













**PROCUREMENT LIST OF BASIC TOOLS AND EQUIPMENT FOR PTCs**






**PROVINCE: Technical College of Vientiane Province**







**RELEVANT PROGRAMS/COURSES: Mechanical Technology Equipment**






**SUGGESTED SCHEDULE OF DELIVERY: April 2018**






ITEM NO.	ITEM DESCRIPTION	TECHNICAL SPECIFICATONS	PREFERRED BRAND/ MODEL	PICTORIAL SPECIFICATION	U/M	QTY.	UNIT PRICE	AMOUNT
<b>A. Mechanical Trade: Machanical Machining Practice</b>								
1	Roll Bending Machine	Hydraulic operated, 3-roll design, max thickness: ga 16, forming width: 2000 mm (2 meters)	Any brand		unit	1	7,200.00	7,200.00
2	Steel Bending Machine	Manual operated, 4 ft. flatform width, high quality	Any brand		unit	1	1,500.00	1,500.00
3	Plate Bending tool	Manually operated, 4ft. Flatform width, high quality, max cap.: ga 16 (3mm), bend angle: 0-180 deg	Any brand		unit	1	2,000.00	2,000.00
4	Plate Cutting Machine	Foot stomp operated, thickness capacity ga 16 (MS plate), shear length: 52 inches (1.3m)	Any brand		unit	1	4,000.00	4,000.00
5	Plate cutting machine	Hydraulic operated, shear length: 52" (1.3m), thickness cap.: ga 14 ( MS plate), Motor Power: 3 Hp (2.5Kw)	Any brand		unit	1	8,300.00	8,300.00
6	Circular plate cutting machine	Manually operated, cutting capacity: 3mm	Any brand		unit	2	3,000.00	6,000.00
7	Lathe machine	Motor Power: 1.5 kw., center height: 160mm, Max. machinable dia.: 320mm, Bench width: 181mm, Spindle speed: 65-1800 T/min., spindle bore: 40mm dia	Any brand		unit	3	10,000.00	30,000.00








ITEM NO.	ITEM DESCRIPTION	TECHNICAL SPECIFICATONS	PREFERRED BRAND/ MODEL	PICTORIAL SPECIFICATION	U/M	QTY.	UNIT PRICE	AMOUNT
8	Center Lathe machine	Cutting Capacity: 229mm, Bed length: 2100 to 12000 mm, Bed Width: 450mm, height of center: 375 to 450 mm, Motor Power: 5HP (3.75Kw), 3 phase	Any brand		unit	3	1,200.00	3,600.00
9	Angle cutting Machine	Speed: 4600 RPM, Power: 1.6Kw., Length: 10" (255mm)	Any brand		unit	4	800.00	3,200.00
10	Portable drilling machine	Power: 430 watta, chuck capacity: 13mm (1/2"), with hammer, Rated speed: 0-1600 RPM. Rated Torque: 20 Nm.,	Any brand		unit	5	200.00	1,000.00
11	Electric Arc Welding machine	250 Amp, 230 volts 60Hz., single phase, heavy duty, stepless amperage adjustment, with thermal overload protection, turbo fan cooling, complete with wheel kit and transport handle and accessories.	Any brand		unit	4	700.00	2,800.00
12	Mig-Mag Welder,	Input Power: 230 volts/60Hz., rated output voltage: 15.5 - 24 volts, output current range: 30 to 200Amp., variable wire speed control, with thermal overload protection, with turbo fan, 15 kg. wire spool capacity,	Any brand		unit	4	2,000.00	8,000.00








ITEM NO.	ITEM DESCRIPTION	TECHNICAL SPECIFICATONS	PREFERRED BRAND/ MODEL	PICTORIAL SPECIFICATION	U/M	QTY.	UNIT PRICE	AMOUNT
13	Plasma welder,	40 Amp/230 volts, microprocessor controlled inverter technology, for cutting stainless steel /aluminum/copper and brass, cap. 12mm thivk, rated supply current: 4kw cuttiing current range, air	Any brand		unit	4	3,000.00	12,000.00
14	Automatic gas cutting/profiling machine	layout: co-axial, SCR controlled, cutting thickness: 5-50mm, Torch speed: 0.2 - 6 RPM, cuting diameeter: 30-600mm, cuttiing materials: Carbon steel, iron, stainless steel, Power source Elecric, Voltage: 230 volts AC/ 60 Hz.	Any brand		unit	2	500.00	1,000.00
15	Gas welding and cutting outfit	set of Oxygen gas tank and LPG gas tank mounted in a wheeled cart, complete with cutting and welding outfit	Any brand		set	4	1,500.00	6,000.00
16	Paint spray gun,	Air pressure operated, operating pressure 20 - 66 psi (1.5 - 4 bar), air consumption: 5.3 to 14 cfm 9150 to 14 cfm, 1/4 BSP hose quick connect adapter/fitting	Any brand		set	5	109.00	545.00
17	Portable grinder,	Angle grinder type, fully adjustable guard, disc diameter: 115mm (4 1/2 " ), bore diameter: 22.2 mm, speed: 11,000 RPM at no load.	Bosh		unit	5	95.00	475.00
<b>B.</b>	<b>Mechanical Trade: Automotive Practice Workshop</b>							

ITEM NO.	ITEM DESCRIPTION	TECHNICAL SPECIFICATONS	PREFERRED BRAND/ MODEL	PICTORIAL SPECIFICATION	U/M	QTY.	UNIT PRICE	AMOUNT
18	Diesel engine model/trainer set	Common rail , 4 cylinder, complete with harness, battery, instrument panel, fault insertion box, and break out box and removable safety guards	Toyota		unit	2	8,000.00	16,000.00
19	Gasoline engine model/training set	Fuel injection, 4 cylinder, with fault simulation, with control unit diagnostic, nstrument cluster, with engine stand, and removable safety guards.	Toyota		unit	2	7,500.00	15,000.00
20	Automotive air-conditioning trainer set	Refrigerant: 134a, Ref, capacity: approx. 3 Kw., Supply voltage: 12vDC, complete with accessories and operation manual	Any brand		unit	2	7,000.00	14,000.00
21	Automotive basic electrical/electronics training set	Modular demonstration panel type with wheels, 12vDC , complete with accessories and connecting cables	Any brand		unit	2	5,000.00	10,000.00
22	Auto basic electrical chassis training set	Capable of actual wiring of basic electrical systems mounted on simulated model auto chassis and wheels 12vDC , complete with accessories and connecting cables	Any brand		unit	2	5,000.00	10,000.00
23	Electronic ignition system troubleshooting simulator	Direct ignition system faulted, live component operation, magnetic generator sensor type, realistic troubleshooting, local fault indertion, complete with courseware/manual	Any brand		set	2	4,000.00	8,000.00

ITEM NO.	ITEM DESCRIPTION	TECHNICAL SPECIFICATONS	PREFERRED BRAND/ MODEL	PICTORIAL SPECIFICATION	U/M	QTY.	UNIT PRICE	AMOUNT
24	Diesel Injection Pump trainer/simuator	Actual fuel injector pump operation, variable control of injection timing, visible individual fuel injector ooutput, stanadyne rotary injection pump, comlete with coueware and training	Any brand		unit	1	4,000.00	4,000.00
25	Motorbike trainer/model	Motorcycle 4 stroke engine, with complete set of components simulation, complete with lead wires (jacks) and training manual/workbook	Preferably Honda		set	3	3,000.00	9,000.00
26	Automotive underchassis/underca rriage trainer/model	Skeletal model with 3 cylinder engine, complete with transmission, drive lines, and wheels,	Toyota		unit	1	10,000.00	10,000.00
27	ABS system training set/simulator	capbale of performing practical exercise, with original car ABS system, working principle and process is LED displayed, motor operated: 230volts AC/60hz.	Any brand		unit	2	3,500.00	7,000.00
28	Steering and suspension Trainer/simulator	includes operational Mcpherson struts, Rack and Pinion, and Power steering, folding steering wheel and castter for easy storage, Powder coated frame, complete wikth courde ware and training	Any brand		unit	1	5,500.00	5,500.00








ITEM NO.	ITEM DESCRIPTION	TECHNICAL SPECIFICATONS	PREFERRED BRAND/ MODEL	PICTORIAL SPECIFICATION	U/M	QTY.	UNIT PRICE	AMOUNT
29	Automatic transmission trainer	Cut away model showing transfer case gears and functions, actual late model transfer case, cutaway painted to enhance viewing, manual operated handle allows rotation of gears, mounted on powder coated metal stand	Any brand		unit	1	4,000.00	4,000.00
30	Brake system trainer	4-wheel, hydraulic type, mounted on a powder coated frame, complete with courseware and training	Any brand		unit	1	5,000.00	5,000.00
31	Refrigerant handling systems	Capable of performing evacuation, recovery and flushing, Power source: 230 vAC, 60Hz.	Any brand		unit	2	2,000.00	4,000.00
32	Nitrogen inflator	For inflating tires, nitrogen concentration; 95%, tank capacity: 47 liters, max, nitrogen pressure: 8 bar (115 psi), power supply: 230 v / 60Hz.	Any brand		unit	1	2,500.00	2,500.00
33	Automotive Brake bleeder machine,	Air supply: 70-110 psi (5-8 bar), complete w/ anti-kink hoses and bleeder hose connector, reservoir, capacity: 10 Liters, vacuum capacity: 500mm Hg	Any brand		unit	2	412.00	824.00









ITEM NO.	ITEM DESCRIPTION	TECHNICAL SPECIFICATONS	PREFERRED BRAND/ MODEL	PICTORIAL SPECIFICATION	U/M	QTY.	UNIT PRICE	AMOUNT
34	Disc and Drum Brake Lathe Machine	Off-car bench Lathe type, Cast iron housing, adjustable feed speeds, multiple arbor capability, Facing capacity: 6" rotor or flywheel	Any brand		unit	2	<b>3,275.00</b>	<b>6,550.00</b>
35	Motorcycle	125 cc, Auto start Auto transmission, 4-Stroke, SOHC - 2 Valve, Liquid Cooled, Combi Brake (CBS)	Honda		unit	2	<b>3,000.00</b>	<b>6,000.00</b>
36	Standard Motorcycle	100/110 cc, Engine: 4-stroke DOHC, Air cooled, kick start, carburetor type	Honda		unit	2	<b>2,000.00</b>	<b>4,000.00</b>
37	LCD Projector	For conference room, 230 volts AC, resolution: 1280 x 800, connection: VGA/HDMI, zoom lens: 1.3 : 1	Sony		unit	4	<b>970.00</b>	<b>3,880.00</b>
38	Motorcycle	110cc, auto start, Auto transmission, Top Speed: 80KPH, Max Power: 80bph @ 7500RPM,	Honda		unit	2	<b>1,600.00</b>	<b>3,200.00</b>
39	Basic hydraulic simulator/trainer set	Hydraulic pump power: 230 v AC / 60 Hz., complete with instructor's manual, student and assessment guides.	Any brand		unit	2	<b>10,000.00</b>	<b>20,000.00</b>
40	Vacuum pump	Air Conditioning servicing, vacuum cap. 1/3hp, 230 volts, 60 Hz.	Any brand		unit	2	<b>540.00</b>	<b>1,080.00</b>








ITEM NO.	ITEM DESCRIPTION	TECHNICAL SPECIFICATONS	PREFERRED BRAND/ MODEL	PICTORIAL SPECIFICATION	U/M	QTY.	UNIT PRICE	AMOUNT
41	Coil spring remover	Hydraulic operated, Capacity: 1 ton (2200 lbs),	Any brand		unit	3	600.00	1,800.00
42	Hose reel set	For compressed air, automatic retractable, 50 ft. hose length, 250 psi x 3/8" hose, wall mounted	Any brand		unit	5	350.00	1,750.00
43	Gear oil filling pump	hand pump operated, manually operated,	Any brand		unit	3	400.00	1,200.00
44	Transmission lifter	lifting capacity: .5 ton (1100 Lbs.), gross weight: 114 lbs. (52kg.), Lift range: 33 inch to 70 Inch (830mm to 1780mm)	Any brand		unit	5	200.00	1,000.00
45	Mechanics creeper	Length: 1010mm, rigid PVC material, multi directional caster wheels, max carrying weight: 150kg.	Any brand		unit	5	150.00	750.00
46	Car Jack Stand	capacity: 7 tons, Lifting range: 16" to 25", with quick adjustment mechanism	Any brand		unit	10	100.00	1,000.00
47	Injector and pump test bench	Can test for common rail injector, Power supply: 230 volts AC / 60 Hz., Power	Any brand		unit	1	22,000.00	22,000.00









ITEM NO.	ITEM DESCRIPTION	TECHNICAL SPECIFICATONS	PREFERRED BRAND/ MODEL	PICTORIAL SPECIFICATION	U/M	QTY.	UNIT PRICE	AMOUNT
48	Battery charger	12v/24v, 500 Amps, input power: 230 volts AC/60 Hz, with trolley wheels, with thermal overload protector,	Any brand		unit	2	1,023.00	2,046.00
49	Laptop	15.4 inch., i7, 512 GB SSD, 16GB RAM	Acer		unit	2	1,500.00	3,000.00
50	Tool Cabinet	5 drawer with rollers, with two fixed and two brake swivel caster, drawer sizes: 569 x 404 x 121mm	Any brand		unit	2	900.00	1,800.00
51	<b>Mechanical Trade: Agriculture Technology Workshop</b>							
52	Lawnmower	4wheel drive, hydrostatic power steering, liquid cooled 3 cylinder diesel engine, engine power: 25-30 HP (Kubota Mower F-2690 model)	Kubota		unit	1	22,000.00	22,000.00
53	Small diesel engine	Power: 14 HP, 2400Rpm, water cooled, Direct injection, auto start	Kubota		unit	6	2,900.00	17,400.00
54	Walkbehind cultivator	Forward rotating type, Tills up to 10" deep,	Any brand		unit	4	1,200.00	4,800.00

ITEM NO.	ITEM DESCRIPTION	TECHNICAL SPECIFICATONS	PREFERRED BRAND/ MODEL	PICTORIAL SPECIFICATION	U/M	QTY.	UNIT PRICE	AMOUNT
55	Power Tiller	Engine driven, 4-speed transmission, Large cage wheel, iron wheels	Kubota		unit	5	3,000.00	15,000.00
56	Small engine	Gasoliine fueled, Air cooled 4-stroke OHV engine, displacement: 118 cu. M., 3.5Hp (2.6 Kw.), Mechanical type governor	Honda		unit	5	980.00	4,900.00
57	Hand Grass Cutter	42 cc, two-stroke, air cooled engine, no load speed: 3000 rpm, cutting width: 43oklmm (17"),	Honda		unit	5	100.00	500.00
<b>C. Automotive Trade: Measuring Tools/Maintenance and Repair Tools</b>								
58	Digital vernier caliper,	Hardened steel, readings .01mm (.005"), range 0-150mm (6"),	Mitotoyo		pc.	5	130.00	650.00
59	Dial vernier caliper	.02 mm accuracy reading, 150mm long, Hardened stainless steel, dial read out, four way measurement: internal, external, depth and step,	Mitotoyo		unit	5	150.00	750.00
60	Dial vernier caliper	.02 mm accuracy reading, 300 mm long, Hardened stainless steel, dial read out, four way measurement: internal, external, depth and step,	Mitotoyo		unit	5	200.00	1,000.00
61	External micrometer	dual read out, 0-25mm range, digital (metric and english), enameled frame, .001mm (.0005" ) accuracy, ball end cap,	Mitotoyo		unit	5	250.00	1,250.00

ITEM NO.	ITEM DESCRIPTION	TECHNICAL SPECIFICATONS	PREFERRED BRAND/ MODEL	PICTORIAL SPECIFICATION	U/M	QTY.	UNIT PRICE	AMOUNT
62	External micrometer	dual read out, 25-50 mm range, digital (metric and english), enameled frame, .001mm (.0005" ) accuracy, ball end cap	Mitotoyo		unit	5	300.00	1,500.00
63	Bore gauge set	Accuracy: .01mm , contains 3mm dial indicator, 55mm extension bar, spacer rings, and measuring rods 10 to 100mm lomg	Japan or Germany made		set	4	250.00	1,000.00
64	Dial indicator set	Metric seet, .01mm accuracy, complete set with: 0-25mm dial test indicator with plunger, 0-1.5mm dial test indicator with stylus, magnetic	Any brand		set	2	250.00	500.00
65	Oil filter cup socket set	Comprising of 14 sockets complete with male and female adaptors	Any brand		set	5	185.00	925.00
66	Digital Multi-meter	24 position rotary function, battery : 1 x 9 V PP3 type, measures resistance, AC/DC volts, dwell angle, Temperature, tachometer readng,	Any brand		set	10	250.00	2,500.00
67	Quick coupler adapter	For 134 a refrigerant, 2 pc per set, 1/4" male flare	Any brand		set	5	18.00	90.00
68	Speed gauge (Tachometer)	Wireless ignition analyzer and Tachometer (Smartach T-100)	Any brand		set	3	200.00	600.00
69	AC system analyzer,	Valve and gauge set, for R134a refrigerant, complete with hoses and R134a adaptor	Any brand		unit	5	120.00	600.00

ITEM NO.	ITEM DESCRIPTION	TECHNICAL SPECIFICATONS	PREFERRED BRAND/ MODEL	PICTORIAL SPECIFICATION	U/M	QTY.	UNIT PRICE	AMOUNT
70	Air operated valve lapping tool	Operating pressure: 90 psi, air actuated, complete with tools and cups, cup sizes: 21mm, 33mm, 38mm	Any brand		pc.	3	600.00	1,800.00
71	Coolant radiator pressure test kit	Cooling system test master kit, complete set with hand pump, adaptors, vacuum purge and refill kit	Any brand		unit	2	400.00	800.00
72	Diagnostic tool/multi car engine scanner analyzer,	For all OBD II vehicles, Power: 12 volts DC, Tablet PC parameters: 16 GB memory, 8 GB storage, 16 core GPU HD, OS: Android 4.0, connection method: Standard OBD II	Any brand		unit	2	9,000.00	18,000.00
73	Refrigerant leak detector kit	Detects refrgegrants 134a and other refrigerants, infrared type	Any brand		unit	5	300.00	1,500.00
74	Universal Motorcycle Fault Diagnostic Scanner (Motorcycle Scan Tool)	Power 8 watts, 12 volts, compatible with all asian motorcycle brands, complete with connector cables and accessories,	Any brand		set	2	2,250.00	4,500.00
75	Diesel engine compression tester	Use for direct or indirect fuel injection, pressure sckae: 0-1000 psi (0-70kg./sq. cm.), complete with adaptor, hose and coupling	Any brand		set	5	500.00	2,500.00
76	Pneumatic wrench,	15 pc. Set, 1/2" drive , ultimate torque; 28 lb-ft. (380 Nm), operating air pressure: 90 psi (6.2 bar), hose size: 1/4" BSP.	Any brand		set	5	240.00	1,200.00

ITEM NO.	ITEM DESCRIPTION	TECHNICAL SPECIFICATONS	PREFERRED BRAND/ MODEL	PICTORIAL SPECIFICATION	U/M	QTY.	UNIT PRICE	AMOUNT
77	Flaring tool set	set contains doouble flariing tool, cutter, for copper, brass and aluminum, high quality material	Any brand		set	3	80.00	240.00
78	Torque wrench	Electronic type, digital read out, 68 to 340 Nm capacity, accuracy: ±4%, length: 650 mm	Japan or Germany made		set	4	1,100.00	4,400.00
79	Timing light	Pistol grip, 12vDC, xenon bulb, inductive pick up, impact resistant housing with on/off trigger switch.	Any brand		set	4	200.00	800.00
80	CV boot installer	Air operated CV boot remover/installer, superior quality	Any brand		unit	3	180.00	540.00
81	Bushing Installer and Removal Kit	Allows removal and iinstallation of suspension bushings, Range OD 44 mm / ID 34 mm to OD 90 mm / ID 80 mm, complete with acme thread spindles, 10 mm, 12 mm, 14 mm & 16 mm featuring ball bearing thrust washers to insure smooth operation.	Any brand		sets	2	350.00	700.00
82	Multi-meter	Analog type, Measuring Voltage Range: 0.1V-1000V, Measuring Resistance Range: 1Ω-100kΩ	Any brand		sets	10	100.00	1,000.00









97,620.00











205,880.00

64,600.00









50,845.00

418,945.00