

AUTOMOTIVE SERVICE TECHNICIAN (FOUR WHEELER) (734)

The institutions having the following requisite infrastructure, may apply for accreditation:

A. Classroom :

Class room for 25 students (Minimum area 225 sq. ft.) should have proper ventilation, well-illuminated black board/white board and availability of adequate furniture and ceiling fans.

B. Workshop :

The size of workshop for 25 students should be at least 190 sq mtr. with adequate lighting, exhaust and ceiling fans (It is suggested that be total area should be around 210 sq mt.).

C. Faculty and Supporting Staff :

Faculty & Supporting Staff	Educational/Professional Qualification	No.
Coordinator	Degree/Diploma in appropriate branch with 5 years' experience	01
Instructor	Diploma in Automobile Engineering with 2yrs. Industry/ workshop experience OR ITI Certificate in Mechanic Motor Vehicle trade with 5yrs. experience (Industry/ workshop experience)	01
Receptionist cum clerk	Relevant to job	01
Assistant	Relevant to job	01

D. List of Tools and Equipment :

LIST OF TOOLS			
Sl. No.	Tools	Specifications	Quantity
1.	Allen Key set of 12 pieces	2mm to 14mm	6+1 nos.
2.	Center Punch	10 mm. Dia. x 100 mm	6+1 nos.
3.	Electrician Screw Driver	250mm	6+1 nos.
4.	Hammer ball peen with handle	0.5 kg	6+1 nos.

5.	Philips Screw Driver set of 5 pieces	100 mm to 300 mm	6+1 nos.
6.	Plier combination	20 cm.	6+1 nos.
7.	Spanner D.E. set of 12 pieces	6mm to 32mm	6+1 nos.
8.	Spanner, ring set of 12	6 to 32 mm. (metric)	6+1 nos.
9.	Spanners socket with speed handle, T-bar, ratchet and universal set of 28 pieces with box	up to 32 mm	6+1 nos.
10.	Steel rule	30 cm inch and metric	6+1 nos.
11.	Steel tool box with lock and key (folding type)	400 x 200 x 150 mm	6+1 nos.
12.	Wire cutter and stripper		6+1 nos.
13.	AC alternator slip ring puller	Variable	1 no.
14.	Ammeter DC with external shunt	300A/ 60A	4 nos.
15.	Air ratchet	with standard accessories	2 nos.
16.	Air impact wrench	with standard accessories.	2 nos.
17.	Chisel flat	10 cm	4 nos.
18.	Circlip pliers Expanding and contracting	15cm and 20cm	4 each
19.	Cleaning tray	45x30 cm.	4 nos.
20.	Compression testing gauge	suitable for diesel Engine with standard accessories	2 nos.
21.	Cylinder bore gauge capacity	20 to 160 mm	1 no.
22.	Drill twist (various sizes)	1.5 mm to 8 mm by 0.5mm	4 nos.
23.	Electric Soldering Iron	230 V 60 watts 230 V 25 watts	2 each
24.	Feeler gauge 20 blades (metric)		4 nos.
25.	File flat , bastard	20 cm	4 nos.
26.	Growler		2 nos.
27.	Hacksaw frame	adjustable 20-30 cm	12 nos.
28.	Hammer Ball Peen	0.75 Kg	4 nos.
29.	Hammer Plastic		4 nos.
30.	Injector testing set	(Hand tester)	1 no.
31.	Multimeter digital	LCD Display	5 nos.

32.	Oil can	0.5/0.25 liter capacity	4 nos.
33.	Philips Screw Driver set of 5 pieces	100 mm to 300 mm	2 nos.
34.	Piston ring compressor		2 nos.
35.	Piston Ring expander and remover.		2 nos.
36.	Pliers flat nose	15 cm	2 nos.
37.	Pliers round nose	15 cm	2 nos.
38.	Pliers side cutting	15 cm	2 nos.
39.	Portable electric drill Machine	Up to 10mm (heavy duty)	1 no.
40.	Scraper Triangular	25 cm	2 nos.
41.	Spanner T. flocks for screwing up and up-screwing inaccessible		2 nos.
42.	Spanner, adjustable	15cm	2 nos.
43.	Spark plug spanner 14mm x 18mm x Size	Long bit for Alto/800	2 nos.
44.	Tachometer (DIGITAL type)		1 no.
45.	Timing light		2 nos.
46.	Torque wrenches	5-35 Nm, 12-68 Nm & 50-225 Nm	1each
47.	Tyre pressure gauge with holding nipple		2 nos.
48.	Universal puller for removing pulleys, bearings		1 no.
49.	Vacuum gauge	0 to 760 mm of Hg.	2 nos.
50.	Valve spring compressor universal		1 no.
LIST OF EQUIPMENT			
51.	Automotive exhaust 5 gas analyser (for petrol)	Exhaust 5 Gas Analyzer Petrol ARAI approved to check CO, CO ₂ , O ₂ , and HC& NO.	1 no.
52.	Hydraulic jack	3 ton capacity, and 5 Ton capacity	1each
53.	Vehicle Stand	3 ton capacity, and 5 Ton capacity	4 nos.
54.	Multi Scan Tool To scan Engine, ABS & EBD, AT, SRS, Body Control and	Should perform automotive sensor simulation test specially designed to diagnose and	1 no.

	immobilizer	simulate vehicle sensor	
55.	Trolley type portable air compressor	Belt driven compressor along with accessories	1 no.
56.	Air conditioning service Unit (Car)	Suitable for R134A. Recovery with vacuum pump, automatic drain & stop after recovery.	1 no.
57.	Battery –charger	Capable to charge batteries from 5AH – 150AH.	2 nos.
58.	Battery Tester Portable	Capable to check batteries from 5AH – 150AH.	2 nos.
59.	Car Jet washer with standard accessories	Minimum 3 Phase 1HP 1400RPM Motor, 3 Reciprocating Plungers with pressure regulator & gauge. 8m Water hose with pressure adjustable brass nozzle.	1 no.
60.	Demonstration board of MPFI system	With injectors, rail, inlet manifold, throttle body, distributor, ECU, purge valve, sensor, crank pulley, fuel tank module.	1 no.
61.	Diesel engine (Running condition) Stationary type single cylinder (Optional)	Single Cylinder, OH valves, fuel tank with handle, fuel feed, water cooling, oil pump.	1 no.
62.	Four stroke petrol engine with CNG setup-working condition (Optional)	Latest 4 Stroke 3/4 cylinder MPFI Engine in running condition 8001600cc with ECM, BCM (optional) and all sensors, wiring, fuel feed system, cooling system& instrument cluster with CNG/ Petrol selection switch on Panel. N.B.: If ECM and BCM are available as	1 no.
63.	MPFI petrol engine/ cut section model with swiveling stand along with special tools for	Latest 4 Stroke 3/4 cylinder MPFI Engine in running condition 8001600cc with	1 no.

	dismantling and assembling	ECM, BCM (optional) and all sensors, wiring, fuel feed system, cooling system & instrument cluster. N.B.: If ECM and BCM are available as one control unit can be purchased instead ECM, BCM as separated.	
64.	Tube/ tyre vulcanizing machine (Optional)	220 V , Heater Capacity 400W x 2 With different types of Die &Mould	1 no.
65.	Two post car lift – capacity 4000 kg (Optional)	Hydraulic Type with Mechanical Arms Locking.	1 no.
66.	Tyre Changer (Optional)	Motorized Pneumatic Type, Rim clamping facility, and bead breaking facility with air inflating device.	1 no.
67.	Ultrasonic Injection cleaning equipment (Optional)	Flow analysis & spray pattern test, leak test, auto programming mode, ultrasonic test with timer, Min 500 ML Lit SS Tank with Lid, SS Stand.	1 no.
68.	Wheel alignment Machine – computerized 3D (Optional)	Latest machine for four wheel alignment. With connected camera , IR Lighting Source min. 8mm, Reflector metal based, should work in sunlight	1 no.
69.	Auto Electrical test bench (Optional)	For checking Dynamo, Alternator & Starter. With minimum 2HP AC Motor, Digital Voltmeter & ammeter.	1 no.
70.	Diesel Engine – CRDI - 4 stroke for Dismantling and Assembling with Swiveling Stand. (Optional)	Latest 4 Stroke 4 cylinder turbo charged CRDI Engine, 800-1600cc, in running condition, with ECM, BCM (optional), and all sensors,	1 no.

		wiring, fuel feed & cooling system & instrument cluster.	
71.	Cut section models of 2- stroke & 4 stroke engine		1 each
72.	Single phase portable electric welding set		1 no.
73.	Single phase portable angle grinder		1 no.
74.	Portable dent puller		1 no.
75.	Exploded views / Wall charts for different assemblies		
List of Consumables			
76.	Brake fluid		As required
77.	Diesel		As required
78.	Different type gasket material		As required
79.	Different type of oil seal		As required
80.	Drill Twist (assorted)		As required
81.	Emery paper	36–60 grit , 80–120	As required
82.	Engine oil & Engine coolant		As required
83.	Gear oil		As required
84.	Hacksaw blade		As required
85.	Hydrometer		5 nos.
86.	Petrol		As required
87.	Radiator Coolants		As required

E. Physical Facilities :

The institution should have the facilities for Drinking water, bathrooms & toilets.

F. Library :

Library should have a minimum 20 books/articles/magazines etc. in related subject.

G. Batch Size :

Maximum 25 students in one batch. An institution can run maximum 4 batches for this course