MCr FILE

Essentials of Refrigeration and Air Conditioning

☒ 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:

Electronics Sector Skills Council of India (ESSCI)

155, 2nd Floor, ESC House

Okhla Industrial Area - Phase 3,

New Delhi – 110020

Tel: 011 – 8447738501

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Section 1: Basic Details

1.	**MCr Name**	**Essentials of Refrigeration and Air Conditioning**	
2.	**Sector/s**	**Electronics**	
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)*	**a- Ozone Cell, MoEFCC** **b- Essentials of Refrigeration and Air Conditioning**	
5.	**National Qualification Register (NQR) Code & Version** (*Will be issued after NSQC approval)*	NM-03-EH-02835-2024-V1-ESSC & V1	**6. NCrF/NSQF Level:** 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**	This "Essentials of Refrigeration and Air Conditioning" job role covers, air-conditioning fundamentals, service practices, refrigerant properties & alternative low GWP refrigerants, and safety protocols. It includes hands-on training on refrigerant charging & recovery, brazing, and installation, emphasizing technician certification and adherence to international standards for safe, efficient operations & environmental impacts.	
9.	**Eligibility Criteria for Entry for Student/Trainee/Learner/Employee**	**a. Entry Qualification & Relevant Experience:**	
10	**Credits Assigned to this Qualification, Subject to Assessment** *(as per National Credit Framework (NCrF))*	0.5	4 **Common Cost Norm Category (I/II/III)** *(wherever applicable)*: **I**

S. No.	Academic/Skill Qualification (with Specialization - if applicable)	Required Experience (with Specialization - if applicable)
1	10 or Equivalent	1.5 year relevant experience
2	8th Grade pass	3 year relevant experience
3	Previous relevant Qualification of NSQF Level 2.5	3 year relevant experience

b. Age: 18 years

5	**Any Licensing requirements for Undertaking Training on This Qualification** *(wherever applicable)*	NA
6	**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)** 00:00 8:00 00:00 00:00 15:00 **Online** 7:00 00:00 00:00 00:00 *(Refer Blended Learning Annexure for details)*
7	**Aligned to NCO/ISCO Code/s** *(if no code is available mention the same)*	NCO-2015/7421.0401
8	**Progression path after attaining the qualification** *(Please show Professional and Academic progression)*	Field Technician - Air Conditioner (ELE/Q3102)
9	**Other Indian languages in which the Qualification & Model Curriculum are being submitted**	NA
10	**Is similar Qualification(s) available on NQR-if yes, justification for this qualification**	☐ **Yes** ☒ **No URLs of similar Qualifications:**
11	**Is the Job Role Amenable to Persons with Disability**	☐ **Yes** ☒ **No** **If "Yes", specify applicable type of Disability:**
12	**How Participation of Women will be Encouraged**	No gender sensitization
13	**Are Greening/ Environment Sustainability Aspects Covered** *(Specify the NOS/Module which covers it)*	☒ **Yes** ☐ **No**
14	**Is Qualification Suitable to be Offered in Schools/Colleges**	**Schools** ☒ **Yes** ☐ **No** **Colleges** ☒ **Yes** ☐ **No**
15	**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. Abhilasha Gaur **Email:** ceo@essc-india.org **Contact No.:** 011 – 8447738501 **Website:** https://www.essc-india.org/
16	**Final Approval Date by NSQC:** 12/08/2024	**17 Validity Duration:** 5 Years / 18 **Next Review Date:** 12/08/2029

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	MCr/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.	Essentials of Refrigeration and Air Conditioning	ELE/MCr-0001 & V1.0	Core	3	0.5	7:00	8:00	00:00	00:00	15:00	50	50	0	0	100	100
Duration (in Hours) / Total Marks					0.5	**7:00**	**8:00**	**00:00**	**00:00**	**15:00**	**50**	**50**	**0**	**0**	**100**	**100**

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 NOS 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

1.	**Trainer's Qualification and experience in the relevant sector (in years)** *(as per NCVET guidelines)*	BE/ BTech (Electrical/ Mechanical/ Electronics/Computer science) with 0 year industrial and 1 year training experience in the RAC Or Diploma/ITI (Electrical/ Mechanical/ Electronics/Computer science) with 1 years industrial and 1 year training experience in the RAC Or Certified in relevant CITS Trade
2.	**Master Trainer's Qualification and experience in the relevant sector (in years)** *(as per NCVET guidelines)*	BE/ BTech (Electrical/ Mechanical/ Electronics/ Computer science) with 1 year industrial and 1 year training experience in the RAC Or Diploma/ITI (Electrical/ Mechanical/ Electronics/ Computer science) with 2 years industrial and 1 year training experience in the RAC Or Certified in relevant CITS Trade
3.	**Tools and Equipment Required for Training**	☒Yes ☐No (*If "Yes", details to be provided in Annexure)*
4.	**In Case of Revised Qualification, Details of Any Upskilling Required for Trainer**	

Section 4: Assessment Related

1.	**Assessor's Qualification and experience in relevant sector (in years)** *(as per NCVET guidelines)*	BE/ BTech (Electrical/ Mechanical/ Electronics/ Computer science) with 1 year industrial and 1 year training experience in the RAC Or Diploma/ITI (Electrical/ Mechanical/ Electronics/ Computer science) with 2 years industrial and 1 year training experience in the RAC

		Or Certified in relevant CITS Trade
2.	**Proctor's Qualification and experience in relevant sector (in years)** *(as per NCVET guidelines)*	NA
3.	**Lead Assessor's/Proctor's Qualification and experience in relevant sector (in years)** *(as per NCVET guidelines)*	NA
4.	**Assessment Mode** *(Specify the assessment mode)*	Blended
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):** Yes
2.	**Latest Market Research Reports or any other source (not older than 2 years) (Yes/No):** Yes
3.	**Government /Industry initiatives/ requirement (Yes/No):** Yes
4.	**Number of Industry validation provided:** 1 (OEM)
5.	**Estimated nos. of persons to be trained and employed:** As per project
6.	**Evidence of Concurrence/Consultation with Line Ministry/State Departments:** In progress 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)*	*Attached*
2.	**Annexure:** List of tools and equipment relevant for qualification *(Mandatory, except in case of online course)*	*Attached*
3.	**Annexure:** Detailed Assessment Criteria *(Mandatory)*	*Attached*
4.	**Annexure:** Assessment Strategy *(Mandatory)*	*Attached*

5.	**Annexure:** Blended Learning *(Mandatory, in case selected Mode of delivery is "Blended Learning")*	*Filled*
6.	**Annexure:** Multiple Entry-Exit Details *(Mandatory, in case qualification has multiple Entry-Exit)*	*Filled*
7.	**Annexure:** Acronym and Glossary *(Optional)*	*Attached*
8.	**Supporting Document:** Model Curriculum *(Mandatory – Public view)*	*Attached*
9.	**Supporting Document:** Career Progression *(Mandatory - Public view)*	*Attached*
10.	**Supporting Document:** Occupational Map *(Mandatory)*	Attached
11.	**Supporting Document:** Assessment SOP *(Mandatory)*	
12.	**Any other document you wish to submit:**	

Annexure: Evidence of Level

NCrF/NSQF Level Descriptors	Key requirements of the job role/ outcome of the qualification	How the job role/ outcomes relate to the NCrF/NSQF level descriptor	NCrF/NSQF Level
Professional Theoretical Knowledge/Process	**Demands a wide range of specialised technical skill, clarity of knowledge and practice in broad range of activity involving standard and non-standard practices.** • Basics of refrigerant recovery, charging, leak testing, and brazing in standard and non-standard servicing scenarios. • Proficient understanding of air-conditioning components and systems for varied installation environments. • Implementation of safety protocols and handling practices for flammable and non-flammable refrigerants.	This course is aligned with Lower level NSQF/NCrF levels, indicating a need for advanced theoretical knowledge and practical application in the specialized field of Low GWP RAC Hence Level 3	3

	Application of energy efficiency techniques and customer education in diverse operational conditions.		
Professional and Technical Skills/ Expertise/ Professional Knowledge	**Factual and theoretical knowledge in broad contexts within a field of work or study.** • Understanding environmental regulations like the Montreal Protocol and Kigali Amendment for refrigerant management. Knowledge of the vapor compression cycle and heat transfer principles in air-conditioning systems. Familiarity with properties, classifications, and usage of refrigerants such as HC-290 and HFC-32. Comprehension of safety protocols and best practices for handling and servicing refrigerants.	Individuals completing this qualification are likely to possess the expertise required for roles demanding advanced and specialized knowledge in the field of Low GWP RAC Hence Level 3	3
Employment Readiness & Entrepreneurship **Skills & Mind-set/Professional Skill**	**A range of cognitive and practical skills required to generate solutions to specific problems in a field of work or study.** Diagnosing and repairing air-conditioning system faults using analytical and technical skills. Applying problem-solving techniques for refrigerant leakage and pressure issues. Implementing safe handling and storage procedures for flammable refrigerants during servicing. Conducting performance tests and energy efficiency evaluations to optimize air-conditioning operations.	Candidates will be learning effective communications which will make them smart in communicating with various companies and people. Hence Level 3	3
Broad Learning Outcomes/Core Skill	Ability to perform efficient and safe installation, servicing, and maintenance of RAC systems. Understanding and adhering to environmental regulations and safety standards in refrigerant handling. Proficiency in diagnosing, troubleshooting, and repairing a wide range of air-conditioning issues.	Candidate can perform well under supervision of team lead Hence Level 3	3
Responsibility	Responsibility of completing the work assigned and reporting the same as per standards. Execute installation and servicing tasks adhering to technical standards and environmental regulations. Maintain accurate records of work performed, including refrigerant handling and system diagnostics. Ensure compliance with safety protocols and procedures during all stages of work execution.	Takes complete responsibility for delivery and quality of own work and output as also the subordinates. Shares responsibility for the group tasks. Hence Level 3	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
1	Gas Cylinder		3
2	Multi-meter		6
3	Spanner		6
4	Tube Cutter		6
5	Vacuum Pump		3
6	Weighing Scale		3
7	Split AC	1.5 ton preferred	2
8	Capilary Guage		6
9	Clamp Meter		6
10	Compound Guage		6
11	Digital Clamp Meter		6
12	Digital Thermometer		6
13	Electrical Drill		3
14	Measuring Tape (5 Mtrs)		6
15	Megger		6
16	Pressure Gauge		1
17	Screw Driver set		6
18	Tube Bender		6
19	Watt Meter		6
20	Window AC	1.5 ton preferred	2
21	Safety Gloves		6
22	Safety Helmet		6
23	Safety Shoes		6

Classroom Aids

The aids required to conduct sessions in the classroom are:

1. Whiteboard
2. Projector
3. Computer/Laptop
4. Chairs
5. Tables
6. Whiteboard marker

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	Ozone Cell MoEFCC	Aditya Narayan Singh	Scientist 'F' / Director	Ozone Cell Ministry of Environment, Forest and Climate Change Government of India 1st Floor, 9, Institutional Area Lodhi Road, New Delhi-110003	24642176	aditya.narayan@nic.in	NA
2							
3							
4							

Annexure: Training & Employment Details

Training and Employment Projections:

Year	Total Candidates	Women	People with Disability
	Estimated Training # Total	Estimated Training # Women	Estimated Training # PwD
2024	200	50	NA
2025	200	50	NA
2026	100	25	NA

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

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.
2.

Content availability for previous versions of qualifications:

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

Languages in which Content is available:

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	• Books/ e-books • Presentations • Reference Material • Audio / Video Modules	30:70
2	☒Imparting Soft Skills, Life Skills, and Employability Skills /Mentorship to Learners	• Self-Learning Videos • Broadcasts • Mobile Learning • Curated Digital content	30:70
3	☒Showing Practical Demonstrations to the learners	• Video Content • E-Resource library	30:70

		• AR/ VR/ XR	
4	☒Imparting Practical Hands-on Skills/ Lab Work/ workshop/ shop floor training	• Training tools (tools list attached) • Video Play • Presentations	30:70
5	☒Tutorials/ Assignments/ Drill/ Practice	• Online Question Bank • Mobile Quick test app • MCQ based tests	30:70
6	☒Proctored Monitoring/ Assessment/ Evaluation/ Examinations	• Assessment engine for Essays • Up-loadable file examinations • Mock test sessions	30:70
7	☒On the Job Training (OJT)/ Project Work Internship/ Apprenticeship Training	• Online tests • Offline assessments	30:70

Annexure: Detailed Assessment Criteria

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

NOS/Module Name	Assessment Criteria for Performance Criteria/Learning Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
ELE/MCr-0001: Essentials of Refrigeration and Air Conditioning	**Environmental Impact and Fundamentals of Air-Conditioning**	**10**	**10**	**0**	**0**
	PC1. Explain the formation and destruction of the **stratospheric ozone layer**, and describe the effects of ozone layer depletion on the environment and human health.	2	2	-	-
	PC2. Understand the concept of **global warming** and its effects, and identify how **air-conditioners** contribute to global warming.	2	2	-	-
	PC3. Describe the role of service technicians in phasing out **HCFCs** and understand the importance of the **Montreal Protocol** and the **Kigali Amendment**.	2	2	-	-
	PC4. Explain how heat transfer works in an air-conditioner and describe the **vapor compression cycle**.	2	2		

PC5. Identify and explain the components of a room air conditioning system, including **compressors**, **expansion devices**, **condensers**, and **evaporators**.	2	2	-	-
Good Service Practices and Alternative Refrigerants	**10**	**10**	**0**	**0**
PC6. Demonstrate the recovery of refrigerant from a sealed refrigeration system and explain safe venting practices for ACs charged.	2	2	-	-
PC7. Perform cleaning and flushing of the system, and demonstrate brazing or flaring of tubes.	2	2	-	-
PC8. Conduct leak and pressure testing, and perform evacuation and vacuum holding.	2	2		
PC9. Demonstrate the refrigerant charging process, and explain the tube sealing process and closing of valves.	2	2	-	-
PC10. Explain the need for alternate refrigerants, identify considerations for selecting alternate refrigerants, and understand the safety classification of refrigerants such as **HFC-32**.	2	2	-	-
Servicing Practices for Room Air-Conditioners with Flammable Refrigerants	**10**	**10**	**0**	**0**
PC11. Identify and explain safety measures to be taken during servicing of air-conditioners with flammable refrigerants.	2	2	-	-
PC12. Demonstrate safe venting and recovery of refrigerant, and the removal of leftover refrigerant using a vacuum pump.	2	2	-	-
PC13. Conduct repair and replacement of defective parts, and perform cleaning and flushing of the system.	2	2		
PC14. Demonstrate brazing, leak testing, and pressure holding, and perform evacuation and vacuum holding.	2	2	-	-
PC15. Demonstrate refrigerant charging and closing of valves, and check for proper operation to ensure personal safety.	2	2	-	-
Copper Tube Processing and Installation of Split Air-Conditioners	**10**	**10**	**0**	**0**
PC16. Demonstrate tube straightening, measuring, and cutting, and perform reaming and bending of copper tubes.	2	2	-	-
PC17. Explain and demonstrate cleaning and polishing of tubes, and perform swaging, flaring, and brazing processes.	2	2		
PC18. Identify safety precautions while brazing, and understand the use of filler materials, brazing temperatures, and flux.	2	2	-	-

	PC19. Explain the general steps for installation of split air-conditioners, and select appropriate locations for indoor unit (**IDU**) and outdoor unit (**ODU**).	2	2	-	-
	PC20. Demonstrate the installation of IDU and ODU, connect the refrigeration tubes, perform leak testing and evacuation, and conduct performance testing and post-installation check-up.	2	2		
	Energy Efficiency, Soft Skills, and Technician Certification	**10**	**10**		
	PC21. Identify sources of emissions and explain their contribution to global warming, and perform preventive maintenance for efficient operation of air-conditioners.	2	2		
	PC22. Demonstrate good service practices for energy-efficient operation, and educate customers on energy-saving practices.	2	2		
	PC23. Explain the impact of temperature settings on energy consumption, and understand air-conditioner energy labeling standards.	2	2		
	PC24. Demonstrate effective communication skills with customers and co-workers, practice professional telephone skills, writing skills, reading skills, and show professionalism through appropriate body language and personal hygiene.	2	2		
	PC25. Explain the benefits of certification for technicians, understand the role of HPMP in the certification process, and describe the international scenario of certification for service technicians.	2	2		
	Nos Total	**50**	**50**	**0**	**0**
	Grand Total	**50**	**50**	**0**	**0**

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 SDMS/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:
    - Confirm that the centre is available at the same address as mentioned on SDMS or SIP
    - Check the duration of the training.
    - Check the Assessment Start and End time to be as 10 a.m. and 5 p.m.
    - 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.
    - Check the mode of assessment—Online (TAB/Computer) or Offline (OMR/PP).
    - Confirm the number of TABs on the ground are correct to execute the Assessment smoothly.
    - Check the availability of the Lab Equipment for the particular Job Role.

3. Assessment Quality Assurance levels / Framework:
    - Question papers created by the Subject Matter Experts (SME)
    - Question papers created by the SME verified by the other subject Matter Experts
    - Questions are mapped with NOS and PC

- Question papers are prepared considering that level 1 to 3 are for the unskilled & semi-skilled individuals, and level 4 and above are for the skilled, supervisor & higher management
- Assessor must be ToA certified & trainer must be ToT Certified
- Assessment agency must follow the assessment guidelines to conduct the assessment

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
   - Biometric or manual attendance sheet (stamped by TP) of the trainees during the training period
   - Time-stamped & geotagged assessment (Theory + Viva + Practical) photographs & videos

5. Method of verification or validation:
   - Surprise visit to the assessment location
   - Random audit of the batch
   - Random audit of any candidate

6. Method for assessment documentation, archiving, and access
   - Hard copies of the documents are stored
   - Soft copies of the documents & photographs of the assessment are uploaded / accessed from Cloud Storage
   - Soft copies of the documents & photographs of the assessment are stored in the Hard Drives

On the Job:

1. Each module (which covers the job profile of Essentials of Refrigeration and Air Conditioning (RAC) will be assessed separately.
2. The candidate must score 50% 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
   - Answer Sheets of Question Banks
   - Assessing the Log Book entries of Trainees at Employer location
   - Employer Performance Feedback.
4. Assessment of each Module will ensure that the candidate is able to:
   - Understand the theoretical concept of Technology
   - Understand practical aspect of data analytics and perform various operations
   - Perform testing and maintenance of Essentials of Refrigeration and Air Conditioning (RAC)
   - Work effectively at the workplace

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