QUALIFICATION FILE

Automobile Technology

☒ **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: 4.5

Submitted By:

Automotive Skills Development Council

E-113, Okhla Industrial Estate

Phase- III,

New Delhi-110020

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Section 1: Basic Details

1.	Qualification Name	Automobile Technology					
2.	Sector/s	Automotive					
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)*	b. Automobile Technology					
5.	National Qualification Register (NQR) Code & Version *(Will be issued after NSQC approval)*	QG-4.5-AU-01832-2024-V1-ASDC		6. NCrF/NSQF Level: 4.5			
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	The Light Vehicle Automotive Technician will work in the service, diagnosis and repair sector of light vehicles in either independent workshops or the vehicle manufacturers' affiliated workshops. The Light Vehicle Automotive Technician will be able to service, diagnose, and repair a range of light vehicles using service and repair information, and a wide range of diagnostic and service tools.					
9.	Eligibility Criteria for Entry for Student/Trainee/Learner/Employee	a. Entry Qualification & Relevant Experience: No formal education required. b. Age: Below 25 Years of age.					
10.	Credits Assigned to this Qualification, Subject to Assessment *(as per National Credit Framework (NCrF))*	16		11. Common Cost Norm Category (I/II/III) *(wherever applicable)*: I			
12.	Any Licensing requirements for Undertaking Training on This Qualification *(wherever applicable)*	NA					

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)	84:00	84:00	342:00		510:00
		Online					
		(Refer Blended Learning Annexure for details)				

14.	**Aligned to NCO/ISCO Code/s** *(if no code is available mention the same)*	NCO-2015/3115.0602	
15.	**Progression path after attaining the qualification** *(Please show Professional and Academic progression)*	Lead Technician	
16.	**Other Indian languages in which the Qualification & Model Curriculum are being submitted**	NA	
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**	No gender sensitization	
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:** Mr. Arindam Lahiri **Email:** ceo@asdc.org.in　　　　　　**Contact No.:** 011-42599800 **Website:** https://www.asdc.org.in/	
23.	**Final Approval Date by NSQC: 06-02-2024**	**24. Validity Duration:** 2 Years	**25. Next Review Date: 06-02-2026**

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					Weightage (%) *(if applicable)*
						Th.	Pr.	OJT-Man.	OJT-Rec.	Total	Th.	Pr.	Proj.	Viva	Total	
1.	Work organization, management and safety	ASC/N9828	Non-core	4.5	1	6	6	18		30	15	25		10	50	5
2.	Communication skills	ASC/N9829	Non-core	4.5	2	12	12	36		60	15	25		10	50	10
3.	Service	ASC/N1476	Core	4.5	3	12	12	66		90	15	25		10	50	15
4.	Electrical and mechanical systems inspection and diagnosis	ASC/N1477	Core	4.5	7	36	36	138		210	6	10		4	20	45
5.	Repair and overhaul	ASC/N1478	Core	4.5	4	18	18	84		120	15	25		10	50	20
	Duration (in Hours) / Total Marks				17	84	84	342	0	510	66	110	0	44	220	95

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					Weightage (%) *(if applicable)*
						Th.	Pr.	OJT-Man.	OJT-Rec.	Total	Th.	Pr.	Proj.	Viva	Total	
1.																
2.																

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)*
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: __70__% *(Every Trainee should score specified minimum aggregate passing percentage at qualification level to successfully clear the assessment.)*

Minimum Pass Percentage – NOS/Module-wise: ____% *(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)*	B.E/B.Tech (Automobile/ Mechanical / Electrical) with 2 years of industry and 1 year of training experience in Four Wheeler Service Or B.E/B.Tech (Automobile/ Mechanical / Electrical) with 3 years of industry experience in Four Wheeler Service Or Diploma (Automobile/ Mechanical) with 4 years of industry and 1 year of training experience in Four Wheeler Service Or Diploma (Automobile/ Mechanical) with 5 years of industry experience in Four Wheeler Service

		Or
		ITI (Mechanic Motor Vehicle/Mechanic Auto Electrical and Electronics/Diesel Mechanic) with 5 years of industry and 1 year of training experience in Four Wheeler Service
		Or
		ITI (Mechanic Motor Vehicle/Mechanic Auto Electrical and Electronics/Diesel Mechanic) with 6 years of industry experience in Four Wheeler Service
2.	**Master Trainer's Qualification and experience in the relevant sector (in years)** *(as per NCVET guidelines)*	B.E/B.Tech (Automobile/ Mechanical / Electrical) with 3 years of industry and 1 year of training experience in Four Wheeler Service
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)*	Any Recognized certification with proven industrial and/or practical experience in the relevant skill (minimum 10 years). OR Have worked as a Jury member/expert in skill competitions and other competitions of similar nature at regional/national levels OR Trained/mentored competitors for IndiaSkills/ WorldSkills competitions (national/ international). **OR** As any change per NCVET guidelines
2.	**Proctor's Qualification and experience in relevant sector (in years)** *(as per NCVET guidelines)*	As per IndiaSkills/ WorldSkills guidelines
3.	**Lead Assessor's/Proctor's Qualification and experience in relevant sector (in years)** *(as per NCVET guidelines)*	As per IndiaSkills/ WorldSkills guidelines
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:**
5.	**Estimated nos. of persons to be trained and employed:** 500
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)*	
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)*	Attached
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	Effectively carry out diagnosis of the faults and carry out routine service / minor repairs of mechanical / electrical aggregates of the vehicle.	Theoretical & Practical skill required for assisting in repairing/servicing 4-wheeler vehicles or performing the task individually. Since the individual is required to take instructions from supervisors.	4.5
Professional and Technical Skills/ Expertise/ Professional Knowledge	Knowledge related to conducting test drive to identify, diagnose and repair the vehicle in a scheduled manner.	Factual and theoretical knowledge in the field of repairing/servicing of electrical vehicles. Deeper knowledge or skills are required for this individual.	4.5
Employment Readiness & Entrepreneurship Skills & Mind-set/Professional Skill	● Identify the work requirement to schedule timely completion accordingly ● Demonstrate conducting the test drive to identify the fault ● Apply the knowledge about the various systems / components / aggregates in diagnosing and repairing the faults ● Follow the steps of inspection, diagnosis and repair as per standard operating procedures ● Demonstrate the process of performing routine service of the vehicle	Range of cognitive and practical skill required for the repairing/servicing of light vehicles.	4.5
Broad Learning Outcomes/Core Skill	Effective skill in writing, reading and oral communication (listening and speaking skills) with required clarity	Skill to communicate written or oral with required clarity, manage/supervise others.	4.5
Responsibility	Responsible for completing the assigned task, effective team working, safety of self and in workplace	Accountable for own work and learning in the domain of repairing/servicing of light vehicles.	4.5

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	Basic Tool box		1
2	Open Ended Spanners 6 mm to 24 mm	Select any one Cloud Service based on Requirement	1
3	Ring Spanner 6 mm. to 24 mm	Select any one Tools based on Requirement	1
4	Screw drivers - Flat ended & Cross Ended	Select any one Platform based on Requirement	1
5	Pliers - Straight & Nose ended	Standard	1
6	Bins/racks	Standard	1
7	Trolley	Standard	4
8	Equipment stands	Standard	1
9	Stands for different Aggregates	Standard	1
10	Filler gauges	Standard	1
11	Height gauge	Standard	1
12	Dial gauge O/d & Bore	Select any one Software based on Requirement	1
13	Vernier Caliper	Select any one Software based on Requirement	1
14	Pullers: Ball joint separators, bearing pullers, gear puller tools, slide hammers etc.	Standard	1
15	Torque Wrenches - 60 Kgf - 120 Kgf, 120Kgf - 18- Kgf, 180 Kgf - 240 Kgf	Standard	1
16	Workshop Safety: Fire extinguishers, First aid kit	Standard	1
17	Consumable: cotton waste, Dusters etc.	Standard	1
18	Teaching Aids: Charts, CBTs, Videos Assembly Process Flow Charts - for Different Aggregates	Standard	1
19	Other tools: hand tools, power tools, Special purpose Tools for different Aggregates.	Standard	1
20	Ball peen hammer	Standard	1
21	Mallets	Standard	1
22	Multi meter	Standard	1
23	Engineering rule	Standard	1
24	Battery charger	Standard	1
25	Electrical terminal sets	Standard	1
26	Circuit tester	Standard	3
27	Crimping tool set	Standard	1
28	Relay tester	Standard	2

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29	Digital display circuit tester	Standard	2
30	Maintenance manuals for the equipment	Standard	1
31	Lubricants, Oils, Coolants	Standard	2 Litre
32	Electrical kits with fuses, wires, connectors, relays, multimeters	Standard	1
33	Brazing, Soldering, Scraping, Alignment Tool Kits and Instruments	Standard	1
34	Special Tool Kits for Dismantling / Assembly	Standard	1
35	Sample Spare Parts	Standard	1
36	2 Post lift	Standard	1
37	Any other as per requirement of World Skills Occupation Standards	Standard	Standard

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							
2							
3							
4							
5							
6							

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
2023-24	500	350	200	140	50	35
2024-25	1000	700	400	280	100	70
2025-26	1500	1050	600	420	150	105

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:

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	100:0
2	☒Imparting Soft Skills, Life Skills, and Employability Skills /Mentorship to Learners	● Self-Learning Videos ● Broadcasts ● Mobile Learning ● Curated Digital content	100:0
3	☒Showing Practical Demonstrations to the learners	● Video Content ● E-Resource library ● AR/ VR/ XR	100:0
4	☒Imparting Practical Hands-on Skills/ Lab Work/ workshop/ shop floor training	● Training tools (tools list attached) ● Video Play ● Presentations	100:0
5	☒Tutorials/ Assignments/ Drill/ Practice	● Online Question Bank ● Mobile Quick test app ● MCQ based tests	100:0
6	☒Proctored Monitoring/ Assessment/ Evaluation/ Examinations	● Assessment engine for Essays ● Up-loadable file examinations ● Mock test sessions	100:0
7	☒On the Job Training (OJT)/ Project Work Internship/ Apprenticeship Training	● Online tests ● Offline assessments	100:0

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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
Work organization, management and safety	PC1. Prepare and maintain safe, tidy, and efficient workstations	3	5	-	2
	PC2. Plan, prepare, and complete each task within the time available	3	5	-	2
	PC3. Select, use, clean, store, and test all equipment and materials safely and in accordance with manufacturers' instructions	3	5	-	2
	PC4. Apply the health, safety, and environmental standards within the automotive industry	3	5	-	2
	PC5. Reinstate work areas and vehicles to an appropriate condition	3	5	-	2
	Total Marks	**15**	**25**	**-**	**10**
Communication skills	PC1. Communicate with clarity, effectiveness, and efficiency in the workplace, including: Written, Verbal, Non-verbal, Electronic means, Use of technology, Using standard formats	3	5	-	2
	PC2. Read, interpret, and extract technical data and instructions	3	5	-	2
	PC3. Use digital or manual systems to access documents	3	5	-	2
	PC4. Complete reports and record keeping	3	5	-	2
	PC5. Respond to customers' needs face to face and indirectly	3	5	-	2
	Total Marks	**15**	**25**	**-**	**10**
Service	PC1. Perform vehicle servicing using the standards and procedures developed by the automobile industry and vehicle manufacturers as required on the above listed systems, including:	2	3	-	1
	PC2. Inspection	2	3	-	1
	PC3. Adjustment	2	4	-	2
	PC4. Renewing or replacement	2	4	-	2
	PC5. Tensioning	2	3	-	1
	PC6. Lubrication	3	5	-	2
	PC7. Use relevant tools and equipment	2	3	-	1

	Total Marks	**15**	**25**	**-**	**10**
Electrical and mechanical systems inspection and diagnosis	PC1. Apply the problem-solving techniques used in manufacturers' diagnostic procedures to identify the condition, cause, and correction of light vehicle faults in the above listed systems, including: Verify the condition, including: Visual inspection and basic tests	3	5	-	2
	PC2. Diagnose the cause, including: Using mechanical and electrical test equipment, retrieving scan tool data, Check and interpret results, recommend corrective action	3	5	-	2
	Total Marks	**6**	**10**	**-**	**4**
Repair and overhaul	PC1. Perform vehicle repairs using the standards and procedures developed by the automobile industry and vehicle manufacturers on the above listed systems, including:	2	3	-	1
	PC2. Removal and replacement of components	2	3	-	1
	PC3. Disassembly and reassembly of components	2	4	-	2
	PC4. Replacement of parts	2	4	-	2
	PC5. Overhaul of components	2	3	-	1
	PC6. Measurement and adjustment of components	3	5	-	2
	PC7. Testing of completed repair	2	3	-	1
	Total Marks	**15**	**25**	**-**	**10**
Grand Total		**66**	**110**	**0**	**44**

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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

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.

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