - Details of Assessors selected with their contact details.
 - Requirement of infrastructure, raw material etc.
 - Testing charges to be reimbursed to Testing Centre

Preparation of assessment tools and prerequisites:

- The assessment tools contain components for testing the knowledge, application of knowledge and demonstration of skill. The knowledge

test is objective paper based test or short structured questions based. The application of knowledge is verified based on questioning or seeking response for a case. Demonstration of skill is verified based on practical demonstration by the candidate.

- The type of assessment tools to be used for assessment are to be prepared in advance by the assessing body in accordance to the guidelines as prescribed below:
 - Define the performance objective – This is based on the course objectives and competency in workplace as prescribed by MES curriculum. The written tests and practical tests assess all the competencies mentioned in course curriculum.
 - In case of practical test, the operations which are to be observed in case of process test (how a particular task is being carried out) are clearly mentioned and the specifications of the final product in case of product test (the task in itself).
 - List of tools, infrastructure, and equipment to carry out the assessment are prepared based on the test instruments that are planned to be used.
 - Written directions are given to the candidates before the task is attempted.
 - Scoring system, observations and rating is prepared for each competency which is going to be assessed.

Pre-assessment activities for Assessor at the Testing Centre

- Verification of student credentials: The assessor check the application form submitted by the candidates and verify the photo pasted on the forms with candidates who are taking assessment in accordance with checklist
- Verification of testing centre for adequate infrastructure, tools and equipment: The assessor verifies the availability of infrastructure, tools and equipment for carrying out both theory and practical assessments. The minimum requirement prescribed under the MES modules is used as benchmark.
- Attendance verification: The assessor checks the attendance register of candidates and instructors until the time biometric attendance system is put in place. Once the biometric attendance system is in place, the biometric attendance of assessors along with that of trainees/candidates has to be captured during the assessment at the start as well as end of theory and practical test.
- Attendance during assessment: The assessor takes the attendance of all the students who appear for assessment after the successful verification of the student credentials and before the start of the assessment. The assessor also provides his/her attendance during start and end of the practical and theory test.
- Verification of the documents related test carried out by Training Provider/ Testing Centre (TC) for candidates who were not able to

produce document in support of having passed the qualification.

Assessment activities

- Before the start of assessment, read out the instructions to the students.
- The written test & practical test is for fixed duration as prescribed.
- It is ensured that individual attention is given to all the candidates during the practical test.
- The assessor takes photographs during the assessment process of all the students in the testing centre, the students during theory and practical tests, practical lab/workshop showing the equipment to be used for assessment, the assessor along with the students appearing for the assessment.

Post-assessment activities

- The assessor consolidates all the theory and practical test papers and ensures that all the mandatory information is filled. The total score for each student should be calculated and recorded in result sheet.
- The assessor send the attendance sheet, result sheet, answer papers by courier/post to the assessing body immediately after the completion of assessment
- Uploading outcome of the assessment and photos in portal by assessing body
- Assessing body upload the results within one week of the assessment date.
- Photos taken by the assessors during assessment are sent to respective RDATs through e-mail only. Non dispatch of photos of assessment to RDAT makes assessment void. Re-assessment of such batch is done by the Assessing Bodies on their own expenses.
- Details of assessors are emailed to RDAT at the time of uploading the outcome of the assessment. Outcome of the assessment is not accepted in case details of assessors are not emailed to respective RDAT.
- Maintaining assessment records
- Publishing of results and Certificate issue
- RDAT verifies the outcome of the assessment, details of assessors, photos and print and sign the certificates for successful candidates and send it to the respective candidates. In case of direct candidate's assessment, the Certificates are sent to the Assessing Body.
- Certificates which will be issued carry photograph of the trainee, name of Training Provider, start date & end date of training and duration of training once the systems for the same are put in place.
- The certificate is issues under the aegis of NCVT. All the communications are done through portal.

Please attach most relevant and recent 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 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.

24. Assessment evidences

Title of Component:Plumber

Outcomes to be assessed/NOSs to be assessed	Assessment criteria	Means of Assessment
DGT/MES/ICT/N08: Get Familiarized with the Safety Methods and Precautions	AO1. Demonstrate the safety precaution, first aid practice, artificial respiration, electrical safety precautions.	Practical Test
	AO2. Demonstrate the following while work: <ul style="list-style-type: none"> • use of protective clothing, boots, goggles and equipment as applicable to a task. • Good housekeeping practices, proper handling of materials and waste disposal. • Safety precautions and safety belts while working at site • Store/lay materials at work in 	Practical Test

	<p>safe manner</p> <ul style="list-style-type: none"> • Use and store of tools and equipment's in a safe manner 	
DGT/MES/ICT/N09: Identification of Proper Tools and Equipment used for Plumbing.	AO1. Explain various types of plumbing materials used in plumbing work and Knowledge of measurements and its conversion to other system.	Theory Test
	AO2. Identify different tools and equipment used in plumbing work. Measure length & diameter in MKS & FPS system	Practical Test
	AO3. Identify and select Taps and Valves, and instruct to dismantle taps & Valves, inspect packing glands and washers, replace packing glands and washers, adjustment of locking nuts.	Practical Test
DGT/MES/ICT/N10: Understand the Basic concept of Cutting, Threading, Bending and Jointing/ Assembling of GI Pipes.	AO1. Explain use of hand tools, Measuring & Mark out tools and Cutting Tools. <ul style="list-style-type: none"> • Bending Machine • Stock & Dies • Pipe Vice • Lubrication • Interpreting basic sketches & drawings. 	Theory Test
	AO2. Demonstrate Mark out and cut to size. Thread and Bend G.I. Pipes to within given tolerances	Practical Test
	AO3. Explain various types of pipes with colour code and selection of pipe as per work specific uses.	Theory Test
	AO4. Explain Pipe fittings, methods of joint. Types of pipe and fittings. Chain Wrench	Theory Test
	AO5. Demonstrate for tightening of Fittings. . All fittings to be assembled square shape. Surface of pipe & fittings must not be damaged.	Practical Test

	<p>AO6.- Demonstrate Marking out & Cutting to $\pm 1\text{mm}$ Bending/off Setting to the following Quality & Tolerances:-</p> <ul style="list-style-type: none"> • Free from throating, rippling and abnormal marks. • Pipe diameter to be maintained, no distortion. Angle of bends and off sets, accurate to $\pm 1^\circ$ 	Practical Test
DGT/MES/ICT/N11: Understand the concept of P.V.C. Pipes Bending and jointing.	<p>AO1. Explain the basics of :</p> <ul style="list-style-type: none"> • Operation of PVC. Pipes. • Selection of Die • Method of Cutting & Threading 	Theory Test
	<p>AO2. Explain use of blow map and flame control.</p> <ul style="list-style-type: none"> • Uniform Heating • Avoidance of burning • Bending on former 	Theory Test
	<p>AO3. Demonstrate from given sketch to calculate and measure length of pipe required, mark out and cut to size.</p>	Practical Test
	<p>AO4. Demonstrate to Bend PVC pipes to 5 times diameter of pipe. Pipe diameter to be maintained no distortion and free from abnormal marks.</p>	Practical Test
	<p>AO5. Explain the following:</p> <ul style="list-style-type: none"> • Bevelling reamer • Applying heat with blow lamp <p>Application of solvent cement assembly methods.</p>	Theory Test
	<p>AO6. Explain how pressure of liquid increase or decrease depends on selection.</p>	Theory Test
	<p>AO7. Demonstrate to join p.v.c. pipe with socket joints so that joint length is not less 1.5 time pipe diameter. Assemble exercise and secure with solvent cement to tolerance of $\pm 2\text{mm}$ & square to $\pm 1^\circ$</p>	Practical Test
DGT/MES/ICT/N12: Understand the SW Pipes Laying, Jointing and Cast Iron pipe Cutting &	<p>AO1. Explain the following processes:</p> <ul style="list-style-type: none"> • Levelling and joining methods • Drain gradients use of sight rails • Testing methods, smoke / ball/air/water tests. 	Theory Test

Joining.	AO2. Demonstrate to lay and join S.W. Pipes to correct fall and alignment from a given sketch and with necessary tools. Check to Remove surplus materials and test to meet local custom & practice.	Practical Test
	AO3.Explain Safety in handling lead. Methods of jointing cast iron pipes, Reasons for jointing methods, when and where to use.	Theory Test
	AO4. Explain the use of following: <ul style="list-style-type: none"> • chain wheel • melting pots • ladle • splash stick • caulking chisel • gasket 	Theory Test
	AO5. Demonstrate to cut and Join Cast Iron pipe, Set up and secure to correct alignment from given sketch and tools. Seal using lead on one joint and cement or putty on other	Practical Test
	DGT/MES/ICT/N13: To have knowledge of Fixing Sanitary fixtures and Installation of Water pump, Connecting supply pipe.	AO1. Explain the Handling and lifting sanitary fixtures. Care in fitting & levelling. By – laws in local authority
	AO2. Demonstrate Fixing low level water closet and connect to solid stack, seal connections and test to meet By – laws in local authority.	Practical Test
	AO3. Explain Working principles of water pump and foot valve. Methods of connection.	Theory Test
	AO4. Demonstrate Position, level, fix and secure pump to pump base. Connect supply pipes, foot valves etc. to ensure air tight connections. Test to meet by-laws in local authority.	Practical Test
Means of assessment 1 The assessment comprise of <ul style="list-style-type: none"> • Theory Examination MCQ, VIVA Voce • Practical assessment Role plays, Demonstration 		
Pass/Fail The trainee is judged as pass in the qualification if minimum passing marks is		

obtained in each test i.e Theory and Practical.

Minimum pass mark:

Minimum passing marks for Practical is 60%

Minimum pass marks for theory is 40%

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NSQF QUALIFICATION FILE

SECTION 2

25. EVIDENCE OF LEVEL

OPTION A

Title/Name of qualification/component:Plumber		Level: 3	
NSQF Domain	Outcomes of the Qualification/Component	How the job role relates to the NSQF level descriptors	NSQF Level
Process	<p>The job holder is expected to have the knowledge and display skills in the field of work like:</p> <ul style="list-style-type: none"> – Knowledge of tools and other material used in plumbing work – Knowledge of the plumbing system and layout required – Knowledge of cutting, threading, joining and fixing of GI and PVC Pipes. – Knowledge of fixing of water flow pipes and sanitary fittings. 	<p>The job requires basic knowledge of installation related activities involving understanding of the task, material preparation, taking measurements and marking the positions.</p>	3
Professional knowledge	<p>The job holder is required to have knowledge in the related field of work like:</p> <ul style="list-style-type: none"> – units of measurement – relevant hand and power tools such as wrenches, plier, screwdriver, power drill, pipe cutter, crimping tool, pipe bender, threading tool, hacksaw, metal file,, etc. – repair related activities like replacement etc. with minimal damage to other systems – 	<p>The job holder understands the basic facts, process and principles involved in his job role like basics of installation related activities of pipes and sanitary fixtures.</p>	3
Professional skill	<p>The job holder is needs to know and understand :</p> <ul style="list-style-type: none"> – Different types of materials (CI/GI/PVC pipes, 	<p>The job role only includes the understanding and knowledge of materials such as GI Pipes and</p>	3

NSQF QUALIFICATION FILE

Title/Name of qualification/component:Plumber		Level: 3	
NSQF Domain	Outcomes of the Qualification/Component	How the job role relates to the NSQF level descriptors	NSQF Level
	<p>etc.), basic sanitary fittings (valves, clamps, elbows, etc.) and fixtures (showers, taps, basins, etc.)</p> <ul style="list-style-type: none"> – techniques related to cutting, bending and joining of fittings and fixtures – material disposal procedure, importance of appropriate disposal of material 	<p>PVC pipes.</p> <p>Techniques for cutting, jointing, fixing, threading and fitting of pipes</p>	
Core skill	<p>The job holder is expected to be Possess knowledge and skills regarding:</p> <ul style="list-style-type: none"> – handling of tools and materials used – Ensure the measure for safety and precaution while performing job – It covers diagnose problems and/or failures in plumbing system for the purpose of identifying activities necessary to maintain the system – It covers promptly addressing a snag in the plumbing systems 	<p>The Job holder will able to address the customer requirement, perform the plumbing work as per the requirement under specified tolerance.</p>	3
Responsibility	<p>The job holder works under the supervision of his superior, as per his directions. He is responsible for his designated task as and when given by the superior.</p>	<p>The job holder works under the supervision of his superiors and is responsible for his own limited work assigned.</p>	3

SECTION 3

EVIDENCE OF NEED

26	<p>What evidence is there that the qualification is needed? What is the estimated uptake of this qualification and what is the basis of this estimate?</p> <p>Need of the Qualification:The Indian construction industry comprising infrastructure and real estate sectors employs over 26 million casual workers and is the country's second largest employer after agriculture. The Planning Commission of India has projected that the construction sector will require another 47 million people in the workforce over the next decade (FICCI 2010:13). Despite such significance to the Indian economy, there is no specific policy for skill building in the construction sector. The current pool of the construction workforce in India comprises mainly unskilled workers</p> <p>Among the 10 per cent skilled construction workers, emigration to overseas countries - Gulf countries in most cases - for higher wages is common. Emigration worsens the shortage of skilled workers and creates an upward pressure on domestic wages leading to a situation where Indian firms have to import workers to meet their requirements. (SKOPE Research Paper No. 111 November 2012: Shortage of Skilled Workers: A Paradox of the Indian Economy by Ruchi Hajela COMPAS, University of Oxford).</p> <p>Industry Relevance: List of Trade Committee members is attached in curriculum</p> <p>Usage of the Qualification: Moreover about 1432 individuals have been assessed in this course under this scheme in FY 2015-16, 2016-17 & 2017-18, which shows there is huge requirement of this skill in the Market.</p> <p>About 493 candidates have been trained and among which 172 had been placed across country under this Course under DDUGKY till Dec 2016.</p> <p>Estimated uptake:The infrastructure sector will require 103 million workers by 2022, according to the NSDC. The informal sector—which presently employs more than 90% of India's workforce—with 38 million would be the second-largest generator of jobs, followed by textiles and clothing at 26 million.</p> <p>The government of India had conducted a skills mapping study and identified carpentry, electrician, painter, welder, masonry, crane operations and plumbing as key roles which will be in demand until 2022 and the level of skills required. Together, these key roles will require 7.3 million vocationally trained workers by 2022.</p>
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NSQF QUALIFICATION FILE

	(SKOPE Research Paper No. 111 November 2012: Shortage of Skilled Workers: A Paradox of the Indian Economy by Ruchi Hajela COMPAS, University of Oxford).
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27	Recommendation from the concerned Line Ministry of the Government/Regulatory Body. To be supported by documentary evidences -NA-
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NSQF QUALIFICATION FILE

28	<p>What steps were taken to ensure that the qualification(s) does (do) not duplicate already existing or planned qualifications in the NSQF? Give justification for presenting a duplicate qualification</p> <p>The Qualification has been mapped with the National Qualification Register, maintained by NSDA to ensure the qualification does not duplicate. Other qualification like Plumber (General) is available in NQR which has similar outcomes to this qualification.</p>
29	<p>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? Specify the review process here</p> <p>1) DGT interacts with training providers to gather feedback in implementation and updation of qualification. 2) Monitoring of results of assessments 3) Employer feedback will be sought post-placement 4) In a recent initiative, a Mentor Council (MC) for the relevant sector has been formed to review the curriculum of this qualification under the sector. 5) CSTARI, the research wing of DGT, reviews and updates the qualification, in consultation with industries and other stakeholders, on a regular basis.</p> <p>The qualification is reviewed after every 5 years for updation according to latest Technologies and practices.</p>

Please attach most relevant and recent 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

30	<p>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?</p> <p>Show the career map here to reflect the clear progression</p> <p>An Individual has vertical pathway to promote to higher designations in an organisation. Can further undergo specialization course to excel to the higher post in jobs listed above or can start with up his/her own business.</p> <p>Progression chart: Plumber > Plumbing Supervisor > Contractor</p>
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NSQF QUALIFICATION FILE

Please attach most relevant and recent 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.

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