



QUALIFICATION FILE

< Automotive AC Technician >

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:

< 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	Automotive AC Technician																			
2.	Sector/s	Automotive																			
3.	Type of Qualification: <input checked="" type="checkbox"/> New <input type="checkbox"/> Revised <input type="checkbox"/> Has Electives/Options <input type="checkbox"/> OEM	NQR Code & version of existing/previous qualification: <i>(change to previous, once approved)</i> NCO-2015/7231.0102	Qualification Name of existing/previous version:																		
4.	a. OEM Name b. Qualification Name <i>(Wherever applicable)</i>	Automotive Skills Development Council Automotive AC Technician																			
5.	National Qualification Register (NQR) Code &Version <i>(Will be issued after NSQC approval)</i>		6. NCrF/NSQF Level: 3																		
7.	Award (Certificate/Diploma/Advance Diploma/ Any Other <i>(Wherever applicable specify multiple entry/exits also & provide details in annexure)</i>	Certificate																			
8.	Brief Description of the Qualification	The individual is responsible for installing, servicing and repairing an air conditioning (AC) system of a vehicle. The individual also performs routine maintenance of the various components associated with the air conditioning system of the vehicle.																			
9.	Eligibility Criteria for Entry for Student/Trainee/Learner/Employee	<p>a. Entry Qualification & Relevant Experience:</p> <p>b.</p> <table border="1"> <thead> <tr> <th>S. No.</th> <th>Academic/Skill Qualification (with Specialization - if applicable)</th> <th>Required Experience (with Specialization - if applicable)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>10th Class + 2 years ITI (Mechanic Motor Vehicle/Diesel Mechanic/Mechanic Auto Electrical and Electronics)</td> <td></td> </tr> <tr> <td>2</td> <td>10th Class pass</td> <td>2 years relevant experience</td> </tr> <tr> <td>3</td> <td>11th Class Pass</td> <td></td> </tr> <tr> <td>4</td> <td>12th Class pass</td> <td>1 year of relevant experience</td> </tr> <tr> <td>5</td> <td>Certificate-NSQF (Four Wheeler Service Assistant Level 3)</td> <td>2 Years of experience in Automotive Service</td> </tr> </tbody> </table> <p>Age: <18</p> <p>Years></p>		S. No.	Academic/Skill Qualification (with Specialization - if applicable)	Required Experience (with Specialization - if applicable)	1	10th Class + 2 years ITI (Mechanic Motor Vehicle/Diesel Mechanic/Mechanic Auto Electrical and Electronics)		2	10th Class pass	2 years relevant experience	3	11th Class Pass		4	12th Class pass	1 year of relevant experience	5	Certificate-NSQF (Four Wheeler Service Assistant Level 3)	2 Years of experience in Automotive Service
S. No.	Academic/Skill Qualification (with Specialization - if applicable)	Required Experience (with Specialization - if applicable)																			
1	10th Class + 2 years ITI (Mechanic Motor Vehicle/Diesel Mechanic/Mechanic Auto Electrical and Electronics)																				
2	10th Class pass	2 years relevant experience																			
3	11th Class Pass																				
4	12th Class pass	1 year of relevant experience																			
5	Certificate-NSQF (Four Wheeler Service Assistant Level 3)	2 Years of experience in Automotive Service																			

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):																					
12.	Any Licensing requirements for Undertaking Training on This Qualification (wherever applicable)	Valid LMV Permanent/Learner license, Assessment conducted only after permanent driving license																						
13.	Training Duration by Modes of Training Delivery (Specify Total Duration as per selected training delivery modes and as per requirement of the qualification)	<input type="checkbox"/> Offline <input type="checkbox"/> Online <input type="checkbox"/> Blended <table border="1" data-bbox="952 405 2051 576"> <thead> <tr> <th>Training Delivery Modes</th> <th>Theory (Hours)</th> <th>Practical (Hours)</th> <th>OJT Mandatory (Hours)</th> <th>Viva (Hours)</th> <th>Total (Hours)</th> </tr> </thead> <tbody> <tr> <td>Classroom (offline)</td> <td>139</td> <td>251</td> <td>30</td> <td>-</td> <td>420</td> </tr> <tr> <td>Online</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> (Refer Blended Learning Annexure for details)					Training Delivery Modes	Theory (Hours)	Practical (Hours)	OJT Mandatory (Hours)	Viva (Hours)	Total (Hours)	Classroom (offline)	139	251	30	-	420	Online					
Training Delivery Modes	Theory (Hours)	Practical (Hours)	OJT Mandatory (Hours)	Viva (Hours)	Total (Hours)																			
Classroom (offline)	139	251	30	-	420																			
Online																								
14.	Aligned to NCO/ISCO Code/s (if no code is available mention the same)																							
15.	Progression path after attaining the qualification (Please show Professional and Academic progression)	NA																						
16.	Other Indian languages in which the Qualification & Model Curriculum are being submitted																							
17.	Is similar Qualification(s) available on NQR-if yes, justification for this qualification	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No URLs of similar Qualifications:																						
18.	Is the Job Role Amenable to Persons with Disability	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If "Yes", specify applicable type of Disability:																						
19.	How Participation of Women will be Encouraged	Yes																						
20.	Are Greening/ Environment Sustainability Aspects Covered (Specify the NOS/Module which covers it)	<input type="checkbox"/> Yes <input type="checkbox"/> No																						
21.	Is Qualification Suitable to be Offered in Schools/Colleges	Schools <input type="checkbox"/> Yes <input type="checkbox"/> No Colleges <input checked="" type="checkbox"/> Yes <input type="checkbox"/> 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 Website: www.asdc.org.in Contact No.: 011-42599800																						
23.	Final Approval Date by NSQC:	24. Validity Duration: 5 Years	25. Next Review Date 29/07/2026																					

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 Vi-Viva

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.	Bridge Module & Organize Work and Resources (Service)	ASC/N9801 NOS Version No. 1.0	Non- Core	3	2	30	30	-	-	60	50	30	-	20	100	15					
2.	Employability Skills	DGT/ VSQ/ N0102	Non- Core	3	2	24	36	-	-	60	20	30	-	-	50	10					
3.	Install an automobile AC system	ASC/N1425 NOS Version No. 2.0	Core	3	6	51	99	30	-	180	30	50	-	20	100	40					
4.	Perform service and routine maintenance of the AC system	ASC/N1426 NOS Version No. 2.0	Core	3	4	34	86	-	-	120	30	50	-	20	100	35					
Duration (in Hours) / Total Marks										14	139	251	30		420	130	160	-	60	350	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 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: 70 % (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)		Trainer Prerequisites
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			Minimum Educational Qualification	Specialization	Relevant Industry Experience		Training Experience		Remarks
					Years	Specialization	Years	Specialization	
			ITI (Mechanic Motor Vehicle)	Automotive Repair	3	Four Wheeler Service	1	Four Wheeler Service	NA
			ITI (Mechanic Motor Vehicle)	Automotive Repair	4	Four Wheeler Service	NA	NA	NA
			Diploma (Automobile Engineering/ Mechanical Engineering)	Automotive Repair	2	Four Wheeler Service	1	Four Wheeler Service	NA
			Diploma (Automobile Engineering/ Mechanical Engineering)	Automotive Repair	3	Four Wheeler Service	NA	NA	NA
			Certificate-NSQF(Two/Four Wheeler Master Technician)	Automotive Repair	2	Four Wheeler Service	1	Four Wheeler Service	NA
2.	Master Trainer’s Qualification and experience in the relevant sector (in years) (as per NCVET guidelines)	As above							
3.	Tools and Equipment Required for Training	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> 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)	Assessor Prerequisites						
		Minimum Educational Qualification	Specialization	Relevant Industry Experience		Training Experience		Remarks
				Years	Specialization	Years	Specialization	
		ITI (Mechanic Motor Vehicle)	Automotive Repair	4	Four Wheeler Service	1	Four Wheeler Service	NA
		ITI (Mechanic Motor Vehicle)	Automotive Repair	5	Four Wheeler Service	NA	NA	NA
		Diploma (Automobile Engineering/ Mechanical Engineering)	Automotive Repair	3	Four Wheeler Service	1	Four Wheeler Service	NA
		Diploma (Automobile Engineering/ Mechanical Engineering)	Automotive Repair	4	Four Wheeler Service	NA	NA	NA
Certificate- NSQF(Two/Four Wheeler Master Technician) Level-6	Automotive Repair	3	Four Wheeler Service	1	Four Wheeler Service	NA		
2.	Proctor's Qualification and experience in relevant	As above						

	sector (in years) <i>(as per NCVET guidelines)</i>	
3.	Lead Assessor's/Proctor's Qualification and experience in relevant sector (in years) <i>(as per NCVET guidelines)</i>	
4.	Assessment Mode <i>(Specify the assessment mode)</i>	Formative, Summative & Skill Assessment
5.	Tools and Equipment Required for Assessment	<input checked="" type="checkbox"/> Same as for training <input type="checkbox"/> Yes <input type="checkbox"/> No <i>(details to be provided in Annexure-if it is different for Assessment)</i>

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):
2.	Latest Market Research Reports or any other source (not older than 2 years) (Yes/No):
3.	Government /Industry initiatives/ requirement (Yes/No): Yes
4.	Number of Industry validation provided:
5.	Estimated nos. of persons to be trained and employed:
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 <i>(Mandatory)</i>	
2.	Annexure: List of tools and equipment relevant for qualification <i>(Mandatory, except in case of online course)</i>	<i>Specified in the Model Curriculum</i>
3.	Annexure: Detailed Assessment Criteria <i>(Mandatory)</i>	<i>Specified in the Model Curriculum</i>
4.	Annexure: Assessment Strategy <i>(Mandatory)</i>	<i>Specified in the Model Curriculum</i>
5.	Annexure: Blended Learning <i>(Mandatory, in case selected Mode of delivery is "Blended Learning")</i>	
6.	Annexure: Multiple Entry-Exit Details <i>(Mandatory, in case qualification has multiple Entry-Exit)</i>	
7.	Annexure: Acronym and Glossary <i>(Optional)</i>	

8.	Supporting Document: Model Curriculum (Mandatory – Public view)	Specified in the Model Curriculum
9.	Supporting Document: Career Progression (Mandatory - Public view)	Specified in the Model Curriculum
10.	Supporting Document: Occupational Map (Mandatory)	Specified in the Model Curriculum
11.	Supporting Document: Assessment SOP (Mandatory)	Specified in the Model Curriculum
12.	Any other document you wish to submit:	

Annexure: Evidence of Level

Title/Name of qualification/component: Automotive AC Technician Level: 3			
NSQF Domain	Outcomes of the Qualification/Component	How the outcomes relates to the NSQF level descriptors	NSQF Level
Process	Person will be required to install and carry out service/maintenance of AC system.	Theoretical & practical skill is required for installing, servicing/ performing maintenance of AC system of the vehicle or performing the task individually. The individual is required to take instructions from supervisor; hence, this job role is level 3.	3
Professional knowledge	Proficiency in all processes and principles pertaining to: <ul style="list-style-type: none"> • AC system • Specifications of components of the vehicle for AC installation • Use of tools and equipment • Repair and replacement of components of AC system • Standard operating procedures w.r.t. inspection, diagnosis, service and repairs • Safety, health and environmental policies 	Factual and theoretical knowledge is needed for installation, service and maintenance of AC components. No deeper knowledge or skills are required for this individual; hence, this job role is level 3.	3

Title/Name of qualification/component: Automotive AC Technician Level: 3			
NSQF Domain	Outcomes of the Qualification/Component	How the outcomes relates to the NSQF level descriptors	NSQF Level
Professional skill	<ul style="list-style-type: none"> • Identify the work requirement to schedule timely completion accordingly • Apply the knowledge about the various AC systems/components/aggregates • Demonstrate checking proper functioning of AC after installation/repair/servicing • Follow the steps of repair and replacement of faulty parts in the AC system as per standard operating procedures • Interacting with customer to ensure maximum customer satisfaction 	A range of cognitive and practical skills is required for applying the knowledge to install/service/do maintenance of AC system;hence, this job role is level 3.	3
Core skill	<p>Needs proficiency in:</p> <ul style="list-style-type: none"> • Communicating in clear, crisp and respectful language • Understanding workplace related documentation, guidelines, policies and procedures • Complying with organisational and professional code of ethics and standards of practice 	Skill to communicate by written or oral means with required clarity is needed; but the skill to manage/supervise others is not needed. Hence, this job role is of level 3.	3

	• Using tools and equipment as per specifications		
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Title/Name of qualification/component: Automotive AC Technician Level: 3			
NSQF Domain	Outcomes of the Qualification/Component	How the outcomes relates to the NSQF level descriptors	NSQF Level
Responsibility	The individual is responsible for installing, servicing and repairing an AC system of a vehicle and also performing routine maintenance/servicing of the AC system of the vehicle.	The individual is accountable for own work and for gaining proficiency in the domain of installation, service and maintenance of AC system and its components. Hence, this job role is of level 3.	3

Annexure: Tools and Equipment (Lab Set-Up)

List of Tools and Equipment

Batch Size: 20-25 Nos

S. No.	Tool / Equipment Name	Specification	Quantity for specified Batch size
1	Air Conditioning System	Electrical and Refrigerant circuit (Working Model)	1
2	AC for Class Rooms	Standard	As per room size
3	Trainer Chair & Table	Standard	1
4	Student Chair & Table	Standard	25
5	White Board	Standard	1
6	Markers (Black, Blue, Red & Green colors)	2 each colour	2
7	Duster for white board	Standard	2
8	Pin up Board	One for classroom oane for Lab	2

9	Chart Holder	Standard	1
10	Computer/Laptop with internet connectivity	Standard	1
11	LCD projector with Screen	Horizontal & Vertical Resolution-Min 800&600 pixels	1
12	Speakers for Computer/Laptop	Standard	1
13	Trash Bin	15 ~20 ltr.	1
14	HVAC kit components (AC compressor-electric, AC compressor, AC compressor variable displacement, condenser, evaporator, expansion valve, condenser fan blower, heater core, HP and LP pipe/hose, pressure switch, RD bottle, HVAC unit)	Standard	1
15	AC compressor Oil	(as recommended by manufacturer)	500
16	Refrigerant	(R-134a)	10
17	Brake Oil	(as recommended by manufacturer)	1
18	Coolant	(as recommended by manufacturer)	20
19	Nuts, Bolts, Rivets, O ring, Gaskets & Packings	(One time usable as specified by manufacturer)	As per Specified by Manufacture
20	Insulation Tape	PVC	5
21	Grease	(as recommended by manufacturer)	1
22	Double side adhesive Tape	Standard	1

23	Degreaser	Standard	1
24	Fuses	(5A~60 A)	5
25	Wires	(0.5~4.0 mm)	25
26	Adhesive	Standard	1
27	Soldering Iron and paste	Standard	1
28	Aggregate (cut section models of AC compressor, Condenser, Receiver, Evaporator, Heater core, drier bottle)	Standard	1
29	Falied parts display with cause and effect analysis - AC compressor-electric, AC compressor, AC compressor variable displacement, condenser, evaporator, expansion valve, condenser fan blower, heater core, HP and LP pipe/hose, pressure switch, RD bottle, HVAC unit, AC compressor belt and tensioner	Standard	1
30	Tools Trolley	Standard	2
31	Wire Brush	Standard	2
32	Long Nose Pliers	6"	2
33	Combination Pliers	8"	2
34	Ball Pein Hammer Set	Standard	2
35	Plastic Hammer	Standard	2
36	Rubber Hammer	680GM-24Oz	2

37	Set Of Feeler Gauge	Standard	2
38	Set of Ring Spanners -	(8-22 mm) Insulated	2
39	Set of Ring Spanners -	(6x7 To 30x32)	2
40	Set of open end Spanners	(8-22 mm) Insulated	2
41	Set of open end Spanners	(6x7 To 30x32)	2
42	Set of Combination spanners	(8-22 mm) Insulated	2
43	Set of Combination spanners	(6-32mm)	2
44	Set of Cambination Ratchet Spanners	(8mm - 19mm)	2
45	Set of Flexi head Combination ratchet Spanners	(8mm - 19mm)	2
46	Square Drive Socket, Ratchet and Extension set	(1/4" (6-14 mm)	2
47	Hex Key Set	10 pc (insulated)	2
48	Hex Key Set	10 pc	2
49	T Handle Hex key Set-	8 PC 2.0,2.5,3.0,4.0,5.0,6.0,8.0,10.0mm (Insulated)	2
50	T Handle Hex key Set-	8 PC 2.0,2.5,3.0,4.0,5.0,6.0,8.0,10.0mm	2
51	Set Of Screw Drivers	(Philps and flat) Insulated	2
52	Set Of Screw Drivers	(Philps and flat)	2
53	Inspection LED lamp	(8W, 220V -Rechargeable Type)	2
54	Mechanics Creeper	Standard	2
55	Cold Chisel set	7/8"/22MM	2
56	Punch set	8MM-5/16 X 115MM-4 1/2	2

57	Needle file Set	6 pcs	2
58	Parts Tray	(18x15x4)	2
59	Snap ring expander	(Internal -130MM-5"180MM-7"and external-130MM-5",180MM-7")	2
60	Torx Screw Driver Set	(T8,T10,T15,T20,T25) Insulated	2
61	Torx Screw Driver Set	(T8,T10,T15,T20,T25)	2
62	Air Blow Gun	Standard	1
63	Hand Held Drill machine with Drill bits (Electric)	Power: 380 W Speed: 0-2600 rpm	1
64	Angle Grinder with Blades (Electric)	Max Disc Diameter: 100 mm, 850 Watt, Heavy Duty Small Angle Grinder	1
65	Trash Bin	80 ltr	1
66	Bench Vice with Soft jaws	100mmx4"	1
67	Service, Repair, Wiring, Diagnostic Manuals	As per Vehicle/component/Accessory manufacturer	1
68	Almira for keeping tools	6' Height x 3'Width x 1.75' Depth and 18 Gauge	1
69	Work tables (Wooden or Fabricated)	120 cmx90cmx80cm (app.) Strong enough to carry min 200 Kg Load	2
70	Hot Air Gun	Standard	1
71	Bench Grinder	(Twin wheel-6" Dia)	1
72	Parts washer 60l	Standard	1
73	2-Post Lift (Capacity -3.0 T)	Standard	1
74	Garage Jack (3.0 T Min Ht	Standard	1

	140mm , Max 495 Mm)		
75	Hand Pallet Truck	(300-500 kg)	1
76	Air Compressor	Standard	1
77	Compressed Air Dryer	Standard	1
78	Tyre Inflator	Standard	1
79	Smoke Extractor	Standard	1
80	DG Set	Standard	1
81	Aggregate and parts display tables (wooden or Fabricated)	Standard	1
82	Measuring Tape	(5mtr.)	2
83	Steel Rule	12" & 24"	1
84	Vernier Callipers	(150 , 300 mm)	2
85	Micrometre Set	(Size :-0~25, 25~50, 50~100 mm)	2
86	Torque wrench	(0.5~3.5 kgm, 3~14 kgm, 5~22 kgm, 7~35 kgm)	2
87	Torque dial gauge	Standard	1
88	Screw Pitch Gauge	Standard	1
89	Measuring Can Set	(0-1000 ml, 1.0 ltr, 3ltr & 5Ltr)	1
90	Non contact digital thermometer.	Standard	1
91	Safety Goggles	Anti fog	8
92	Gloves	Cotton	120
93	Gloves	Palm side PU coated	60
94	Gloves	Nitrile	60

95	Gloves	Lint free	60
96	Ear Plug	Standard	25
97	Safety Shoes	Standard	25
98	Overall/Apron	Standard	8
99	Hard Hats	Standard	8
100	Dust Mask	Standard	25
101	Fire extinguisher	As per Regulation	As per guideline
102	First Aid Kit	As per Regulation	1
103	Wheel Choke	Set Of Four	1
104	Safety Stand	Set Of Four (Min Ht 300 Mm, Max 450mm)	1
105	Safety cone to block area of working	Standard	4
106	Vehicle or Aggregate - Special Service Tools (Manufacturer-specific according to HVAC system)	Related to Vehicle's routine service and maintenance	1
107	Vehicle or Aggregate - Special Service Tools (Manufacturer-specific according to HVAC system)	Related for Diagnosis and Repair	1
108	Refractometer	Standard	1
109	Adjustable Wrench	(450 mm)	1
110	Adjustable Oil Filter Wrench	Standard	1
111	C Clamp	Standard	1
112	Heavy Duty Riveter	Standard	1

113	Hacksaw Frame with Blade	Standard	1
114	Tap and Die set	Standard	1
115	Screw Extractor set	Standard	1
116	Fuel canister (20l)	Standard	1
117	Drain Pan/ Tray Set	Standard	1
118	Cooling System Bleeding Tool Kit	Standard	1
119	Trim removal tool kit	Standard	1
120	Oil Can	Standard	1
121	Square Drive Socket, Rechet and Extensions Set	3/8" Sq. Dr Standard with Ratchet & Extensions (Size 8-16 mm)	1
122	Square Drive Deep Socket Set	1/2" Sq. Dr Standrad with Ratchet & Extensions (Size 8-34 mm)	1
123	Magnetic Pickup Tool (Bar)	Standard	1
124	Radiator Pressure Gauge with suitable adapters.	Standard	1
125	Four wheeler with AC (In running condition)-Diesel (BS6)	Standard	1
126	Four wheeler with AC (In running condition)-Petrol - MPFI	Standard	1
127	Seat Cover	Reusable	2
128	Fender Covers	Reusable	2
129	Steering Cover	Reusable	2
130	Gear Lever Knob Cover	Reusable	2

131	Floor Mats	Reusable	2
132	Belt Buckle Cover	Reusable	25
133	Battery Booster Cable	(300a (Jump Start Cable)	1
134	Battery Carrier	Suitable for Passenger cars	1
135	Battery tester	Standard	1
136	Battery Charger	12V	1
137	Wiring Repair Kit	OEM Specified	1
138	Digital Thermometre (Industrial)	range -50 to 300 degree C	1
139	Ac Gas Charger	(R134a)	1
140	Ac Gas UV Leak Detector Kit	Standard	1
141	Professional Flushing Kit for A/C Service Unit	OEM Specified	1
142	Manifold Gauge	Standard	1
143	Hydro meter	Standard	2
144	Electrical Solder (Iron/ gun)	(60W)	1
145	Scan Tool	Standard	1
146	Oscilloscope	Standard	1
147	Digital Multimeter	Standard	4
148	Clamp Meter	Standard	1

Classroom Aids

The aids required to conduct sessions in the classroom are:

1. Laptop
2. Whiteboard and marker
3. Projector

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	Naksha Enterprises	Naveen Kumar Gupta	GM Service	Noida			
2	Pushp Honda	Pramod Jaiswal	Service Manager	Kanpur			

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

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	<input checked="" type="checkbox"/> Theory/ Lectures - Imparting theoretical and conceptual knowledge	<ul style="list-style-type: none"> • Books/ e-books • Presentations • Reference Material • Audio / Video Modules 	100:0
2	<input checked="" type="checkbox"/> Imparting Soft Skills, Life Skills, and Employability Skills /Mentorship to Learners	<ul style="list-style-type: none"> • Self-Learning Videos • Broadcasts • Mobile Learning • Curated Digital content 	100:0
3	<input checked="" type="checkbox"/> Showing Practical Demonstrations to the learners	<ul style="list-style-type: none"> • Video Content • E-Resource library • AR/ VR/ XR 	100:0
4	<input checked="" type="checkbox"/> Imparting Practical Hands-on Skills/ Lab Work/ workshop/ shop floor training	<ul style="list-style-type: none"> • Training tools (tools list attached) • Video Play • Presentations 	100:0
5	<input checked="" type="checkbox"/> Tutorials/ Assignments/ Drill/ Practice	<ul style="list-style-type: none"> • Online Question Bank • Mobile Quick test app • MCQ based tests 	100:0
6	<input checked="" type="checkbox"/> Proctored Monitoring/ Assessment/ Evaluation/ Examinations	<ul style="list-style-type: none"> • Assessment engine for Essays • Up-loadable file examinations • Mock test sessions 	100:0
7	<input checked="" type="checkbox"/> On the Job Training (OJT)/ Project Work Internship/ Apprenticeship Training	<ul style="list-style-type: none"> • Online tests • Offline assessments 	100:0

Annexure: Detailed Assessment Criteria

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

ASC/N9801: Organize work and resources (Service)

Assessment Criteria for Outcomes	Theor y Mark s	Practic al Marks	Proje ct Mark s	Viva Marks
<i>Maintain safe and secure working environment</i>	8	4	-	3
PC1. organise work as per organisation’s current health, safety and security policies and procedures	-	2	-	1
PC2. report any identified breaches in health, safety, and security policies and procedures to the designated person	3	1	-	-
PC3. identify the risks and hazards associated with work activities, their causes and	5	1	-	2

prevention				
<i>Perform work as per quality standards</i>	1 2	8	-	6
PC4. ensure work area is clean and tidy	4	2	-	-
PC5. ensure that work is accomplished as per the requirements within the specified timeline	6	4	-	2
PC6. ensure team goals are given preference over individual goals	2	2	-	4
<i>Health and hygiene</i>	1 2	8	-	5
PC7. sanitize workstation and equipment regularly	2	2	-	2
PC8. clean hands with soap, alcohol-based sanitizer regularly	2	1	-	-
PC9. avoid contact with ill people and self-isolate in a similar situation	2	1	-	-
PC10. wear and dispose PPEs regularly and appropriately	2	2	-	1
PC11. report advanced hygiene and sanitation issues to appropriate authority	2	2	-	2
PC12. follow stress and anxiety management techniques	2	-	-	-
<i>Material/energy conservation practices</i>	1 0	4	-	3
PC13. identify ways to optimise usage of material in various tasks/activities/processes	2	-	-	1

Assessment Criteria for Outcomes	Theor y Mark s	Practic al Mark s	Proje ct Mark s	Viva Mark s
PC14. use resources, including water, in a responsible manner	2	-	-	-
PC15. check for spills/leakages in various tasks/activities/processes	-	1	-	-
PC16. plug spills/leakages and escalate to appropriate authority if unable to rectify	-	1	-	1
PC17. carry out routine cleaning of tools, machines and equipment	2	-	-	-
PC18. check if the equipment/machine is functioning normally before commencing work and rectify wherever required	-	1	-	1
PC19. report malfunctioning (fumes/sparks/emission/vibration/noise) and lapse in maintenance of equipment	2	1	-	-
PC20. ensure electrical equipment and appliances are properly connected and turned off when not in use	2	-	-	-
<i>Effective waste management practices</i>	8	6	-	3
PC21. identify recyclable and non-recyclable, and hazardous waste generated	2	-	-	1
PC22. segregate waste into different categories	-	2	-	-
PC23. dispose non-recyclable waste	2	2	-	1

appropriately				
PC24. deposit recyclable and reusable material at identified location	2	1	-	-
PC25. follow processes specified for disposal of hazardous waste	2	1	-	1
NOS Total	5	3	-	2
	0	0		0

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

Assessment Criteria for Outcomes	Theor y Marks	Practical Marks	Proje ct Marks	Viv a Marks
<i>Introduction to Employability Skills</i>	1	1	-	-
PC1. identify employability skills required for jobs in various industries	-	-	-	-
PC2. identify and explore learning and employability portals	-	-	-	-
<i>Constitutional values – Citizenship</i>	1	1	-	-
PC3. recognize the significance of constitutional values, including civic rights and duties, citizenship, responsibility towards society etc. and personal values and ethics such as honesty, integrity, caring and respecting others, etc.	-	-	-	-
PC4. follow environmentally sustainable practices	-	-	-	-

<i>Becoming a Professional in the 21st Century</i>	2	4	-	-
PC5. recognize the significance of 21st Century Skills for employment	-	-	-	-
PC6. practice the 21st Century Skills such as Self- Awareness, Behaviour Skills, time management, critical and adaptive thinking, problem-solving, creative thinking, social and cultural awareness, emotional awareness, learning to learn for continuous learning etc. in personal and professional life	-	-	-	-
<i>Basic English Skills</i>	2	3	-	-
PC7. use basic English for everyday conversation in different contexts, in person and over the telephone	-	-	-	-
PC8. read and understand routine information, notes, instructions, mails, letters etc. written in English	-	-	-	-
PC9. write short messages, notes, letters, e-mails etc. in English	-	-	-	-
<i>Career Development & Goal Setting</i>	1	2	-	-

Assessment Criteria for Outcomes	Theor y Marks	Practical Marks	Proje ct Marks	Viv a Marks
PC10. understand the difference between job and career	-	-	-	-
PC11. prepare a career development plan				

with short- and long-term goals, based on aptitude	-	-	-	-
<i>Communication Skills</i>	2	2	-	-
PC12. follow verbal and non-verbal communication etiquette and active listening techniques in various settings	-	-	-	-
PC13. work collaboratively with others in a team	-	-	-	-
<i>Diversity & Inclusion</i>	1	2	-	-
PC14. communicate and behave appropriately with all genders and PwD	-	-	-	-
PC15. escalate any issues related to sexual harassment at workplace according to POSH Act	-	-	-	-
<i>Financial and Legal Literacy</i>	2	3	-	-
PC16. select financial institutions, products and services as per requirement	-	-	-	-
PC17. carry out offline and online financial transactions, safely and securely	-	-	-	-
PC18. identify common components of salary and compute income, expenses, taxes, investments etc	-	-	-	-
PC19. identify relevant rights and laws and use legal aids to fight against legal exploitation	-	-	-	-
<i>Essential Digital Skills</i>	3	4	-	-
PC20. operate digital devices and carry out basic internet operations securely and safely	-	-	-	-

PC21. use e- mail and social media platforms and virtual collaboration tools to work effectively	-	-	-	-
PC22. use basic features of word processor, spreadsheets, and presentations	-	-	-	-
<i>Entrepreneurship</i>	2	3	-	-

Assessment Criteria for Outcomes	Theor y Marks	Practical Marks	Proje ct Marks	Viv a Marks
PC23. identify different types of Entrepreneurship and Enterprises and assess opportunities for potential business through research	-	-	-	-
PC24. develop a business plan and a work model, considering the 4Ps of Marketing Product, Price, Place and Promotion	-	-	-	-
PC25. identify sources of funding, anticipate, and mitigate any financial/ legal hurdles for the potential business opportunity	-	-	-	-
<i>Customer Service</i>	1	2	-	-
PC26. identify different types of customers	-	-	-	-
PC27. identify and respond to customer requests and needs in a professional manner.	-	-	-	-
PC28. follow appropriate hygiene and grooming standards	-	-	-	-
<i>Getting ready for apprenticeship & Jobs</i>	2	3	-	-

PC29. create a professional Curriculum vitae (Résumé)	-	-	-	-
PC30. search for suitable jobs using reliable offline and online sources such as Employment exchange, recruitment agencies, newspapers etc. and job portals, respectively	-	-	-	-
PC31. apply to identified job openings using offline /online methods as per requirement	-	-	-	-
PC32. answer questions politely, with clarity and confidence, during recruitment and selection	-	-	-	-
PC33. identify apprenticeship opportunities and register for it as per guidelines and requirements	-	-	-	-
NOS Total	20	30	-	-

ASC/N1425: Install an automobile AC system

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Prepare for installation of AC system</i>	9	12	-	6

PC1. review the job card and understand work to be carried out to install AC system	-	2	-	-
PC2. identify the vehicle and AC system manufacturer specifications related to the various brand/model/variant	3	4	-	2
PC3. collect appropriate tools, equipment, fittings or materials as required for AC system installation and check their condition/calibration	3	4	-	2
PC4. report the malfunctions if any, in the tools/equipment/material to the person concerned for rectification	3	2	-	2
<i>Install the appropriate AC system</i>	16	28	-	9
PC5. take precautions to avoid damage to the vehicle and its components	2	2	-	1
PC6. comply with standard operating procedures for fitment of the AC system in the vehicle as specified by the OEM	5	5	-	2
PC7. make holes/cuts on various surfaces such as metal sheet, plastic, fabric etc., for fitting AC system components and wiring	2	3	-	1
PC8. remove dummy plug or covers and clean surrounding areas prior to installing AC system components	-	2	-	-
PC9. install and fit all AC system component in engine and passenger compartment as specified by OEM	3	5	-	1

PC10. perform refrigerant and wiring circuit connection as specified by the OEM	2	5	-	2
PC11. test pipe or tubing joints or connections for leaks, using pressure gauge or soap-and-water solution	-	3	-	-
PC12. follow SOP to fill unit with specified quantity of refrigerant and PAG oil	2	3	-	2
Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Perform post installation activity</i>	5	10	-	5
PC13. ensure all AC system components are installed/fitted/functioning properly	-	2	-	-
PC14. follow standard operating procedure to check the performance of AC system post installation	-	2	-	-
PC15. ensure completeness of tasks assigned before releasing the vehicle	-	1	-	-
PC16. return leftover consumable/parts, tools/equipment, and report if any malfunctions are observed, to the person concerned	1	1	-	1
PC17. dispose off packing wraps/box/covers and other material as per organization's policies	1	1	-	1
PC18. maintain documentation required on the job regarding the overall process of AC system installation in the vehicle	1	1	-	1

PC19. follow standard operating procedure to identify, validate faults in retrofit AC system and report to supervisor/service advisor if further inspection is required by another specialist	2	2	-	2
NOS Total	30	50	-	20

ASC/N1426: Perform service and routine maintenance of the AC system

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Prepare for service and repair of Air conditioning System and components</i>	10	15	-	6
PC1. review the job card and understand work to be carried out	-	1	-	-
PC2. identify the auto components related to the various aggregates in the vehicle	2	1	-	1
PC3. check the functioning of air conditioning system	2	1	-	1
PC4. conduct test drive to check vehicle performance and identify/validate the faults related to AC system	-	2	-	-
PC5. conduct visual inspection of the vehicle to identify defects in AC system such as external damage or leakage, wear and tear etc.	2	2	-	2
PC6. determine the whether AC system need servicing/detailed diagnosis for poor performance	2	1	-	-
PC7. park the vehicle on appropriate platform according to nature of job to be performed such as detailed diagnosis, AC system service/performance testing/component replacement, or Refrigerant recovering or	-	2	-	-

refilling				
PC8. collect workshop tools/measuring device/equipment required for the job and check their condition/calibration	2	3	-	1
PC9. report the malfunctions if any, in the tools/equipment to the person concerned for rectification	-	2	-	1
<i>Perform service and repair of Air conditioning System and components</i>	1 5	2 5	-	1 0
PC10. take precautions to avoid damage to the vehicle and its components while working AC system	2	2	-	1
PC11. use workshop tools/measuring devices/equipment required for the job as per OEM Standard Operating Procedure (SOP)	1	2	-	2
Assessment Criteria for Outcomes	Theor y Mark s	Practic al Marks	Proje ct Mark s	Viva Marks
PC12. diagnose indirect faults in vehicle related to AC system from other vehicle system such as engine cooling system, passenger cabin heater circuit etc.	2	5	-	2
PC13. recover, refill, flush and evacuate air and moisture AC system refrigerant circuit as per OEM SOP	2	2	-	1
PC14. remove components of AC system wherever applicable as per OEM SOP	2	2	-	-

PC15. test refrigerant circuit, wiring circuit and AC system component whenever required	2	3	-	2
PC16. plug the openings of refrigerant circuit joints and place removed components securely as specified by OEM	1	1	-	-
PC17. report the malfunctions/repairs in the vehicle beyond own scope to the concerned person	-	2	-	-
PC18. clean and condition dismantled components, including mechanical and electrical aggregates, prior to assemble as per OEM guidelines	1	2	-	-
PC19. follow SOP to service, repair and overhaul AC system components as per the job requirement	2	3	-	2
PC20. maintain the documentation related to inspection, servicing and repair of the vehicle	-	1	-	-
<i>Perform post service/repair activities</i>	5	10	-	4
PC21. check the performance of vehicle/aggregate post repair and report to supervisor/service advisor if further inspection is required by another specialist	2	3	-	1
PC22. ensure completeness of tasks assigned before releasing the vehicle for the next procedure	-	2	-	-
PC23. dispose off materials such as waste oil, scrap of failed parts/aggregates, as per organisation policies	2	3	-	2

PC24. return leftover consumable/parts, tools/equipment to the person concerned and report if any malfunction observed	1	2	-	1
Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC25. perform scheduled checks, calibration and timely repairs for workshop tools, equipment and workstations	-	-	-	-
NOS Total	30	50	-	20

Assessment Parameters:

Assessment Plan:

1. Components of Assessment:

- Each subject will be assessed in three components: Theory (40% weightage), Practical (40% weightage), and On-job Training (OJT, 20% weightage).

2. Passing Parameters:

- To pass the semester, students must meet both the assessment parameters given below.

Parameter 1 - Weighted Semester Score:

- Students must achieve a minimum of 60% in the weighted average score across all three components (Theory, Practical, and OJT) for each subject.

Parameter 2 - Individual Component Score:

- Students need to score at least 40% in each individual component (Theory, Practical, and OJT) of every subject.

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