Please refer Guidelines for STT/Apprenticeship/OEM Qualification File

QUALIFICATION FILE

Jr. Technician (Smart Energy Meter)

☒ Short Term Training (STT) ☐Long Term Training (LTT) ☒ Apprenticeship

☒ Upskilling ☐ Dual/Flexi Qualification ☐ For ToT ☐ For ToA

☒General ☐ Multi-skill (MS) ☐ Cross Sectoral (CS) ☐ Future Skills ☐ OEM

NCrF/NSQF Level: 3

Submitted By: Chief Executive Officer

B-17, Qutab Institutional Area,

New Delhi – 110 016

Table of Contents

Section 1: Basic Details 3
Section 2: Module Summary 7
NOS/s of Qualifications 7
Mandatory NOS/s: 7
Elective NOS/s: 8
Optional NOS/s: 8
Assessment - Minimum Qualifying Percentage 8
Section 3: Training Related 9
Section 4: Assessment Related 11
Section 5: Evidence of the need for the Qualification 12
Section 6: Annexure & Supporting Documents Check List 12
Annexure: Evidence of Level 16
Annexure: Tools and Equipment (Lab Set-Up) 22
Annexure: Industry Validations Summary 24
Annexure: Training & Employment Details 25
Annexure: Blended Learning 27
Annexure: Detailed Assessment Criteria 27
Annexure: Assessment Strategy 36
Annexure: Acronym and Glossary 38

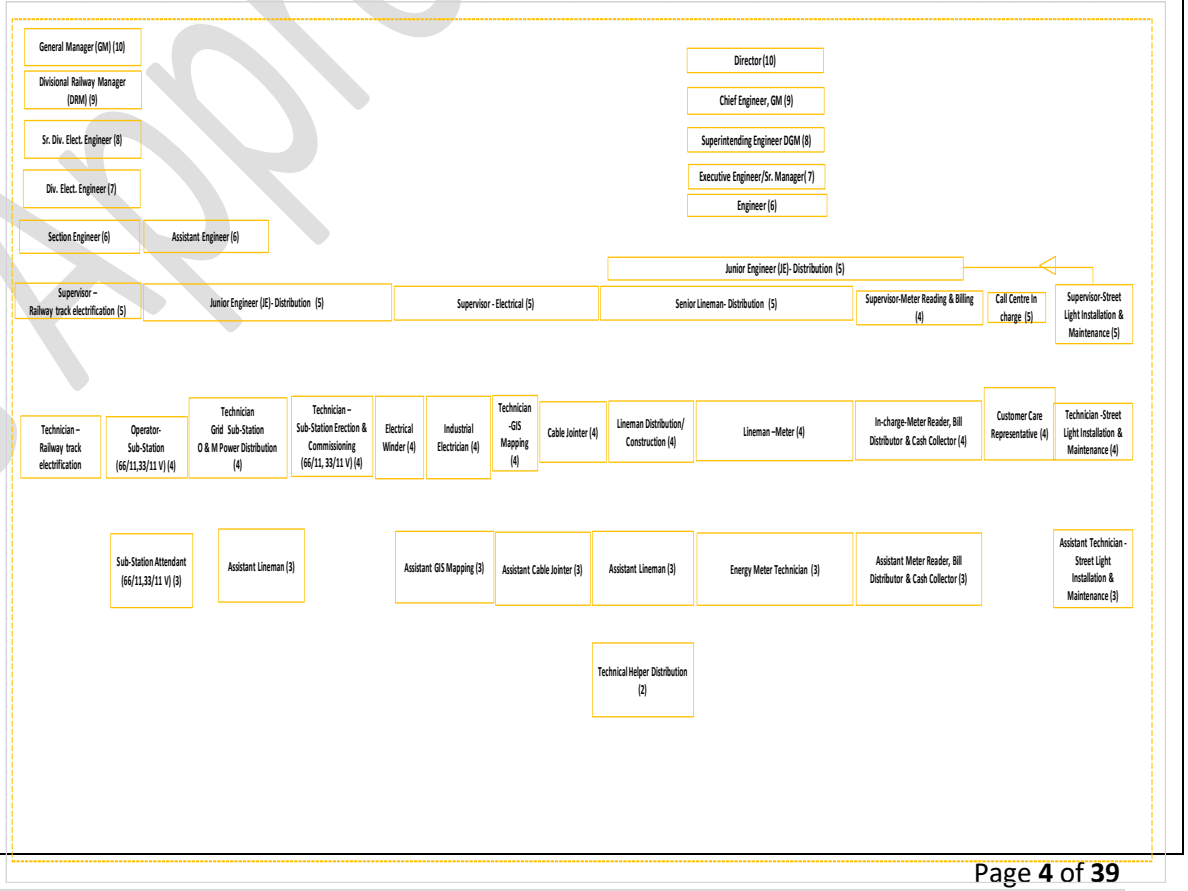
Section 1: Basic Details

1.	**Qualification Name**	**Jr. Technician (Smart Energy Meter)**	
2.	**Sector/s**	**Distribution**	
3.	**Type of Qualification:** ☒ **New** ☐ **Revised** ☐ **Has Electives/Options** ☐**OEM**	**NQR Code & version of existing/previous qualification:** *(change to previous, once approved)*	**Qualification Name of existing/previous version:**
4.	**a. OEM Name** **b. Qualification Name** (*Wherever applicable)*		
5.	**National Qualification Register (NQR) Code&Version** (*Will be issued after NSQC approval)*	QG-03-PW-00868-2023-V1-PSSC	**6. NCrF/NSQFLevel: 3**
7.	**Award (Certificate/Diploma/Advance Diploma/Any Other***(Wherever applicable specify multiple entry/exits also & provide details in annexure)*	**Certificate**	
8.	**Brief Description of the Qualification**	An energy meter technician, who is also known as Consumer Energy Meter Technician, performs installation and commissioning of conventional meters as well as smart meters in line with standard work practices.	
9.	**Eligibility Criteria for Entry for Student/Trainee/Learner/Employee**	**a. Entry Qualification &Relevant Experience:** 10th Pass OR 9th grade pass with 1 year relevant experience OR Grade 8 pass with two year of (NTC/ NAC) in relevant trade OR 8th grade pass with 2 year relevant experience OR 5th grade pass with 5 year relevant experience	
10.	**Credits Assigned to this Qualification, Subject to Assessment***(as per National Credit Framework (NCrF))*	14	**11. Common Cost Norm Category (I/II/III)** *(wherever applicable)*: **1**

12.	**Any Licensing requirements for Undertaking Training on This Qualification***(wherever applicable)*	N/A
13.	**Training Duration by Modes of Training Delivery** *(Specify **Total Duration** as per selected training delivery modes and as per requirement of the qualification)*	☒**Offline** ☐**Online** ☐**Blended**

Training Delivery Modes	Theory (Hours)	Practical (Hours)	OJT Mandatory (Hours)	OJT Recommended (Hours)	Total (Hours)
Classroom (offline)	144	246	30		420
Online					

(Refer Blended Learning Annexure for details)

14.	**Aligned to NCO/ISCO Code/s***(if no code is available mention the same)*	NCO-2015/3113.9900
15.	**Progression path after attaining the qualification** *(Please show Professional and Academic progression)*	

16.	**Other Indian languages in which the Qualification & Model Curriculum are being submitted**	**Hindi**
17.	**Is similar Qualification(s) available on NQR-if yes, justification for this qualification**	**☐Yes ☒No URLs of similar Qualifications:**
18.	**Is the Job Role Amenable to Persons with Disability**	**☐ Yes ☒ No** **If "Yes", specify applicable type of Disability:**
19.	**How Participation of Women will be Encouraged**	**Women candidates can be encouraged to join this job role/Qualification by giving them job opportunities & making them industry ready in Power Sector**
20.	**Are Greening/ Environment Sustainability Aspects Covered** *(Specify the NOS/Module which covers it)*	**☒Yes ☐No**
21.	**Is Qualification Suitable to be Offered in Schools/Colleges**	**Schools ☐ Yes ☐ No Colleges ☒Yes ☐ No**
22.	**Name and Contact Details of Submitting / Awarding Body SPOC** *(In case of CS or MS, provide details of both Lead AB & Supporting ABs)*	**Name: Dr. V K Singh** **Email: ceo@psscindia.org Contact No.: 91-11-40793153, 40793152** **Website: www.psscindia.org**

23.	**Final Approval Date by NSQC:31-08-2023**	**24. Validity Duration: 3 years**	**25. Next Review Date31-08-2026**

Section 2: Module Summary

NOS/s of Qualifications

(In exceptional cases these could be described as components)

Mandatory NOS/s:

Specify the training duration and assessment criteria at NOS/ Module level. For further details refer curriculum document.

***Th.**-Theory **Pr.**-Practical **OJT**-On the Job **Man.**-Mandatory Training **Rec.**-Recommended **Proj.**-Project*

S. No	NOS/Module Name	NOS/Module Code & Version *(if applicable)*	Core/Non-Core	NCrF/NSQF Level	Credits as per NCrF	Training Duration (Hours)					Assessment Marks					
						Th.	Pr.	OJT-Man.	OJT-Rec.	Total	Th.	Pr.	Proj.	Viva	Total	Weightage (%) *(if applicable)*
1.	Manually remove, change and install low voltage, single and three phase energy meters	PSS/N2509	Core	3	6	57	123			180	23	77			100	
2.	Apply basic health and safety practices for power related work	PSS/N1331	Non-Core	2	1	15	15			30	39	61			100	
3.	Install and commission smart meter	PSS/N2508	Core	3	2	25	35			60	30	70			100	
4.	Work effectively with others	PSS/N1336	Non-Core	2	1	10	20			30	34	56			100	
5.	Optimize resource utilization at workplace	SGJ/N1702	Non-Core	3	1	13	17			30	13	26			39	
6.	Employability Skills (60 Hours)	DGT/VSQ/N0102	Non-Core	4	2	24	36			60	50					
7.	OJT				1			30		30						
Duration (in Hours) / Total Marks					**14**	**144**	**246**	**30**		**420**	**189**	**290**			**439**	

Elective NOS/s:

S. No	NOS/Module Name	NOS/Module Code & Version *(if applicable)*	Core/Non-Core	NCrF/NSQF Level	Credits as per NCrF	Training Duration (Hours)					Assessment Marks					
						Th.	Pr.	OJT-Man.	OJT-Rec.	Total	Th.	Pr.	Proj.	Viva	Total	Weightage (%) *(if applicable)*
1.																
2.																
Duration (in Hours) / Total Marks																

Optional NOS/s:

S. No	NOS/Module Name	NOS/Module Code & Version *(if applicable)*	Core/Non-Core	NCrF/NSQF Level	Credits as per NCrF	Training Duration (Hours)					Assessment Marks					
						Th.	Pr.	OJT-Man.	OJT-Rec.	Total	Th.	Pr.	Proj.	Viva	Total	Weightage (%) *(if applicable)*
1.																
2.																
Duration (in Hours) / Total Marks																

Assessment - Minimum Qualifying Percentage

*Please specify**any one** of the following:*

Minimum Pass Percentage –Aggregate at qualification level: 50%*(Every Trainee should score specified minimum aggregate passing percentage at qualification level to successfully clear the assessment.)*

Minimum Pass Percentage –NOS/Module-wise:50%*(Every Trainee should score specified minimum passing percentage in each mandatory and selected elective NOS/Module to successfully clear the assessment.)*

Section 3: Training Related

<table>
<tr><td rowspan="4">1.</td><td rowspan="4">Trainer's Qualification and experience in the relevant sector (in years)(as per NCVET guidelines)</td><td colspan="6">Trainer Prerequisites</td></tr>
<tr><td rowspan="2">Minimum Educational Qualification
<Select the minimum educational requirements, such as 12th Pass, Graduate or NSQF certified.></td><td rowspan="2">Specialization
<Specify the areas of specialization that are desirable.></td><td colspan="2">Relevant Industry Experience</td><td colspan="2">Training Experience</td><td rowspan="2">Remarks</td></tr>
<tr><td>Years</td><td>Specialization</td><td>Years</td><td>Specialization</td></tr>
<tr><td>BE/ BTech</td><td>Electrical Engineering</td><td>1</td><td>As Engineer in State power utility or with turnkey contractors</td><td></td><td></td><td></td></tr>
<tr><td>Diploma</td><td>Electrical Engineering</td><td>3</td><td>As Junior Engineer in State power utility or with turnkey contractors</td><td></td><td></td><td></td></tr>
</table>

		ITI	Electrician	5	As technician working in installation & commissioning of Smart Meters		

2.	**Master Trainer's Qualification and experience in the relevant sector (in years)** *(as per NCVET guidelines)*	**Master Trainers (Power Distribution) -Score Matrix**

S.No.	***Parameter***	***Category***	***Score***
1	Qualification	B.E/ Btech (Electrical)	50
		Diploma(Electrical)	45
2	Experience(in Years)	>20	45
		15 to 20	40
		10 to 15	35
3	Training Experience (in Years)	> 5	3
		2 to 5	2
		<2	1
4	Familiarity with Skilling Eco Sysytem	Yes	1
5	TOT Platform Skills Qualified by MEPSC	Yes	1

3.	**Tools and Equipment Required for Training**	☒Yes ☐No (*If "Yes", details to be provided in Annexure)* *Provided in*
4.	**In Case of Revised Qualification, Details of Any Upskilling Required for Trainer**	N/A

Section 4: Assessment Related

<table>
<tr><td>1.</td><td>Assessor's Qualification and experience in relevant sector (in years) (as per NCVET guidelines)</td><td>
<table>
<tr><th colspan="6">Assessor Prerequisites</th></tr>
<tr><th rowspan="2">Minimum Educational Qualification
<Select the minimum educational requirements, such as 12th Pass, Graduate or NSQF certified.></th><th rowspan="2">Specialization
<Specify the areas of specialization that are desirable.></th><th colspan="2">Relevant Industry Experience</th><th colspan="2">Training/Assessment Experience</th><th rowspan="2">Remarks</th></tr>
<tr><th>Years</th><th>Specialization</th><th>Years</th><th>Specialization</th></tr>
<tr><td>BE/ BTech</td><td>Electrical Engineering</td><td>1</td><td>As Engineer in State power utility or with turnkey contractors</td><td></td><td></td><td></td></tr>
<tr><td>Diploma</td><td>Electrical Engineering</td><td>3</td><td>As Junior Engineer in State power utility or with turnkey contractors</td><td></td><td></td><td></td></tr>
</table>
</td></tr>
<tr><td>2.</td><td>Proctor's Qualification and experience in relevant sector (in years) (as per NCVET guidelines)</td><td>N/A</td></tr>
<tr><td>3.</td><td>Lead Assessor's/Proctor's Qualification and experience in relevant sector (in years) (as per NCVET guidelines)</td><td>N/A</td></tr>
</table>

4.	**Assessment Mode***(Specify the assessment mode)*	**Online / Offline**
5.	**Tools and Equipment Required for Assessment**	☒ Same as for training ☐ Yes ☐ No *(details to be provided in Annexure-if it is different for Assessment)*

Section 5: Evidence of the need for the Qualification

Provide Annexure/Supporting documents name.

1.	**Latest Skill Gap Study (not older than 2 years)(Yes/No):**N/A
2.	**Latest Market Research Reports or any other source (not older than 2years) (Yes/No):**N/A
3.	**Government /Industry initiatives/ requirement (Yes/No): Yes**
4.	**Number of Industry validation provided: 5**
5.	**Estimated nos. of persons to be trained and employed: 100**
6.	**Evidence of Concurrence/Consultation with Line Ministry/State Departments: Yes** If "No", why:

Section 6: Annexure & Supporting Documents Check List

Specify Annexure Name / Supporting document file name

1	**Annexure:** NCrF/NSQF level justification based on NCrF level/NSQF descriptors *(Mandatory)*	*Mentioned in Qualification Files*
2	**Annexure:** List of tools and equipment relevant for qualification *(Mandatory, except in case of online course)*	

S. No.	Tool / Equipment Name	Specification	Quantity for specified Batch size
1.	Double Test Lamp	As per requirement	3
2.	Clamp 'On' Tester Or Clip 'On' Meter To Test Line Current	As per requirement	3
3.	Multi Meter To Test Continuity And Polarity Of CT's With The Help Of 1.5	As per requirement	3

			Volt Dc Cell		
		4.	Accuracy Test with Portable Standard Meter (Accu-Chek Etc. Optional)	As per requirement	1
		5.	Drill M/C With Drill Bit For Mounting Energy Meter And Meter Box	As per requirement	3
		6.	Electrician's Tool Kit Having Combination Plier, Screw Driver 8", 10", Spanner Set, Hammer, Knife, Phase or Neon Tester, Nose Plier, Hacksaw, Measuring Tape, File Etc.	As per requirement	1
		7.	Cable Socket Punch Tool	As per requirement	1
		8.	Safety Helmet	As per requirement	2
		9.	Rubber Gloves	As per requirement	2
		10.	Safety Belt Or Full Body Harness	As per requirement	1
		11.	Spectacle Or Mask And Safety Rubber Boot.	As per requirement	1
		12.	Ladder	As per requirement	1
		13.	Chain	As per requirement	1
		14.	Rope	As per requirement	1
		15.	Discharge Rod	As per requirement	1
		16.	Safety/Danger Sign Boards	As per requirement	1
		17.	Cordon Tape	As per requirement	1
		18.	Caution & Do Not Operate Tags	As per requirement	1
		19.	Single Phase Energy Meter	As per requirement	3

			(Electronic)		
		20.	Lt Three Phase Whole Current Energy Meter (Electronic)Of Any Rating Not Above 100 A	As per requirement	2
		21.	Lt Ct Energy Meter Electronic (3P4W, 3X-/5A, 3X240V) Or Of Any Rating Not Above 100/5A	As per requirement	2
		22.	Lt CT's Combination Of 3 Or 4 (As Per Meter) of any Rating Not Above 100/5A	As per requirement	2
		23.	Service Cable	As per requirement	1
		24.	Load Like Set Of 100W, 200W Lamps, Heaters, Motors Water Pump Etc.	As per requirement	1
		25.	Hardware Items Like Screws, Fasteners, Clamps Etc. For Fixing Meter Boxes And Cables.	As per requirement	1
		26.	Double Test Lamp	As per requirement	3
3	**Annexure:** Detailed Assessment Criteria *(Mandatory)*	*Mentioned in Model Curriculum*			
4	**Annexure:** Assessment Strategy*(Mandatory)*	*Mentioned in Model Curriculum*			
5	**Annexure:** Blended Learning *(Mandatory, in case selected Mode of delivery is "Blended*	*N/A*			

	Learning")	
6	**Annexure:** Multiple Entry-Exit Details *(Mandatory, in case qualification has multiple Entry-Exit)*	*N/A*
7	**Annexure:** Acronym and Glossary *(Optional)*	*Mentioned in Model Curriculum & in Qualification Files*
8	**Supporting Document:** Model Curriculum *(Mandatory – Public view)*	*Attached*
9	**Supporting Document:** Career Progression *(Mandatory - Public view)*	*Mentioned in Qualification Files*
1	**Supporting Document:** Occupational Map *(Mandatory)*	*Attached*
1	**Supporting Document:** Assessment SOP *(Mandatory)*	*Attached*
1	**Any other document you wish to submit:**	*N/A*

Annexure: Evidence of Level

NCrF/NSQF Domain	Key requirements of the job role/outcomes of the qualification	How the job role/outcomes relate to the NCrF/NSQF level descriptors	NSQF Level
Process	**Person may carry out a job which may require limited range of activities routine and predictable** • select and use appropriate personal protective equipment (PPE) suitable to the work as per occupational health and safety guidelines • select and use appropriate tools and equipment in accordance with the tasks • obtain job specification or work order from responsible authority • plan and locate the area inside or outside the customer's premise after assessing possible risks • ensure the energy meter is correct, examined and tested, and meets all the parameters and specifications set by the Bureau of Indian Standards (BIS) • follow safe working practices in accordance with instructions given in the organizationalstandards and regulations to prevent injury to self and others while carrying out work • equip the energy meter with various anti-tampering features as per regulations and organizational procedures • ensure the energy meter displays one of more of the following parameters depending upon the tariff requirement for	An Energy Meter Technicianrequires limited range of activities routine and predictable. Refer to evidence provided in the adjacent column. Hence, it will fall under level 3.	3

NCrF/NSQF Domain	Key requirements of the job role/outcomes of the qualification	How the job role/outcomes relate to the NCrF/NSQF level descriptors	NSQF Level
	different categories of consumers • maintain consumer meters' account history, installation date and testing details, calibration and replacement of meters in line with organizational standards and policies • test the smart meter for potential hardware issues such as orientation of meter; improper connections; using a different port instead of recommended etc. • verify that the smart meter cover is securely fitted to ensure adequate protection against extreme environmental conditions • check that the identified area is accessible to carry out installation, meter testing, commissioning, reading, recording and maintenance		
Professional knowledge	**Basic facts, process and principle applied in trade of employment** • basic electrical concepts such as power factor, current and voltage transmission • various symbols and terminologies used in smart metering systems • basic electrical concepts such as power factor, current and voltage transmission • various symbols and terminologies used in smart metering systems • installation, operation and maintenance	An Energy Meter Technician should know basic facts, process and principle applied in trade of employment. Refer to evidence provided in the adjacent column. Hence, it will fall under level 3.	3

NCrF/NSQF Domain	Key requirements of the job role/outcomes of the qualification	How the job role/outcomes relate to the NCrF/NSQF level descriptors	NSQF Level
	procedures of energy meter as listed under the Central Electricity Regulations, 2006 • how to plan the work correctly using various safety control measures • relevant terms, signs, symbols and other graphical representations and their respective interpretations • standard features of a correct energy meter as defined by regulating body e.g. specification of meters, immunity to external factors, sealing points and functional requirements • different components of a consumer energy meter and their functions • difference between LV and HT meters and their respective uses in the power sector • list of required tools and equipment and their uses in the work • various types of consumer energy meters and their uses • role of various elements of smart metering system such as HES, communication platform, MDMS etc. • networking for smart meter installation such as configuring IP address • configuring the IP address, network administration in establishing communication • process and scope of implementation of networking topologies such as HAN (Home Area Network), WAN (Wide Area		

NCrF/NSQF Domain	Key requirements of the job role/outcomes of the qualification	How the job role/outcomes relate to the NCrF/NSQF level descriptors	NSQF Level
	Network) and MAN (Metropolitan Area Network) etc. • basics of communication technologies such as RF, GSM/CDMA, fiber optic communications, PLCs, Zigbee, 6LoWPAN, Bluetooth etc. • process to test the IHD as per required standards • process to check the communication capabilities between HES and smart meter		
Professional skill	**Recall and demonstrate practical skill, routine and repetitive in narrow range of application** • verify the distance between the poles or cables is correct • check the underground and/or overhead cables are laid correctly as per work order • check the consumer's wiring system for any common phase or looping of phase of two or more consumers • establish immunity against various types of external factors in accordance with relevant regulations • evaluate key factors such as network reliability, availability of existing network; convenient location for the user/customer; required signal strength etc. for selecting an appropriate installation site	An Energy Meter Technician should recall and demonstrate practical skill, routine and repetitive in narrow range of application. Refer to evidence provided in the adjacent column. Hence, it will fall under level 3.	3

NCrF/NSQF Domain	Key requirements of the job role/outcomes of the qualification	How the job role/outcomes relate to the NCrF/NSQF level descriptors	NSQF Level
	• check the communication network (Wireless Area Network (WAN), Home Area Network (HAN) etc.) to evaluate two-way communication capability between smart meter and HES • check the basic connections, features, switches within the smart metering network for required functioning • establish the reason for changing the energy meter from responsible source in order to plan out the work • configure smart meter to establish required connectivity with the Head-End System • test and calibrate the energy meter using appropriate testing devices in line with organizational quality standards and regulations • install the energy meter and required supportive equipment using appropriate insulated tools and devices as per organizational procedures • check the energy meter for earth leakage indication as per relevant regulations • inspect the facility's wiring system and recognize any possible risks to be isolated such as faulty circuit, loose ends, naked wires, etc.		
Core skill	**Communication written and oral, with minimum required clarity**	An Energy Meter Technician should be able to communicate in a written and oral manner,	3

NCrF/NSQF Domain	Key requirements of the job role/outcomes of the qualification	How the job role/outcomes relate to the NCrF/NSQF level descriptors	NSQF Level
	skill of basic arithmetic and algebraic principles, personal banking • inform all affected parties of the intended work plan in advance prior to disconnecting power supply line • communicate the steps involved in viewing meter readings and reports; updating personal information such as mobile number, email; generating service requests; viewing recharge history, present balance etc. **basic understanding of social and natural environment** • how to select suitable location for installing an energy meter • various actions to be taken and protocols to be followed in emergency and accidents • importance of following safe working practices and relevant environmental policies • providing adequate protection to the smart meter • problematic issues and situations that require expert intervention • recording observations and key findings during work	with minimum required clarity. The individual should possess skill of basic arithmetic and algebraic principles, personal banking, etc. Also, S/he should understand the role of social and natural environment in the work process. Refer to evidence provided in the adjacent column. Hence, it will fall under level 3.	
Responsibility	**Under close supervision.**	An Energy Meter Technician should be able to	3

NCrF/NSQF Domain	Key requirements of the job role/outcomes of the qualification	How the job role/outcomes relate to the NCrF/NSQF level descriptors	NSQF Level
	Some responsibility for own work within defined limit • check that any replaced or repaired equipment are working properly, and customer's problems are duly resolved efficiently • identify and escalate unresolved problems to appropriate authority for rectification • prepare work reports for the tasks performed	work under close supervision and should have some responsibility for own work within the defined limit. Refer to evidence provided in the adjacent column. Hence, it will fall under level 3.	

Annexure: Tools and Equipment (Lab Set-Up)

List of Tools and Equipment

Batch Size:30

S. No.	Tool / Equipment Name	Specification	Quantity for specified Batch size
27.	Double Test Lamp	As per requirement	3
28.	Clamp 'On' Tester Or Clip 'On' Meter To Test Line Current	As per requirement	3
29.	Multi Meter To Test Continuity And Polarity Of Ct'S With The Help Of 1.5 Volt Dc Cell	As per requirement	3
30.	Accuracy Test With Portable Standard Meter (Accucheck Etc. Optional)	As per requirement	1
31.	Drill M/C With Drill Bit For Mounting Energy Meter And Meter Box	As per requirement	3

32.	Electrician's Tool Kit Having Combination Plier, Screw Driver 8", 10", Spanner Set, Hammer, Knife, Phase Or Neon Tester, Nose Plier, Hacksaw, Measuring Tape, File Etc.	As per requirement	1
33.	Cable Socket Punch Tool	As per requirement	1
34.	Safety Safety Helmet	As per requirement	2
35.	Rubber Gloves	As per requirement	2
36.	Safety Belt Or Full Body Harness	As per requirement	1
37.	Spectacle Or Mask And Safety Rubber Boot.	As per requirement	1
38.	Ladder	As per requirement	1
39.	Chain	As per requirement	1
40.	Rope	As per requirement	1
41.	Discharge Rod	As per requirement	1
42.	Safety/Danger Sign Boards	As per requirement	1
43.	Cordon Tape	As per requirement	1
44.	Caution & Do Not Operate Tags	As per requirement	1
45.	Single Phase Energy Meter (Electronic)	As per requirement	3
46.	Lt Three Phase Whole Current Energy Meter (Electronic)Of Any Rating Not Above 100 A	As per requirement	2
47.	Lt Ct Energy Meter Electronic (3P4W, 3X-/5A, 3X240V) Or Of Any Rating	As per requirement	2

	Not Above 100/5A		
48.	Lt CT's Combination Of 3 Or 4 (As Per Meter) Of any Rating Not Above 100/5A	As per requirement	2
49.	Service Cable	As per requirement	1
50.	Load Like Set Of 100W, 200W Lamps, Heaters, Motors Water Pump Etc.	As per requirement	1
51.	Hardware Items Like Screws, Fasteners, Clamps Etc For Fixing Meter Boxes And Cables.	As per requirement	1
52.	Double Test Lamp	As per requirement	3

Classroom Aids

The aids required to conduct sessions in the classroom are:

1. Laptop
2. Computer
3. LCD
4. Projector
5. Board

Annexure: Industry Validations Summary

Provide the summary information of all the industry validations in table. This is not required for OEM qualifications.

S. No	Organization Name	Representative Name	Designation	Contact Address	Contact Phone No	E-mail ID	LinkedIn Profile *(if available)*
1	BSES Rajdhani Power	Sh. Nagendra Shekhar	Asstt. Vice President		9312667642	Nagendra.shekhar@relianeada.com	
2	Uttarakhand Power Corporation	Sh. Anil Kumar	Managing Director	Victoria Cross Vijeta Gabbar Singh Urja Bhawan, Kanwali Road, Baliwala	01352768895	md@upcl.org	

				Chowk, Dehradun 248001			
3	BSES Yamuna Power	Sh. Manjeet Singh	General Manager	Shakti Kiran Building, Opposite Karkardooma Court Karkardooma, Delhi 92	7428545701	Manjeet.singh@relianeada.com	
4	Adani Electricity Mumbai Ltd.	Sh. Joby George	Head Technical Training	Adani Electricity management Institute (AEMI)	9323558460	Joby.george@adani.com	
5	Tata Power Delhi distribution ltd.	Sh. Sunil Kothari	DGM	Tata Power Delhi distribution ltd. 33 KV Sub-Station building Hudson lines Delhi	9818100675	Sunil.kothari2tatapower-ddl.com	
6	Efftronics System pvt Ltd.	Sh. Murli Krishna	Director	40-15-9, Brundavan colony, Vijaywada (Andhra Pradesh) - 250010	7451925072	Efftronicssystems806@gmail.com	
7	SILATECH SYSTEMS	Smt. Indu Tomar	Administrative Assistant	A-25, LGF, Lajpat Nagar – 1 New Delhi - 110024	9650779480	Indutomar24@gmail.com	
8	Blue Nile Inc.	Smt. Deeksha Varshney	Manager	A- 8 , LGF, LAJPAT NAGAR PART 1, New Delhi	8273430404	Vdiksha1101@gmail.com	
09	Damodar Valley Corporation	Sh. Manoj Kumar Thakur	General Manager	DSTPS ANDAL	9934170992	Manok.thakur@dvc.gov.in	

Annexure: Training & Employment Details

Training and Employment Projections:

Year	Total Candidates	Women	People with Disability

	Estimated Training #	Estimated Employment Opportunities	Estimated Training #	Estimated Employment Opportunities	Estimated Training #	Estimated Employment Opportunities
2023-2024	100	70-75%	10-15	70-75%	N/A	N/A
2024-2025	100	70-75%	10-15	70-75%	N/A	N/A
2025-2026	100	70-75%	10-15	70-75%	N/A	N/A

Data to be provided year-wise for next 3 years

Training, Assessment, Certification, and Placement Data for previous versions of qualifications:

Qualification Version	Year	Total Candidates				Women				People with Disability			
		Trained	Assessed	Certified	Placed	Trained	Assessed	Certified	Placed	Trained	Assessed	Certified	Placed
1	22-23	120	110	97	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Applicable for revised qualifications only, data to be provided year-wise for past 3 years.

List Schemes in which the previous version of Qualification was implemented:

1. National Urban Livelihoods Mission
2. YUVA --PMKVY

Content availability for previous versions of qualifications:

☒Participant Handbook ☒ Facilitator Guide☒ Digital Content ☒ Qualification Handbook ☐Any Other:

Languages in which Content is available:

English & Hindi

Annexure: Blended Learning

Blended Learning Estimated Ratio &Recommended Tools:

Refer NCVET "Guidelines for Blended Learning for Vocational Education, Training & Skilling" available on:https://ncvet.gov.in/sites/default/files/Guidelines%20for%20Blended%20Learning%20for%20Vocational%20Education,%20Training%20&%20Skilling.pdf

S. No.	Select the Components of the Qualification	List Recommended Tools – for all Selected Components	Offline : Online Ratio
1	☒Theory/ Lectures - Imparting theoretical and conceptual knowledge	Laptop, Computer, LCD, Projector, Board	
2	☒Imparting Soft Skills, Life Skills, and Employability Skills /Mentorship to Learners	Laptop, Computer, LCD, Projector, Board	
3	☒Showing Practical Demonstrations to the learners	Laptop, Computer, LCD, Projector, Board	
4	☒Imparting Practical Hands-on Skills/ Lab Work/ workshop/ shop floor training	Laptop, Computer, LCD, Projector, Board	
5	☒Tutorials/ Assignments/ Drill/ Practice	Laptop, Computer, LCD, Projector, Board	
6	☒Proctored Monitoring/ Assessment/ Evaluation/ Examinations	Laptop, Computer, LCD, Projector, Board	
7	☒On the Job Training (OJT)/ Project Work Internship/ Apprenticeship Training	Laptop, Computer, LCD, Projector, Board	

Annexure: Detailed Assessment Criteria

Detailed assessment criteria for each NOS/Module are as follows:

Assessment outcomes	AssessmentCriteriaforOutcomes	TheoryMarks	PracticalMarks
PSS/N2509: Manually remove, change and install low voltage, single and three phase energy	*Work safely*	2	8
	To be competent, the user/ individual on the job must be able to:		

meters	PC1.obtain job specification or work order from responsible authority	0	2
	PC2.select and use appropriate personal protective equipment (PPE) as per occupational health and safety guidelines	1	2
	Personal protective equipment: hard working caps, protective glasses, rubber gloves, fall arrest and restraint, safety footwear, fire-resistant clothing, etc.		
	PC3.use and maintain appropriate tools and equipment in accordance with the tasks	1	4
	\Tools and equipment: e.g. insulated hand tools; drills; hacksaw; hand tools; testing equipment; insulation testers; crimping tools; wires and cables of various colours and sizes; heat shrink sleeving and flexible conduit; terminals and connectors; electrical tape; etc.		
	Prepare work area for installation	**3**	**26**
	To be competent, the user/ individual on the job must be able to:		
	PC4.verify the distance between the poles or cables is as per standards	0	**3**
	PC5. check the underground and/or overhead cables are laid correctly as per work order	1	3
	PC6.plan and locate the area inside or outside the customer's premise after assessing possible risks	0	4

	PC7.check that the identified area is accessible to carry out installation, meter testing, commissioning, reading, recording and maintenance	1	4
	PC8.ensure the energy meter has passed quality assessments set by the Bureau of Indian Standards (BIS) and is ready for installation	2	4
	Consumer meters: Low Voltage(LV) meters; single phase meter (two wires system) and three phase meters (four wires system)		
	PC9.inspect the facility's wiring system and recognize any possible risks to be isolated or common phase or looping of phase of two or more consumers	1	4
	PC10.inform all affected parties of the intended work plan in advance prior to disconnecting power supply line	0	4
	Install single or three phase meters	**10**	31
	To be competent, the user/individual on the job must be able to:		
	PC11.install the energy meter and supportive equipment using insulated tools and devices as per organizational procedures	2	7
	Supportive equipment: e.g. meter box, junction box, distribution bus bar, etc.		
	PC12.equip the energy meter with various anti-tampering features as per regulations and organizational procedures	2	4

	PC13.establish immunity against various types of external factors in accordance with relevant regulations	1	4
	External factors: magnetic induction, vibration, electrostatic discharge, switching transients, surge voltages, oblique suspension and harmonics		
	PC14.ensure the energy meter displays one or more of the following parameters depending upon the tariff requirement for different categories of consumers	1	4
	Measuring parameters: cumulative reactive energy, average power factor, time of energy use, apparent power, maximum demand, phase voltage and line currents		
	PC15.check the energy meter for earth leakage indication as per relevant regulations	1	3
	Regulations: Central Electricity Authority (installation and operation of meters) Regulations, 2006		
	PC16.test and calibrate the energy meter using appropriate testing devices in line with organizational quality standards and regulations	2	5
	PC17.identify and escalate unresolved problems to appropriate authority for rectifications	1	4
	Remove and replacing a single or a three phase meter	**6**	**12**
	To be competent, the user/individual on the job must be able to:		

	PC18.establish the reason for changing the energy meter from responsible source in order to plan out the work	**1**	**3**
	Reasons: discrepancies (stoppage of meter, erratic consumption output, broken seal, burning or damage of meter), service disconnection		
	PC19.replace the same with a duly tested energy meter as per instructions given in organizational guidelines and regulations	2	3
	PC20.test to confirm that the replaced energy meter conforms to required work specifications	2	3
	PC21.check that any replaced or repaired equipment is working properly, and customer's problems are resolved efficiently	1	3
	NOSTotal	**23**	**77**
PSS/N2508: Install and commission smart meter	*Prepare for installation of smart meter*	**5**	**10**
	To be competent, the user/ individual on the job must be able to:		
	PC1.identify the Advanced Metering Infrastructure (AMI) to be installed; such as smart meters (single-phase and 3-phase), communication infrastructure, Head-End System (HES), Meter Data Management System (MDMS)	1	**2**
	PC2.determine the communication network/technology to be used; such as Broadband over PowerLine (BPL), Power Line Communications (PLCs), Fiber Optic Communication, Zigbee, 6LoWPAN, Bluetooth, Fixed Radio Frequency or public networks (e.g., landline, cellular, paging)	1	**3**

	PC3.evaluate key factors for selecting an appropriate installation site such as network reliability, availability of existing network; convenient location for the user/customer; required signal strength etc.	**2**	2
	PC4.confirm the availability of required tools, equipment, materials, hardware and software for installing smart meter	1	**3**
	Install smart meter	**10**	**28**
	To be competent, the user/ individual on the job must be able to:		
	PC5.install smart meter box and smart metering hardware	2	6
	PC6.perform wiring and cable connections	2	5
	PC7.install the In-Home Display (IHD)	2	6
	PC8.configure smart meter to establish required connectivity with the Head-End System (HES)	2	6
	PC9.enter the IP address as provided through the HES for enabling networking capabilities of the smart meter	2	5
	Commission smart meter	**15**	**32**
	To be competent, the user/individual on the job must be able to:		
	PC10.test the smart meter for potential hardware issues; such as orientation of meter; improper connections; using a different port instead of recommended etc.	2	5
	PC11.check the connections, features, switches within the smart metering network for required functioning	2	5
	PC12.test the In-Home Display (IHD) for required connectivity and functioning	2	5

	PC13.check the communication network (Wireless Area Network (WAN), Home Area Network (HAN) etc.) to evaluate two-way communication capability between smart meter and HES	2	5
	PC14.verify that the smart meter cover is securely fitted to ensure adequate protection against extreme environmental conditions	2	3
	PC15.record data such as customer identification number, meter ID, its hardware and software configuration, name plate details, make, type i.e. 1 Phase or 3 Phase, etc. (as per requirement of utility)	2	3
	PC16.prepare work reports for the tasks performed	1	2
	PC17.instruct the user/customer the various procedures through which they can avail of customer services offered	1	2
	Customer services: viewing meter readings and reports; updating personal information such as mobile number, email; generating service requests; viewing recharge history, present balance etc.		
	PC18.clear the worksite to ensure no hazardous and waste materials are present	1	2
	NOSTotal	**30**	**70**
PSS/N1331- Apply basic health and safety practices for power related work	*Follow workplace health and safety practices*	**25**	**36**
	To be competent, the user/individual on the job must be able to:		
	PC1. use protective clothing/equipment for specific tasks and work conditions	3	5

	Protective clothing: leather or asbestos gloves, flame proof aprons, flame proof overalls buttoned to neck, cuff less (without folds) trousers, reinforced footwear, helmets/hard hats, cap and shoulder covers, ear defenders/plugs, safety boots, knee pads, particle masks, glasses/goggles/visors		
	Equipment: hand and face shields, machine guards, residual current devices, shields, dust sheets, respirator		
	PC2. identify job-site hazards and possible causes of risks/accident at the workplace	3	2
	Hazards: electrical hazards; sharp edged and heavy tools; heated metals; oxyfuel and gas cylinders; welding radiation; hazardous surfaces; hazardous substances; physical hazards		
	possible causes of risk and accident: physical actions; not following instructions; inattention; sickness and incapacity; health; not taking safety precautions		
	PC3. use standard safe working practices when working at heights, confined areas, trenches and with electrical equipment	3	5
	PC4. follow warning signs and symbols while working with electrical systems	2	2
	Warning signs: Danger plate, high voltage area, out of service, etc.		
	PC5. ensure positive isolation of electrical equipment and system as per the given standards	2	4
	PC6. identify any abnormalities in electrical equipment or system viz temperature, pressure, flow of current etc.	2	4
	PC7. use various methods of accident prevention in the work environment	2	0

	PC8. use proper scaffolds, elevated platforms and ladders for working at height	2	3
	PC9. inspect various tools and plants (T & P) routinely for any signs of oil, water leakages	2	3
	PC10. store flammable materials and machine lubricating oil safely and correctly	2	2
	PC11. check that the emission and pollution control devices are working properly in line with environmental policy standards	1	3
	PC12. inform the relevant authorities about any abnormal situation/behavior of any equipment/system without delay	1	3
	Follow fire safety practices	**6**	**12**
	To be competent, the user/ individual on the job must be able to:		
	PC13. use various appropriate fire extinguishers for different types of fires correctly	3	5
	Types of fires: Class A, B, C, D and E		
	PC14. use appropriate rescue techniques during fire hazard	2	5
	PC15. use good housekeeping practices at all times to avoid accidental fire	1	2
	Follow emergencies, rescue and first-aid procedures	**8**	**13**
	To be competent, the user/ individual on the job must be able to:		
	PC16. administer appropriate first aid to the victims for the relevant injuries	3	6
	Injuries: Bleeding, burns, choking, electric shock, poisoning etc.		

	PC17. act promptly and appropriately to an accident situation and administer basic first aid including CPR to the victims of cardiac arrest due to electric shock or medical emergency in real	2	5
	PC18. write an incident report and send the same to the authorized person	3	2
	NOSTotal	**39**	**61**

DGT/VSQ/N0102: Employability Skills (60 Hours)

S. No	Module Name	Assessment Marks
1.	Introduction to Employability Skills	2
2.	Constitutional values - Citizenship	2
3.	Becoming a Professional in the 21st Century	6
4.	Basic English Skills	6
5.	Career Development & Goal Setting	3
6.	Communication Skills	4
7.	Diversity & Inclusion	2
8.	Financial and Legal Literacy	5
9.	Essential Digital Skills	8
10.	Entrepreneurship	4
11.	Customer Service	3
12.	Getting ready for Apprenticeship & Jobs	5
	Total	**50**

Annexure: Assessment Strategy

This section includes the processes involved in identifying, gathering, and interpreting information to evaluate the Candidate on the required competencies of the program.

Mention the detailed assessment strategy in the provided template.

<1. Assessment System Overview:

- Batches assigned to the assessment agencies for conducting the assessment on SIP or email
- Assessment agencies send the assessment confirmation to VTP/TC looping SSC
- Assessment agency deploys the ToA certified Assessor for executing the assessment
- SSC monitors the assessment process & records

2. Testing Environment:

- Check the Assessment location, date and time
- If the batch size is more than 30, then there should be 2 Assessors.
- Check that the allotted time to the candidates to complete Theory & Practical Assessment is correct.

3. Assessment Quality Assurance levels/Framework:

- Question bank is created by the Subject Matter Experts (SME) are verified by the other SME
- Questions are mapped to the specified assessment criteria
- Assessor must be ToA certified & trainer must be ToT Certified

4. Types of evidence or evidence-gathering protocol:

- Time-stamped & geotagged reporting of the assessor from assessment location
- Centre photographs with signboards and scheme specific branding

5. Method of verification or validation:

- Surprise visit to the assessment location

6. Method for assessment documentation, archiving, and access

- Hard copies of the documents are stored

On the Job:

1. Each module (which covers the job profile of Automotive Service Assistant Technician) will be assessed separately.
2. The candidate must score 60% in each module to successfully complete the OJT.
3. Tools of Assessment that will be used for assessing whether the candidate is having desired skills and etiquette of dealing with customers, understanding needs & requirements, assessing the customer and perform Soft Skills effectively:
   • Videos of Trainees during OJT
   •
4. Assessment of each Module will ensure that the candidate is able to:

- Effective engagement with the customers
- Understand the working of various tools and equipment
- …..>

Annexure: Acronym and Glossary

Acronym

Acronym	Description
AA	Assessment Agency
AB	Awarding Body
ISCO	International Standard Classification of Occupations
NCO	National Classification of Occupations
NCrF	National Credit Framework
NOS	National Occupational Standard(s)
NQR	National Qualification Register
NSQF	National Skills Qualifications Framework
OJT	On the Job Training

Glossary

Term	Description
National Occupational Standards (NOS)	NOS define the measurable performance outcomes required from an individual engaged in a particular task. They list down what an individual performing that task should know and also do.
Qualification	A formal outcome of an assessment and validation process which is obtained when a competent body determines that an individual has achieved learning outcomes to given standards
Qualification File	A Qualification File is a template designed to capture necessary information of a Qualification from the perspective of NSQF compliance. The Qualification File will be normally submitted by the awarding body for the qualification.
Sector	A grouping of professional activities on the basis of their main economic function, product, service or technology.
Long Term Training	Long-term skilling means any vocational training program undertaken for a year and above. https://ncvet.gov.in/sites/default/files/NCVET.pdf