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Training Organization Guide (ToG)

For

TVET CERTIFICATE IV in AUTOMOBILE TECHNOLOGY CURRICULUM

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Part 1: Pedagogical organisation

1. Presentation of the training programme

1.1. The qualification

This qualification provides the knowledge, skills and attitudes for a learner to be competent in a range of routine tasks and activities that require the application of a limited range of basic practical skills in a defined context. Work would be undertaken in various transport and logistics industries where automotive Diesel engine repair technician, Vehicle air conditioning service and repair mechanic, Automotive electrician, Vehicle manual transmission mechanic, Vehicle brake, steering and suspension mechanic engine mechanic are provided, Learners may work with minimum supervision.

1.2. Minimum Entry requirements

The minimum entry requirement to this qualification is to be physically and mentally capable with an interest in Automobile Technology and related areas. For candidates entering this qualification must completed TVET certificate level 3 in Automobile technology and a range of other related TVET certificate level 3 in Automobile.

2. The training programmes

2.1 Information about competencies

No	Code	Complementary competencies	Credit
1	CCMBP402	Develop a business plan	**3**
2	CCMHE402	Implement SHE policies and procedures	**3**
3	CCMCS402	Apply computer skills	**3**
4	CCMCT402	Citizenship	**3**
5	CCMEN402	Using intermediate english at workplace	**3**
6	CCMKN402	Gukoresha ikinyarwanda cy'umunyamwuga	**3**
7	CCMFT402	Communique en appliquant les élements des langues française	**3**
8	CCMQS402	Provide quality customer service	**3**
Total			**27**

No	Code	Complementary competencies	Credit
1		Sports/Clubs	1
2		Self-study/Library Reasearch	1
Total			2

	No	Code	Core competencies	Credit
GENERAL		GENAM401	Apply fundamental mathematical analysis	6
		GENMP401	Apply mechanics and properties of matter	5
		GENBC401	Demonstrate basic knowledge of chemistry	4
		AUTCG401	Apply Design and communication graphics	5
		AUTEA401	Apply digital and power electronics	7
		AUTKM401	Describe knowledge of materials	4
		AUTIA401	Integrate the workplace	20
SPECIFIC		AUTDO401	Overhaul diesel engine	6
		AUTER401	Repair diesel engine systems	7
		AUTEM401	Install and maintain automotive electrical system	11
		AUTMT401	Maintain Vehicle manual transmission system	12
		AUTCM401	Maintain vehicle control systems	12
		AUTAM401	Maintain automotive air conditioning system	5
Total				104

- Number of competencies: 23
- Core competencies :13
- Co curricular: 2
- Complementary competencies: 8
- The total number of Credits: 130

3. Human resources

3.1. Trainers' qualifications and competences (Trainers' profile)

No.	Modules	Qualification	Field or Industry experience	Technical teaching experience	Languages skill	ICT skills.
1.	**GENAM401/** FUNDAMENTAL MATHEMATICAL ANALYSIS	-A0 in Mathematics with education A0 Mathematics and related fields	-A0 with related field	-No teaching experience required, -However, having any, experience in teaching will be an added advantage.	Fluent in English; French is an added advantage	Microsoft word Microsoft excel Microsoft power point Internet exploration Microsoft equations
		-A1 in Mathematics with education	-A1 with 1year working experience			
2.	**GENPHY401/** MECHANICS AND PROPERTIES OF MATTER	-A0 in Physics with education A0 in Physics -A1 in Physics with education	-A0 with related field -A1 with 1year working experience	-No teaching experience required, -However, having any, experience in teaching will be an added advantage.	Fluent in English; French is an added advantage	Microsoft word Microsoft excel Microsoft power point Internet exploration

3.	**GENBC401**/ BASIC KNOWLEDGE OF CHEMISTRY	-A0 in Chemistry with education A0 in Chemistry -A1 in Chemistry with education	-A0 with related field -A1 with 1year working experience	-No teaching experience required, -However, having any, experience in teaching will be an added advantage.	Fluent in English; French is an added advantage	Microsoft word Microsoft excel Microsoft power point Internet exploration
4.	**AUTEA401/** Digital and power electronics	A0 in - Electrical Engineering - Electronics engineering - Mechatronics Engineering - Electro-mechanical engineering -A1/Advanced Diploma in - Electrical Engineering	-A0 with related field -A1 with 1year working experience	-No teaching experience required, -However, having any, experience in teaching will be an added advantage.	Fluent in English; French is an added advantage	- Microsoft word - Microsoft excel - Microsoft power point - Internet exploration - C Programming - Proteus software - Embedded programming

		- Electronics engineering - Mechatronics Engineering - Electro-mechanical engineering				
5.	**AUTCG401/** Design and communication graphics **AUTKM401/** Knowledge of materials **AUTDO401/** Diesel engine Overhaul **AUTER401/** Diesel engine systems repairing **AUTEM401/** Automotive electrical system installation and	- A0 in Mechanical Engineering/ Automobile technology - A0 in Automotive and power engineering - A0 Bachelors in Automotive Technology -A1/Advanced Diploma in Mechanical Engineering/Automobile technology	-A0 with related field -A1 with 1year working experience	For any candidate with A0 or A1, no teaching experience required -However, having any experience in teaching -Training on pedagogy (CBT&CBA) Will be an added advantage.	Fluent in English; French is an added advantage	- Microsoft word - Microsoft excel - Microsoft power point - Internet exploration - CAD &CAM

	maintenance **AUTMT401/** Vehicle manual transmission system maintenance **AUTCM401/** Vehicle control systems maintenance **AUTAM401/** Automotive air conditioning system maintenance **AUTIA401/** INTEGRATE THE WORKPLACE					

Part 2: Resources organisation

1. Material Resources

1.1. Category 1: Machines, equipment, and accessories

Specification

Name and description	Specifications	Quantity	Type of room	Module code
Drilling machines	Power input 750 W, Input Voltage 220/240V, torque 20.5 nm, speed 0-2800 rpm, Chuck 13 mm, Reversible, Ergonomic design	2	Workshop	AUTDO401 AUTER401 AUTEM401 AUTMT401 AUTCM401 AUTAM401
Grinder machine	Power input 450 W, Input Voltage 220/240V, torque 9.5 nm, speed 0-1500 rpm/min, Reversible	2	Workshop	AUTDO401 AUTER401 AUTEM401 AUTMT401 AUTCM401 AUTAM401
Bench vice	Size in inches 4, Width of jaws 100 mm, Opening of jaws 115mm, Depth of jaws 60 mm, Height overall 90mm, Length overall 315mm, Width overall 185mm, Base Type: Fixed.	25	Workshop	AUTDO401 AUTER401 AUTEM401 AUTMT401 AUTCM401 AUTAM401
Digital Multimeter	DC voltage: 200mV-2/20/200/1000V, AC voltage: 2-20/200/700V, AC current: 2-	25	Workshop	AUTDO401 AUTER401

	20/200mA-20A, AC current: 2/200mA- 20A, Resistance: 200Ω-2/20/200kΩ-2/20MΩ, Capacity: 2-20/200nF- 2/200µF, Temperature: -20o +1000oC /-4oF~+2000oF, Frequency: 20kHz, Power supply: 9V battery (included)			AUTEM401 AUTMT401 AUTCM401 AUTAM401
Engine crane	Fordable with 4wheel , Single acting pump, Capacity 3Tons , Depth 1170-1470mm, Max. height 2320mm Its jib is operated by a hydraulic ram. Chains or straps are used to connect to or wrap around the engine, it has all accessories technical clauses:The product must be new and coming from reputable	5	**Workshop**	AUTDO401 AUTER401 AUTEM401 AUTMT401 AUTCM401 AUTAM401
Chain host	Capacity: 10 tons, Chain Length: 300cm, Test Load: 10 tons, Load Chain Size: 10 mm, No. of Chain: 4	2	**Workshop**	AUTDO401 AUTER401 AUTEM401 AUTMT401 AUTCM401 AUTAM401
Vehicle lift	4-Post Hydraulic Car Lift, Min. Lifting capacity 4000kg (4 tonnes), Electro-hydraulic controlled, Power supply : 380/220V/50Hz, Includes rolling jacks	2	**Workshop**	AUTDO401 AUTER401 AUTEM401 AUTMT401 AUTCM401 AUTAM401
Air Compressor	Capacity : 300LPM/15m3/h at 10kg/cm2, Pressure : 12kg/cm2(g), Temperature : 45oC max, No. Of stage/typre : Multistage, Resprocating, Receiver tank working pressure : 12kg/cm2, Air receiver capacity ; 160litre,	2	**Workshop**	AUTDO401 AUTER401 AUTEM401 AUTMT401 AUTCM401

	Receiver shell thinkness and air dish thickness : ≥5mm			AUTAM401
Extension Cable	High Quality Industrial Type Cable Reel (15m/40m) with SIRIM Approval , Cable Length: 15Meter/40 Meter, 100% Pure Copper Cable with SIRIM Approval (1.25sqmm x 3C), Heavy Duty with Max. Load of 2500 Watts, Heavy Duty Body with Fire Resistance 4 Socket Outlets, Special Knob for Smooth Cable Winding Easy-Carry Handle, Solid Iron Leg for Stability, On/Off Switch with Neon Light Indicator Safety Approved by SIRIM & Suruhanjaya Tenaga (ST)	2	Workshop	AUTDO401 AUTER401 AUTEM401 AUTMT401 AUTCM401 AUTAM401
Manual operated hydraulic press	Material : Mild Steel, Usage/Application : Industrial, Automation Grade : Manual, Brand : Pathak Industries Kol, Capacity : 100 Ton	2	**Workshop**	AUTDO401 AUTER401 AUTEM401 AUTMT401 AUTCM401 AUTAM401
Exhaust gas analyser	CO, HC, CO2, O2, N0X exhaust gas analyser for internal combustion engine with possibility to measure Lambda, AFR, rpm and oil temperature; Display: LCD Display; Rated Input:5V/1A; Power supply:rechargeable Li-battery 2000mah; HCHO/TVOC technolology: Semiconductor sensor; Sensor type: Laser Scattering; Product name:Multi function Air Quality Detector	4	**Workshop**	AUTDO401 AUTER401

Jacks stands	6-Ton Double-Lock Steel Jack Stands	8	**Workshop**	AUTDO401 AUTER401 AUTEM401 AUTMT401 AUTCM401 AUTAM401
Engine stand	Rotating engine stand is constructed with heavy-duty steel, providing long term durability with an industrial luster, Engine stand features a 3/8 ton (750 lb) load capacity and is equipped with (2) fixed casters and (1) 360-degree swivel caster for smooth maneuverability, Mounting head features (4) adjustable arms and 360-degree rotation, allowing for easy access to any part of the engine, Securely holds most foreign and domestic engine blocks; An extra-wide base provides maximum stability	8	**Workshop**	AUTDO401 AUTER401
Angle grinder	Free speed 7600 rpm, Grinding disc size 180 mm, Power 1-2 Kw, Spindle thread M14; N-Load speed 300-11000rpm; Impact Rate: 1400W; Disc Diameter: 230mm; Diameter: 180/230mm; Variable Speed: With Variable Speed; Working Style: High-speed universal	5	**Workshop**	AUTDO401 AUTER401 AUTEM401 AUTMT401 AUTCM401 AUTAM401
Vaccum pump (Air Conditioning)	Voltage: 220-250V; Frequency: 50/60 Hz, Flow Rate: 4.5 CFM,Ultimate Vacuum: 2 x 10 (-1) Pa / 15 microns, Power: 1/2 HP, Inlet Port: 1/4" & 3/8"SAE Oil Capacity: 350ml, Dimensions: 320 x 125 x 232 mm;Stage: Single Stage; Displacement: Variable Pump; Type:	2	**Workshop**	AUTAM401

	Centrifugal Pump; Rotating Speed 2800R/MIN			
Recovery machine	Capabilities Push-Pull, Liquid, Vapor; Compressor 3/4 hp, direct drive; Power 110V AC, 60 Hz; Dimensions 17" L x 9" W x 12" H ; Approvals UL (ARI-740) / CE pending	2	**Workshop**	AUTAM401
Refrigerant charging machine	Applying gas: R134A. R404A. R22. R410A. R290; Working pressure: 1.8MPa-2.2MPa; Reiteration filling error: ±1%; Ejector speed: >100g/S; Degree of vacuum: ≤5Pa; Charging range: 0-1KG adjustable; Vacuum speed: 4L/S; Pre-set channel: 100	2	**Workshop**	AUTAM401
Automatic Refrigerant Refill&Recovery Machine	Main Functions: Tank fill, Recovery, Vacuum, Oil injection, Charge, Fully automatic, HFO-1234yf; Optional: Flush, compressor oil recovery, Vacuum leak test, 120L/min vacuum pump, UV dye injection; Input power : AC220V10%-50/60Hz; Recovery rate: ≥95%; Compressor power: 3/8HP; Vacuum pumpcapacity: 60L/min; Accuracy of gas cylinder load cell: ±10g; Gas cyclinder capacity 10KG; New/used oilbottle capacity: 250ml/400ml; Max pressure: 20bar; Charge speed: 2Kg/Min(max.); High pressure gauge range : -1 ~30bar; Low pressure gauge range -1 ~16bar; Avarage gas state refrigerant recovery speed: 250g/min	2	**Workshop**	AUTAM401
Maps and	MAPP & OXYGEN BRAZING TORCH	10	**Workshop**	AUTAM401

oxygen welding and cutting kit	Material: Brass; Temperature: 6432℉ (3000℃); Notice the tank is not included; Inside the package:Oxygen/MAPP Cutting/Welding Torch X1; Cylinder Stand Rack X1; Flint Spark Lighter X1; Glassed X1			
Starter battery charger	Input voltage: 230V 1ph; Rated Power: 1.2 kVA; Cahrge Voltage: 12/24V; Max Charge Current: 140A	10	**Workshop**	AUTEM401
Car Battery booster	Battery Capacity: 45000mAh/111Wh; Input: QC2.0(5V/2.4V,9V/2A,12V/1.5A); Output: 12V/10A, 12V and 24V Jump Start; Stat Current: 12V/500A, 24V/500A; Peak Current: 12V1000A, 24V/1000A; Operating Temp. -200c -600C/-40F-1400	4	**Workshop**	AUTEM401
Starter battery tester	100 amp, 500-1000 cold cranking amps; Battery Cable: 16-3/4 IN long including clamps; Function: Test Capacity; Feature: Stability; Battery type: 6V12V Battery System	5	**Workshop**	AUTDO401 AUTER401 AUTEM401 AUTMT401 AUTCM401 AUTAM401
Digital Multimeter (Clamp meter)	Measuring Current Range: 40A/400A; Measuring Resistance Range: 400/4k/40k/400k/4M/40M; Measuring Inductance Range:10Hz~400kHz/400kHz~4MHz; Dimensions:139.8*10.4*38mm; Max. Display:4000 counts	25	**Workshop**	AUTDO401 AUTER401 AUTEM401 AUTMT401 AUTCM401 AUTAM401
Headlight tester	Luminous Intensity: 0 to 120,000 cd, ±10%; Voltage: AC 220V 50Hz; Material: Stainless Steel; Test: 0.5m; Center lens from the	2	**Workshop**	AUTEM401

	ground:300mm ~ 1300mm			
HVAC A/C Refrigeration Kit Manifold Gauge Set	Application: Hydraulic Industries; Connection:1/4"; Material: Black Steel; Measuring Range:0~100Mpa/0~1000Bar/0~150000Psi; Refrigerant:R134A R410A R22A R404A	10	**Workshop**	AUTAM401
3D-Wheel Aligner machine	Measurement Parameters - Range - Accuracy Camber (Front / Rear) ± 15° 00' ± 00° 02' Caster : ± 28° 00' ± 00° 05' Kingpin Inclination: ± 25° 00' ± 00° 05' Toe (Front/Rear): ± 20° 00' ± 00° 02' Total Toe: ± 40° 00' ± 00° 04' Toe Out on Turns: ± 20° 00' ± 00° 02' Setback (Front / Rear): ± 25 mm ± 2 mm Thrust Angle: ± 05° 00' ± 00° 02' Runout : ± 10° 00' ± 00° 02' Included Angle: ± 40° 00' ± 00° 05' Track width difference: ± 300 mm ± 5 mm Power Supply: 230V AC, 50Hz / 110V AC, 60Hz Power Consumption: 400W (Without Printer) Operating temperature: 0°-50°C Installation User Manual Repair Manual	1	**Workshop**	AUTCM401,AUTMT401

1.2. Category 2: Tools and instruments

Name and description	Specifications	Quantity	Type of room	Module code

PLIERS	Universal pliers	• 6" to 8" combination pliers • Chrome vanadium steel • Drop forged & heat treated • Induction hardened cutting edges • Serrated gripping surfaces • IEC 60900 VDE/DIN safety plier	50	Workshop / Field	AUTDO401 AUTER401 AUTEM401 AUTMT401 AUTCM401 AUTAM401
	Cutting pliers	• High leverage diagonal cutting pliers • Precision cutting edge • For hard and piano wires • VDE-tested to IEC 60900 1000V	50	Workshop / Field	
	Wire stripping pliers (with spring)	• 6" wire stripping pliers • Opening spring and V-shape cutting edge • Drop forged & heat treated • Safety ergonomic soft handle • VDE-tested to IEC 60900 1000V	50	Workshop / Field	
	Bent nose pliers	• 6" & 8" bent nose pliers • Chrome vanadium steel • Drop forged & heat treated • VDE-tested to IEC 60900 1000V • Safety ergonomic soft handle	50	Workshop / Field	
Piston Ring Compressor		Piston Ring Compressor 60mm to 175mm	10	Workshop / Field	AUTDO401

	Engine Ratchet Type Clamp Band Installer With Quick Release 6" Racheting			
Grease gun	Die-cast aluminium head Ergonomic grip for ease of access to tough greasing points Corrosion-resistant brass valve Takes 400 g cartridges or bulk grease up to 500 cc Tube size: 54 (interior) x 260 mm Air inlet: 1/4" GAS Operating pressure: 4÷10 bar Weight:1.9 kg	10	Workshop	AUTDO401 AUTER401 AUTEM401 AUTMT401 AUTCM401 AUTAM401
Scan tool	Scan tool: Autel MS908 CV Heavy duty Diagnosis scan Tool (12V - 24 V) with J-2534 ECU Programming. Long life Update (Full package) - User Manual -Repair Manual	5	Workshop	AUTDO401 AUTER401 AUTEM401 AUTMT401 AUTCM401 AUTAM401
Combination Spanners set	Combination Spanner Set of 6 SW 6 to 50 mm Chrome Vanadium Steel In this set the most important large sizes are compiled for use in car. 12-sided ring side slightly offset. Stable jaw side slightly angled. 1 key each: SW 34 mm, length 43 cm, weight 850 g. SW 36 mm, length 45 cm, weight 1,000 g. SW 38 mm, length 46 cm, weight 1,150 g. SW 41 mm, length 49 cm, weight 1,250 g.	5	workshop	AUTDO401 AUTER401 AUTEM401 AUTMT401 AUTCM401 AUTAM401

	SW 46 mm, length 53 cm, weight 1,650 g. SW 50 mm, length 59 cm, weight 2,150 g			
Heavy Duty Metal Box(Tool Set with 3-Drawer)	Tool Set Contents: (1) utility knife, (20) utility knife blades, screwdriver), magnetic screwdriver, Handled screwdriver bits (6) precision screwdriver, metric hex key set, (11) SAE hex Hey set's, 6" Long nose pliers, 6" Diagonal pliers, (1) 6" combination pliers, (1) 16oz ball-pein hammer, (1) 7.5M (25ft) tape measure, (8) Metric combination wrenches: 8, 10, 11, 12, 13, 14, 15, 17mmm, (8) SAE Combination wrenches: 1/4", 5/16", 3/8", 7/16", 1/2", 9/16", 5/8", 3/4", (1) 8" Adjustable wrench, (1) stripper, (55) connector kit, (40) cable ties, (90) hardware kit, (1) 1/4" Dr. Ratchet handle, (1) 3/8" Dr. Ratchet handle, (1) 1/2" Dr. Ratchet handle, (10) 1/4" 6 points SAE dr. Sockets: 5/32", 3/16", 7/32", 1/4", 9/32", 5/16", 11/32", 3/8", 7/16", 1/2", (10)1/4" 6 points metric dr. Sockets: 4, 5, 6, 7, 8, 9, 10, 11, 12, 13mm, (10) 3/8" 6 points SAE dr. Sockets: 1/4", 5/16", 3/8", 7/16", 1/2", 9/16", 5/8", 11/16", 3/4", 13/16", (11) 3/8" 6 points metric dr. Sockets: 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 19mm, (8) 3/8" 12 points SAE dr.	5	workshop	AUTDO401 AUTER401 AUTEM401 AUTMT401 AUTCM401 AUTAM401

	Sockets: 5/16", 3/8", 7/16", 1/2", 9/16", 5/8", 11/16", 3/4", (11) 3/8" 12 points metric: 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 19mm, (6) 1/2" 6 points SAE dr. Sockets: 1/2", 9/16", 5/8", 11/16", 3/4", 7/8", (6) 1/2" 6 points metric dr. Sockets: 14, 15, 17, 18, 19, 21mm (1) 1/2" X 3/8" Adapter, (1) 3/8" X 1/4" Adapter, (1) 1/4"x3" Extension bar, (1) 3/8"X3" Extension bar			
Measuring tape	casing, **Steel** blade length:**5 m** Graduation**: metric/inches** Blade material: **stainless steel** Cover material **: plastic ,stainless steel**	25	Workshop	AUTDO401 AUTER401 AUTEM401 AUTMT401 AUTCM401 AUTAM401
Hammers	**Ball peen hammer:** ➢ wooden handle, ➢ net weight:500 g **<u>Material:</u>** • **head:** double steel heads • Handle: **wooden** • **Face diameter:** 15/8 in • **Overall length:** 16 in	10	workshop	AUTDO401 AUTER401 AUTEM401 AUTMT401 AUTCM401 AUTAM401
	Plastic hammer: ➢ Head length:**80mm** ➢ Total length:**260mm** ➢ Head width:**22mm** ➢ Weight:**120g** **<u>Material:</u>**	25	Workshop	

	• Head: plastic • Handle: **wooden**			
Chisel	**Stoning flat** Material: **high carbon steel**	25	workshop	AUTDO401 AUTER401 AUTEM401 AUTMT401 AUTCM401 AUTAM401
	Stoning point Material: **high carbon steel** Lengthh**: minimum 320mm**	25	workshop	
Hack saw	Blade Material **: Metal** Cutting Angle : **up to 90 Degrees** Blade Length : minimum 30cm **<u>Other features</u>** Plastic coated High blade tensioning mechanism Comfortable soft grip handle	25	workshop	AUTDO401 AUTER401 AUTEM401 AUTMT401 AUTCM401 AUTAM401
Torx Key set	**Features on the item:** • Expert Quality, coloured, short arm, metric ball ended Draper TX-STAR® keys. • Manufactured from chrome vanadium steel, hardened, tempered and chrome plated with a protective-coloured rubber coating. Each colour signifies a different size. • Supplied in fold-out easy release holder. Sizes included: • T10, T15, T20, T25, T27, T30, T40, T45, T50. • Keys range in length from 45mm to 120mm.	10	workshop	AUTDO401 AUTER401 AUTEM401 AUTMT401 AUTCM401 AUTAM401

Socket Wrench Set	17pcs socket: 19, 21; 22; 23; 24; 26; 27; 28; 29; 30; 31; 32; 34; 36; 38; 41; 46; 50mm 3pc 1" socket 55; 60; 65mm 2pc 3/4" Adding force bar 8" , Adding force bar 20" 1pc 3/4" Ratchet head 1pc 3/4" L bent bar 1pc 3/4" sliding T bar 1	10	workshop	AUTDO401 AUTER401 AUTEM401 AUTMT401 AUTCM401 AUTAM401
Torque wrench (Digital)	Item Dimensions LxWxH 1.5 x 1.5 x 17 inches Material Metal Item Torque 200 Nm Item Weight: 2kg	10	workshop	AUTDO401 AUTER401 AUTEM401 AUTMT401 AUTCM401 AUTAM401
Swivel end socket	The slidable T-handle is fitted with an end-stop to ensure it does not slide out. With swivel jointed head (torsion drive 50°, swing drive up to 90°). The swivel angle is secured by an integral spring. Material: Chrome vanadium steel, chrome plated. Content table use: 1 each socket spanner No. 622800: Size 8; 10; 11; 13; 14; 17; 19	10	workshop	AUTDO401 AUTER401 AUTEM401 AUTMT401 AUTCM401 AUTAM401

Vernier caliper	ANALOGUE	1. Measuring range : **0-300mm/0-12"** 2. Graduation : **0.05mm/ 1/128"** 3. Jaw length : **64mm** **Other factures** 1.Four usages for measuring outside diameter, inside diameter step and depth 2.Made of solid stainless steel 3.Distinct lines and figures etched against satin chrome finish 5.With locking screw for stable reading	25	workshop	AUTDO401 AUTER401 AUTEM401 AUTMT401 AUTCM401 AUTAM401
	DIGITAL	Material: **Stainless Steel** Measurement Range: **0-150mm** Accuracy: **0.01mm**	25	workshop	
Pen scriber		Material: **carbon steel** Length: **minimum250mm** Weight: **minimum 76g** Length : **minimum 127mm**	25	Workshop	AUTDO401, AUTER401
Micrometer screw gauge		Material: **Hardened steel** Measuring Range (mm): **100-125** Division Value (mm): **0.01** Precision (µm): **0.006** Basic Size(mm): **135(L), 74(H)** Calibration Rod L0 (mm) : **100** Internal and external	25	Workshop	AUTDO401 AUTER401 AUTEM401 AUTMT401 AUTCM401 AUTAM401
Steel ruler		Material: **Aluminium Alloy** Length: **minimum300mm** Width: minimum **80mm**	25	Workshop	AUTDO401 AUTER401 AUTEM401

					AUTMT401 AUTCM401 AUTAM401
Drawing tools set		**<u>Contains:</u>** 3 graphic compasses, 1 ruling pen, 1 dull locating pin, 1 extension bar safe pin, 2 pencil refills, 1 mechanical pencil, 2 triangular rulers, 1 piece 6-inch ruler, 1 piece 3.5-inch protractor, which are put in 1 shatterproof plastic box	25	class	AUTDO401 AUTER401 AUTEM401 AUTMT401 AUTCM401 AUTAM401
Drawing board		Top Material Type: **Metal/wood** Mounting Type: **Tabletop** Shape: **Rectangular** Size: **minimum 20 inches by 26 inches**	25	class	AUTDO401 AUTER401 AUTEM401 AUTMT401 AUTCM401 AUTAM401
Taps &die	DIE	Cutting Diameter: **minimum 3/8" (10mm)** Shank Diameter.: **minimum 1/4" (6mm)** Item Weight: **minimum 0.175767kG** Dimensions :**5.51 x 3.66 x 1.06 inches** Material**: High-quality heat-treated tungsten carbide** Shape: **Round**	25	workshop	AUTDO401 AUTER401 AUTEM401 AUTMT401 AUTCM401 AUTAM401
	TAP	Material: **High-Speed Steel** Item Weight: **minimum 20 g** Wire pitch (mm): **minimum 0.5** Drill length (mm): **minimum 5** Total length (mm): **minimum 54** Shank Diameter: **minimum 1/4''**	25	workshop	

		Dimensions: **minimum 2.3 x 0.39 x 2.3 inches** Cutting Diameter: **minimum 10 Millimeters** Assembled Diameter: **minimum 10 Millimeters**			
Center punches		Materials : steel 24200 1/4-Inch Reg Center Punch 24300 5/16-Inch Center Punch 24301 3/8-Inch Center Punch 24301 1/2-Inch Center Punch	25	workshop	AUTDO401 AUTER401 AUTEM401 AUTMT401 AUTCM401 AUTAM401
Filter wrenches		Wrenches are designed for high torque requirements of truck filters Designed for use with a 1/2" square drive tool 1-1/2" wide bands for added strength and increased grip area	10	workshop	AUTDO401, AUTER401
Drill bits		amoolo Cobalt Drill Bit Set (1/16"-1/4",13 Pcs), M35 HSS Metal Drill Bits for Steel, Stainless Steel, Hard Metal, Cast Iron, Plastic and Wood	10 Set	Workshop	AUTDO401 AUTER401 AUTEM401 AUTMT401 AUTCM401 AUTAM401
Wheel spanner		DGC Cross Wheel Spanner, Size : 17x19x21x1/2	10	Workshop	AUTCM401, AUTMT401
Valves spring compressor		OTC 4572 Large Valve Spring Compressor , black OTC's Large Valve Spring Compressor is designed to quickly and easily compress	10	Workshop	AUTDO401, AUTER401

	valve springs on overhead valve engines Includes two valve spring adapters, which fit valve spring retainers up to 1 inch (25 mm) and 1-3/16 inches (30 mm) Unique, direct action compressor lever gives better visibility of valve spring retainers located in difficult access areas Jaw opening of 1-3/8 inches to 5-5/8 inches (35 mm to 142 mm); throat clearance of 5-7/8 inches (150 mm)			
Adjustable wrenches	adjustable wrenches with scales, chromeplated • Right-hand rotation of pin • With mm and inch scale	10	Workshop	AUTDO401 AUTER401 AUTEM401 AUTMT401 AUTCM401 AUTAM401
Torque multiplier	Torque multiplier for right-hand and left-hand tightening ratio 135:1 with anti-wind up system, in case 565VV-B	5	Workshop	AUTDO401 AUTER401 AUTEM401 AUTMT401 AUTCM401 AUTAM401
T-handle wrenches with swivelling hexagon sockets	Reliable, precise pre-positioning is the secret for the success of this wrench. The articulated joint maintains its function over the years, no adjustment being required. Socket rotation angle: 60°. Can be used at 90° in fi xed position. Sliding T-handle, can be stopped in the required position throughout its length.	5	Workshop	AUTDO401 AUTER401 AUTEM401 AUTMT401 AUTCM401 AUTAM401

	Triple size marking on head.			
Pressure/depressure tester	pressure/depressure tester with accessories and adaptors	5	Workshop	AUTCM401, AUTMT401
wheel balancing weight tool	250 mm	5	Workshop	AUTCM401, AUTMT401
Pliers for removing wheel balancing adhesive weights	Nose profile specially designed to remove weights without making contact with rim Length: 220mm	5	Workshop	AUTCM401, AUTMT401
Piston ring expanders	Piston ring expanders diameter : 90-150 mm	5	Workshop	AUTCM401, AUTMT401
Dollies	Double end dolly, round, convex pein head 135mm length heel dolly 85mm length curved dolly 137mm length regular dolly 90mm length sole dolly 122mm length	25	Workshop	AUTDO401 AUTER401 AUTEM401 AUTMT401 AUTCM401 AUTAM401
Dent puller	dent puller with kit of 19 plastic glue tabs	25	Workshop	AUTCM401, AUTMT401
Hammer face for plastic dent pulling glue tabs	hammer face for plastic dent pulling glue tabs hammer face weight: 500 g	10	Workshop	AUTCM401, AUTMT401
Pullers	Combination two/three-leg self-locking pullers • for 2- or 3-leg use • self-locking effect	15	Workshop	AUTDO401 AUTER401 AUTEM401 AUTMT401 AUTCM401 AUTAM401
Filler gauge	Brand : Argento Material : Steel	25	Workshop	AUTDO401 AUTER401

	Number Of Blades : 25 Feeler Gauge Rang : 0.040-1.000mm			AUTEM401 AUTMT401 AUTCM401 AUTAM401
Magnetic pick up	It features a flexible stem with a strongly magnetic tip. ● The magnet is capable of lifting metal objects of up to 1 kg. ● The tool is fitted with an ergonomically designed handle, ensuring easy and efficient operation.	10	Workshop	AUTDO401 AUTER401 AUTEM401 AUTMT401 AUTCM401 AUTAM401
compressor pipes and fittings kits	Brand : WYNNsky Material : Nylon plastic steel Color : Blue/Red Item Dimensions : LxWxH 10 x 10 x 3.93 inches Maximum Pressure : 800 Pound per Square Inch	5	Workshop	AUTDO401 AUTER401 AUTEM401 AUTMT401 AUTCM401 AUTAM401
Valve Lapping Sticks	2 Pcs Valve Lapping Sticks Plastic Grip with Suction Cup for Auto vehicle Cylinder Engine Valves Dust Grinding tool	10	Workshop	AUTDO401 AUTER401 AUTEM401 AUTMT401 AUTCM401 AUTAM401
Oil gun	Specifications: Material: Carbon steel & Aluminum alloy Fluid Capacity: 250ml/250cc Bottle OD(Max):2.56" / 65mm Height:5.12"/130mm Oil Spray Length:6.10"/155mm	10	Workshop	AUTDO401 AUTER401 AUTEM401 AUTMT401 AUTCM401 AUTAM401

	Color: red			
Hydrometer	Product name: Battery Tester Hydrometer; Packaging material:single blister + color card; measurement accuracy:0.005	5	Workshop	AUTEM401
Lamp tester	Type: Truck Voltage Circuit Tester; Voltage: Standard; Power: 3W; Applicable Models: Universal; Name: automotive circuit voltage tester pen	10	Workshop	AUTDO401 AUTER401 AUTEM401 AUTMT401 AUTCM401 AUTAM401
Soldering iron/Soldering gun	Max Operating Temp 896; Power Source: Corded; Wattage80W; Tip Type: Knife; Samples: 896,corded, 80W	25	Workshop	AUTDO401 AUTER401 AUTEM401 AUTMT401 AUTCM401 AUTAM401
Heat gun	Frequency: 50Hz/60Hz; temperature adjustable: 2nd gear temperature; Noise: <80dB; Heater: chronium alloy heat wire	5	Workshop	AUTDO401 AUTER401 AUTEM401 AUTMT401 AUTCM401 AUTAM401
Refrigeration scale	Display Type: LCD; Power Supply:9VDC; Product name: Electronic Refrigerant Charging Scale; Battery Life:30 hours continuous use; Operting Temp.:32℉~113℉(0℃~45℃)	5	Workshop	AUTAM401
Thermometer	Range:-50--380℃(-58--716°F); Repeatability:1% or 1; D:S:12:1;	10	Workshop	AUTDO401 AUTER401

	Power:1*9V Battery; Product name: Infrared Thermopmeter; Accuracy: 1.5%+1℃(1.5%+5°F); Emissivity:0.95			AUTEM401 AUTMT401 AUTCM401 AUTAM401
Pipe bender	Bender 3/16" 1/4" 5/16" 3/8" 180°	5	Workshop	AUTAM401, AUTMT401
UV refrigerant Leak Detector Kit	Gas Leak Detector; Detecting Gas: all halogenated refrigerants; Power supply:Battery	5	Workshop	AUTAM401
Inner Outer Pipe Reamer Debur	1/4" to 1 1/8"	10	Workshop	AUTDO401 AUTER401 AUTEM401 AUTMT401 AUTCM401 AUTAM401
Ratchet Soft Pipe Bender Set	3/8" to 7/8"	10	Workshop	AUTDO401 AUTER401 AUTEM401 AUTMT401 AUTCM401 AUTAM401
Dial gauge	Dial Gauge with Magnetic Stand ,Model: 94838, Material: Steel, Specifications: 0-10 mm 0.01 LC	10	Workshop	AUTDO401 AUTER401 AUTEM401 AUTMT401 AUTCM401 AUTAM401
valve spring compressor	Material: Carbon steel, Max jaw opening: 9-1/2", MOQ: 300 sets, 5 driving adapter: 16mm, 19mm, 23mm,	10	Workshop	AUTDO401,

	25mm and 30mm, 3long pressure screw: 70mm,110mm,120mm			
Piston Ring Compressor	box contents: 1*piston ring pliers, 1*piston groove cleaner piston ring compressor53-125mm height, Top to bottom: 75mm, 3blade for 51 up to 127mm (18 levels), operated by the 1/4'' allen / hex key	10	Workshop	AUTDO401 AUTER401 AUTEM401 AUTMT401 AUTCM401 AUTAM401
Injection nozzle test rig	Max. pressure 300kg/cm3, Volume of fuel box 400cc, Dimensions 190x110x390 mm	2	Workshop	AUTDO401 AUTER401 AUTEM401 AUTMT401 AUTCM401 AUTAM401
C clamps	Material: Malleable Steel, Size: 1 2 3 4 5 6 8 10 12 inches	10	Workshop	AUTDO401 AUTER401 AUTEM401 AUTMT401 AUTCM401 AUTAM401
Spark plugs tester	Car Spark Plug Tester, Voltage: 12V,Size: 20*10*7cm, working frequency between 1000rpm to 6000rpm/min.	5	Workshop	AUTDO401 AUTER401 AUTEM401 AUTMT401 AUTCM401 AUTAM401
Files set	Material: Diamond, Grit: Square,Round,Flat,Triangular,Semicircle, Size:5*180mm, Samples:DiamondRound5*180mm	10	Workshop	AUTDO401 AUTER401 AUTEM401 AUTMT401

				AUTCM401 AUTAM401
Hack saw blade	Material: HSS W4, W6, W9, Size:12x1/2x14T/18T/24T/32T, length: 250-300mm, width:13mm, thickness:0.65mm	25	Workshop	AUTDO401 AUTER401 AUTEM401 AUTMT401 AUTCM401 AUTAM401
Tox wrench kit	Thickness: 1 1/8in, 3/4IN, 1/2in, 7/8IN, 5/8in, 1/4in, Material: Material: Carbon Steel, Stainless carbonsteel,aluminum,titanium Jaw Capacity: 3in, 1 5/32in, 1 7/8in, 15/16in, 2 1/8in, 1 1/16in Max Torque Capacity:2000lb-ft, 1000lb-in, 50lb-in, 600lb-in	5	Workshop	AUTDO401 AUTER401 AUTEM401 AUTMT401 AUTCM401 AUTAM401
Clutch alignment tool set	Pilot Bearing Adaptors Size: 1) 15.5 x 14.2 x 26.6mm 2) 16.7 x 15.4 x 27.0mm 3) 19.0 x 17.5 x 27.5mm 4) 20.0 x 18.6 x 27.5mm 5) 21.4 x 20.0 x 27.4mm 6) 23.0 x 21.6 x 27.5mm 7) 23.5 x 22.0 x 27.5mm 8) 26.6 x 24.2 x 27.5mm Clutch Plate Adaptors Size: 1) 12.6 x 10.8 x 19.2mm, 2) 14.8 x 12.2 x 19.4mm, 3) 15.0 x 13.0 x 19.3mm, 4) 16.0 x 14.7 x 19.7mm, 5) 17.7 x 15.8 x 19.4mm, 6) 19.0 x 17.1 x 19.3mm, 7) 20.0 x 18.3 x	5	Workshop	AUTDO401 AUTER401 AUTEM401 AUTMT401 AUTCM401 AUTAM401

	19.1mm, 8) 21.6 x 20.0 x 19.1mm Package includes: 1 x Clutch Alignment Tool Kit (17PCS)			

1.3. Category 3: Security materials

Nº	Name and description	Specifications	Quantity	Type of room	Module code
1	Goggles	Eyewear type: The goggles should primarily provide protection against impact & optical radiation and splashes. Weight: Should weigh approx 51g Widest lens: Should have ellipsoidal lens that extends the viewing range further, even peripherally. Comfort: Should have a soft PVC shroud that gently hugs the face and is indirect vented to allow cooling airflow and help prevent fogging.	50	Workshop	AUTDO401 AUTER401 AUTEM401 AUTMT401 AUTCM401 AUTAM401 AUTIA401
2	Mask	Respirator Rating Number: Class 95 Capacity: Removes 95% of all	50	Workshop	AUTDO401 AUTER401 AUTEM401

		particles that are at least 0.3 microns in diameter.			AUTMT401 AUTCM401 AUTAM401 AUTIA401
3	Ear muffler (Ear plug)	**Material**: Slow recovery polymer foam **Cord:** PVC material for cord	25	Workshop	AUTDO401 AUTER401 AUTEM401 AUTMT401 AUTCM401 AUTAM401 AUTIA401
4	Hand Gloves	Material: Latex, Outer Material: Latex, Length: Medium	50	Workshop	AUTDO401 AUTER401 AUTEM401 AUTMT401 AUTCM401 AUTAM401 AUTIA401
5	Safety helmet	Material: High Density Polyethylene Size: Fully adjustable internal harness and nape strap for extra comfort Shock absorption: vertically penetration resistant against sharp and pointed objects; Insulation level: flame resistance with an electrical insulation of	30	Workshop	AUTDO401 AUTER401 AUTEM401 AUTMT401 AUTCM401 AUTAM401 AUTIA401

		440 V			
6	Overcoats for trainers	Size: Medium, Large and Extra Material: 100% cotton, with long sleeve Size: Medium, Large and Extra	25	Workshop	AUTDO401 AUTER401 AUTEM401 AUTMT401 AUTCM401 AUTAM401 AUTIA401
7	Overall, for trainees	Type: Heavy Duty Material: 100% cotton Pockets: Poly Zip and Velcro Fasten two side Pocket, One back Pocket two breast pocket Size: Small, Medium, Large	25	Workshop	AUTDO401 AUTER401 AUTEM401 AUTMT401 AUTCM401 AUTAM401 AUTIA401
8	Safety shoes	Materials: Upper made of pure leather of thickness 1.6-1.8mm Toe protection: The shoes are marked steel toe cap to withstand minimum impact energy of 200 joules. Outer sole: made of polyurethane, directly moulded, resistant to oil and acid with anti-skid design. Foam padded cushion for ankle protection	25	Workshop	AUTDO401 AUTER401 AUTEM401 AUTMT401 AUTCM401 AUTAM401 AUTIA401
9	First Aid kit	With assorted medication for burns and cuts: e.g.: scissors,	5	Workshop	AUTDO401 AUTER401

		antiseptic cream, iodine, eyewash, bandages of 2 sizes, plaster, cotton wool; 1x Leaflet; 60 x Assorted plasters; 8 x Non-woven bandages; 16 x Dressing pads;12 x Safety pins; 20 x Wipes; 6 x Eye pads;3 x Pairs of gloves			AUTEM401 AUTMT401 AUTCM401 AUTAM401 AUTIA401
10	Dry chemical extinguishers for class ABC	Design: Non corrosive pull pin;Completely rechargeable; Full hand grip for ease of operation;Environment condition: Waterproof stainless steel gauge;Valve: Steel valve, Quick release hose;Cylinder material: Steel cylinder complete with cylinder skirt ,Steel 2 1/2" cylinder; Cylinder with high corrosion and impact resistant finish (red epoxy); Brackets: Comes complete with wall bracket;	10	Workshop	AUTDO401 AUTER401 AUTEM401 AUTMT401 AUTCM401 AUTAM401 AUTIA401
11	CO2 Extinguishers	Agent: 99% pure CO2 gas, Cylinder size: D152*H750mm, Cylinder thread: PZ 25.4, Bottom shape: flat base, Thickness: 5.0mm Valve: Brass body with red middle handle, hanger loop, thread: W21.8*14, Hose: black	10	Workshop	AUTDO401 AUTER401 AUTEM401 AUTMT401 AUTCM401 AUTAM401 AUTIA401

		rubber hose with horn; Length: 110cm; Siphon tube:M10*1*680mm; Bracket: Red round hook; Cylinder painting: 7325 Red painting			
12	Fire blanket	Material: Fiberglass, Working Temperature: Up to 1022°F (550°C) Product Size: 1m x 1m, 1.2m x 1.2m, 1.2m x 1.8m & 1.8m x 1.8m	10	Workshop	AUTDO401 AUTER401 AUTEM401 AUTMT401 AUTCM401 AUTAM401 AUTIA401

1.4. Category 4: Consumables and raw materials

Name and description	Specifications	Quantity	Type of room	Module code
Passenger car	**Engines** Camshaft: DOHC Catalytic Convertor: Yes CC:1798 Compression Ratio: 13.0:1 Cylinder Layout: IN-LINE Number of Cylinders: 4 Cylinders - Bore (mm): 80.5 Cylinders - Stroke (mm): 88.3	2	Workshop	AUTDO401 AUTER401 AUTEM401 AUTMT401 AUTCM401 AUTAM401

	Engine Code: 2ZR-FXE Engine Layout: FRONT TRANSVERSE Fuel Delivery: MULTI POINT FUEL INJECTION Number of Valves: 16 Coin DescriptionVVT-i **Performance:** 0 to 62 mph (secs): 10.9 Engine Power: BHP122 Engine Power: KW90 Engine Power: RPM5200 Engine Torque : LBS.FT105 Engine Torque : KG14.5 Engine Torque : NM142 Engine Torque : RPM3600 Top Speed: 112 **Drive Train** Transmission: AUTO Drive type: Front wheel drive Co2 Emissions: 83 g/km **TYRES** -Tyre Size Front: 225/40 R18 -Tyre Size Rear:225/40 R18 Tyre Size Spare: 225/40 R18 Wheel Type: 18 ALLOY **Weight And Capacities** Fuel Tank Capacity (Litres): 43 Gross Vehicle Weight (Kg): 1820 Luggage Capacity (Seats Down): 1052 Luggage Capacity (Seats Up): 313			

	Max. Loading Weight: 525 No. of Seats: 5 User Manual Repair Manual			
Engine	Rav4 2020, **Internal combustion engine specification:** Power 185 Hp @ 6000 rpm. Power per litre 74.4 Hp/l Torque227 Nm @ 3200-3700 rpm. 167.43 lb.-ft. @ 3200-3700 rpm. Engine location Front, Transverse Engine Model/Code A25A-FXS Engine displacement 2487 cm3 151.77 cu. in. Number of cylinders 4 Position of cylinders Inline Cylinder Bore 87.5 mm 3.44 in. Piston Stroke 103.4 mm 4.07 in. Compression ratio 14 Number of valves per cylinder 4 Fuel System Direct injection / Multi-point indirect injection Engine aspiration Naturally aspirated engine Valvetrain DOHC, VVT-i Engine oil capacity 4.5 l 4.76 US qt | 3.96 UK qt	4	Workshop	AUTDO401 AUTER401 AUTEM401 AUTMT401 AUTCM401 AUTAM401

	Oil viscosity Log in to see. Coolant 7.4 l 7.82 US qt | 6.51 UK qt Engine systems Start & Stop System Particulate filter			
Engine oil	SAE 40	100L	Workshop	AUTDO401 AUTER401
Piston rings	Rav4 2020 Piston rings	10 sets	Workshop	AUTDO401 AUTER401
Engine bearing kit	Rav4 2020 Engine bearing kit	10 kits	Workshop	AUTDO401 AUTER401
Timing belts	Rav4 2020 Timing belts	5	Workshop	AUTDO401 AUTER401
Accessories drive belts	Rav4 2020 Accessories belts	5	Workshop	AUTDO401 AUTER401
Fuel	Petrol and diesel	100L	Workshop	AUTDO401 AUTER401
Coolant	IAT (Inorganic Additive Technology) OAT (Organic Acid Technology) HOAT (Hybrid OAT) HOAT (Hybrid OAT, Phosphate-free) P-HOAT (Phosphated HOAT) Si-OAT (Silicated HOAT)	100L	Workshop	AUTDO401 AUTER401
Anti-freeze	OEM 50/50 Premixed Anti-Freeze/Coolant	40L	Workshop	AUTDO401 AUTER401
Radiator hoses	RADIATOR HOSES for TOYOTA WISH ANE11, CALDINA AZT241/246, TC ANT10 BLUE	10	Workshop	AUTDO401 AUTER401
wheel bearing grease	Plain bore (“G” in the product code) Roller bearing	30 pieces	Workshop	AUTDO401 AUTER401

	(“R” in the product code) Ball bearing (“K” in the product code) Central ball bearing (C) with thread guard (“KA” or “KF” in the product code)			
Cutting disc	Specification A 30 S BF, Diameter mm 115, Bore diameter mm 22.23, Thickness mm 2.5	100	Workshop	AUTDO401 AUTER401 AUTEM401 AUTMT401 AUTCM401 AUTAM401
Welding electrode	Low hydrogen carbon steel electrode Mild Steel Electrode Mild Steel Electrode (Non-ISI grade) Stainless Steel Electrode.	100 packs	Workshop	AUTDO401 AUTER401 AUTEM401 AUTMT401 AUTCM401
Sheet metals	**Size**: steel sheet metal: 2mm*400mm*100mm	5pcs	Workshop	AUTAM401
Solvents	Water, Ethanol, Soap, methanol and acetone.	200Liters	Workshop	AUTAM401
Gas	Oxygen, Acetylene	150Liters	Workshop	AUTDO401 AUTER401 AUTMT401 AUTCM401 AUTAM401
Engine gaskets kits	Diesel Engine K50 QSK50 KTA50 Full Gasket Kit Lower Engine Gasket Set overhaul Upper Gasket Kit 3804300	5	Workshop	AUTDO401 AUTER401 AUTAM401

	3800731			
Silicone	Henkel 908570 2.7 oz Tub Clear Silicone Waterproof Sealant, Single Tube	10pcs	Workshop	AUTDO401 AUTER401
Insulating tapes	Insulating tape 50 mm wide, Soft and flexible PVC tape, Slightly embossed structure, Strong hold For all purposes 25 m roll(Toyota harness)	20	Workshop	AUTDO401 AUTER401
Automotive Electrical wires	Color: Black, Red, Blue, Green, Purple; Wire Size:8AWG-26AWG, 0.05mm2~10mm2; Wire Conductor:Stranded, Tin Copper; Product name:Auto electrical harness	5	Workshop	AUTDO401 AUTER401 AUTEM401 AUTMT401 AUTCM401 AUTAM401
Refrigerants	R134a, R410A, R507A, R407A	10Kiglograms	Workshop	AUTAM401
Alternator	ENGINE:4.5L 1VD-FTV (DIESEL); Ouput Voltage:14.4; Idle Amperage: 215; Hot Idle Amperage 200A_0 190; MAX Amperage: 370; STATOR CONFIGURATION:6 Phase Hairpin; AVERAGE A/C RIPPLE CURRENT:3 amps; POSITIVE OUTPUT STUD SIZE:8MM x 1.25 Copper; TEMPERATURE COMPENSATION:Yes with 3-Step Thermal Protection; RECTIFIER:12 50 amp press fit diodes; RECTIFIER HEATSINK:Aluminum	10	Workshop	AUTEM401
Starter motor	Rated Power [kW]: 1.7; Voltage[V]: 12; Number of Teeth: 10; Rotatio Direction: Clockwise rotation; Starter motor: 2; Flange Ø [mm]:74.0; Clamp: B+ (M8)	10	Workshop	AUTEM401
Tin wire	Diameter: 0.5-5mm; Flux Content:2.2%~3.0% (Customized);	10	Workshop	AUTDO401 AUTER401

	Feature:Excellent Welding Performance; Usages:Welding Tool; Shape:Soft Soldering Wire; Material:tin,lead;Melting Point: 183; Application:Electronics; Product name: Tin Solder Wire, Color:Silver Grey; Composition:60%Sn,40%Pb℃			AUTEM401 AUTMT401 AUTCM401 AUTAM401
starter battery	12V/40Ah LiFeP04 battery	10	Workshop	AUTEM401
Engine gaskets kits	Rav4 2020	5 kits	Workshop	AUTER301
Headlights	Model Number: Toyota for Lexus; Product name: Head lamp; Size: OEM Standard Size; Light Source: Halogen; Voltage: 12V,24V	20	Workshop	AUTER401
Bulbs	Model Number:H1; Type:Halogen headlight, Headlight; Color:Clear; Lumen: 8000lm; Lamp Type:Halogen; Voltage:12V; Color Temperature:6000-6500K; Material:Diecast Aluminum Housing; Beam:Spot	100	Workshop	AUTER401
Relays	Rated Current: 30A/40A; Terminal Type: 4Pin/5Pin; Coil Pick-up Volt.≤8V/16V; Coil Res: *80Ω/320Ω; Coil Max. Voltage: 15.7VDC/31.4VDC (85^0C); Voltage:12V/24V; Contact Capacity: 40A/14VDC 30A/14VDC; Coil Release Volt. ≥1.2V/2.4V (VDC); Coil Max. Voltage: 20.2VDC/40.5VDC (23^0C)	50	Workshop	AUTDO401 AUTER401 AUTEM401 AUTMT401 AUTCM401 AUTAM401
Fuses	Breaking Capacity: Low; Rating Current:2A~40A; Material:Zinc Alloy and Plastic; Color:Grey Violet Pink Orange Brown Red; Usage:Automotive; Product Type:Blade Fuse; Rating Voltage:32VDC;	100	Workshop	AUTDO401 AUTER401 AUTEM401 AUTMT401 AUTCM401

	Fuse Type:Fast Acting; Operating Temperature:-40°C~+125°C			AUTAM401
Connector pins set	Application:Automobile; Length:Customized Length; Material:PVC Copper; Test:100% Testing Inspection; Product name:Automobile Cable Wiring Harness; Color:Customized Color; Pitch:0.5mm/1.0mm/1.25mm/Customized; Usage:Automotive Electrical Wiring Harness	20	Workshop	AUTDO401 AUTER401 AUTEM401 AUTMT401 AUTCM401 AUTAM401
Flasher unit	Contact material: Silver Alloy; Max.Switching Current: 70A; Max.Switching Current: 50VDC; Min.Contact Load: 1A 6VDC; Electrical life: 100000 ops; Initial insulation resistance: 500MΩ; Dielectric strength: 500VAC; Operate Time: 6-10ms; Ambient temperature: -40°C~+125°C ; Storage Temperature:-40°C~+85°C; Construction: Sealed ,dust cover	50	Workshop	AUTER401
wipers blade	Part : Wiper Blade; Range : Overall; Bone : With Bone;Material : Stainless Steel; Sweep Angle : 70°,135°; Size : 12''-28'' Inch	50	Workshop	AUTER401
Wiper motor	Nominal Voltage: 12/24V;Unload Speed: 250rpm, <0 Motor: Brush; Teeth: 12; Nominal Torque: 0.6n. M; Power: 50W; Nominal Speed: 220rpm; Stall Torque: 0.6n. M	50	Workshop	AUTER401
window motor	Motor: Brushless, Voltage: 12V, Type: DC Motor,Power Window Regulator L:80701-	50	Workshop	AUTER401

	30Z02 R:80700-00Z07 (W/24v MABUCHI Motor)			
Brake shoes	Drum Brake Shoes Part 04495-35170 For 4-RUNNER TRUCK HILUX VI Pickup Brake Shoe Set, Size: 28*23.5*9 cm, 28*23.5*9cm, Material: Semi-Metallic, Semi-Metallic, Fitting Wheel: 19/20/21/22/23inch	25	Workshop	AUTMT401 AUTCM401
Brake pad	auto brake pads brake shoes 5810102A00 267502	25	Workshop	AUTMT401 AUTCM401
Brake fluid	DOT3, DOT4, DOT5	20pcs	Workshop	AUTMT401 AUTCM401
Brake booster	Auto Parts BRAKE AIR VACUUM BOOSTER 6001547856, Size:9" (9 inches) Single Diaphragm.	5	Workshop	AUTDO401 AUTER401 AUTMT401 AUTCM401
wheel cyclinder	Auto engine parts Brake Wheel cylinder 44100-3W400 for Navara	10	Workshop	AUTMT401 AUTCM401
Wheel cyclinder seals	Model Number: SC-80208R, Material: Rubber	50pcs	Workshop	AUTMT401 AUTCM401
Power steering fluid	Dexron VI (GM) / Mercon V (Ford) / ATF+4 (Chrysler)	50Litres	Workshop	AUTCM401
Power steering pump	Auto Steering Systems Power Steering Pump 44310-0K040 For 1KD 2KD FOR FORTUNER HILUX 2004-18	5	Workshop	AUTCM401
Power Steering belt	11287636379 E39 E46 E60 E66 Alternator Water Pump Drive Belt for bmw Alternator Power Steering Belt A/C Belt 6PK1538 11287636379	5	Workshop	AUTCM401

Recirculating ball steering gear	Material: Aluminum, LHD/RHD: LHD/RHD, OEM NO: 45310-35310 44110-35290, Size: Standard size	5	Workshop	AUTCM401
High voltage cable	Product name: Ignition cable; Quality: High- Quality; Reference NO.:99051779401; Car Model: for Toyota Camry Carnia; Material: Rubber	5	Workshop	AUTEM401
Ignition switch	81905-4FA50 car key set ignition switch door lock trunk lock for HYUNDAI PORTER 2	5	Workshop	AUTEM401
Horns	Auto Horn Car Horn Loud Dual-Tone Waterproof Electric Snail Horn Kit Universal for Any 12/24V Vehicles	10	Workshop	AUTEM401
Ignition coil	Ignition coil for TOYOTA RAV4 2008	5	Workshop	AUTEM401
spark plugs set	Specification 2.1x2.4xx9.5cm; Type : Distributorless Ignition System; Engine Type : Universal; Ignition Voltage : 12-24V; Material : Nickel Iridium Platinum	5	Workshop	AUTEM401
ECU	Type: Cooling system; Material: Steel; Muffler: Rear Muffler; Deck: Single	5	Workshop	AUTDO401 AUTER401 AUTEM401 AUTMT401 AUTCM401 AUTAM401
Sensors	Oxygen Sensor; Crankshaft Sensor, Speed sensor; Air Flow Sensor; Knock Sensor; ABS Sensor; Map Sensor; Cooling Sensor, Pressure Sensor; Temperature Sensor; Fuel	100	Workshop	AUTDO401 AUTER401 AUTEM401 AUTMT401

	Level Sensor; RPM Sensor; Oil Pressure Switch Sensor; Lambda Sensor;Magnetic Pickup Sensor; Brake Pressure Sensor ; O2 Oxygen Sensor;			AUTCM401 AUTAM401
Actuators	Fuel pump; Injectors; Fuel pressure Regulator; Idle speed actuator; Spark Plugs; Ignation Coils; Exhaust Gaz recirculation, Purge Solenoid control	100	Workshop	AUTDO401 AUTER401 AUTEM401 AUTMT401 AUTCM401 AUTAM401
Hazard switch	Push Button	50	Workshop	AUTEM401
Commutator	Types: Combination Switch; Part: Comination Wiper Light Signal Switc; material: Plastic	50	Workshop	AUTEM401
HVAC switches	Types: A/C Switch; Material: Plastic	50	Workshop	AUTAM401
Air blower	Material: Plastic; Flow Direction: Centrifugal; Pressure: High Pressure; Current: 0.02-0.20A	5	Workshop	AUTAM401
Evaporator	Application: Car Air Conditioning System; Item: Air Conditioner Evaporator core; Material: Aluminum; Type: Parallel Structure	5	Workshop	AUTAM401
Condenser	Condensation Forms: Water-cooler; Material: Aluminium; Type: Parallel;	5	Workshop	AUTAM401
A/C compressor	Classification:Variable Capacity; Cooling Method:Air-cooled; Pressure after Air Exhaust:>1000 Gauge Pressure; Displacement:>100m²/m; Rotation	5	Workshop	AUTAM401

	Speed:450-1000r/min			
Condensor fan	Function: Cooling&Heating; Driving mode: Independent; Electronically Controllered;	5	Workshop	AUTAM401
Cabin Air filter	Type: Cabin Filter; Material: Paper Core; Filtration Grade: Hepa Filter; Structure: Filter Element	5	Workshop	AUTAM401
Filter dryer	Cnnection: 5/8" SAE; Outlet: 13/16’fs Unf; Function: Cooling & Heating;	5	Workshop	AUTAM401
Receiver	Type : Cooling System; Muffler Type : Rear Muffler; Material : Aluminum	5	Workshop	AUTAM401
Distributor	Ignition Voltage: 12V/1.7kw; Product Name: Ignition Coil; Item Name: Auto Ignition Coil; Description: Car Ignition Distributor	5	Workshop	AUTEM401
Suspension bushing	Material: Rubber and Iron; CarMake : Toyota; Position: Rear; Product name: Suspension bushing; Type: Rubber Bushing	100	Workshop	AUTCM401
Control arm	Material: Iron and Rubber; Car Make: Toyota; Position: Upper	10	Workshop	AUTCM401
MacPherson unit	Specification: Carbon Steel;Type: Suspension Tools; Specification Carbon Steel	20	Workshop	AUTCM401
Anti-sway bar/ anti-roll bar	Material : Steel, Type : Suspension Spring	5	Workshop	AUTCM401
torsion bar	48161-3508OR Automobile torsion bar 8943169010 Car Suspension Torsion Bar	5	Workshop	AUTCM401
strut rod	Specialty Products Suspension Strut Rod 94220	10	Workshop	AUTCM401

control arm ball joint	Duralast Lower Control Arm with Ball Joint CA8301	10	Workshop	AUTEM401 AUTMT401 AUTCM401
steering knuckle	Duralast Steering Knuckle 698-059, Material: Cast Iron	20	Workshop	AUTCM401
rack and pinion	Power Steering Rack And Pinion 45510-58010 For Alphard, VELLFIRE	10	Workshop	AUTCM401
Pitman arm	Power Steering 605 525 Reproduction Pitman Arm for GM, Fits 525 & 605 boxes. 1"-32 spline, GM Pitman Arm for your 605 power steering box or 525 manual box. Come with standard GM 7° taper on the small end.	5	Workshop	AUTCM401
Work bench	Name: Workbench, Size: 1500/1800/2100*800*750 mm, Load: Light(150kg); Medium(400-500kg); Heavy Duty (1000kg) Desktop Material: Rubber ; Oak Wood ; Stainless Steel; Steel ; ESD Frame Material: 100*50*1.5mm C Type Steel Moving: Some size can add universal wheels; Accessory: Lamp; Guide Rail; Vice; Drawers Cabinet (Single / Double.); Pedal; Panel Kit	25	Workshop	AUTDO401 AUTER401 AUTEM401 AUTMT401 AUTCM401 AUTAM401
Sand paper	Latex 3M sandpaper silicon carbide waterproof abrasive paper, Abrasive Grain: Silicon Carbide, Available Grits: P40~P400, Size: 230mm x 280mm Type: Paper Sheets, Backing Material:	100	Workshop	AUTDO401 AUTER401 AUTEM401 AUTMT401 AUTCM401

	Latex paper			AUTAM401
Shop rags	Industrial cleaning cloth, matherials: 100%cotton, package: 5kg/bag-100kg/bag	200Kilograms	Workshop	AUTDO401 AUTER401 AUTEM401 AUTMT401 AUTCM401 AUTAM401
Radiator pressure test tool	Radiator pressure test tool uses aluminum pump cylinder rather than plastic one, 21" rubber nylon resin hoses, brass fittings, solid and durable. 3" large dial gauge with index range 0 to 35psi (0 to 2.5bar), easy to observe. Stainless steel thermometer with index range 0 to 200℃ (32 to 400℉)	5	Workshop	AUTDO401 AUTER401
Rechargeable 9 Volt Multimeter Battery	Type: 9V rechargeable Battery; Battery capacy: 850mAh;	50	Workshop	AUTEM401
Multimeter Battery charger set	4pach 9V, PP3, 6F22 Lithium-ion; Batteries with 9V Battery charger 850mAh	10	Workshop	AUTEM401

2. Training facilities

2.1. Furniture and office materials

Name and description	Specifications	Quantity	Type of room	Module code
Office Cupboard	1.Two-door steel locker 2. Size:H1850 x W900 x D450mm 3. Thickness: 1.0mm 4. Volume:0.178cbm	30	Store/ Workshop	AUTER401 AUTMT401 AUTCM401

	5. Fitting:4shelves 6. Weight:40.5kgs			AUTAM401 GENAM401 GENMP401 GENBC401 AUTCG401 AUTEA401 AUTKM401 AUTIA401 AUTDO401 AUTEM401 AUTCM401 AUTAM401 CCMBP402 CCMHE402 CCMCS402 CCMCT402 CCMEN402 CCMKN402 CCMFT402 CCMQS402
Glass Cupboard /Bookcase Cabinet Unit	The Top Shelf to be fitted with double lockable glass door. The unit to be made of MDF Board 18mm thickness for the frame; Three Shelves. The back part on the unit should be reinforced with 18mm MDF board for rigidity and strength. Approx. dimensions of approx. 900(l) x	1	Trainer's Office	AUTER401 AUTMT401 AUTCM401 AUTAM401 GENAM401 GENMP401

	440(w) x 1500(h) mm high. The Lower section (cupboard) double lockable MDF board door. The unit to be made of MDF Board 18mm thickness for the frame; Two Shelves. The back part on the unit should be reinforced with 18mm MDF board for rigidity and strength. Approx. dimensions of approx. 900(l) x 440(w) x 900(h)mm high			GENBC401 AUTCG401 AUTEA401 AUTKM401 AUTIA401 AUTDO401 AUTEM401 AUTCM401 AUTAM401 CCMBP402 CCMHE402 CCMCS402 CCMCT402 CCMEN402 CCMKN402 CCMFT402 CCMQS402
Shelves for equipment storage	1.Size:3 x0.5 x 2m (L x W x H) 2.5 Layer full steel 3.Cold – Rolled steel plate	5	Workshop	AUTER401 AUTMT401 AUTCM401 AUTAM401 GENAM401 GENMP401 GENBC401 AUTCG401 AUTEA401

				AUTKM401 AUTIA401 AUTDO401 AUTEM401 AUTCM401 AUTAM401 CCMBP402 CCMHE402 CCMCS402 CCMCT402 CCMEN402 CCMKN402 CCMFT402 CCMQS402
Medium back officer Chairs	Passive ergonomic seating with built in lumber support Upright-locking position Pneumatic seat Height adjustment Adjustable tilt tension control colour: Black Dimensions: .Back: 24"(H) x 20"(W) .Seat: 20"(D) x 20.5"(W) .Seat Height: 18"-21"	10	Trainer's Office	AUTER401 AUTMT401 AUTCM401 AUTAM401 GENAM401 GENMP401 GENBC401 AUTCG401 AUTEA401 AUTKM401 AUTIA401 AUTDO401

				AUTEM401 AUTCM401 AUTAM401 CCMBP402 CCMHE402 CCMCS402 CCMCT402 CCMEN402 CCMKN402 CCMFT402 CCMQS402
Office Tables with drawers	1. With hanging pedestal 2.Melamine faced chipboard 3.Desktop and side panel: 25mm 4.Modesty panel: 18mm 5.Color: beech, mahogany 6.Size: 1,500 x 800 x 750mm 7. Three fully locking drawers on the right-hand side	10	Trainer's Office	AUTER401 AUTMT401 AUTCM401 AUTAM401 GENAM401 GENMP401 GENBC401 AUTCG401 AUTEA401 AUTKM401 AUTIA401 AUTDO401 AUTEM401 AUTCM401 AUTAM401

				CCMBP402 CCMHE402 CCMCS402 CCMCT402 CCMEN402 CCMKN402 CCMFT402 CCMQS402
Visitor chairs	1.Back: 20"(W) x 13"(H) 2. Seat: 20"(W) x 21"(D) 3. Seat Height: 18" 4.3" thick foam	6	Trainer's Office	AUTER401 AUTMT401 AUTCM401 AUTAM401 GENAM401 GENMP401 GENBC401 AUTCG401 AUTEA401 AUTKM401 AUTIA401 AUTDO401 AUTEM401 AUTCM401 AUTAM401 CCMBP402 CCMHE402 CCMCS402

				CCMCT402 CCMEN402 CCMKN402 CCMFT402 CCMQS402
Trainees Table	1. Size: Table: 1500x600x750mm Chair: 360x360x440mm 2. Material: Plywood Fireproof board& 1.2mm Thickness Tube, 22mm Tube Diameter 3. Board: Fireproofing, scratch-resistant, without contaminated 4. Metal: Epoxy Powder coated, antirust, damp proof, strong	25	Classroom	AUTER401 AUTMT401 AUTCM401 AUTAM401 GENAM401 GENMP401 GENBC401 AUTCG401 AUTEA401 AUTKM401 AUTIA401 AUTDO401 AUTEM401 AUTCM401 AUTAM401 CCMBP402 CCMHE402 CCMCS402 CCMCT402 CCMEN402 CCMKN402

				CCMFT402 CCMQS402
Table for Computer Room	1. Size: Table: 1500x600x750mm Chair: 360x360x440mm 2. Material: Plywood Fireproof board& 1.2mm Thickness Tube, 22mm Tube Diameter 3. Board: Fireproofing, scratch-resistant, without contaminated 4. Metal: Epoxy Powder coated, antirust, damp proof, strong	25	ICT LAB	AUTER401 AUTMT401 AUTCM401 AUTAM401 GENAM401 GENMP401 GENBC401 AUTCG401 AUTEA401 AUTKM401 AUTIA401 AUTDO401 AUTEM401 AUTCM401 AUTAM401 CCMBP402 CCMHE402 CCMCS402 CCMCT402 CCMEN402 CCMKN402 CCMFT402 CCMQS402
Trainees Chairs	1. Size: 2400x1200mm 2. Economy non-magnetic chalkboard on	50	Classroom and ICT LAB	AUTER401

	2 sides 3. Aluminium framed, free-standing 4. whiteboard on one side and chalkboard on the other.			AUTMT401 AUTCM401 AUTAM401 GENAM401 GENMP401 GENBC401 AUTCG401 AUTEA401 AUTKM401 AUTIA401 AUTDO401 AUTEM401 AUTCM401 AUTAM401 CCMBP402 CCMHE402 CCMCS402 CCMCT402 CCMEN402 CCMKN402 CCMFT402 CCMQS402
Portable, Reversible Dry Erase Boards & Chalkboards	1. Size: 1800x1200mm 2. Economy non-magnetic chalkboard on 2 sides 3. Aluminium framed, free-standing 4. whiteboard on one side and chalkboard	10	Classroom, LAB, and Workshop	AUTER401 AUTMT401 AUTCM401 AUTAM401

	on the other.			GENAM401 GENMP401 GENBC401 AUTCG401 AUTEA401 AUTKM401 AUTIA401 AUTDO401 AUTEM401 AUTCM401 AUTAM401 CCMBP402 CCMHE402 CCMCS402 CCMCT402 CCMEN402 CCMKN402 CCMFT402 CCMQS402
Papers	A4	5 cartons of 5 reams each	Trainer's Office	AUTBW301 AUTBW301 AUTER401 AUTMT401 AUTCM401 AUTAM401 GENAM401
Pens	Blue Bic	5 Packet	Trainer's Office	
	Red Bic	5 Packet	Trainer's Office	
Stapling Machine	Rapid K2, 105 mm Length	5 Pcs	Trainer's Office	

Staplers	24/6	5 Packets	Trainer's Office	GENMP401 GENBC401 AUTCG401 AUTEA401 AUTKM401 AUTIA401 AUTDO401 AUTEM401 AUTCM401 AUTAM401 CCMBP402 CCMHE402 CCMCS402 CCMCT402 CCMEN402 CCMKN402 CCMFT402 CCMQS402
Paper clips	25mm, small Size,	1Box of 10 Packets	Trainer's Office	
	33mm, medium Size,	1Box of 10 Packets	Trainer's Office	
	50mm, Big sizes	1 Box of 10 Packets	Trainer's Office	
Punching machines	8Cm, Punching Capacity: 36mm with calibrated Guide	1 Pc	Trainer's Office	
Stapler removers	Colour: black Dimensions: 4.8X4X1.4 inches	2 Pcs	Trainer's Office	
Pencils	Dolphin Super B Writer	1 Packet of 12 Pcs	Trainer's Office	
Notebooks	A4	1 Carton of 60 Pcs each	Trainer's Office	
Plastic files	A4	2 Packets of 12 Pcs	Trainer's Office	
Register books	A4	10 Pcs	Trainer's Office	
Office trays	Tray site of 3 or 4 Size: 385X285X65mm	10 Pcs	Trainer's Office	
Post it	3'' x 5''/7.6 x 12.7 Cm, 12 Pads	1 Box	Trainer's Office	
Non-permanent Markers	1. Dimension: D1.6 x L13.5 Cm 2. Fiber tips and writing smoothly. 3.Quick drying. 4.Good performance. 5.non-Toxic and environmentally safe. 6.Smell favourably	10 Packets	Classroom, LAB, and Workshop	

Chalks (Cartons of 36 Packets for each carton)	Cartons of white colours	1Carton of white colours	Classroom, LAB, and Workshop	
	Cartons of Colours	1 Carton of Colours	Classroom, LAB, and Workshop	
Square Graph (drafting) paper (Book of 25 papers each)	A3	5 Books	Drawing room	
	A4	5 Books	Drawing room	
Internship logbook for trainees	A4	25 logbooks	Industry	AUTIA401
Internship logbook for the industry supervisor	A4	25 logbooks	industry	AUTIA401
Internship logbook for school supervisor	A4	25 logbooks	Industry	AUTIA401

2.2. Audio-visual materials

Name and description	Specifications	Quantity	Type of room	Module code
Projectors and Accessories (Remote, White board,)	Sharp, Clear Visuals: SVGA native resolution (800x600) for sharp views. Flexible Connectivity: Dual VGA-In connectors for easy switching between multiple presenters. DLP® Projector: Filter-free to reduce	4	ICT lab and Classroom	AUTBW301 AUTBW301 AUTER401 AUTMT401 AUTCM401

	maintenance cost and utilize Brilliant Color TM for accurate, true to life images, DLP (Digital Light Processing). Native Aspect ratio: 1.25:1; Video Compatibility: Component, S-video, composite HDTV: 720p, 1080i, 1080p/60, 1080p/24, 576i, 576p Lamp Life: 5000 hours, 6000 eco-modes. Screen size: 60- 100 inches Portable Indoor and Outdoor projector.			AUTAM401 GENAM401 GENMP401 GENBC401 AUTCG401 AUTEA401 AUTKM401 AUTIA401 AUTDO401 AUTEM401 AUTCM401 AUTAM401 CCMBP402 CCMHE402 CCMCS402 CCMCT402 CCMEN402 CCMKN402 CCMFT402 CCMQS402
Computers	Desktop Intel Core i3 Screen size: No monitor, Memory size (RAM): 4GB Memory Storage: 500GB Laptop core i3 15.6 inch with memory size (RAM): 4GB	50	ICT LAB and Trainer's office	AUTBW301 AUTBW301 AUTER401 AUTMT401 AUTCM401 AUTAM401

	Storage Memory :500GB, Operating System Windows 10			GENAM401 GENMP401 GENBC401 AUTCG401 AUTEA401 AUTKM401 AUTIA401 AUTDO401 AUTEM401 AUTCM401 AUTAM401 CCMBP402 CCMHE402 CCMCS402 CCMCT402 CCMEN402 CCMKN402 CCMFT402 CCMQS402
USB discs	8GB	Different	ICT LAB	AUTBW301 AUTBW301 AUTER401 AUTMT401 AUTCM401 AUTAM401 GENAM401

				GENMP401 GENBC401 AUTCG401 AUTEA401 AUTKM401 AUTIA401 AUTDO401 AUTEM401 AUTCM401 AUTAM401 CCMBP402 CCMHE402 CCMCS402 CCMCT402 CCMEN402 CCMKN402 CCMFT402 CCMQS402
Printer	Processor speed: 1.0 GHz Recommended monthly print volume: Up to 1,500 pages Print memory (standard): 512 MB standard Maximum copy resolution: Up to 600 x 600 dpi Scan resolution (optical): 600 x 600 dpi Capacity: 50 sheets Size: 4.1 x 5.8 in. to 8.5 x 14 in.	5	Trainer's office	AUTBW301 AUTBW301 AUTER401 AUTMT401 AUTCM401 AUTAM401 GENAM401 GENMP401

	(104 x 148 mm to 216 x 356 mm) Minimum dimensions (WxDxH): 16.2 x 15.5 x 13.6 in. (411.2 x 394.1 x 344.4 mm) Weight: 42.7 lb (19.4 kg)			GENBC401 AUTCG401 AUTEA401 AUTKM401 AUTIA401 AUTDO401 AUTEM401 AUTCM401 AUTAM401 CCMBP402 CCMHE402 CCMCS402 CCMCT402 CCMEN402 CCMKN402 CCMFT402 CCMQS402

2.3. Didactic materials

Name and description	Specifications	Quantity	Type of room	Module code

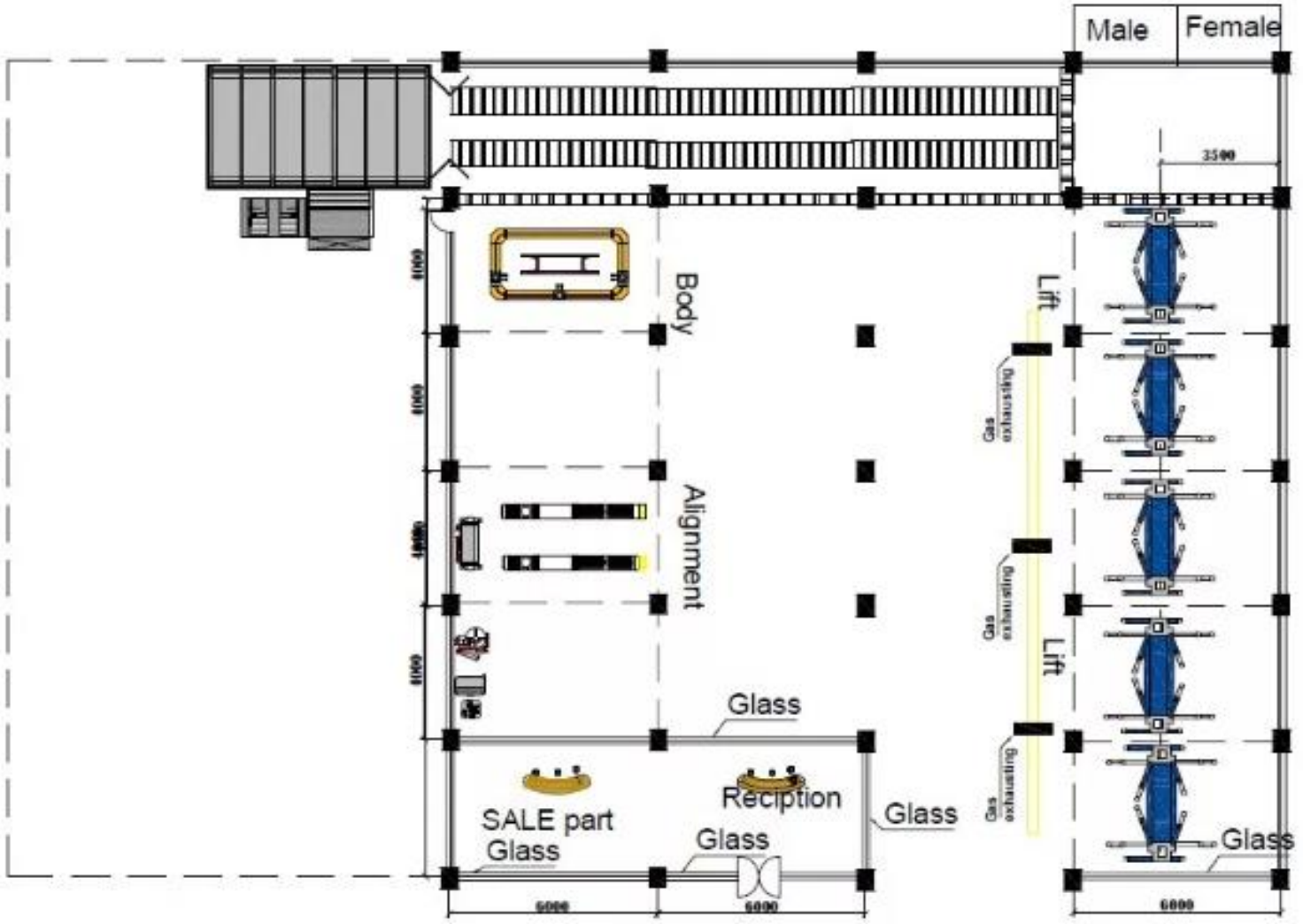
Black board drawing instruments	A 5-piece set of durable, lightweight plastic instruments designed for blackboards. Features handles for ease of use. Includes a 45® triangle (23" base, 16" sides), 60° triangles (2" base), 180° protractors, meter ruler (39"/100 cm), and a clear acrylic compass (18" L with rubber suction cup).	2 set	classroom	AUTDO401 AUTER401 AUTEM401 AUTMT401 AUTCM401 AUTAM401
Textbook lessons	See the book reference on the last page of this documents	25 books per module	Library	All modules
Didactic engines	Petrol Diesel	4	Workshop	AUTDO401 AUTER401 AUTEM401 AUTMT401 AUTCM401 AUTAM401
Posters	A2 (594mm x 420mm), A3 (420mm x 297mm) and A4 (297mm x 210mm)	50 pcs for each size	Classroom, laboratory, or workshop	All modules
Automobile Air Conditioning System Teaching Model Aids Didactic Equipment	Dimension : 1000X1600X1800mm; Packing : Wooden Case; Power Supply : AC 220V, 50Hz	2	Classroom, Workshop	AUTEM401, AUTAM401

2.4. Infrastructures

The workshop must be of concrete structure. Based on class size of 25 learners, the space requirements for the Training/learning and circulation areas are as follows:

Type of premises	Number of rooms	Length (meters)	Width (meters)	Total surface (m^2)
Classroom	1	7	6	42
Workshop/garage	1	40	30	1200
ICT lab	1	10	8	80
Storage area for consumables	1	4	6	24
Storage area for tools	1	9	7	63
Trainers' room	1	7	6	42
Washroom	1	2	4	8
Emergency washroom	1	2	4	8
Chemistry Laboratory	1	10	8	80
Physics Laboratory	1	10	8	80

WORKSHOP LAYOUT



N.B:

The occupation of a training classroom is in function of a group of 25 learners for the length of the training package not considering the hours of the internship. The group of trainees is divided into 5 (25 learners per workshop).

The plans of the workshops and classrooms are annexed to the training organization guide.
Total hours of occupation must be equal to the total duration of the training (excluding the duration of the internship).
The percentage of the occupation must equal 100%.
The premises that are not used in learning activities can have hours / occupation. So, we will write 0 for these types of premises.

Reference books:

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3. Technology of automotive trade volume 2, H. Girschler, 2011
4. Modern automotive technology Europa Lehmetel 2nd edition, 2011
5. Advanced Engine Technology [2 ed.] by HEINZ HEISLER, 2002
6. The Repair of Vehicle Bodies 7th Edition, Andrew Livesey 2019
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20. Introduction to basic manufacturing process and workshop technology (by Rajadar Singh) 2006
21. Welding-Science-and-Technology (by Md. Ibrahim Khan) 2007
22. Mechanical workshop practice (by K.C John) 2010
23. Introduction to basic manufacturing process and workshop technology (by Rajender singh) 2006
24. Production technology (manufacturing processes, Technology and Automation) by R.K. Jain 2012
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