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|   | **PAKISTAN INDUSTRIAL TECHNICAL ASSISTANCE CENTRE (PITAC)****234 – Ferouzpur Road Lahore – 54600****PABX:042-99230702,99230699 FAX:042-99230589****Email: purchase@pitac.gov.pk** [**URL:www.pitac.gov.pk**](file:///D%3A%5CTender%20Files%5CTender%20Notice%5Cwww.pitac.gov.pk) | Emblem_PakistanMinistry of Industries & Production |

**TENDER DOCUMENT NO.390/2020**

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| **List of Tools, Machinery & Equipment of Auto Mechanic Lab** |
| **Sr. No.** | **Items Description** | **Qty.** | **Unit Rate****(incl. GST 17)** | **Total Price (incl. GST 17)** |
| 1 |  Diagnostic scanners Automobile (universal scanner) , Brand (Lunch) .Model x-431 proChina or equivalent.**Specifications:** 1. Full system Diagnosis
2. Data stream storage
3. Service light resets
4. Coding resets and programming
5. Online technical support and advice
6. Electronic parking brake reset Android 5.1
7. 1.3 GHz Quad-core 8’’’IPS capacitive Touchscreen 16 GB / 16 GB
8. 4,290 mAh (3-4 hours) Bluetooth / USB cable

(option) Front 2mp / Rear 5 mp | 01 |  |  |
| 2 | Hammers- 05 kg China or equivalent. | 02 |  |  |
| 3 | Hydraulic Jacks – 05 tons (bottle type) China or equivalent. | 02 |  |  |
| 4 | Safety stand (for vehicle support) hight 6’’ China or equivalent. | 08 |  |  |
| 5 | Open end spanner - 6’’to 32’’ make –KTC China or equivalent. | 02 |  |  |
| 6 | Box end spanners set - 6’’to 32’’ make-KTCChina or equivalent. | 02 |  |  |
| 7 | Socket set - 6’’to 32’’ make-KTC China or equivalent. | 02 |  |  |
| 8 | Screw driver set - 1/4’’x4,5/16’’x4,3/8x8’China or equivalent | 02 |  |  |
| 9 | Pliers , conventional - 08’’ make –j-tech China or equivalent. | 02 |  |  |
| 10 | Filter spanner (for Oil Change) cup type heavy duty. China or equivalent. | 02 |  |  |
| 11 | Special service tools SSTs ,with board for tools 4’x8’ China or equivalent. | 02 |  |  |
| 12 | Oil filler gun ( injection type)China or equivalent. | 02 |  |  |
| 13 | Adjustable wrenches - 6’’ to 10’’ make- Drop forged or equivalent | 02 |  |  |
| 14 | Micrometer - 0-25and 25-50 (0.05mm) China or equivalent | 02 |  |  |
| 15 | Vernier calipers - 0-150 (0.05mm) China or equivalent | 02 |  |  |
| 16 | Dial indicator gauge - (0.01mm) China or equivalent | O2 |  |  |

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| 17 | Torque wrench - 70 – 350 Nm China or equivalent | 01 |  |  |
| 18 | T- handles - 8,10,12mm make - Future Tool or equivalent. | 02 |  |  |
| 19 | Funnel (Plastic Type) 10’’ China or equivalent. | 02 |  |  |
| 20 | Wheel spanner (simple) - 17x19x21x22mm , (X, type) China or equivalent. | 02 |  |  |
| 21 | Bench vice - 08’’ China or equivalent. | 02 |  |  |
| 22 | Fuel gauge China or equivalent | 02 |  |  |
| 23 | Feeler gauge - 0.024 to 0.025 inchChina or equivalent | 03 |  |  |
| 24 | Hydraulic jack, trolley/floor type – 10 tons China or equivalent. | 01 |  |  |
| 25 | Technical stretcher (Trolley Type) China or equivalent. | 01 |  |  |
| 26 | Multi-meter - (Make = japan)**Specifications:**Max Display : LCD3 ½ digits (1999 count) 0.6’’High polarity: Automatic, indicated minus, assumed plus.Fuse protection: F-200mA/250VOperation Environment : 0 C 40 C Stronger Environment : -10 C 50 C 8**Measurement Ranges includes :**1. DC Voltage :200mV/2V/20V/200V + - 0.5 %

600 + -0.8 %1. AC Voltage : 200V/600V + - 1.2%
2. DC Current : 200A/2Ma/20Ma + - 1%, 200Ma+ - 1.5 % 10A + - 3%
 | 02 |  |  |
| 27 | Test lamp - 12 v China or equivalent. | 02 |  |  |
| 28 |  Cutter plier - 08’’ make – j-tech (3 pice) or equivalent. | 02 |  |  |
| 29 | Scrappers (For external cleaning of Engine)China or equivalent. | 03 |  |  |
| 30 | Nose plier - 08’’ make – j-techor equivalent. | 02 |  |  |
| 31 | Plastic hammer - 400g to 900g China or equivalent. | 02 |  |  |
| 32 | Thermometer, glass Range = -10c to 60c China or equivalent.  |  02 |  |  |
| 33 | Star Allen keys set - T10m to T50m make- KTC or equivalent. | 02 |  |  |
| 34 | Star set China or equivalent. | 03 |  |  |
| 35 | Gear box assembly – Front wheel ( Transaxle) 650 cc engine, model :2010 to 2015,toyota , equivalent | 01 |  |  |
| 36 | Wheel alignment scissor liftBrand: Decar, Model: DK -35 or equivalent.China or equivalent.**Specifications:**1. Polymer oily wear slider.2. Tubing explosion-proof device3. 2mm cold- tolled plate slide, less resistance, and more smooth the rise and fall.4. CE Standard 3 insurance gear design5. Adopts Q345 international solid steel avoid of deformation permanently.6. Adopts Q345 international 25mm solid steel , avoid of deformation permanently.8.4 meter long 6mm thickness 50x120mm strengthen the heavy square tube * Capacity (kg) 3500kg
* Motor (v) 380v /220v
* Original height of platform (mm) 330mm
* Host lift height (mm) 850mm
* Host rise / drop time (s) 45/38
* Gas supply 6-8kg/cm2
* Client capacity (kg) 3500kg
* Motor power (kw) 2.2kw
 | 01 |  |  |
| 37 | Wheel Alignment MachinBrand: Decar, Model: V-3CH, or Equivalent.**Specifications:** 1-Utilizing patented imaging Technology with Automatic Beam, 3D provides accurate, real time measurements.2- Reducing setup and measurement time while generation serious productivity benefits.3- Matched with easy to use software , the 3D alignment will have your technicians getting readings in a matter of minutes Added Features * Included Angle.
* Toe out on turns/Max.Turn
* Front And rear Toe
* Individual camber/caster /Toe
* 3D animation
* A-Arm Adjustments
* Elevated Adjustment
 | 01 |  |  |
| 38 | Electronically controlled transmission ECT gear box 650cc engine, model: 2015 to 2019 , Toyota or equivalent | 01 |  |  |
| 39 | Computerized Wheel balancer Brand: Decar ,Model: WB 100, or Equivalent.**Specifications:**Italian Software, easy, presision, widely, Energy saving.Standard with dynamic balancing.5 kinds of ALU mode and 2types of smart mode.Optimization function and hidden height balancing mode.Aluminum Alloy ruler head would not distortion, make sure the exact measurement data.Aluminum alloy ruler sleeve position precise, make sure exact measurement data.64 gear shaft make sure the measurement more accurate.Passed CE certification * Balancing speed 40RPM
* Motor power 90W
* Maximum wheel Diameter 1100mm
* Power Supply 220V
 | 01 |  |  |
| 40 | Tool Trolley - Size = 2’x4’ material iron (18gauge)China or equivalent. | 03 |  |  |
| 41 | Tool Tray - Size = 26’’X18’’ material SSChina or equivalent. | 05 |  |  |
| 42 | Blower - 01HP china or equivalent | 01 |  |  |
| 43 | Wheel spanner (ALLOY WHEEL)17x19x21x22mm (X type) China or equivalent. | 03 |  |  |
| 44 | Oil gun (simple) China or equivalent. | 02 |  |  |
| 45 | Fluid filler gun China or equivalent. | 01 |  |  |
| 46 | Lock plier - 07’’ make – j-tech or equivalent. | 02 |  |  |
| 47 | Safety helmetChina or equivalent. | 025 |  |  |
| 48 | Fire extinguisher Model :DS-PS-16,Dry chemical powder , 6kg China or equivalent. | 02 |  |  |
| 49 | First aid box China or equivalent. | 01 |  |  |
| 50 | Steel Almirah 2’x3’ (18 gauge) local  | 02 |  |  |
| 51 | Bench grinding DS200, 8’’ China or equivalent. | 01 |  |  |
| 52 | Automotive Air-conditioner TrainerModel:- 512-RAC or equivalentAUTOMOTIVE AIR CONDITIONING TRAINER MODEL: IPC – 512-RACIPC-512 is an educational unit designed for teaching by demonstration of the fundamentals in automotive air conditioning system. The components normally used in after-market installations is cars are located on a movable steel trolley to make it easy to follow the refrigerant cycle and to understand the principles. The particular mounting conditions as for the auto chassis are also simulated as much as possible. Inlet and outlet of compressor are equipped with the pressure gauges. A 12Volt DC power supply operates the compressor clutch, evaporator blower, and condenser fan, Variable speed motor, R.P.M meter. IPC-512 operates on AC 220V, 50Hz. 1. PH and the refrigerant R-134A. User manual.  | 01 |  |  |
| 53 | 4 Stroke Engine Sectioned ModelModel:- IPC-9100-SE or equivalentSize (cm)40x40x65HNet weight (kg)9The most rational training model of a 4-stroke petrol engine. Complete with sectioned carburetor and coil ignition, cooling system, distribution system, spark coil etc.This cutaway model is carefully sectioned for training purposes, professionally painted with different colors to better differentiate the various parts, cross-section, lubrication circuits, fuel system, cooling system etc.  | 01 |  |  |
| 54 | 2-stroke Gasoline Engine Model:- IPC-9600-SGE or equivalentThe IPC-9600-SGE is an educational training demonstrator to understand the internal structure and operating principle of 2 stroke 1 cylinder air cooled gasoline engine by precisely cross sectioning components such as Cylinder, Cylinder Head, Fuel Tank, Intake and Exhaust Manifolds, Carburetor, Muffler, Alternator, etc. Mounted on stainless steel base frame. Dimensions40 x 30 x 40cm (L x W x H | 01 |  |  |
| 55 | Air Cleaner sectioned modelModel:- IPC-2200-AC or equivalentAIR CLEANER STRUCTURE EDUCATIONAL SYSTEM MODEL: IPC – 2200 – ACThe IPC-2200-AC is an educational training demonstrator to understand the internal structure and operating principle of air cleaner by cross-sectioning components. Mounted on stainless steel base frame. Dimensions30 x 20 x 25cm (L x W x H) | 01 |  |  |
| 56 | CARBURETOR STRUCTURE EDUCATIONAL SYSTEMMODEL: IPC – 6300 – CS or equivalentCARBURETOR STRUCTURE EDUCATIONAL SYSTEMMODEL: IPC – 6300 – CS The IPC-6300-CS is an educational training system for understanding internal structure and operating principle of carburetor by precisely cross-sectioning components such as Choke, Venture, Float, Throttle Body and Diaphragm. Mounted on stainless steel base frame.Dimensions30 x 20 x 20cm (L x W x H) | 01 |  |  |
| 57 | CRANKSHAFT STRUCTURE EDUCATIONAL SYSTEM MODEL: IPC – 2400 – CV or equivalentCRANKSHAFT STRUCTURE EDUCATIONAL SYSTEM MODEL: IPC – 2400 – CVThe IPC-2400-CS is an educational training demonstrator to understand the internal structures of In-line 4 Cylinder Crankshaft, Whose components are Crank Journal, Pin, Arm and Balance Weight. Mounted on stainless steel base frame. Dimensions57 x 40 x 20cm (L x W x H) | 01 |  |  |
| 58 | MECHANICAL FUEL PUMP STRUCTURE EDUCATIONAL SYSTEM MODEL: IPC – 2700 – FP or equivalentMECHANICAL FUEL PUMP STRUCTURE EDUCATIONAL SYSTEM MODEL: IPC – 2700 – FPThe IPC-2700-FP is an educational training system for understanding internal structure and operating principle of mechanical type fuel pump by precisely cross-sectioning components such as Suction Valve, Chamber, Diaphragm, Return Spring, Discharge Valve and Rocker Arm. Mounted on stainless steel base frame. | 01 |  |  |
| 59 | MUFFLER STRUCTURE EDUCATIONAL SYSTEM MODEL: IPC – 8200 – MS or equivalentMUFFLER STRUCTURE EDUCATIONAL SYSTEM MODEL: IPC – 8200 – MSThe IPC-8200-WP is an educational training demonstrator to understand the internal structure and operating principle of muffler by cross-sectioning components. Mounted on stainless steel base frame. Dimensions49 x 40 x 20cm (L x W x H)  | 01 |  |  |
| 60 | PISTON STRUCTURE EDUCATIONAL SYSTEM MODEL: IPC – 2600 – PS or equivalentPISTON STRUCTURE EDUCATIONAL SYSTEM MODEL: IPC – 2600 – PSThe IPC-2600-PS is an educational training demonstrator to understand the internal structures and functions of Compression Ring, Oil Ring, Connecting Rod, and Journal Bearing in Piston. Mounted on stainless steel base frame. Dimensions40 x 30 x 15cm (L x W x H) | 01 |  |  |
| 61 | SHOCK ABSORBER STRUCTURE EDUCATIONAL SYSTEM MODEL: IPC – 2500 – SA or equivalentSHOCK ABSORBER STRUCTURE EDUCATIONAL SYSTEMMODEL: IPC – 2500 – SAThe IPC-2500-SA is an educational training demonstrator to understand the internal structure and operating principle of Twin Tube type oil shock absorber and Coil Spring by cross-sectioning components. Mounted on stainless steel base frame. Dimensions57 x 40 x 15cm (L x W x H) | 01 |  |  |
| 62 | WATER PUMP STRUCTURE EDUCATIONAL SYSTEM MODEL: IPC – 2300 – WP or equivalentWATER PUMP STRUCTURE EDUCATIONAL SYSTEM MODEL: IPC – 2300 – WPThe IPC-2300-WP is an educational training demonstrator to understand the internal structure and operating principle of Water Pump by cross-sectioning components. Mounted on stainless steel base frame. Dimensions30 x 20 x 15cm (L x W x H) | 01 |  |  |
| 63 | EFI STRUCTURE EDUCATIONAL SYSTEM MODEL: IPC – 6200 – EFI or equivalentEFI STRUCTURE EDUCATIONAL SYSTEM MODEL: IPC – 6200 – EFIThe IPC-6200-EFI is an educational Training system for understanding Internal structure and operating principle of electronic controlled fuel injection by precisely cross-sectioning components such as Throttle Body, Surge tank and Injector. Mounted on stainless steel base frame. Dimensions49 x 40 x 32 (L x W x H) | 01 |  |  |
| 64 | MPFI petrol engine, 4 cylinder water cooled, complete assembly with wiring, 650 CC, Engine Working Model: - IPC-9500-EB, Toyota & equivalent.AN OPERATIONAL 4-STROKE EFI GASOLINE ENGINE COUPLED TO AUTOMATIC TRANSMISSION TRAINER WITH LIVE ECU DATA DISPLAY - MODEL: IPC – 9500 – EB The IPC-9500-EB is an advanced educational training system for demonstrators teaching students the various systems of a modern 4-stroke gasoline engine and its various electronic systems such as fuel metering and delivery, emission control, electrical etc. Live ECU diagnostic data is displayed via the OBDII port on a tablet mounted on the front console. Gears shift automatically but can also be shifted manually. Accelerator pedal can be depressed with live changes in data which can also be recorded via the included software for later retrieval or teaching, among the many other advanced features. This modern trainer can be used to teach engine diagnostics to advanced students, as well as basic operations of various live systems to beginners. Various scenarios can also be created by an experienced trainer to simulate upset conditions and the students can then work hands-on to resolve those issues using multiple data sources such as DTCs, live ECU data or conventional tools.  Dimensions 40 x 30 x 40cm (L x W) | 01 |  |  |
| 65 | Electric wiring diagram, EWD Trainer AutomobileChina or Equivalent.Specifications:Model:-IPC-100-AET (with stand)Size (cm) - 72.5x107x178HFully operational auto electric trainer manufactured using original components based on a generic auto electrical system, complete with charging, lighting, CB ignition system and starter motor. | 01 |  |  |

**Terms & Conditions are mentioned in Tender Notice.**

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