



MINISTRY OF EDUCATION AND SPORTS

UGANDA SKILLS DEVELOPMENT PROJECT

Technical specifications

For

SUPPLY, DELIVERY, INSTALLATION, TRAINING OF USERS AND COMMISSIONING OF WORKSHOP/CLASSROOM EQUIPMENT FOR KARERA, NYAMITANTA AND LAKE KATWE VOCATIONAL TRAINING INSTITUTES

VOL.2 OF 2

LOT 1: WORKSHOP/CLASSROOM EQUIPMENT FOR KARERA TECHNICAL INSTITUTE

CODE	ITEM	SPECIFICATIONS	UNIT	TOTAL QUANTITY
A2	Center punches (prick punch)	Chrome-vanadium steel forged, hardened to 52 to 58 HRc. Diameter 10 mm Length 115 mm	set	8
A 10	Drill bits	Set 25 drills (HSS) from diameter 1mm to 13mm in a metal box	set	4
A10-1	Drill bits	Set 25 drills (HSS) from diameter 1mm to 13mm in a metal box	set	4
A 12	File flat with plastic handle	Length 250 mm second cut	unit	16
A 13	Files half-round with plastic handle	Length 250 mm second cut	unit	16
A 14	Files rat-tail with plastic handle	Length 250 mm second cut	unit	16
A 16	Galvanized metal bucket	Capacity 10l	unit	4
A19	Hammer - Locksmith hammer	Weight : 250g - fiberglass handle	unit	16

A21	Hammer - Rubber mallet	Soft and hard faced, wood handle. Weight 650g	unit	4
A23	Length : 335 mm Weight: 400g Head length : 125 mm Head diameter : 5,3 cm	Length : 335 mm Weight: 400g Head length : 125 mm Head diameter : 5,3 cm	set	4
A 25-2	Tube Die set for manual tube bender	180° 3/4" Round Tube Die Set 3" CLR (Center line Radius)	set	1
A 26	Metal hooded dust pan	Width : 280 mm (11")	unit	4
A 28	Metallic oil can	Capacity 500 cc with flexible hose.	unit	4
A31	Pin punch set	8 pieces diameter : 2,4 - 3,2 - 4 - 4,8 - 5,6 - 6,4 -7,9 and 9,5 mm	set	2
A33	Tube Die set for manual tube bender	180° 2" round tube die set 6" CLR (Center line Radius)	set	2
A 34	Plastic bucket	Capacity 10l	unit	4
A 50	Saw - Compact hack saw frame and blades	Steel/resin construction. • Blade tension 80 kg. • 2 blade positions: 45° and 90°.	unit	8

		<ul style="list-style-type: none"> • Takes 300 mm blade. • Dimensions (L. x W.): 385 x 145 mm. 		
A 51	Scientist digital calculator solar power	All- purpose scientific calculator 12-Digit LCD	unit	16
A52	Plier - Side-cutter pliers	Width 21,5 mm - Length 160 mm	unit	4
A 53	Screwdriver - Set of wood handle flat screwdrivers	Size : 5,5X100 - 6,5X125 - 8X150 - 10X175 - 12X200	set	2
A 54	Screwdriver - Set Wood handle screwdrivers for Phillips® screws - hexagonal blade	5x100 - length : 200- Hex Size 8 6x125 - length : 240 Hex Size 10 8x150 - length : 270 Hex Size 13 Forged and treated hexagonal blade for locking or unlocking with a wrench	set	2
A 55	Scroll shears	Capacity Semi-hard steel [mm] 1,0	unit	2
A56	Set of drills	Blue color	set	1
A58	Saw - Compact hack saw frame and blades	Steel/resin construction. <ul style="list-style-type: none"> • Blade tension 80 kg. • 2 blade positions: 45° and 90°. 	unit	2

		<ul style="list-style-type: none"> • Takes 300 mm blade. • Dimensions (L. x W.): 385 x 145 mm. 		
A 63	Short hexagon keys	Key sizes : 10 - 12- 14 - 16 - 18 Finish: phosphate-coated.	set	8
A 64	Small hand broom	Total length 30cm	unit	16
A65-1	DesoldSering braid	Width: 1.6 mm. - Length: 1.6 m	unit	4
A 67	Standard taps	Set of 3 taps (taper, second and bottoming). M3 - M4 - M5	set	4
A 68	Standard taps	Set of 3 taps (taper, second and bottoming). M6 - M8 - M10	set	4
A 69	Standard taps	Set of 3 taps (taper, second and bottoming). M12 - M14 - M16	set	4
A 71-1	Steel wire brush	Dimensions: 280 x 34 x 60 mm 4 rows	unit	8
A72	Stepped drill	d mini - maxi [mm]4 - 6 - 9 - 12 - 15 - 18 - 21 - 24 - 27 - 30 - 33 - 36 - 39 Parallel shank with 3 flats for positive rotation. Cross-sharpening: self-centering	unit	2

A 73	Set of split die metric set M3 to M18	Description : <ul style="list-style-type: none"> • ISO metric RH thread. • Chrome-vanadium HSS hardened to 62/64 HRc (234 daN/mm²). • Tapered adjusting screw M3X50 - Ø 25,4 M4X70 - Ø 25,4 M5X80 - Ø 25,4 M6X100 - Ø 25,4 M8X125 - Ø 25,4 M10X150 - Ø 38,1 M12X175 - Ø 38,1 M14X200 - Ø 38,1 M16X200 - Ø 38,1 M18X250 - Ø 38,1	set	4
A 74	Die Stocks (M3 to M9)	Description : <ul style="list-style-type: none"> • Pressure-cast Zamak body • OD 25,4 - Capacity from M3 - 3x50 -->to M9 - 9x125 	set	2
A 75	Die Stocks (M10 to M18)	Description : <ul style="list-style-type: none"> • Pressure-cast Zamak body • OD 38,1- Capacity from M10 10x150 --> M18 (18x250) 	set	2
A 76	Tap and die sets	Metallic box including : 24 taps - 12 threads - 5 dies includes sets of two taps per dimension: taper and bottoming M3 - M4 - M5 - M6 - M7 - M8 - M9 - M10 - M12 - M14 - M16 - M18	set	2

A77	<p>Metallic box including : 24 taps - 12 threads - 5 dies includes sets of two taps per dimension: taper and bottoming M3 - M4 - M5 - M6 - M7 - M8 - M9 - M10 - M12 - M14 - M16 - M18</p>	<p>Metallic box including : 24 taps - 12 threads - 5 dies includes sets of two taps per dimension: taper and bottoming M3 - M4 - M5 - M6 - M7 - M8 - M9 - M10 - M12 - M14 - M16 - M18</p>	set	16
A79	<p>Toolbox - Maintenance and Production tool box</p>	<p>• Reinforced polypropylene bin. • Flexible bumpers at the angles. • aluminum handle. • Storage capacity: 36 litres. 10 kg. • Dimensions (L x W x H) 50.2 x 26.8 x 27.3 cm. • Removable plate (L x W x H): 47.5 x 24 x 17.5 cm.</p>	unit	16
A81	<p>3-tray metal tool box • Bin dimensions (L x W x H): 448 x 205 x 98 mm. • Compartment dimensions (L x W x H): 448 x 100 x 55 mm. • Useful load: 20 kg. • Volume: 13 dm³. • Dimensions (L x W x H): 475 x 220 x 185 mm</p>	<p>3-tray metal tool box • Bin dimensions (L x W x H): 448 x 205 x 98 mm. • Compartment dimensions (L x W x H): 448 x 100 x 55 mm. • Useful load: 20 kg. • Volume: 13 dm³. • Dimensions (L x W x H): 475 x 220 x 185 mm</p>	unit	2

A 82	Variable opening wrenches 4''	<ul style="list-style-type: none"> •Opening from 13 to • Pre-adjustment of jaw opening thanks to millimetric gradation • Left-hand button rotation Phosphated	set	2
A 83	Variable opening wrenches 6''	<ul style="list-style-type: none"> •Opening from 20 to • Pre-adjustment of jaw opening thanks to millimetric gradation • Left-hand button rotation Phosphated	set	2
A 84	Water hose	Length : 15m (50ft) - Ø 5/8"	units	2
A 86	Workshop broom complete: head with handle	Width : 600 mm (24")	unit	4
A87	Wrecking bar	Length : 495 mm <ul style="list-style-type: none"> • Forged, one flat end and one nail-claw, hardened to 45 HRc. • Presentation: red lacquered, polished, varnished ends 	unit	2
A 88	Wrench - Adjustable tap wrenches	Pressure-cast Zamak body. Machined and hardened clamp Open Position mini-maxi [mm] 2-8 Tapping M3 to M7	set	4
A 89	Wrench - Adjustable tap wrenches	Pressure-cast Zamak body. Machined and hardened clamp Open Position mini-maxi [mm] 5-16 Tapping M6 to M12	set	4

A 90	Wrench - Adjustable tap wrenches	Pressure-cast Zamak body. Machined and hardened clamp Tapping M14 to M20	set	4
A 93	Wrench - Metric angled socket wrenches : set of 16	Including wrench size : 8 - 9 - 10 - 11 - 12 - 13 - 14 - 15 - 16 - 17 - 18 - 19 - 21 - 22 - 23 - 24	set	2
A 94	Wrench - Metric open-end ring wrench : set of 9	6x7 - 8x9 - 10x11 - 12x13 - 14x15 - 16x17 - 18x19 - 21x23 - 22x24	set	2
A 97	Wrench - Short hexagon keys ringset	Key sizes : 1,5 - 2,0 - 2,5 - 3,0 - 4,0 - 5,0 - 6,0 - 8,0 Finish: phosphate-coated.	set	4
A98	Wrench - Metric combination ratchet wrenches : set of 10	Including wrenche size : 8 - 10 - 11 - 12 - 13 - 14 - 16 - 17 - 18 - 19	set	2
A 99	Wrench - Metric combination wrench : set of 18	Including wrenche size : 6 - 7 - 8 - 9 - 10 - 11 - 12 - 13 - 14 - 15 - 16 - 17 - 18 - 19 - 21 - 22 - 23 - 24	set	2
A100	Wrench - Ratchet and socket wrench sets	Specifications <ul style="list-style-type: none"> • 1 x high performance sealed 1/2" ratchet 19 x 1/2" metric 6-point sockets S.H 8 - 9 - 10 - 11 - 12 - 13 - 14 - 15 - 16 - 17 - 18 - 19 - 21 - 22 - 23 - 24 - 27 - 30 - 32 mm. • 2 x 1/2" extensions: L 130 mm - L 250 mm. • 1 x 1/2" universal joint 	set	3

A 101	Wrench - Variable opening wrenches 8"	<ul style="list-style-type: none"> •Opening from 27 to • Pre-adjustment of jaw opening thanks to millimetric gradation • Left-hand button rotation Phosphated	set	2
B1-1	Air gun	Expected characteristics : <ul style="list-style-type: none"> - Operating Pressure 0 - 10 bar - Pneumatic connection Female thread 1/4 - Standard nominal flow rate 120 l/min . - Ambient temp -10 - 50 °C - Sound pressure level 90 dB(A) . - Exhaust-air function air jet can be dosed 	unit	4
B1-2	HOSE AIR RECOIL (5m)	Expected characteristics : <ul style="list-style-type: none"> •10 mm x 5m Braided W/ 1/4" BSP F Swivel •Fitted with 1/4" BSP male swivel fitting 	unit	4
B1-3	Swivel Air Hose Reel (30m)	Expected characteristics : <ul style="list-style-type: none"> •Swivel Base •Folding handle and 360° rotary base. • Hose diameter: 9.5mm • Connection hose length: 2m • Working pressure: 218psi (15 bar) • 1/4" male BSP fitting 	unit	2

B4	Extension Cord	<p>Expected characteristics:</p> <ul style="list-style-type: none"> - 25 ft. - Black Extension Cord - 3 Grounded Outlets - 240 Volt - Amperage: 15 Amps - Maximum Wattage: 1800 Watt - Indoor Use Only 	unit	4
B5	British 4 Gang Extension Leads Socket Type G - British	<p>Expected characteristics:</p> <ul style="list-style-type: none"> - Number of Sockets 4 - Mains Plug Type G - British BS1363 - Cord Length 5m - Mounting Type Keyhole Mounting, Wall Mount - Switchable - Current Rating 13A - Tension 220-250 AC - Dimension 150 x 50 x 400mm (WxHxL) 	unit	4

B6	Cable Drum IP44 50m 3x 1,5 mm²	<p>Expected characteristics:</p> <ul style="list-style-type: none"> - Power : 3200 W / 1100 W - Dimensions: Ø290 mm 180x260x370 mm - Section 3x1,5 mm² - outdoor use - Tension: 220-250V AC - Protection IP: IP44 - Current amperage: 4x16 A - Frequency: 50-60 Hz -Material: steel frame 	unit	2
B9-1	Accessories for Hammer drill (Drill bit, chisel shank type SDS-plus)	<p>Expected characteristics: (compatible with hammer drill model selected)</p> <p>Set includes of tools including : drills Ø 6 mm, Ø 8 mm, Ø 10 mm, Ø 16 mm for concrete</p> <p>Pointed chisel, Flat chisel, Cut off chisel (Max chisel diameter for concrete hammering Ø 26)</p> <p>Hole saw (Max. diameter for concrete drilling Ø 68 mm)</p>	set	2
B10-1	Grinders : die grinder	<p>Expected characteristics :</p> <ul style="list-style-type: none"> - Input wattage : 750 W - No-load speed : 7000-28000/min - Collet chuck : 6 mm (1/4") - With Spanner wrenches - Voltage: 220V 	unit	80

B11-1	Grinding wheels for steel	Technical specifications Grit : A36P Depressed Center Bore 22.23 mm Ø 125 mm Thickness 6 mm	unit	10
B11-2	Flap disc for steel	Technical specifications Grit #A60 Shape.A Disc Ø 125mm	unit	10
B11-3	Abrasive cutting disc for steel	Technical specifications Grit : A36P Depressed Center Bore 22.23 mm Ø 125 mm Thickness 2,5 mm	unit	10
B14-1	Blade for jig saw	Expected characteristics: Compatible with Jig saw selected Max. thickness of sheet metal 6 mm Min. thickness of sheet metal 2 mm Tooth spacing 1,8 mm -Total length 76 mm	unit	10
B15-1	Blade for reprocating saw (Saber saw)	Expected characteristics: Compatible with reprocating saw selected For cutting Pipes, Sheet metal, Steel Tooth spacing 1,8 mm-3,2 mm Width 19 mm - Max. thickness of sheet metal 8 mm	unit	20

		Max. pipe diameter 100 mm - Min. thickness of sheet metal 1 mm Thickness 0,9 mm - Total length 150 mm		
B16	Workshop vacuum cleaner wet and dry	Expected characteristics : Air flow (l/s) 67 - Vacuum (mbar/kPa) 200 / 20 Container capacity (l) 27 - Max. rated input power (W) max. 1380 Standard nominal size : 35 - Cable length (m) : 7.5 Sound level (dB(A)) : 72 - Container material : Plastic Frequency (Hz) : 50 - 60 - Voltage (V) : 220 - 240 Equipment to include: Suction hose, 2.5 m - Metal suction tube, 2 x 0.5 m Filter bag, Paper - Wet and dry floor tool, 300 mm Crevice nozzle - Cartridge filter	unit	2
B19	Electricity Power Generator Motor Educational Toy 1: Hot Air Stirling Engine Model	Description: - Product Name: Stirling Engine Model Model: 818153 - Size: 16.5x9x98cm/6.49"x3.54"x3.85" - Flywheel Diameter: 60mm/2.36" - Drive Wheel Diameter: 25mm/0.98" - Cylinder inner diameter: 16mm/0.62" - Color: Silver - Material: Aluminum Alloy + Zinc Alloy + Pyrex Glass - Voltage: 3-5V	unit	4

B20	Electricity Power Generator Motor Educational Toy 2: Mini Hot Air Vertical Stirling Engine Motor	Description: - Name: Mini Hot Air Stirling Engine Motor - Material: Aluminum alloy, Brass, Glass - Speed: 1300~1500 RPM - Bottom Diameter: 54mm -Height: 135mm	unit	4
C3-1	Metal Cutting Band saw Blade	Finishing Sandblasted Width 27 mm Length : 3m Material Cobalt M-42 steel Compatible with the selected Band saw		3
C4-1	Sanding belt for Pipe Notches	Product Features Grit 40 Band width 100 mm Band length 2000 mm Applicable with the selected Pipe notcher		10

C6	Pedestal Drilling Machine	<p>Expected characteristics:</p> <ul style="list-style-type: none"> - Drilling capacity in steel : 20 mm - Morse taper in spindle: 2 - Spindle traverse: 125 mm - Vertical adjustment on spindle head: 425 mm - Pillar diameter: 76,2 mm - distance between centre of spindle and column front: 200 mm - Max. distance between spindle and table: 300 mm - Max. distance between spindle and base: 1015 mm - Table working surface: 370 mm (with coolant gutter) - Base working surface: 385x375 mm - 5 spindle speeds - Range of spindle speeds: 375-700-1170-1900-3200 rpm - Hand feed - Power of the spindle drive motor: 0.75kW/1HP 1400rpm 415V AC, 3Ph 50Hz <p>Equipment to include:</p> <ul style="list-style-type: none"> - Drill chuck with key and arbor - Coolant pump 0.09kW/0.125 HP - Machine lamp - Reduction sleeves MT 2-1 - D.O.L. Starter with No Volt Coil - Drill press vice (width of jaws 125 mm, opening of jaws 140 mm, depth of jaws 40 mm) 		1
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C6-1	10 Piece Metric Morse Taper 2 Drill Bit Set	Industrial dark blue finished, HSS Morse taper number 2 shank drill set Individual sizes: 14.5, 15, 16, 17, 18, 19, 20, 21, 22, & 23 mm		3
C7	Bench Drilling Machine	<p>Expected characteristics:</p> <ul style="list-style-type: none"> - Drilling capacity in steel 13 mm - Morse taper in sipder 1 - Spindle traverse 100 mm - Vertical adjustment on spindle head 425 mm - Pillar diameter 57.15 mm - distance between centre of spindle and pillar front 149 mm - Max. distance between spindle and table 300 mm - Max. distance between spindle and base 500 mm - Table working surface 200x200 mm - Base working surface 180x210 mm - 4 spindle speeds - Range of spindle speeds 480-820-1320-2080 rpm - Hand feed - Power of the spindle drive motor 0.37kW/0.5HP 1425rpm 415V AC, 3 phases 50 Hz <p>With accessories:</p> <ul style="list-style-type: none"> - 13mm Drill chuck with arbor - Coolant pump 0.09kW/0.125 HP 		4

		<ul style="list-style-type: none"> - Machine lamp - Reduction sleeves MT 2-1 - D.O.L. Starter - Drill press vice (width of jaws 100 mm, opening of jaws 110 mm, depth of jaws 35 mm) 		
C15-1	Pedestal Mounted Grinding Machine	<p>Expected characteristics:</p> <ul style="list-style-type: none"> - number of positions : 2 - Type of positions : grinding wheels - size of grinding wheels : Ø200x25xØ20 - Motor: 400V 1,1kW (1,5hp) - 2 Turning speeds 1400/2800 rpm (15/30 m/s) <p>Equipment to include:</p> <ul style="list-style-type: none"> - with pedestal and grinding wheels 		2
C15-11	Bench & Pedestal Grinding Wheels	<p>size of grinding wheels : Ø200x25xØ20</p> <p>Wheel type: -1 for carbon steel, Grit: 80</p>		12
C15-21	Bench & Pedestal Grinding Wheels	<p>size of grinding wheels : Ø200x40xØ20</p> <p>Wheel type: -1 for carbon steel, Grit: 80</p>		2
C15-3	Diamond Grinding Wheel Dresser	Suitable For: White corundum corundum and silicon carbide ceramics and resin bonded grinding wheel dressing		1
C16-1	Wheel cutter	<p>Cutter diameter 110 mm - Z = 24</p> <p>Suitable for : Believing machine selected</p>		1

C21-1	Lot of replacement cutting tools for CNC lathe	Set of carbide tools supports and inserts carbide		2
C23	Conventional Lathe	<p>Expected characteristics:</p> <ul style="list-style-type: none"> - Tip height 150 mm - Allowable diameter above the bench 300 mm / above the transverse slide 180 mm / in the broken 430 - Distance between centers 750 mm - Width of the bench 181 mm - Spindle motor power 1.1 Kw - Type of spindle motor asynchronous - Spindle bore 38 mm - Spindle speed 75 to 1400 RPM - 9 gears - Spindle nose D1 - 4 " - Cone of spindle CM5 - Speed of longitudinal advances 0.078 to 1,044 mm/tr - Advanced cross-cutting speeds 0.018 to 0,238 mm/tr - Thread - Metric thread (nb) 0.45 to 10 mm - 40 Thread from 2 to 14 / inch - Transverse slideway stroke 175 mm - Small slide stroke 76 mm - Type of turret: quick change type E5 - Quill stroke 90 mm 		2

		<ul style="list-style-type: none"> - Cone morse of the tailstock CM3 - Power supply Three-phase 380V <p>Equipment to include:</p> <ul style="list-style-type: none"> - Chuck 3 Jaws diameter 160mm - Chuck 4 Jaws diameter 200mm - Clamping plate diameter 250mm - 2 axes visualisation with glass scales - Dry point / Fixed steady / Bezel has follow / Rotating tip 		
C23-1	Lot of replacement cutting tools for Conventional lathe	Set of carbide tools supports and inserts carbide		2
C23-2	Lot of replacement cutting tools for Conventional lathe	Set of tools for conventional lathe		2
C24	Conventional Milling Machine	<p>Expected characteristics:</p> <ul style="list-style-type: none"> - Longitudinal race X 560 mm - Cross-running Y 200 mm - Vertical travel Z 360 mm - Grooves (w. x spacing x nb.) 14 x 44 x 5 mm - Distance (vertical) spindle nose / table 70-420 mm - Cone of spindle SA40 - Pin stroke 120mm - Head type Bridgeport 		2

		<ul style="list-style-type: none"> - Type of transmission = pinion - Spindle speed 115 at 1750 RPM - 8 gears - Spindle motor power 0.85 / 1,5 Kw - Rapid advances (X/Y) 0.4 / 0.4 / 0n4 m/min - Electrical installation Kw 380V 3 phases <p>Equipment to include:</p> <ul style="list-style-type: none"> - Manual centralized lubrication system - Viewing 3 axes - Milling vise - Clamping Kit 		
C24-1	Lot of replacement cutting tools for Conventional Milling Machine	Set of carbide tools and inserts carbide for Conventional milling machine		2
C24-2	Lot of replacement cutting tools for Conventional Milling Machine	Set of tools for Conventional milling machine		2

C25-1	Vertical Band saw Blade	(5/8 Tooth Count M42 Bi-Metal) Suitable For: the selected vertical band saw		6
D1	Welding Smoke Filter Unit - 2 Arms	Expected characteristics: <ul style="list-style-type: none"> - 2 exhaust arms - 2 filter stages - Filter method: Disposable filter - Filter surface: ca. 17 m² - Extraction capacity: 2 x 700 m³/h - Motor power: 1.1 kW - Power supply: 3 x 400 V / 50 Hz - Rated current: 2.3 A - Control voltage: 24 V, DC 	unit	6
D2	Welding Training Table with drawer	Expected characteristics: <ul style="list-style-type: none"> - Robust steel profile construction - Two-section work surface: iron bar grating and sheet steel support surface with refractory material 	unit	12

		<ul style="list-style-type: none"> - Dimensions 600 x 600 x 800 mm (WxDxH) - including forced position welding fixture 		
D3	Transparent Welding Booth kit	<p>Expected characteristics:</p> <ul style="list-style-type: none"> - Dimension 1800 x 2400 x 3.5 mm (HxWxThick) - 2 different colors (12 of each) - Protective Material Transparent (Vinyl or PVC) - Withstand Temp. 150 Degrees F - Material Weight 0.4 kg/m² - With Grommet - Placement: 30 cm Centers on Four Sides - Front Door to be Curtain. Other Three Sides fixed <p>Equipment to include: 4 Curtains, 25 mm round Tube Steel Curtain Frame, Snap Locks, Nylon Ties, Steel Rings</p>	unit	12
D4	Arc Welding Generator equipped	<p>Expected characteristics:</p> <ul style="list-style-type: none"> - Mains voltage 1 x 230 V (50/60 Hz) - Max. effective primary power 15 A - Max. primary power 24 A - Max. apparent power 5,52 kVA - Slow blow mains fuse 16 A - Cos Phi 0,99 - Current range 10 – 150 A - Welding current range at 10 min./40°C 35% 150 A 	unit	16

		<ul style="list-style-type: none"> - Welding current range at 10 min./40°C 100% 90 A - Open circuit voltage 96 V - Degree of protection IP 23 		
D4-1	Electrodes, Arc Welding Consumables	<p>Electrode rutile (EC4102) Ø 2,5</p> <p>Universal rutile electrodes for welding general purpose structural steels , steels and shipbuilding steel tubes. Also used for all types of maintenance.</p> <p>Weldability in all position</p>	pkges	30
D4-2	Electrodes, Arc Welding Consumables	<p>Electrode rutile (EC4102) Ø3.2</p> <p>Universal rutile electrodes for welding general purpose structural steels , steels and shipbuilding steel tubes. Also used for all types of maintenance.</p> <p>Weldability in all position</p>	pkge	30
D4-3	Electrodes, Arc Welding Consumables	<p>Electrode Basique 3218 Ø 2.5</p> <p>Universal Basic. Low Hydrogen rate – easy to weld in all positions – High toughness and CVN notch energy rate til -46°C</p>	packe ge	30
D4-4	Electrodes, Arc Welding Consumables	<p>Electrode Basique (3218) Ø3.2</p> <p>Universal Basic. Low Hydrogen rate – easy to weld in all positions – High toughness and CVN notch energy rate til -46°C</p> <p>Electrode Basique (3218) Ø3.2</p> <p>Universal Basic. Low Hydrogen rate – easy to weld in all positions – High toughness and CVN notch energy rate til -46°C</p>		30

D5	MIG MAG Welding Generator (With Earth Clamp)	<p>Expected characteristics:</p> <ul style="list-style-type: none"> - Power supply 3x230 / 400 V 50/60 Hz - Power at primary (60% Duty cycle) 8 kVA - Welding current range Min-Max 30–300 A - Number of steps 14 - Protection Rating IP 22 - Insulation Classification H - Welding current at 40°C Duty cycle 35% 290 A - Welding current at 40°C Duty cycle 60% 225 A - Welding current at 40°C Duty cycle 100% 175 A - Number of feed rolls 4 - Polarity inverter on front panel yes - Spot welding timer 		8
D5-1	MIG MAG welding consumables	<p>MIG/MAG Solid Wires (CastoMag 45203) Ø 1,0mm Solid wire for welding non- carbon steels and low alloy .</p>	Pack of 15 Kg	30.00
D5-2	MIG MAG welding consumables	<p>MIG/MAG Solid Wires (CastoMag 45203) Ø 1,2 mm Solid wire for welding non- carbon steels and low alloy .</p>	Pack of 15 Kg	30.00

D5-3	MIG MAG Accessories consumables	Tube contact Ø 1,0 - M8	set of 10 units	3.00
D5-4	MIG MAG Accessories consumables	Tube contact Ø 1,2 - M8	set of 10 units	3.00
D5-5	MIG MAG Accessories consumables	Nozzle 16/360	set of 10 units	3.00
D5-6	MIG MAG Accessories consumables	Black diffuser for torch/360	set of 10 units	3.00
D5-7	MIG MAG Accessories consumables	Support for torch contact tube.M8/360	set of 10 units	3.00
D5-8	MIG MAG Accessories consumables	Sheath for welding steel length 4 m Ø 1,0-1,2		12.00

D6-1	TIG Consumables compatible with Generator and Torch	TIG filler rods Ø 1,6 TIG filler rods for fabrication welding mechanical structural steel assemblies. TIG filler metal for welding of steel constructions of general and common usage or similar : S235 – S355		20.0
D6-2	TIG Consumables compatible with Generator and Torch	TIG filler rods Ø 2,0 TIG filler rods for fabrication welding mechanical structural steel assemblies. TIG filler metal for welding of steel constructions of general and common usage or similar : S235 – S355		20.0
D6.02	TIG Consumables compatible with Generator and Torch	TIG filler rods Ø 2,4 TIG filler rods for fabrication welding mechanical structural steel assemblies. TIG filler metal for welding of steel constructions of general and common usage or similar : S235 – S355		20.0
D6-3	TIG Consumables compatible with Generator and Torch	Tungsten Electrode WS2 Ø 1,6	pckge	20.0
D6-4	TIG Consumables compatible with Generator and Torch	Tungsten Electrode WS2 Ø 2,4		20.0

D6-5	TIG Consumables compatible with Generator and Torch	TIG filler rods Ø 1,6 TIG filler rods for fabrication welding mechanical structural steel assemblies. TIG filler metal for welding of steel constructions of general and common usage or similar : S235 – S355		20.0
D7	Mobile Filter Units - 1 Arm	Expected characteristics: - with 1 flexible exhaust arm Ø 150 mm x Length 2 m - Filter stages 3 - Filter method: Disposable filter - Filter surface: ca. 13 m ² - Extraction capacity: 950 m ³ /h - Motor power: 1.1 kW - Power supply: 1 x 230 V / 50 Hz - Rated current: 6.7 A - Control voltage: 230 V, AC	unit	2
D8	Arc cutting Welding Table	Expected characteristics: - Robust grid-type material support - Integrated slag tray - To be connected to filtration system - Dimensions 1000 x 800 x 850 mm (WxDxH) - Connection spigot 160 mm	unit	2

D9	Protective Screens with Welding curtain	<p>Expected characteristics:</p> <ul style="list-style-type: none"> - Width 1450 mm - Height 1900 mm - Thickness 0.4 mm - 2 different colors, 12 units of each color (Green, red) - Protective Material against radiation, welding arcs and spatter 	unith	12
D10	Plasma cutting welding equipment	<p>Expected characteristics:</p> <ul style="list-style-type: none"> - Mains voltage 3 x 400 V \pm 15% - Mains fuse 16 AT - Cutting current 20 - 60 A - Pilot current 20 A - Cutting current at 40% 60 A - Cutting current at 60% 50 A - Cutting current at 100% 40 A - No-load voltage 320 V - Power factor $\cos\phi$ 0,9 - Max. cutting thickness (steel) 30 mm - Protection class IP 23 - Air consumption 130 l/min \pm 20% at 5.5 bar - Compressed air pressure min 5 bar 	unit	2
D10-2	Plasma cutting Consumables compatible with Generator and Torch	Torch compatible with generator 6m length	unit	6

D10 -3	Plasma cutting Consumables compatible with Generator and Torch	Electrodes packets	unit	6
D10 -4	Plasma cutting Consumables compatible with Generator and Torch	2 Gas diffuser torch		6
D10-5	Plasma cutting Consumables compatible with Generator and Torch	5 Tuyères 1.1 mm 50/60 Amp		6
D10-6	Plasma cutting Consumables compatible with Generator and Torch	1 Buse Ext.Coupe contact 40/60 Amp		6
D11	Air Compressor	<p>Expected characteristics</p> <ul style="list-style-type: none"> - Pump air displacement: IN 40 m³/h (ie 670 l/mn) - OFF 31.5 m³/h (ie 525 l/mn) - Motor 7.5 HP 5,5 kW - Tank size 300 liters - Pressure 11 bars max - Voltage 400 V three-phase 		3

D12-1	Welding table	<p>Expected characteristics:</p> <ul style="list-style-type: none"> - Solid mounting surface with flatness of +/- .0025" - Dimension 39" x 39" - High quality steel - Brinell Hardness 140~160 - 2 ton weight capacity - for Industry Standard 28mm Mounting holes - 100mm hole spacing <p>Including: Table Oiler, Brush and cleaning stone</p>		2
D12-2	Welding Table accessory kit	<p>Accessories to include:</p> <ul style="list-style-type: none"> - 4 x locating angle square - 4 x locating angle square 2 - 2 x locating leveling ruler - 2 x V-shape locating piece - 6 x wrench locking pin - 4 x flat head quick locking pin - 2 x fixed clamping piece - 2 x adjustable clamping piece - 2 x 45 degree inclined handle - 2 x clamping piece with base - 2 x toggle clamp with base - 3 x hexagonal wrenches - 2 x nylon brushes - 2 x oil stone - 2 x oil pot 		2

D13	Portable Gas Welding & Cutting Set	<p>Expected characteristics</p> <p>Complete kit for gas welding and cutting (exclude gas cylinders) including:</p> <ul style="list-style-type: none"> - 1/32" A-FN Nozzle - 3/64" A-FN Nozzle - S/S Oxygen 2G Regulator - Cup Spark Lighter - Nozzle Cleaners (Red Lip) - Oxygen and Acetylene Flashback Arrestor - D/H Cutting Attachments - No.2, 3, 5, 7 L/wt Nozzle - S/5 Acetylene 2g Regulator - Panorama Coloured Goggles Indirect Shade 5 - 1/4" x 5M Oxy Fitted Hose - 6mm - 1/4" x 5M Acet - Fitted Hose - 6mm - DF Combination Spanner - D/H Mixer - D/H Shank - Portable Trolley 		2
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D14	Portable Oxy/Acetylene (Oxy-Fuel) welding equipment and Cutting Set	<p>Equipment to include:</p> <ul style="list-style-type: none"> • 1 Oxygen Cylinder 2,3 m3 • 1 Acetylene Cylinder 1,6 m3 • Welding torch • Cutting torch • Oxygen and Acetylene Regulator • set of 5 oxyacetylene-fuel 100-400 l/h • 2 Flashback Arrestors • 2 x 5m - 6,3x11mm Hose OX/AD • 2 quick fittings male and female • 1 Gas Cylinder Trolley • Welding Goggles • Triple Flint Striker 		2
D15	Spot Welding	<p>Expected characteristics:</p> <ul style="list-style-type: none"> - automatic regulation of the spot welding current and time according to the material thickness - choice between continuous and pulse operation - arms pressure adjustable from 40 kg to 120 kg - handgrip made out of thermic isolating material - thermal protection - 2 phase Mains voltage 400V - Mains frequency 50/60Hz - Max. absorbed power 13 kW - Mains fuse 16 A - Power factor 0,9 cosphi 		1

		<ul style="list-style-type: none"> - Max. spot-welding thickness on two sides 2 + 2 mm - Protection class IP20 		
E1	Metrology-control Case 10 Tools (for Trainers)	<p>Including</p> <ul style="list-style-type: none"> • caliper 1/50 mm (capacity 200 mm). • micrometer 1/100 mm (capacity 25 mm). • micrometer 1/100 mm (capacity 25 - 50 mm). • depth gauge 1/50 mm (capacity 160 mm), fine adjustment by return screw • simple square 150 mm (accuracy class 1). • flanged square 150 mm (accuracy class 1). • straight scribe 150 mm. • carbide scriber • stainless rule 300 mm. • punch • Supplied in case L 410 x D 280 x H 40 mm. 		6
E2	Blade-metric-feeler-gauge-set-05-1mm 20 blades	<p>Including</p> <ul style="list-style-type: none"> • 20 Blade Metric Feeler Gauge Set .05 - 1mm • 100 mm long taper blades • Each blade marked with size and folds into a steel case with thumb screw. • 20 metric blades size: 0.05, 0.10, 0.15, 0.20, 0.25, 0.30, 0.35, 0.40, 0.45, 0.50, 0.55, 0.60, 0.65, 0.70, 0.75, 0.80, 0.85, 0.90, 0.95 and 1.0mm 		8
E2	Blade-metric-feeler-gauge-set-05-1mm 20 blades			32

E4	Caliper - 300 mm (12") Caliper Inch/Metric/Fractions	Expected characteristics - Measure Range 300 mm / 0-12 inches - Resolution 0.01 mm / 0.0005 in - Accuracy 0.02 mm / 0.001 inch - Display 20 mmx 50 mm (3/4"x 2") extra large LCD		2
E5	Caliper - 200 mm (8") Vernier Height Gauge	Expected characteristics • Carbide tipped scriber. • Fine adjustment range 4 mm. Accuracy ± 0.03 mm / 0.001" • Material Stainless Steel • Measurement Range 0 to 200 mm • Resolution 0.02 mm • Reading 0.02 mm		2
E6	Caliper - 300 mm (12") Vernier Height Gauge	Expected characteristics • Carbide tipped scriber • Main scale adjustment range 15 mm. • Vernier adjustment range 4mm • Accuracy ± 0.04 mm / 0.002" • Material Stainless Steel • Measurement Range 0 to 300 mm • Resolution 0.02 mm		1
E7	Depth Gauge 0-150 mm/0-6"	Expected characteristics • Depth Gauge 0-150 mm / 0-6" • Product Type Digital Depth Gauge • System of Measurement Imperial • Resolution 0.01 mm		4

E8	Depth Gauge - Set of 150 mm Depth Micrometer	<p>Expected characteristics</p> <ul style="list-style-type: none"> • Interchangeable rod depth micrometer on flatness of reference face • Rod diameter 4 mm. Measuring length per rod 25mm. Instrument error $\pm 3 \mu\text{m}$ • Measurement Range 0-150 mm • Micrometer Head Feed $\pm 0.003 \text{ mm}$ • Graduation 0.01 mm • Display Type Analogue 	unit	2
E9	Rigid Steel Rules - 200 mm Rigid Rustless Rule Round End	<p>Expected characteristics</p> <ul style="list-style-type: none"> • Hook Type Hanging Hole • Surface Finish Satin-Chrome • Length 200 mm Wight 18 mm • Metric subdivided to 0.5 mm and 1 mm 	unit	32
E10	Rigid Steel Rules - 600mm Rigid Rustless Rule Round End	<p>Expected characteristics</p> <ul style="list-style-type: none"> • Hook Type Hanging Hole • Surface Finish Satin-Chrome • Length 600 mm Width 25 mm • Metric - subdivided to 0.5 mm and 1 mm 	unit	4
E11	Rigid Steel Rules - 300mm Rigid Rustless Rule Square End	<p>Expected characteristics</p> <ul style="list-style-type: none"> • Hook Type No Hole • Surface Finish Satin-Chrome • Length 300 mm Width 25 mm 	unit	2

E12	Square - 100mm (4") Engineers Square	Expected characteristics <ul style="list-style-type: none"> • Grade B • Shape Square • Size 100 mm • Length 100 mm • Tolerance +/- 0.030 mm Case included	unit	22
E13	Square - Basic flanged squares 100x70 - Class II	Expected characteristics <ul style="list-style-type: none"> • Screwed flange. Dimensions 100 mm x 70 mm 	units	22
E14	Square - Basic flanged squares 300x200 - Class II	Expected characteristics <ul style="list-style-type: none"> • Screwed flange. Dimensions 200 mm x 300 mm 	n	2
E16	Square - 300 mm (12") Engineers Square	Expected characteristics <ul style="list-style-type: none"> • Size 300 mm • Tolerance +/- 0.040 mm • Shape Square • Length 300 mm • Grade B Case included	unit	4
E18	Steel scriber 210 mm length	Expected characteristics Double ended, Steel point. Overall length: 210 mm.	unit	38

E19	Bevel - Stanley 230 mm (9 in) Sliding Bevel	Expected characteristics <ul style="list-style-type: none"> • Sliding blade in hardened blued steel • Chrome plated metal locking lever to secure blade • Plastic moulded stock with accurately machined face • Size 230 mm (9 in) 	set	2
E20	Digital multimeter	Expected characteristics Digital multimeter, 3 1/2-digit, 20 A AC/DC		4
E21	Set of Dial Gauge with Hinged Magnetic Base Set	Expected characteristics <ul style="list-style-type: none"> • Dial gauge with the hinged magnetic holder • Dial Gauge to 1/100 mm • Radius of action 280 mm. • Vertical tear strength 600 N (60 kg). • Threading Ø M8. • Base 50 x 55 x 60 mm 	set	4
E22	Magnetic Level	Expected characteristics <ul style="list-style-type: none"> - Thickness 25 mm, Length 600 mm, High 54 mm - Magnetic levels, 1 machined sole plat - In reverse position, accuracy 0.5 mm/m. - Fitted with a vertical vial, horizontal vial, and a declivity vial. 	unit	1
E23	Radius Gauges	Expected characteristics <ul style="list-style-type: none"> - Radius Gauge 1-7 mm, Engineers Metric, 32 leaves, Convex & Concave - Number of Blades : 32 	set	10

		7,50 - 8,00 - 8,50 - 9,00 - 9,50 - 10,00 - 10,50 - 11,00 - 11,50 - 12,00 - 12,5 - 13,00 - 13,50 - 14,00 - 14,50 - 15,00		
E24	Screw Pitch Gauges	Content set 60° cutting gauge + 25 blades 0,25 - 0,30 - 0,35 - 0,40 - 0,45 - 0,50 - 0,60 - 0,70 - 0,75 - 0,80 - 1,00 - 1,25 - 1,50 - 1,75 - 2,00 - 2,50 - 3,00 - 3,50 - 4,00 - 4,50 - 5,00 - 5,50 - 6,00 - 6,50 - 7,00		10
E25	Dry Tip Scriber	Expected characteristics High 245 mm Opening 200 mm	unit	38
E26	Bevel protractor	Expected characteristics •Stainless steel protractor with brass locking nut	unit	16
E27	Bevel protractor 300 mm (12") (for Trainers)	Expected characteristics • High-precision angle . Minimum reading 5". • Size 300 mm • Range 90° • Material Stainless Steel	unit	8
E28	Tape measure - 3 m/10'	Expected characteristics • 3M/10' Nylon Coated Double Sided Steel Tape • Overall Depth 27 mm • Frame Material ABS • Coating Nylon	unit	14

		<ul style="list-style-type: none"> • Overall Width 60 mm • Special Features Belt Clip 		
E29	Tape measure - 8 m/26'	<p>Expected characteristics</p> <ul style="list-style-type: none"> • Overall Depth 38 mm • Frame Material ABS • Coating Nylon • Overall Width 93 mm • Special Features Belt Clip 	unit	2
E30	Welding Gauge - Weld Fillet Gauge	<p>Expected characteristics</p> <ul style="list-style-type: none"> • Size Range 3.2 - 25.4 mm • Number of Pieces 7 • Product Material 304 Stainless steel 	unit	2

E32	Cast Iron V-Blocks	<p>Expected characteristics</p> <ul style="list-style-type: none"> - Length 60 mm - Width 120 mm - Height 100 mm - Max. workpiece \varnothing 8 - 90 mm - Mass 6.5 kg - Parallelism between V-groove and base surface 16 μm - Hardness: 180-250 HBW - Difference of the height of the pair 16 μm 	unit	2
E33	Cast Iron Surface Plates Class 2 400 x 250 mm	<p>Expected characteristics</p> <ul style="list-style-type: none"> • DIN 876. • Class II. • Dimensions 400 x 250 mm 	unit	2
E34	Steel V-Blocks	<p>Expected characteristics</p> <ul style="list-style-type: none"> • DIN 876. • Pair of vees with 4 90 degree notches. • Paired vees, identification number punched on the upper face. • Dimensions 20 x 30 x 40 x 50 	unit	2
G1-1	Clothes Locker blue color	<p>Expected characteristics</p> <ul style="list-style-type: none"> - organised in 3 columns of 2 compartments - Aeration in each compartment - Dimension H 1980 x W 660 x D 500 mm - Columns Interior dimension H 950 x W 185 x D 475mm - Frame grey - doors blue 	unit	6

G1-2	Clothes Locker red color	<p>Expected characteristics</p> <ul style="list-style-type: none"> - organised in 3 columns of 2 compartments - Aeration in each compartment - Dimension H 1980 x W 660 x D 500 mm - Columns Interior dimension H 950 x W 185 x D 475mm - Frame grey - doors red 	unit	6
G2	Resettable Combination Padlocks (3 differents colors)	<p>Expected characteristics</p> <ul style="list-style-type: none"> - Solid Aluminum body with anodized finish - Resettable 3 digit combination code - Solid steel shackle - Width 1-7/32" - 3 differents colors : yellow, green, orange 	utit	38
G3	Mobile Stockers for Bins	<p>Expected characteristics</p> <ul style="list-style-type: none"> - Dimension H 1405 x L 900 x W 610 mm - 10 shelves and 36 bins (12 blue, 12 red, 12 grey bins) - Bins exterior dimensions D 355 x L 210 x H 160 mm 	Unit n8it	4
G4	Metal Workshop Shelving for mid-weight loads	<p>Expected characteristics</p> <ul style="list-style-type: none"> - with 3 levels adjustable every 50 mm - Beams with chipboard cover panels (19 mm) - Usable L 2000 mm, H 2100 mm - Depth 600 mm - Dimension H 2100 x L 2000 x D 600 mm - Max. Load 400 kg - Floor Novopan thickness 19 mm 		6

G5-1	180 Bins 95X120 with removable dividers (or 6 lots of 30 units)	Expected characteristics - Depth 600 mm - Height 95 mm - Length 120 mm - 4 different colors: 30 blue, 30 red, 30 green and 30 yellow - with 7 transversal dividers		20
G5-2	90 Bins 95X240 with removable dividers (or 6 lots of 15 units)	Expected characteristics - Depth 600 mm - Height 95 mm - Length 240 mm - 4 different colors: 15 blue, 15 red, 15 green and 15 yellow - with 7 transversal dividers		10
G5-3	60 Bins 95X120 with removable dividers (or 6 lots of 10 units)	Expected characteristics - Depth 600 mm - Height 150 mm - Length 240 mm - 4 different colors: 10 blue, 10 red, 10 green and 10 yellow - with 4 transversal dividers		6
G8	Rolling Waste Bin	Expected characteristics - Lid with 2 handles - Weather and UV resistant - With 2 fixed wheels with rubber tyres diameter 200mm and metal axle (supplied in parts) - 3 different colors: 4 red, 4 green and 4 yellow		2

H6	Ear Muff	Expected characteristics - To be combined with other equipment - Headband SNR=27dB, H=32dB, M=25dB, L=15dB		4
H7	Safety Helmet	Expected characteristics - Adjustable headgear and sweatband		8
H8	Protective Eyewear clear (for grinding)	Expected characteristics - To fit right over regular prescription glasses - With adjustable temples		28
H9-1	Handling gloves - size 8	Expected characteristics - Pair of gloves palm cow flower - Back crust		10
H9-2	Handling Gloves - size 9	Expected characteristics - Pair of gloves palm cow flower - Back crust		20
H9-3	Handling Gloves - size 10	Expected characteristics - Pair of gloves palm cow flower - Back crust		10
H10	Ear Protection	Expected characteristics - Soft foam earplugs for maximum comfort and low pressure inside the ear -Smooth, dirt resistant surface for better hygiene, durability and comfort		2

I1	Hand Pallet Truck	Expected characteristics <ul style="list-style-type: none"> • Loading capacity 2.2 TON • Size : Widht standard pallet dimensions / Lenght 1165 mm 		1
I5	Wheelbarrow With Pneumatic Wheel	Expected characteristics Capacity 85 l - Length 148cm x Width 67cm x Height 58cm - Longer 30mm frame - Handle grips - Metal disc rim on wheel - Frame epoxy coated (Black) - Galvanised tray - Nylon looking nuts - Axle bore: 14mm		2
I6	Folding Aluminium Steps	Expected characteristics Width 0,54 m x Depth 1,42 m x Overall height : 2,38 - Number of treads : 7 - Platform height : 1,47 m		1
I 7	Folding stepladder with 3 steps	Expected characteristics High platform: 690 mm Working height 2200 mm Step L.360 x D.230 mm Dimensions folded: 550 x 70 x 1120		1

I 8	Universal sack truck with pneumatic wheels	Expected characteristics <ul style="list-style-type: none"> •Plate can be blocked in a vertical position using the hook. •Inflated pneumatic wheels. •Load 300 kg. •Overall dim. H1120 X L510 X P300 mm. •Dim plate L 345 X D 300 mm 		1
I 10-1	Gravity Roller Conveyor 18 Inch overall width Straight section 5 feet length	Expected characteristics WIDTH : 18 in. overall. ROLLERS–1-3/8 in. dia. x 18 ga. galvanized steel FRAME : 2-1/2 in. deep x 1 in. flange x 12 Ga. powder painted formed steel channel with bolt-in cross members. AXLES : 1/4 in. dia. round COUPLINGS : hooks on opposite end. LENGTHS–5 ft. straight sections.		10
I10-2	Gravity Roller Conveyor 18 Inch overall width Straight section 10 feet length	Expected characteristics WIDTH : 18 in. overall. ROLLERS–1-3/8 in. dia. x 18 ga. galvanized steel FRAME : 2-1/2 in. deep x 1 in. flange x 12 Ga. powder painted formed steel channel with bolt-in cross members. AXLES : 1/4 in. dia. round COUPLINGS : hooks on opposite end. LENGTHS / 10 ft. straight sections.		5
I 10-3	Gravity Roller Conveyor 18 Inch overall width Curve section 90°	Expected characteristics WIDTH : 18 in. overall. ROLLERS–1-3/8 in. dia. x 18 ga. galvanized steel FRAME : 2-1/2 in. deep x 1 in. flange x 12 Ga. powder painted formed steel channel with bolt-in cross members.		55

		AXLES : 1/4 in. dia. round COUPLINGS : hooks on opposite end. CURVES ; 90° - 42" Outside Radius Roller Centers : 3"		
I10-4	Gravity Roller Conveyor 18 Inch overall width Curve section 60°	Expected characteristics WIDTH : 18 in. overall. ROLLERS—1-3/8 in. dia. x 18 ga. galvanized steel FRAME : 2-1/2 in. deep x 1 in. flange x 12 Ga. powder painted formed steel channel with bolt-in cross members. AXLES : 1/4 in. dia. round COUPLINGS : hooks on opposite end. CURVES ; 60° - 42" Outside Radius Roller Centers : 3"		2
II 10-5	Gravity Roller Spur Conveyor 18 Inch overall width Curve section 90°	Expected characteristics WIDTH : 18 in. overall. ROLLERS—1-3/8 in. dia. x 18 ga. galvanized steel FRAME : 2-1/2 in. deep x 1 in. flange x 12 Ga. powder painted formed steel channel with bolt-in cross members. AXLES : 1/4 in. dia. round COUPLINGS : hooks on opposite end. SPUR ANGLE- 90° right hand		3
I 10-6	Gravity Roller Spur Conveyor 18 Inch overall width Adjustable Tripod Stands	Expected characteristics Adjustment Height Top of Conveyor : 24"-40" Capacity data : 350 lbs. with 180 in./lbs. of torque on locking screw.		25

K1	Videoprojector	Expected characteristics: - min. 2000 Lumen - Resolution min. 1024*768 - Standard Focal - VGA HDMI Connectivity - Light LED		2
K2	Whiteboard with Folding Flaps	Expected characteristics • Magnetic white enamelled surface • writable with dry erase markers • antacid and scratch resistant • 2 flaps with hinged mechanism, writable on the front and rear • open table dimensions L 2400 x H 900 mm • Large pen tray at the base of the board • Large pen tray at the base of the board		2
K3	Auxiliary Conference Tables for classroom	Expected characteristics - For individual use or auxiliary table - Dimension H 740 x L 700 x W 600 mm		8
K4	Trainees Conference Tables for Trainees	Expected characteristics - For individual use (2 trainees) or meeting classroom - Dimensions H 740 x L 1200 x W 600 mm		16
K5	Chairs for Classroom	Expected characteristics - Chair seating Height 440 mm		38

K6	Office Cupboard	Expected characteristics - With 2 doors and keylock - Dimensions H 1980 x L 1020 x W 450 mm		8
K 7	Conference Tables for Trainers Desk	Expected characteristics - For individual or meeting use - Dimensions H 740 x L 1400 x W 600 mm		6
K8	Chairs for Trainers Desk	Expected characteristics - Robust and comfortable - Chair seating Height 490 mm		6
K9	Medicine Cabinet	Expected characteristics - 1 simple door with keylock - Dimensions H 465 x L 330 x W 165 mm - Net volume 0.02 m ³ - Material Epoxy metal - 1 shelve - 2 compartments		2
K10	Industrial Drawing Kits	Including - 1 A3 drawing board - 2 parallel rules and 2 corner clips - Quick release paper clip - Parallel rule with STOP / GO locking / unlocking action, marked in centimeters on both sides - Locking mechanism of the cutting head for adjustment of the ruler and free rotation - Square set with a high-end plastic protractor		16

K 11	Magnetic Tracing Set	<p>Expected characteristics</p> <ul style="list-style-type: none"> - Unbreakable plastic yellow - graduated (cm and inch) - magnetic for white board - with removable black handle <p>Including</p> <ul style="list-style-type: none"> - Ruler 1 m - Square 60° 50 cm - Square 45° 60 cm - Protactor 180° 50 cm 		16
K12	Magnetic Tracing Set	<p>Expected characteristics</p> <ul style="list-style-type: none"> - Unbreakable plastic yellow - graduated (cm and inch) - magnetic for white board - with removable black handle <p>Including</p> <ul style="list-style-type: none"> - Ruler 1 m - Square 60° 50 cm - Square 45° 60 cm - Protactor 180° 50 cm 		2
K13	Compass for Whiteboard	<p>Expected characteristics</p> <ul style="list-style-type: none"> - Usable on white boards - Unbreakable plastic yellow - Length 50 cm. 		2

		<ul style="list-style-type: none"> - 3 feet sucker on one branch and chalks marker on the other branch - Black removable handle 		
L1-1	Server	<p>Main features</p> <ul style="list-style-type: none"> - Processor : Up to two Intel - Operating Systems: Microsoft Windows Server - Memory : 1TB max 		1
L1-2	Switch	<p>Main features</p> <ul style="list-style-type: none"> - Performance : 1.0 Gbit/sec line speed with backward compatibility to 100 and 10 Mbit/sec line speed - Port Attributes : 16x copper RJ45 connections 10/100/1000Mb with auto-negotiation 		1
L1-4	Set Desktop PC with screen : 20-inch	<p>Desktop PC : 20-inch</p> <ul style="list-style-type: none"> - Processor : Intel Pentium - Memory (RAM) : 4GB, 24000 MHz - Hard Drive size : 500MB - Video card : Intel HD Graphics - Operating System : Windows 10 - 1 keyboard - 1 mouse - 1 color screen 20" - Microsoft Office Home & student 		16

L2-1	Server	<p>Main features</p> <ul style="list-style-type: none"> - Processor : Up to two Intel - Operating Systems: Microsoft Windows Server - Memory : 1TB max 		1
L3-2	Printer for local area tutorial network for specific software applications courses	<p>Main features</p> <p>Printing speed BW 30 / Colour 30 pages (A4) BW 15 / Colour 15 pages (A3)</p> <p>Printing method laser - RAM 128MB - Resolution 600 x 600 dpi</p> <p>Toner cartridge Cartridge (Black), 10,000 pages, (CMY), 6,000 pages</p> <p>Paper Input (standard) 230-sheet cassette/90-sheets multi-purpose tray</p> <p>Paper input (Option) 550-sheets x3 (Maximum paper capacity 1,970 sheets)</p> <p>Paper output Face down: 250 sheets Paper size from cassette A5, A4, A3</p> <p>Paper size from Multi-purpose tray A5, A4, A3, 12x18 (305 x 457mm)</p> <p>Long Size Paper from Multi-purpose tray W (210 to 297mm), L (457.3 to 1,200mm)</p> <p>Power requirements 220-240V(±10%) 50/60Hz (±2Hz)</p> <p>Duplex paper size A5, A4, A3</p> <p>Power consumption 1643W or less (max power consumption)</p>		1
L6	Software Tutorial CAMM (Computer Assisted Maintenance Management) software (G; Ingerea Automation Xpert) accordingly	<p>http://www.ingerea.com/Home-EN.html</p> <p>http://www.ingerea.com/aXpert.html</p>		1

	workshops equipment and computer equipment			
L7	Soft ware tutorial CAMM	http://www.ingerea.com/Home-EN.html http://www.ingerea.com/aXpert.html		1
L8		http://www.ingerea.com/Home-EN.html http://www.ingerea.com/aXpert.html		1
L9	Soft ware tutorial CAPM	http://www.ingerea.com/Home-EN.html http://www.ingerea.com/aXpert.html		1
L10	soft ware theoretical & practical Knowledge hydrolic	http://www.ingerea.com/Home-EN.html http://www.ingerea.com/aXpert.html		1
L11	soft ware theoretical & practical knowledge in automation	http://www.ingerea.com/Home-EN.html http://www.ingerea.com/aXpert.html		1
P1	Industrial Workbench for Trainees	Expected characteristics: - Dimensions (HxLxW) 850 x 2000 x 750 mm - max. Load 1000 kg - Finish laminated		22
P2	Industrial Workbench with Lower Level	Expected characteristics: - Dimensions (HxLxW) 850 x 1500 x 750 mm - max. Load 1000 kg - Finish laminated		10

P3	Industrial Workbench with compartment with 2 drawers (for teachers and control/measurement post)	<p>Expected characteristics:</p> <ul style="list-style-type: none"> - Legs with plastic end caps for floor protection. - Drawers mounted on double extension ball-bearing sliders. Opening 100 % - Colour blue RAL 5012 - 2 drawer compartment 1 x 100 / 1 x 200. Central locking. - Dimensions (HxLxW) 850 x 1500 x 750 mm - max. Load 1000 kg - Finish Beech 		6
P4	Mobile Workbench 1 door	Mobile Workbench 1 door		2
P5-1	Production Work Table with Drawer and Bins	Production Work Table with Drawer and Bins		4

P5-2	Mechanical Wooden Stool (for production work table)	Expected characteristics: - without footrest - Seat height to be adjusted at 420-600 mm		4
P6	Tool cupboard width 1000 mm 2 shelves	Expected characteristics: - 2 swinging doors - Top with 24 mm edge - Color blue RAL 5012 - Dimensions: width 1000 mm, depth 500 mm, height 920 mm		2
P7	Tool Cupboard Width 500 mm 2 Shelves	Expected characteristics: - 1 swinging door - Top with 24 mm edge - Color blue RAL 5012 - Dimensions W 500 x D 500 x H 920 mm		2
P8	Tool Cupboard Width 500 mm 2 Shelves 1 Drawer	Expected characteristics: - 1 swinging door - Top with 24 mm edge - 1 drawer, height 80 mm (mounted on single extension sliders on rollers) - Color blue RAL 5012 - Dimensions W 500 X D 500 x H 920 mm		2

P9	Cabinets with Drawers	Expected characteristics: - Color blue RAL 5012 - 9 Drawers (Width 717 mm - Depth 572 mm - Total height 1000 mm): 4 drawers height 75 mm + 3 drawer height 100 mm + 2 drawers height 150 mm		2
P10	Cabinet with Drawers and Casters	Expected characteristics: - Rolling trolley in heavy steel sheet with 5 single extension drawers (heights 50 to 200 mm). - Load 70 Kg/ drawer. - Depth 572 mm. Width 717 mm. - Total height 914 mm. - 2 fixed wheels + 2 pivoting wheels with brakes. - Wheel diam 150 mm with rubber tyre.		2
P11	Adjustable Bench-Vices	Expected characteristics: - Stationary - Width of jaws 125 mm - Opening 180 mm - Total high 175 mm		38
P 12	Heavy Duty Shelving Bay 1500 X 600 X 2000 mm	Expected characteristics: - Dimension W 1500 x D 600 x H 2000 mm - 4 layers per bay, each shelf to take up to 300 kg, overall shelving more than 1200 kg - Quality steel with powder coating, extra strong & durable		4

P13-1	Storage Bins 485 x 310 x 185 mm	<p>Expected characteristics:</p> <ul style="list-style-type: none"> - Dimensions D 485 x L 310 x H 185 mm - Various colors - Made of impact resistant polystyrene - Temperature for use between -10 °C and +70 C - Large lateral ribs for greater rigidity - Label holder at front - Large front opening to make picking easier 		4
P13-2	Storage Bins 355 x 210 x 160 mm	<p>Expected characteristics:</p> <ul style="list-style-type: none"> - Dimensions D 355 x L 210 x H 160 mm - Various colors - Made of impact resistant polystyrene - Temperature for use between -10 °C and +70 C - Large lateral ribs for greater rigidity - Label holder at front - Large front opening to make picking easier 		4
P14	Fire Extinguisher	<p>Expected characteristics:</p> <ul style="list-style-type: none"> - 6 kg dry powder 		2
	TOTAL			

LOT 2: WORKSHOP/ CLASS ROOM EQUIPMENT LIST FOR NYAMITANGA TECHNICAL INSTITUTE

CODE	ITEM	SPECIFICATIONS	UNIT	Total Quantity
A 2	Centre punches (prick punch)	Chrome-vanadium steel forged, hardened to 52 to 58 HRc. Diameter 10 mm Length 115 mm	unit	16
A 10	Drill bits	Set 25 drills (HSS) from diameter 1mm to 13mm in a metal box	Set	4
A 11	Electrician knives	Wood handle 2 blades	unit	16
A 12	File flat with plastic handle	Length 250 mm second cut	unit	16
A 13	Files half-round with plastic handle	Length 250 mm second cut	unit	12
A 14	Files rat-tail with plastic handle	Length 250 mm second cut	unit	48
A 16	Galvanised metal bucket	Capacity 10l	unit	4
A 19	Hammer - Locksmith hammer	Weight : 250g - fibreglass handle	unit	16
A 21	Hammer - Rubber mallet	Soft and hard faced, wood handle. Weight 650g	unit	16
A 28	Metallic oil can	Capacity 500 cc with flexible hose.	unit	4
A 33	Pistol grease gun	With hose and rigid pipe	unit	2
A 34	Plastic bucket	Capacity 10l	unit	12
A 35	Plier - 45° angled nose inside circlip pliers	For circlips diameters 8 to 100mm	unit	16
A 36	Plier - 45° angled nose outside circlip pliers	For circlips diameters 3 to 100mm	unit	16

A 38	Plier - End-cut pliers (nippers)	size : 7" (180mm)	unit	4
A 39	Plier - linesman pliers	size : 7" (180mm)	unit	4
A 40	Plier - Lock-grip pliers	Diameter 55 mm Max clamping 620 mm Throat depth 45 mm Type Short jaws L 220 mm	unit	16
A 41	Plier - Locking twin slip-joint multiple grip pliers	Push-button adjustment with safety lock. 12-position notches. PVC grips. Length 185 mm	unit	4
A 42	Plier - needle nose plier	size : 160mm	unit	16
A 45	Plier - side-cutter pliers insulated	Width 24 mm - Length 160 mm	unit	4
A 47	Pry bar	Total length 422 mm Length of bar : 305 mm	unit	2
A 50	Saw - Compact hack saw frame and blades	Steel/resin construction. • Blade tension 80 kg. • 2 blade positions: 45° and 90°. • Takes 300 mm blade. • Dimensions (L. x W.): 385 x 145 mm.	unit	8
A 51	Scientist digital calculator solar power	All- purpose scientific calculator 12-Digit LCD	unit	16
A 52	Screwdriver - Set of insulated screwdrivers	Module of 8 - 1,000 Volt	unit	4
A 53	Screwdriver - Set of wood handle flat screwdrivers	Size : 5,5X100 - 6,5X125 - 8X150 - 10X175 - 12X200	unit	2

A 59	Set of 1,000 Volt Insulated Tools (For trainees)	1 x 200 mm combination plier 0307200 1 x 160 mm wire stripper 1107160 1 x 200 mm snipe nose side cutter 2617200 1 x 160 mm diagonal cutter 7007160 1 x 230 mm cable shear 9517200 5 x open ended spanners 10, 13, 14, 17, 19 mm 4 x VDE s/drivers 2.8/4/5.5/6.5 mm 1 x cable knife	Set	2
A 65	Soldering iron with iron stand.	Range from 15W to 40W. Rating [W] 30 Peak temp ± 10% [°] 420 Voltage\Volt 230	unit	2
A 78	Telescopic mirror with magnifying effect	Max length 850 mm	unit	2
A 79	Toolbox - Maintenance and Production tool box	<ul style="list-style-type: none"> • Reinforced polypropylene bin. • Flexible bumpers at the angles. • Aluminium handle. • Storage capacity: 36 litres. 10 kg. • Dimensions (L x W x H) 50.2 x 26.8 x 27.3 cm. • Removable plate (L x W x H): 47.5 x 24 x 17.5 cm. 	unit	16
A 90	Wrench - Adjustable tap wrenches	Pressure-cast Zamak body. Machined and hardened clamp Tapping M14 to M20	unit	2
A 94	Wrench - Metric open-end ring wrench : set of 9	6x7 - 8x9 - 10x11 - 12x13 - 14x15 - 16x17 - 18x19 - 21x23 - 22x24	unit	2

B5	British 4 Gang Extension Leads Socket Type G - British	<p>Expected characteristics:</p> <ul style="list-style-type: none"> - Number of Sockets 4 - Mains Plug Type G - British BS1363 - Cord Length 5m - Mounting Type Keyhole Mounting, Wall Mount - Switchable - Current Rating 13A - Tension 220-250 AC - Dimension 150 x 50 x 400mm (WxHxL) 	unit	4
B6	Cable Drum IP44 50m 3x 1,5 mm²	<p>Expected characteristics:</p> <ul style="list-style-type: none"> - Power : 3200 W / 1100 W - Dimensions: Ø290 mm 180x260x370 mm - Section 3x1,5 mm² - outdoor use - Tension: 220-250V AC - Protection IP: IP44 - Current amperage: 4x16 A - Frequency: 50-60 Hz -Material: steel frame 	unit	2
B7	drills : Electric drill	<p>Expected characteristics:</p> <ul style="list-style-type: none"> • Engine type Electrical • Rated power input 750 W • No-load speed 0-900/min • Max rpm 900 /min • Chuck diameter 1,5-13 mm 	unit	2

		<ul style="list-style-type: none"> • Max. drill bit diameter for drilling steel 13 mm • Tension / frequency 210 - 240 V / 50 - 60 Hz <p>Including:</p> <ul style="list-style-type: none"> • Winding side handle • Carry case product in cardboard box 		
B8	drills : Cordless screwdriver and drill	<p>Expected characteristics:</p> <ul style="list-style-type: none"> - Engine type Cordless - Battery type Lithium-ion battery - voltage 14,4 V - 2 Batteries capacity 2x3,0 Ah - Gear quantity 2 gears - No-load speed 0-350/1800 min-1 - Max rpm 1800 /min - Max. torque 77 Nm - Number of torque stages 21 - Chuck diameter 1,5-13 mm - Max. drill bit diameter for drilling steel 13 mm - Electric brake - Forward/reverse rotation <p>Including:</p> <ul style="list-style-type: none"> - Integrated LED lightning + XPT (protection against dust and rain) + Soft grip handle + Supplement for tool belt, Winding side handle + carry case + Charger 	unit	2
B9	drills : Hammer drill	<p>Expected characteristics:</p> <ul style="list-style-type: none"> - Engine type Electrical 	unit	1

		<ul style="list-style-type: none"> - Tension / frequency 210 - 240 V / 50 - 60 Hz - Drill bit, chisel shank type : SDS-plus - Cable length 4 m - No-load speed 0-900 min-1 - Max rpm 900 /min - Blow frequency 0-4000 min-1 - Max. impact energy 2.7 J - Rated power input 830 W - Max. drilling diameter in concrete : 16 mm - Max drill bit diameter for drilling wood: 30mm - Max. drill bit diameter for drilling steel : 13mm - Max chisel diameter for concrete hammering : 26mm - Max. hole saw diameter for concrete drilling : 68 mm 		
B16	Workshop vacuum cleaner wet and dry	<p>Expected characteristics :</p> <p>Air flow (l/s) 67 -Vacuum (mbar/kPa) 200 / 20</p> <p>Container capacity (l) 27 - Max. rated input power (W) max. 1380</p> <p>Standard nominal size : 35 - Cable length (m) : 7.5</p> <p>Sound level (dB(A)) : 72 - Container material : Plastic</p> <p>Frequency (Hz) : 50 - 60 - Voltage (V) : 220 - 240</p> <p>Equipment to include:</p> <p>Suction hose, 2.5 m - Metal suction tube, 2 x 0.5 m</p> <p>Filter bag, Paper - Wet and dry floor tool, 300 mm</p> <p>Crevice nozzle - Cartridge filter</p>	unit	2
B18	Wire Portable Label Printer	<p>Expected characteristics</p> <ul style="list-style-type: none"> - Power Supply: AC Power 	unit	1

		<ul style="list-style-type: none"> - Print Resolution : 203 dpi - Print Technology: Thermal Transfer - Application(s): Panel Identification, Facility, Wire & Cable Marking, Data Communications Labeling, General & Industrial Labeling, Safety & Maintenance Identification - Keyboard: ABC - Display: LCD - Max Label Width: 0.750" - Max Roll Length: 21' - Text Sizes: 6 (6 to 40 point font) - Color Capability: Single Color Printing - Multi-Line Print - Stand Alone Printing - Portable - Memory: Last label 		
B19	<p>Electricity Power Generator Motor Educational Toy 1: Hot Air Sterling Engine Model</p>	<p>Description:</p> <ul style="list-style-type: none"> - Product Name: Sterling Engine Model Model: 818153 - Size: 16.5x9x98cm/6.49"x3.54"x3.85" - Flywheel Diameter: 60mm/2.36" - Drive Wheel Diameter: 25mm/0.98" - Cylinder inner diameter: 16mm/0.62" - Color: Silver - Material: Aluminum Alloy + Zinc Alloy + Pyrex Glass - Voltage: 3-5V 	unit	4

D11	Air Compressor	<u>Expected characteristics</u> - Pump air displacement: IN 40 m ³ /h (ie 670 l/mn) - OFF 31.5 m ³ /h (ie 525 l/mn) - Motor 7.5 HP 5,5 kW - Tank size 300 liters - Pressure 11 bars max - Voltage 400 V three-phase	unit	1
B20	Electricity Power Generator Motor Educational Toy 2: Mini Hot Air Vertical Stirling Engine Motor	Description: - Name: Mini Hot Air Stirling Engine Motor - Material: Aluminum alloy, Brass, Glass - Speed: 1300~1500 RPM - Bottom Diameter: 54mm -Height: 135mm	unit	4
E2	Blade-metric-feeler-gauge-set-05-1mm 20 blades	<u>Including</u> • 20 Blade Metric Feeler Gauge Set .05 - 1mm • 100 mm long taper blades • Each blade marked with size and folds into a steel case with thumb screw. • 20 metric blades size: 0.05, 0.10, 0.15, 0.20, 0.25, 0.30, 0.35, 0.40, 0.45, 0.50, 0.55, 0.60, 0.65, 0.70, 0.75, 0.80, 0.85, 0.90, 0.95 and 1.0mm	Set	4
E12	Square - 100mm (4") Engineers Square	<u>Expected characteristics</u> • Grade B • Shape Square • Size 100 mm • Length 100 mm • Tolerance +/- 0.030 mm Case included	Unit	8

E13	Square - Basic flanged squares 100x70 - Class II	<u>Expected characteristics</u> • Screwed flange. Dimensions 100 mm x 70 mm	Unit	8
E18	Steel scriber 210 mm length	<u>Expected characteristics</u> Double ended, Steel point. Overall length: 210 mm.	Unit	16
E23	Radius Gauges	<u>Expected characteristics</u> - Radius Gauge 1-7 mm, Engineers Metric, 32 leaves, Convex & Concave - Number of Blades : 32 7,50 - 8,00 - 8,50 - 9,00 - 9,50 - 10,00 - 10,50 - 11,00 - 11,50 - 12,00 - 12,5 - 13,00 - 13,50 - 14,00 - 14,50 - 15,00	Set	2
E24	Screw Pitch Gauges	<u>Content set</u> 60° cutting gauge + 25 blades 0,25 - 0,30 - 0,35 - 0,40 - 0,45 - 0,50 - 0,60 - 0,70 - 0,75 - 0,80 - 1,00 - 1,25 - 1,50 - 1,75 - 2,00 - 2,50 - 3,00 - 3,50 - 4,00 - 4,50 - 5,00 - 5,50 - 6,00 - 6,50 - 7,00	Set	2
E27	Bevel protractor 300 mm (12") (for Trainers)	<u>Expected characteristics</u> • High-precision angle . Minimum reading 5". • Size 300 mm • Range 90° • Material Stainless Steel	Unit	2
E29	Tape measure - 8 m/26'	<u>Expected characteristics</u> • Overall Depth 38 mm • Frame Material ABS • Coating Nylon • Overall Width 93 mm • Special Features Belt Clip	Unit	2

F1-1	Roller conveyer	Base frame Electrical cabinet with electromechanical logic		1
F4-1	Study bench "belt tension"	Table tensioning device for training. Expected characteristics: - 2 pulleys with adjustable distance (from 38 to 48cm) - Belt tension adjustable by thumbwheel	unit	1
F4-2	Belt tension control instrument	Belt Tension Meter with integrated sensor Expected characteristics: - LCD display with backlight - Indicator which indicates the lifetime of the battery - Beam of light indicating the direction of the positioning of the measurement - Measurement distance (from 2-5 cm between the sensor and belt) - Measurement range of 7 to 450Hz	unit	1
F5-1	Study, maintenance and testing bench for industrial pumps	Training bench for study, maintenance and testing of industrial pumps. Main components: - 1 plastic tank, mini 200L with drain valve and level control - 1 universal support to install a tested pump - 1 PVC pressure hydraulic network - 1 quick mechanical and hydraulic connection system for the tested pump - 1 electromagnetic flow sensor / transmitter - 2 pressure sensors / transmitters with display - 1 motorized controlled valve		2

		<ul style="list-style-type: none"> - 1 graduated manual load valve - 1 power and control cabinet with: 1 industrial PLC with touchscreen panel, 1 variable speed drive 		
F8-1	Pneumatic magnetic board with 30 extra connecting cables	<p>Expected characteristics:</p> <ul style="list-style-type: none"> - Actuators and pre-actuators (cylinders, distributors, valves...) - Sensors (limit switch, pressure drop...) - Control and data processing (button box, indicator lights, emergency stop...) 		1
F8-2	Electro-Pneumatic magnetic board with 30 extra connecting cables			1
F10-2	Troubleshooting kit	<p>To be ordered with the bench for grounding schemes Including ammeter clamp, leakage current generator, mobile receiver</p>	unit	1
F20-1	Pneumatic handling line	<p>Expected characteristics:</p> <p>Handling line to held parts placed on the conveyor belt by the vacuum suction grip of a first pneumatic jack, then place on the horizontal jack, graspe by the tromagnet jack undergoing a complete handling cycle before being returned to the belt. Including electric box, user's protection and pneumatic components :</p> <ul style="list-style-type: none"> • 3 double effect pneumatic jacks Ø32mm. travel 250mm, • 2 5/2 electro pneumatic distributors • 1 5/3 electro pneumatic distributor • Vacuum generator to allow visual checking on the vacuum. • Jacks protection 	F20-1	1

F22-1	Unit for Fault Diagnostics on Industrial Electrical Wiring	<p>Model to produce faults at different points on a wiring frame. Equipment to include :</p> <ul style="list-style-type: none"> • 1 frame on casters (two with brakes) with dimensions H 1800 x 800 x 700mm • 1 Melamine shelf 750 x 400 mm • 1 wiring frame equipped with 1 protection with two-pole fuse, 1 relay 4 poles 24VAC, 1 relay 4 poles timed 24VAC, 4 contactors 4 poles, 1 thermal relay, 1 PVC surface. All connectors of the indicator lights and pushbuttons to be brought to industrial terminals flush with the surface. • 1 unit closed with flap containing 10 switches for creating faults, 1 main switch, 1 RC thermal-magnetic circuit-breaker 30mA-16A, 1 key operated switch with indicator light for applying power to the wiring frame. <p>To deliver with a complete and functional program</p>		1
K1	Videoprojector	<p><u>Expected characteristics:</u></p> <ul style="list-style-type: none"> - min. 2000 Lumen - Resolution min. 1024*768 - Standard Focal - VGA HDMI Connectivity - Light LED 	Unit	2
K2	Whiteboard with Folding Flaps	<p><u>Expected characteristics</u></p> <ul style="list-style-type: none"> • Magnetic white enamelled surface • writable with dry erase markers • antacid and scratch resistant • 2 flaps with hinged mechanism, writable on the front and rear • open table dimensions L 2400 x H 900 mm 	Unit	4

		<ul style="list-style-type: none"> • Large pen tray at the base of the board • Large pen tray at the base of the board 		
K4	Trainees Conference Tables for Trainees	<u>Expected characteristics</u> - For individual use (2 trainees) or meeting classroom - Dimensions H 740 x L 1200 x W 600 mm	Unit	8
K5	Chairs for Classroom	<u>Expected characteristics</u> - Chair seating Height 440 mm	Unit	16
K6	Office Cupboard	<u>Expected characteristics</u> - With 2 doors and key lock - Dimensions H 1980 x L 1020 x W 450 mm	Unit	2
L1-1	Server	Main features - Processor : Up to two Intel - Operating Systems: Microsoft Windows Server - Memory : 1TB max	unit	2
L2-2	Switch	Main features - Performance :10 Gigabit per second line speed per port, full duplex - Port Attributes : 32 total Ethernet ports: 16 internal (server) ports and 16 external (LAN) ports	unit	1
L2-4	Set Desktop PC with screen : 24-inch	Main features - Processor : Intel Pentium - Memory (RAM) : 8GB, 24000 MHz - Hard Drive size : 500MB - Video card : Intel HD Graphics - Operating System : Windows 10 - 1 keyboard	unit	16

		<ul style="list-style-type: none"> - 1 mouse - 1 color screen 24" - Microsoft Office Home & student 		
L3-1	Printer for local tutorial area in the workshops	<p>Main features</p> <p>Black and White laser - A4 / 210 x 297mm -Two-Sided printed</p> <p>Print technology</p> <ul style="list-style-type: none"> •Print resolution: 600 x 600 DPI •Colour: N •Maximum resolution: 1200 x 1200 DPI •Maximum duty cycle: 280000 pages per month •Duplex printing: Y •Number of print cartridges: 1 •Standard printer languages: PCL 5e,PCL 6,URF •Print technology: Laser •Recommended duty cycle: 5000 - 20000 pages per month <p>Power</p> <ul style="list-style-type: none"> •Power consumption (typical): 850 W •AC input voltage: 220-240 •AC input frequency: 50/60 •Power consumption (max): 1650 W+C12 	unit	
P3	Industrial Workbench with compartment with 2 drawers (for teachers and control/measurement post)	<p><u>Expected characteristics:</u></p> <ul style="list-style-type: none"> - Legs with plastic end caps for floor protection. - Drawers mounted on double extension ball-bearing sliders. Opening 100 % - Colour blue RAL 5012 - 2 drawer compartment 1 x 100 / 1 x 200. Central locking. - Dimensions (HxLxW) 850 x 1500 x 750 mm 	Unit	4

		- max. Load 1000 kg - Finish Beech		
P6	Tool cupboard width 1000 mm 2 shelves	<u>Expected characteristics:</u> - 2 swinging doors - Top with 24 mm edge - Colour blue RAL 5012 - Dimensions: width 1000 mm, depth 500 mm, height 920 mm	Unit	4
P11	Adjustable Bench-Vices	<u>Expected characteristics:</u> - Stationary - Width of jaws 125 mm - Opening 180 mm - Total high 175 mm		16
P14	Fire Extinguisher	<u>Expected characteristics:</u> - 6 kg dry powder • Contents : Powder (Mono Ammonium Phosphate base) • Can Construction : Mild Steel • Pressurized by : Nitrogen • The extinguisher works on all classes of fire and comes with 5 years warranty. • This covers all functional aspect of the product including leakage. • Powder consistency and construction of the cylinder. • Any replacements or refilling, except for actual use are done free of the cost. • It is a zero maintenance fire extinguisher	Unit	2

LOT 3: WORKSHOP/CLASSROOM EQUIPMENT LIST FOR LAKE KATWETECHNICAL INSTITUTE

CODE	ITEM	SPECIFICATIONS	UNIT	TOTAL QUANTITY
A 2	Centre punches (prick punch)	Chrome-vanadium steel forged, hardened to 52 to 58 HRc. Diameter 10 mm Length 115 mm	unit	8
A 10	Drill bits	Set 25 drills (HSS) from diameter 1mm to 13mm in a metal box	Set	4
A10-1	Drill bits	Set 25 drills (HSS) from diameter 1mm to 13mm in a metal box	Set	4
A 12	File flat with plastic handle	Length 250 mm second cut	unit	16
A 13	Files half-round with plastic handle	Length 250 mm second cut	unit	16
A 14	Files rat-tail with plastic handle	Length 250 mm second cut	unit	16
A 16	Galvanised metal bucket	Capacity 10l	unit	4
A 19	Hammer - Locksmith hammer	Weight : 250g - fibreglass handle	unit	16
A 21	Hammer - Rubber mallet	Soft and hard faced, wood handle. Weight 650g	unit	4
A 23	Hexalobular (Torx) keys ring set	Includes the 8 Torx keys no.: T8 - T10 - T15 - T20 - T25 - T27 - T30 - T40	unit	4
A 26	Metal hooded dust pan	Width : 280 mm (11")	unit	4
A 28	Metallic oil can	Capacity 500 cc with flexible hose.	unit	4
A 31	Pin punch set	8 pieces diameter : 2,4 - 3,2 - 4 - 4,8 - 5,6 - 6,4 - 7,9 and 9,5 mm	Set	2
A 33	Pistol grease gun	With hose and rigid pipe	unit	2

A 34	Plastic bucket	Capacity 10l	unit	4
A 50	Saw - Compact hack saw frame and blades	Steel/resin construction. <ul style="list-style-type: none"> • Blade tension 80 kg. • 2 blade positions: 45° and 90°. • Takes 300 mm blade. • Dimensions (L. x W.): 385 x 145 mm. 	unit	8
A 51	Scientist digital calculator solar power	All- purpose scientific calculator 12-Digit LCD	unit	16
A 52	Screwdriver - Set of insulated screwdrivers	Module of 8 - 1,000 Volt	unit	4
A 53	Screwdriver - Set of wood handle flat screwdrivers	Size : 5,5X100 - 6,5X125 - 8X150 - 10X175 - 12X200	unit	2
A 54	Screwdriver - Set Wood handle screwdrivers for Phillips® screws - hexagonal blade	5x100 - lenght : 200- Hex Size 8 6x125 - lenght : 240 Hex Size 10 8x150 - lenght : 270 Hex Size 13 Forged and treated hexagonal blade for locking or unlocking with a wrench	Set	2
A 55	Scroll shears	Capacity Semi-hard steel [mm] 1,0	unit	2
A 56	Set of drills CM2	Set of 10 drills (HSS) Diameter 14,5mm to 23mm in a wood box	Set	1
A 58	SET - Electromechanical Servicing Tool Set (For trainers)	<u>Contains</u> <ul style="list-style-type: none"> • Combination spanners 13 Pieces 5.5 – 6mm – 14 – 16 -18mm. • 1/4" Dr. socket set 5.5 – 14mm & Accessories. • Screwdrivers for slotted heads 3.5×75, 5.5×100 & 6.6x150mm. • 1000V insulated screwdriver for 4mm slotted heads. 	Set	2

		<ul style="list-style-type: none"> • Screwdrivers for Phillips PH 0, 1 & 2. • Screw starter for slotted heads. • Screw starter for cross-heads. • Round blade angled screwdriver for slotted head screws 4mm. • Micro-tech tools. • 9 Pce. hexagon key set in sleeve 1.5-10mm. • Sheathed combination pliers. • Sheathed flat-nose pliers.C67 • Sheathed angled half-round nose pliers. • Sheathed diagonal cutters. • Lockable multigrip pliers. • Set of pliers + bits for outside Circlips. • Set of pliers + bits for inside Circlips. • Wire cutter & stripper. • Electronic soldering iron 40W. • Desoldering pump. • Black and red mini wire-holders. • Electricians knife with wire stripper. • 6 Pce. set of needle files. • Riveting hammer. • Interchangeable-tip mallet. • Drift punches 1.5, 2, 3, 4 & 5mm. • Precision centre punch. • Scriber. • 2M locking taper measure. • 19 blade feeler gauge. • Magnetic retriever. • Short screwdriver for slotted heads 6.5mm 		
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A 63	Short hexagon keys	Key sizes : 10 - 12- 14 - 16 - 18 Finish: phosphate-coated.	Set	8
A 64	Small hand broom	Total lenght 30cm	unit	16
A65-1	De-soldering braid	Width: 1.6 mm. - Length: 1.6 m	unit	4
A 67	Standard taps	Set of 3 taps (taper, second and bottoming). M3 - M4 - M5	Set	4
A 68	Standard taps	Set of 3 taps (taper, second and bottoming). M6 - M8 - M10	Set	4
A 69	Standard taps	Set of 3 taps (taper, second and bottoming). M12 - M14 - M16	Set	4
A 71-1				8
A 72	Stepped drill	d mini - maxi [mm]4 - 6 - 9 - 12 - 15 - 18 - 21 - 24 - 27 - 30 - 33 - 36 - 39 Parallel shank with 3 flats for positive rotation. Cross-sharpening: self-centering	unit	2
A 73	Set of split die metric set M3 to M18	Description : <ul style="list-style-type: none"> • ISO metric RH thread. • Chrome-vanadium HSS hardened to 62/64 HRc (234 daN/mm²). • Tapered adjusting screw M3X50 - Ø 25,4 M4X70 - Ø 25,4 M5X80 - Ø 25,4 M6X100 - Ø 25,4 M8X125 - Ø 25,4 M10X150 - Ø 38,1 M12X175 - Ø 38,1 M14X200 - Ø 38,1	Set	4

		M16X200 - Ø 38,1 M18X250 - Ø 38,1		
A 74	Die Stocks (M3 to M9)	Description : • Pressure-cast Zamak body • OD 25,4 - Capacity from M3 - 3x50 -->to M9 - 9x125	unit	2
A 75	Die Stocks (M10 to M18)	Description : • Pressure-cast Zamak body • OD 38,1- Capacity from M10 10x150 --> M18 (18x250)	unit	2
A 76	Tap and die sets	Metallic box including : 24 taps - 12 threads - 5 dies includes sets of two taps per dimension: taper and bottoming M3 - M4 - M5 - M6 - M7 - M8 - M9 - M10 - M12 - M14 - M16 - M18	Set	2
A 77	Telescopic magnet	3,6kg pick up tool with LED light	unit	16
A 79	Toolbox - Maintenance and Production tool box	• Reinforced polypropylene bin. • Flexible bumpers at the angles. • aluminum handle. • Storage capacity: 36 litres. 10 kg. • Dimensions (L x W x H) 50.2 x 26.8 x 27.3 cm. • Removable plate (L x W x H): 47.5 x 24 x 17.5 cm.	unit	16
A 81	Trouble light	75 watt with - metal bulb guard and a 90° cord swivel. With cord 10 m and 75 watt incandescent bulb.	unit	2
A 82	Variable opening wrenches 4"	•Opening from 13 to • Pre-adjustment of jaw opening thanks to millimetric gradation • Left-hand button rotation Phosphated	unit	2
A 83	Variable opening wrenches 6"	•Opening from 20 to • Pre-adjustment of jaw opening thanks to millimetric gradation • Left-hand button rotation Phosphated	unit	2

A 84	Water hose	Lenght : 15m (50 ft) - Ø 5/8"	unit	2
A 86	Workshop broom complete: head with handle	Width : 600 mm (24")	unit	4
A 87	Wrecking bar	Lenght : 495 mm <ul style="list-style-type: none"> • Forged, one flat end and one nail-claw, hardened to 45 HRc. • Presentation: red lacquered, polished, varnished ends 	unit	2
A 88	Wrench - Adjustable tap wrenches	Pressure-cast Zamak body. Machined and hardened clamp Open Position mini-maxi [mm] 2-8 Tapping M3 to M7	unit	4
A 89	Wrench - Adjustable tap wrenches	Pressure-cast Zamak body. Machined and hardened clamp Open Position mini-maxi [mm] 5-16 Tapping M6 to M12	unit	4
A 90	Wrench - Adjustable tap wrenches	Pressure-cast Zamak body. Machined and hardened clamp Tapping M14 to M20	unit	4
A 93	Wrench - Metric angled socket wrenches : set of 16	Including wrenche size : 8 - 9 - 10 - 11 - 12 - 13 - 14 - 15 - 16 - 17 - 18 - 19 - 21 - 22 - 23 - 24	unit	2
A 94	Wrench - Metric open-end ring wrench : set of 9	6x7 - 8x9 - 10x11 - 12x13 - 14x15 - 16x17 - 18x19 - 21x23 - 22x24	unit	2
A 97	Wrench - Short hexagon keys ringset	Key sizes : 1,5 - 2,0 - 2,5 - 3,0 - 4,0 - 5,0 - 6,0 - 8,0 Finish: phosphate-coated.	Set	4
A 98	Wrench - Metric combination ratchet wrenches : set of 10	Including wrenche size : 8 - 10 - 11 - 12 - 13 - 14 - 16 - 17 - 18 - 19	Set	2

A 99	Wrench - Metric combination wrench : set of 18	Including wrenche size : 6 - 7 - 8 - 9 - 10 - 11 - 12 - 13 - 14 - 15 - 16 - 17 - 18 - 19 - 21 - 22 - 23 - 24	Set	2
A 100	Wrench - Ratchet and socket wrench sets	Specifications <ul style="list-style-type: none"> • 1 x high performance sealed 1/2" ratchet 19 x 1/2" metric 6-point sockets S.H 8 - 9 - 10 - 11 - 12 - 13 -14 - 15 - 16 - 17 - 18 - 19 - 21 - 22 - 23 - 24 - 27 - 30 - 32 mm. • 2 x 1/2" extensions: L 130 mm - L 250 mm. • 1 x 1/2" universal joint 	Set	3
A 101	Wrench - Variable opening wrenches 8"	<ul style="list-style-type: none"> •Opening from 27 to • Pre-adjustment of jaw opening thanks to millimetric gradation • Left-hand button rotation Phosphated	unit	2
B1-1	Air gun	<u>Expected characteristics :</u> <ul style="list-style-type: none"> - Operating Pressure 0 - 10 bar - Pneumatic connection Female thread 1/4 - Standard nominal flow rate 120 l/min . - Ambient temp -10 - 50 °C - Sound pressure level 90 dB(A) . - Exhaust-air function air jet can be dosed 	unit	4
B1-2	HOSE AIR RECOIL (5m)	<u>Expected characteristics :</u> <ul style="list-style-type: none"> •10 mm x 5m Braided W/ 1/4" BSP F Swivel •Fitted with 1/4" BSP male swivel fitting 	unit	4
B1-3	Swivel Air Hose Reel (30m)	<u>Expected characteristics :</u> <ul style="list-style-type: none"> •Swivel Base •Folding handle and 360° rotary base. • Hose diameter: 9.5mm • Connection hose length: 2m 	unit	2

		<ul style="list-style-type: none"> • Working pressure: 218psi (15 bar) • 1/4" male BSP fitting 		
B4	Extension Cord	<u>Expected characteristics:</u> <ul style="list-style-type: none"> - 25 ft. - Black Extension Cord - 3 Grounded Outlets - 240 Volt - Amperage: 15 Amps - Maximum Wattage: 1800 Watt - Indoor Use Only 	unit	4
B5	British 4 Gang Extension Leads Socket Type G - British	<u>Expected characteristics:</u> <ul style="list-style-type: none"> - Number of Sockets 4 - Mains Plug Type G - British BS1363 - Cord Length 5m - Mounting Type Keyhole Mounting, Wall Mount - Switchable - Current Rating 13A - Tension 220-250 AC - Dimension 150 x 50 x 400mm (WxHxL) 	unit	4
B6	Cable Drum IP44 50m 3x 1,5 mm²	<u>Expected characteristics:</u> <ul style="list-style-type: none"> - Power : 3200 W / 1100 W - Dimensions: Ø290 mm 180x260x370 mm - Section 3x1,5 mm² - outdoor use - Tension: 220-250V AC - Protection IP: IP44 - Current amperage: 4x16 A 	unit	2

		- Frequency: 50-60 Hz -Material: steel frame		
B9-1	Accessories for Hammer drill (Drill bit, chisel shank type SDS-plus)	<u>Expected characteristics:</u> (compatible with hammer drill model selected) Set includes of tools including : drills Ø 6 mm, Ø 8 mm. Ø 10 mm, Ø 16 mm for concrete Pointed chisel, Flat chisel, Cut off chisel (Max chisel diameter for concrete hammering Ø 26) Hole saw (Max. diameter for concrete drilling Ø 68 mm)		2
B10-1	Grinding stone	Corundum sanding stone Ø 9,5 mm compatible with die grinder selected		80
B11-1	Grinding wheels for steel	<u>Technical specifications</u> Grit : A36P Depressed Center Bore 22.23 mm Ø 125 mm Thickness 6 mm		10
B11-2	Flap disc for steel	<u>Technical specifications</u> Grit #A60 Shape. A Disc Ø 125mm		10
B11-3	Abrasive cutting disc for steel	<u>Technical specifications</u> Grit : A36P Depressed Center Bore 22.23 mm Ø 125 mm Thickness 2,5 mm		10

B12-1	GRINDING WHEEL	<u>Technical specifications</u> Grit : A24R Depressed Center Bore 22.23 mm Ø 230 mm Thickness 6 mm		5
B14-1	Blade for jig saw	<u>Expected characteristics:</u> Compatible with Jig saw selected Max. thickness of sheet metal 6 mm Min. thickness of sheet metal 2 mm Tooth spacing 1,8 mm - Total length 76 mm		10
B15-1	Blade for reprocating saw (Saber saw)	<u>Expected characteristics:</u> Compatible with reprocating saw selected For cutting Pipes, Sheet metal, Steel Tooth spacing 1,8 mm-3,2 mm Width 19 mm - Max. thickness of sheet metal 8 mm Max. pipe diameter 100 mm - Min. thickness of sheet metal 1 mm Thickness 0,9 mm - Total length 150 mm		20
B16	Workshop vacuum cleaner wet and dry	<u>Expected characteristics :</u> Air flow (l/s) 67 - Vacuum (mbar/kPa) 200 / 20 Container capacity (l) 27 - Max. rated input power (W) max. 1380 Standard nominal size : 35 - Cable length (m) : 7.5 Sound level (dB(A)) : 72 - Container material : Plastic Frequency (Hz) : 50 - 60 - Voltage (V) : 220 - 240 <u>Equipment to include:</u> Suction hose, 2.5 m - Metal suction tube, 2 x 0.5 m Filter bag, Paper - Wet and dry floor tool, 300 mm Crevice nozzle - Cartridge filter	unit	2

B19	Electricity Power Generator Motor Educational Toy 1: Hot Air Stirling Engine Model	<u>Description:</u> - Product Name: Stirling Engine Model Model: 818153 - Size: 16.5x9x98cm/6.49"x3.54"x3.85" - Flywheel Diameter: 60mm/2.36" - Drive Wheel Diameter: 25mm/0.98" - Cylinder inner diameter: 16mm/0.62" - Color: Silver - Material: Aluminum Alloy + Zinc Alloy + Pyrex Glass - Voltage: 3-5V	unit	4
B20	Electricity Power Generator Motor Educational Toy 2: Mini Hot Air Vertical Stirling Engine Motor	<u>Description:</u> - Name: Mini Hot Air Stirling Engine Motor - Material: Aluminum alloy, Brass, Glass - Speed: 1300~1500 RPM - Bottom Diameter: 54mm -Height: 135mm	unit	4
C4-1	Sanding belt for Pipe Notches	<u>Product Features</u> Grit 40 Band with 100 mm Band length 2000 mm Applicable with the selected Pipe notcher		10
C5-1	Abrasive Cut off Wheel	Arbor Size : 25,4 Disc Diameter : 350 mm Applicable with the selected Abrasive Chop Saw	unit	6
C6	Pedestal Drilling Machine	<u>Expected characteristics:</u> - Drilling capacity in steel : 20 mm - Morse taper in sipder: 2 - Spindle traverse: 125 mm	Unit	1

		<ul style="list-style-type: none"> - Vertical adjustment on spindle head: 425 mm - Pillar diameter: 76,2 mm - distance between centre of spindle and column front: 200 mm - Max. distance between spindle and table: 300 mm - Max. distance between spindle and base: 1015 mm -Table working surface: 370 mm (with coolant gutter) - Base working surface: 385x375 mm - 5 spindle speeds - Range of spindle speeds: 375-700-1170-1900-3200 rpm - Hand feed - Power of the spindle drive motor: 0.75kW/1HP 1400rpm 415V AC, 3Ph 50Hz <p><u>Equipment to include:</u></p> <ul style="list-style-type: none"> - Drill chuck with key and arbor MT2 - Coolant pump 0.09kW/0.125 HP - Machine lamp - Reduction sleeves (Morse Taper) 2-1 - D.O.L. Starter with No Volt Coil - Drill press vice (width of jaws 125 mm, opening of jaws 140 mm, depth of jaws 40 mm) 		
C6-1	10 Piece Metric Morse Taper 2 Drill Bit Set	Industrial dark blue finished, HSS Morse taper number 2 shank drill set Individual sizes: 14.5, 15, 16, 17, 18, 19, 20, 21, 22, & 23 mm	Unit	3
C7	Bench Drilling Machine	<p><u>Expected characteristics:</u></p> <ul style="list-style-type: none"> - Drilling capacity in steel 13 mm - Morse taper in sipder 1 - Spindle traverse 100 mm - Vertical adjustment on spindle head 425 mm - Pillar diameter 57.15 mm - distance between centre of spindle and pillar front 149 mm 	Unit	4

		<ul style="list-style-type: none"> - Max. distance between spindle and table 300 mm - Max. distance between spindle and base 500 mm - Table working surface 200x200 mm - Base working surface 180x210 mm - 4 spindle speeds - Range of spindle speeds 480-820-1320-2080 rpm - Hand feed - Power of the spindle drive motor 0.37kW/0.5HP 1425rpm 415V AC, 3 phases 50 Hz <p><u>With accessories:</u></p> <ul style="list-style-type: none"> - 13mm Drill chuck with arbor - Coolant pump 0.09kW/0.125 HP - Machine lamp - Reduction sleeves MT 2-1 - D.O.L. Starter - Drill press vice (width of jaws 100 mm, opening of jaws 110 mm, depth of jaws 35 mm) 		
C8	Sharpening Machine for Twist Drills	<p><u>Expected characteristics:</u></p> <ul style="list-style-type: none"> - Drill diameter 3 - 20 mm - Point Angle 80° - 160° - Speed of rotation 500 - 7500 tr/min - Motor power 0.60 kW - Voltage 230 V <p><u>Including:</u></p> <ul style="list-style-type: none"> - Grinding ball red - Support clamping jaw prismatic - Indicator digital speed - Water tray for cooling - Protective cover 	Unit	1

		<ul style="list-style-type: none"> - Connection cable with plug - LED lighting - Rubber pads 		
C15-1	Pedestrial Mounted Grinding Machine	<p><u>Expected characteristics:</u></p> <ul style="list-style-type: none"> - number of positions : 2 - Type of positions : grinding wheels - size of grinding wheels : Ø200x25xØ20 - Motor: 400V 1,1kW (1,5hp) - 2 Turning speeds 1400/2800 rpm (15/30 m/s) <p><u>Equipment to include:</u></p> <ul style="list-style-type: none"> - with pedestal and grinding wheels 	Unit	2
C15-11	Bench & Pedestal Grinding Wheels	<p>size of grinding wheels : Ø200x25xØ20</p> <p>Wheel type: -1 for carbon steel, Grit: 80</p>	Pack of 2	12
C15-21	Bench & Pedestal Grinding Wheels	<p>size of grinding wheels : Ø200x40xØ20</p> <p>Wheel type: -1 for carbon steel, Grit: 80</p>	Pack of 2	2
C15-3	Diamond Grinding Wheel Dresser	Suitable For: White corundum corundum and silicon carbide ceramics and resin bonded grinding wheel dressing	Unit	1
C16-1	Wheel cutter	<p>Cutter diameter 110 mm - Z = 24</p> <p>Suitable for : Believing machine selected</p>	Unit	1
C21-1	Lot of replacement cutting tools for CNC lathe	Set of carbide tools supports and inserts carbide	set	2
E1	Metrology-control Case 10 Tools (for Trainers)	<p><u>Including</u></p> <ul style="list-style-type: none"> • calliper 1/50 mm (capacity 200 mm). • micrometre 1/100 mm (capacity 25 mm). 	Set	6

		<ul style="list-style-type: none"> • micrometre 1/100 mm (capacity 25 - 50 mm). • depth gauge 1/50 mm (capacity 160 mm), fine adjustment by return screw • simple square 150 mm (accuracy class 1). • flanged square 150 mm (accuracy class 1). • straight scribe 150 mm. • carbide scribe • stainless rule 300 mm. • punch • Supplied in case L 410 x D 280 x H 40 mm. 		
E2	Blade-metric-feeler-gauge-set-05-1mm 20 blades	<u>Including</u> <ul style="list-style-type: none"> • 20 Blade Metric Feeler Gauge Set .05 - 1mm • 100 mm long taper blades • Each blade marked with size and folds into a steel case with thumb screw. • 20 metric blades size: 0.05, 0.10, 0.15, 0.20, 0.25, 0.30, 0.35, 0.40, 0.45, 0.50, 0.55, 0.60, 0.65, 0.70, 0.75, 0.80, 0.85, 0.90, 0.95 and 1.0mm 	Set	8
E3	Calliper - Plastic Dial Calliper 150mm with 0,1mm graduations (for trainees' tool box)	<u>Expected characteristics</u> <ul style="list-style-type: none"> • Accurate four way measurement: internal, external, step and depth • Sliding jaw lock • Manufactured from high strength, lightweight polymide plastic • Range 150 mm, Accuracy $\pm 0,1$ mm, Reading 0,1 mm • Measures Depth • Measurement Range 0 - 150 mm • Resolution 0,100 mm • System of Measurement Metric 	Unit	32
E4	Calliper - 300 mm (12") Calliper Inch/Metric/Fractio ns	<u>Expected characteristics</u> <ul style="list-style-type: none"> - Measure Range 300 mm / 0-12 inches - Resolution 0.01 mm / 0.0005 in 	Unit	2

		<ul style="list-style-type: none"> - Accuracy 0.02 mm / 0.001 inch - Display 20 mm x 50 mm (3/4" x 2") extra large LCD 		
E5	Calliper - 200 mm (8") Vernier Height Gauge	<u>Expected characteristics</u> <ul style="list-style-type: none"> • Carbide tipped scriber. • Fine adjustment range 4 mm. Accuracy ± 0.03 mm / 0.001" • Material Stainless Steel • Measurement Range 0 to 200 mm • Resolution 0.02 mm • Reading 0.02 mm 	Unit	2
E6	Calliper - 300 mm (12") Vernier Height Gauge	<u>Expected characteristics</u> <ul style="list-style-type: none"> • Carbide tipped scriber • Main scale adjustment range 15 mm. • Vernier adjustment range 4mm • Accuracy ± 0.04 mm / 0.002" • Material Stainless Steel • Measurement Range 0 to 300 mm • Resolution 0.02 mm 	Unit	1
E7	Depth Gauge 0-150 mm/0-6"	<u>Expected characteristics</u> <ul style="list-style-type: none"> • Depth Gauge 0-150 mm / 0-6" • Product Type Digital Depth Gauge • System of Measurement Imperial • Resolution 0.01 mm 	Unit	4
E8	Depth Gauge - Set of 150 mm Depth Micrometer	<u>Expected characteristics</u> <ul style="list-style-type: none"> • Interchangeable rod depth micrometer on flatness of reference face • Rod diameter 4 mm. Measuring length per rod 25mm. Instrument error ± 3 μm • Measurement Range 0-150 mm • Micrometer Head Feed ± 0.003 mm • Graduation 0.01 mm • Display Type Analogue 	Set	2

E9	Rigid Steel Rules - 200 mm Rigid Rustless Rule Round End	<u>Expected characteristics</u> <ul style="list-style-type: none"> • Hook Type Hanging Hole • Surface Finish Satin-Chrome • Length 200 mm Width 18 mm • Metric subdivided to 0.5 mm and 1 mm 	Unit	32
E10	Rigid Steel Rules - 600mm Rigid Rustless Rule Round End	<u>Expected characteristics</u> <ul style="list-style-type: none"> • Hook Type Hanging Hole • Surface Finish Satin-Chrome • Length 600 mm Width 25 mm • Metric - subdivided to 0.5 mm and 1 mm 	Unit	4
E11	Rigid Steel Rules - 300mm Rigid Rustless Rule Square End	<u>Expected characteristics</u> <ul style="list-style-type: none"> • Hook Type No Hole • Surface Finish Satin-Chrome • Length 300 mm Width 25 mm 	Unit	2
E12	Square - 100mm (4") Engineers Square	<u>Expected characteristics</u> <ul style="list-style-type: none"> • Grade B • Shape Square • Size 100 mm • Length 100 mm • Tolerance +/- 0.030 mm Case included	Unit	22
E13	Square - Basic flanged squares 100x70 - Class II	<u>Expected characteristics</u> <ul style="list-style-type: none"> • Screwed flange. Dimensions 100 mm x 70 mm 	Unit	22
E14	Square - Basic flanged squares 300x200 - Class II	<u>Expected characteristics</u> <ul style="list-style-type: none"> • Screwed flange. Dimensions 200 mm x 300 mm 	Unit	2

E16	Square - 300 mm (12") Engineers Square	<u>Expected characteristics</u> <ul style="list-style-type: none"> • Size 300 mm • Tolerance +/- 0.040 mm • Shape Square • Length 300 mm • Grade B Case included	Unit	4
E18	Steel scriber 210 mm length	<u>Expected characteristics</u> Double ended, Steel point. Overall length: 210 mm.	Unit	38
E19	Bevel - Stanley 230 mm (9 in) Sliding Bevel	<u>Expected characteristics</u> <ul style="list-style-type: none"> • Sliding blade in hardened blued steel • Chrome plated metal locking lever to secure blade • Plastic moulded stock with accurately machined face • Size 230 mm (9 in) 	Unit	2
E20	Digital multimeter	<u>Expected characteristics</u> Digital multimeter, 3 1/2-digit, 20 A AC/DC	Unit	4
E21	Set of Dial Gauge with Hinged Magnetic Base Set	<u>Expected characteristics</u> <ul style="list-style-type: none"> • Dial gauge with the hinged magnetic holder • Dial Gauge to 1/100 mm • Radius of action 280 mm. • Vertical tear strength 600 N (60 kg). • Threading Ø M8. • Base 50 x 55 x 60 mm 	Set	4
E22	Magnetic Level	<u>Expected characteristics</u> <ul style="list-style-type: none"> - Thickness 25 mm, Length 600 mm, High 54 mm - Magnetic levels, 1 machined sole plat 	Unit	1

		- In reverse position, accuracy 0.5 mm/m. - Fitted with a vertical vial, horizontal vial, and a declivity vial.		
E23	Radius Gauges	<u>Expected characteristics</u> - Radius Gauge 1-7 mm, Engineers Metric, 32 leaves, Convex & Concave - Number of Blades : 32 7,50 - 8,00 - 8,50 - 9,00 - 9,50 - 10,00 - 10,50 - 11,00 - 11,50 - 12,00 - 12,5 - 13,00 - 13,50 - 14,00 - 14,50 - 15,00	Set	10
E24	Screw Pitch Gauges	<u>Content set</u> 60° cutting gauge + 25 blades 0,25 - 0,30 - 0,35 - 0,40 - 0,45 - 0,50 - 0,60 - 0,70 - 0,75 - 0,80 - 1,00 - 1,25 - 1,50 - 1,75 - 2,00 - 2,50 - 3,00 - 3,50 - 4,00 - 4,50 - 5,00 - 5,50 - 6,00 - 6,50 - 7,00	Set	10
E25	Dry Tip Scriber	<u>Expected characteristics</u> High 245 mm Opening 200 mm	Unit	38
E26	Bevel protractor	<u>Expected characteristics</u> •Stainless steel protractor with brass locking nut	Unit	16
E27	Bevel protractor 300 mm (12") (for Trainers)	<u>Expected characteristics</u> • High-precision angle . Minimum reading 5". • Size 300 mm • Range 90° • Material Stainless Steel	Unit	8
E28	Tape measure - 3 m/10'	<u>Expected characteristics</u> • 3M/10' Nylon Coated Double Sided Steel Tape • Overall Depth 27 mm • Frame Material ABS • Coating Nylon • Overall Width 60 mm • Special Features Belt Clip	Unit	14
E29	Tape measure - 8 m/26'	<u>Expected characteristics</u> • Overall Depth 38 mm	Unit	2

		<ul style="list-style-type: none"> • Frame Material ABS • Coating Nylon • Overall Width 93 mm • Special Features Belt Clip 		
E30	Welding Gauge - Weld Fillet Gauge	<u>Expected characteristics</u> <ul style="list-style-type: none"> • Size Range 3.2 - 25.4 mm • Number of Pieces 7 • Product Material 304 Stainless steel 	Unit	2
E32	Cast Iron V-Blocks	<u>Expected characteristics</u> <ul style="list-style-type: none"> - Length 60 mm - Width 120 mm - Height 100 mm - Max. work piece \varnothing 8 - 90 mm - Mass 6.5 kg - Parallelism between V-groove and base surface 16 μm - Hardness: 180-250 HBW - Difference of the height of the pair 16 μm 	Pair	2
E33	Cast Iron Surface Plates Class 2 400 x 250 mm	<u>Expected characteristics</u> <ul style="list-style-type: none"> • DIN 876. • Class II. • Dimensions 400 x 250 mm 	Unit	2
E34	Steel V-Blocks	<u>Expected characteristics</u> <ul style="list-style-type: none"> • DIN 876. • Pair of vees with 4 90 degree notches. • Paired vees, identification number punched on the upper face. • Dimensions 20 x 30 x 40 x 50 	Pair	2
G1-1	Clothes Locker blue colour	<u>Expected characteristics</u> <ul style="list-style-type: none"> - organised in 3 columns of 2 compartments 	Unit	6

		<ul style="list-style-type: none"> - Aeration in each compartment - Dimension H 1980 x W 660 x D 500 mm - Columns Interior dimension H 950 x W 185 x D 475mm - Frame grey - doors blue 		
G1-2	Clothes Locker red colour	<u>Expected characteristics</u> <ul style="list-style-type: none"> - organised in 3 columns of 2 compartments - Aeration in each compartment - Dimension H 1980 x W 660 x D 500 mm - Columns Interior dimension H 950 x W 185 x D 475mm - Frame grey - doors red 	Unit	6
G2	Resettable Combination Padlocks (3 different colors)	<u>Expected characteristics</u> <ul style="list-style-type: none"> - Solid Aluminium body with anodized finish - Resettable 3 digit combination code - Solid steel shackle - Width 1-7/32" - 3 different colours : yellow, green, orange 	Unit	38
G3	Mobile Stockers for Bins	<u>Expected characteristics</u> <ul style="list-style-type: none"> - Dimension H 1405 x L 900 x W 610 mm - 10 shelves and 36 bins (12 blue, 12 red, 12 grey bins) - Bins exterior dimensions D 355 x L 210 x H 160 mm 	Set	4
G4	Metal Workshop Shelving for mid-weight loads	<u>Expected characteristics</u> <ul style="list-style-type: none"> - with 3 levels adjustable every 50 mm - Beams with chipboard cover panels (19 mm) - Usable L 2000 mm, H 2100 mm - Depth 600 mm - Dimension H 2100 x L 2000 x D 600 mm - Max. Load 400 kg - Floor Novopan thickness 19 mm 	Set	6

G5-1	180 Bins 95X120 with removable dividers (or 6 lots of 30 units)	<u>Expected characteristics</u> - Depth 600 mm - Height 95 mm - Length 120 mm - 4 different colours: 30 blue, 30 red, 30 green and 30 yellow - with 7 transversal dividers	lot of 30 units	20
G5-2	90 Bins 95X240 with removable dividers (or 6 lots of 15 units)	<u>Expected characteristics</u> - Depth 600 mm - Height 95 mm - Length 240 mm - 4 different colours: 15 blue, 15 red, 15 green and 15 yellow - with 7 transversal dividers	lot of 15 units	10
G5-3	60 Bins 95X120 with removable dividers (or 6 lots of 10 units)	<u>Expected characteristics</u> - Depth 600 mm - Height 150 mm - Length 240 mm - 4 different colours: 10 blue, 10 red, 10 green and 10 yellow - with 4 transversal dividers	lot of 10 units	6
G8	Rolling Waste Bin	<u>Expected characteristics</u> - Lid with 2 handles - Weather and UV resistant - With 2 fixed wheels with rubber tyres diameter 200mm and metal axle (supplied in parts) - 3 different colours: 4 red, 4 green and 4 yellow	Unit	2
H6	Ear Muff	<u>Expected characteristics</u> - To be combined with other equipment - Headband SNR=27dB, H=32dB, M=25dB, L=15dB	Unit	4
H7	Safety Helmet	<u>Expected characteristics</u> - Adjustable headgear and sweatband	Unit	8
H8	Protective Eyewear clear (for grinding)	<u>Expected characteristics</u> - To fit right over regular prescription glasses - With adjustable temples	Unit	28

H9-1	Handling gloves - size 8	<u>Expected characteristics</u> - Pair of gloves palm cow flower - Back crust	Pair	10
H9-2	Handling Gloves - size 9	<u>Expected characteristics</u> - Pair of gloves palm cow flower - Back crust	Pair	20
H9-3	Handling Gloves - size 10	<u>Expected characteristics</u> - Pair of gloves palm cow flower - Back crust	Pair	10
H10	Ear Protection	<u>Expected characteristics</u> - Soft foam earplugs for maximum comfort and low pressure inside the ear -Smooth, dirt resistant surface for better hygiene, durability and comfort	Box 200	2
I1	Hand Pallet Truck	<u>Expected characteristics</u> • Loading capacity 2.2 TON •Size : Width standard pallet dimensions / Length 1165 mm	unit	1
I5	Wheelbarrow With Pneumatic Wheel	<u>Expected characteristics</u> Capacity 85 l - Length 148cm x Width 67cm x Height 58cm - Longer 30mm frame - Handle grips - Metal disc rim on wheel - Frame epoxy coated (Black) - Galvanised tray - Nylon looking nuts - Axle bore: 14mm	unit	2
I6	Folding Aluminium Steps	<u>Expected characteristics</u> Width 0,54 m x Depth 1,42 m x Overall height : 2,38 - Number of treads : 7 - Platform height : 1,47 m	unit	1

I7	Folding stepladder with 3 steps	<u>Expected characteristics</u> High platform: 690 mm Working height 2200 mm Step L.360 x D.230 mm Dimensions folded: 550 x 70 x 1120	unit	1
I8	Universal sack truck with pneumatic wheels	<u>Expected characteristics</u> •Plate can be blocked in a vertical position using the hook. •Inflated pneumatic wheels. •Load 300 kg. •Overall dim. H1120 X L510 X P300 mm. •Dim plate L 345 X D 300 mm	unit	1
I10-1	Gravity Roller Conveyor 18 Inch overall width Straight section 5 feet length	<u>Expected characteristics</u> WIDTH : 18 in. overall. ROLLERS–1-3/8 in. dia. x 18 ga. galvanized steel FRAME : 2-1/2 in. deep x 1 in. flange x 12 Ga. powder painted formed steel channel with bolt-in cross members. AXLES : 1/4 in. dia. round COUPLINGS : hooks on opposite end. LENGTHS–5 ft. straight sections.	unit	10
I10-2	Gravity Roller Conveyor 18 Inch overall width Straight section 10 feet length	<u>Expected characteristics</u> WIDTH : 18 in. overall. ROLLERS–1-3/8 in. dia. x 18 ga. galvanized steel FRAME : 2-1/2 in. deep x 1 in. flange x 12 Ga. powder painted formed steel channel with bolt-in cross members. AXLES : 1/4 in. dia. round COUPLINGS : hooks on opposite end. LENGTHS / 10 ft. straight sections.	unit	5
I10-3	Gravity Roller Conveyor 18 Inch overall width Curve section 90°	<u>Expected characteristics</u> WIDTH : 18 in. overall. ROLLERS–1-3/8 in. dia. x 18 ga. galvanized steel FRAME : 2-1/2 in. deep x 1 in. flange x 12 Ga. powder painted formed steel channel with bolt-in cross members. AXLES : 1/4 in. dia. round COUPLINGS : hooks on opposite end.	unit	5

		CURVES ; 90° - 42" Outside Radius Roller Centers : 3"		
I10-4	Gravity Roller Conveyor 18 Inch overall width Curve section 60°	<u>Expected characteristics</u> WIDTH : 18 in. overall. ROLLERS–1-3/8 in. dia. x 18 ga. galvanized steel FRAME : 2-1/2 in. deep x 1 in. flange x 12 Ga. powder painted formed steel channel with bolt-in cross members. AXLES : 1/4 in. dia. round COUPLINGS : hooks on opposite end. CURVES ; 60° - 42" Outside Radius Roller Centers : 3"	unit	2
I10-5	Gravity Roller Spur Conveyor 18 Inch overall width Curve section 90°	<u>Expected characteristics</u> WIDTH : 18 in. overall. ROLLERS–1-3/8 in. dia. x 18 ga. galvanized steel FRAME : 2-1/2 in. deep x 1 in. flange x 12 Ga. powder painted formed steel channel with bolt-in cross members. AXLES : 1/4 in. dia. round COUPLINGS : hooks on opposite end. SPUR ANGLE- 90° right hand	unit	3
I10-6	Gravity Roller Spur Conveyor 18 Inch overall width Adjustable Tripod Stands	<u>Expected characteristics</u> Adjustment Height Top of Conveyor : 24"-40" Capacity data : 350 lbs. with 180 in./lbs. of torque on locking screw.	unit	25
K1	Video projector	<u>Expected characteristics:</u> - min. 2000 Lumen - Resolution min. 1024*768 - Standard Focal - VGA HDMI Connectivity - Light LED	Unit	2
K2	Whiteboard with Folding Flaps	<u>Expected characteristics</u> • Magnetic white enamelled surface	Unit	2

		<ul style="list-style-type: none"> • writable with dry erase markers • antacid and scratch resistant • 2 flaps with hinged mechanism, writable on the front and rear • open table dimensions L 2400 x H 900 mm • Large pen tray at the base of the board • Large pen tray at the base of the board 		
K3	Auxiliary Conference Tables for classroom	<u>Expected characteristics</u> - For individual use or auxiliary table - Dimension H 740 x L 700 x W 600 mm	Unit	8
K4	Trainees Conference Tables for Trainees	<u>Expected characteristics</u> - For individual use (2 trainees) or meeting classroom - Dimensions H 740 x L 1200 x W 600 mm	Unit	16
K5	Chairs for Classroom	<u>Expected characteristics</u> - Chair seating Height 440 mm	Unit	38
K6	Office Cupboard	<u>Expected characteristics</u> - With 2 doors and key lock - Dimensions H 1980 x L 1020 x W 450 mm	Unit	8
K7	Conference Tables for Trainers Desk	<u>Expected characteristics</u> - For individual or meeting use - Dimensions H 740 x L 1400 x W 600 mm	Unit	6
K8	Chairs for Trainers Desk	<u>Expected characteristics</u> - Robust and comfortable - Chair seating Height 490 mm	Unit	6
K9	Medicine Cabinet	<u>Expected characteristics</u> - 1 simple door with key lock - Dimensions H 465 x L 330 x W 165 mm - Net volume 0.02 m ³ - Material Epoxy metal - 1 shelf - 2 compartments	Unit	2

K10	Industrial Drawing Kits	<u>Including</u> - 1 A3 drawing board - 2 parallel rules and 2 corner clips - Quick release paper clip - Parallel rule with STOP / GO locking / unlocking action, marked in centimeters on both sides - Locking mechanism of the cutting head for adjustment of the ruler and free rotation - Square set with a high-end plastic protractor	Set	16
K11	Quick-setting Compass	<u>Expected characteristics</u> - Push-button mechanism and centre wheel - Hinged lead and needle legs - Interchangeable lead part with shank Ø 4 mm - Interchangeable needle - Max. circle Ø approx. 350 mm, with extension bar approx. 585 mm - In case with hinged lid <u>Accessories to include</u> With mine element, external extension, universal compass clip, pit case and spare tip	Set	16
K12	Magnetic Tracing Set	<u>Expected characteristics</u> - Unbreakable plastic yellow - graduated (cm and inch) - magnetic for white board - with removable black handle <u>Including</u> - Ruler 1 m - Square 60° 50 cm - Square 45° 60 cm - Protractor 180° 50 cm	Set	2

K13	Compass for Whiteboard	<u>Expected characteristics</u> - Usable on white boards - Unbreakable plastic yellow - Length 50 cm. - 3 feet sucker on one branch and chalks marker on the other branch - Black removable handle	Unit	2
P1	Industrial Workbench for Trainees	<u>Expected characteristics:</u> - Dimensions (HxLxW) 850 x 2000 x 750 mm - max. Load 1000 kg - Finish laminated	Unit	22
P2	Industrial Workbench with Lower Level	<u>Expected characteristics:</u> - Dimensions (HxLxW) 850 x 1500 x 750 mm - max. Load 1000 kg - Finish laminated	Unit	10
P3	Industrial Workbench with compartment with 2 drawers (for teachers and control/measurement post)	<u>Expected characteristics:</u> - Legs with plastic end caps for floor protection. - Drawers mounted on double extension ball-bearing sliders. Opening 100 % - Colour blue RAL 5012 - 2 drawer compartment 1 x 100 / 1 x 200. Central locking. - Dimensions (HxLxW) 850 x 1500 x 750 mm - max. Load 1000 kg - Finish Beech	Unit	6
P4	Mobile Workbench 1 door	<u>Expected characteristics:</u> - Plywood top 25 mm thick - Height above top 800 mm - Overall height of workbench L 1015 x P 560 x H 800 mm - 2 fixed casters + 2 pivoting casters, one with brake. - Wheels Ø 125 mm with grey non-marking rubber tyre - Compartment with door.	Unit	2

		<ul style="list-style-type: none"> - Useful dimensions of shelf W 410 x D 480 mm - Compartment exterior dim. L 475 x D 550 x H 608 mm - Finish Paint Epoxy blue RAL 5012 		
P5-1	Production Work Table with Drawer and Bins	<p><u>Expected characteristics:</u></p> <ul style="list-style-type: none"> - Dimensions H 860 x L 1200 x W 800 mm - max. Load 150 kg - Plywood plate and drawer <p><u>Including lot of various bins:</u></p> <ul style="list-style-type: none"> - Made of impact resistant polystyrene - Various colours - Various dimensions D 175-355mm, L 105-210mm, H 75-160mm - Temperature for use between -10 °C and +70 C - Large lateral ribs for greater rigidity - Label holder at front - Large front opening to make picking easier - Clips by return to the back of bin-supports and notched panels 	Set	4
P5-2	Mechanical Wooden Stool (for production work table)	<p><u>Expected characteristics:</u></p> <ul style="list-style-type: none"> - without footrest - Seat height to be adjusted at 420-600 mm 	Unit	4
P6	Tool cupboard width 1000 mm 2 shelves	<p><u>Expected characteristics:</u></p> <ul style="list-style-type: none"> - 2 swinging doors - Top with 24 mm edge - Colour blue RAL 5012 - Dimensions: width 1000 mm, depth 500 mm, height 920 mm 	Unit	2
P7	Tool Cupboard Width 500 mm 2 Shelves	<p><u>Expected characteristics:</u></p> <ul style="list-style-type: none"> - 1 swinging door - Top with 24 mm edge 	Unit	2

		<ul style="list-style-type: none"> - Colour blue RAL 5012 - Dimensions W 500 x D 500 x H 920 mm 		
P8	Tool Cupboard Width 500 mm 2 Shelves 1 Drawer	<u>Expected characteristics:</u> <ul style="list-style-type: none"> - 1 swinging door - Top with 24 mm edge - 1 drawer, height 80 mm (mounted on single extension sliders on rollers) - Colour blue RAL 5012 - Dimensions W 500 X D 500 x H 920 mm 	Unit	2
P9	Cabinets with Drawers	<u>Expected characteristics:</u> <ul style="list-style-type: none"> - Colour blue RAL 5012 - 9 Drawers (Width 717 mm - Depth 572 mm - Total height 1000 mm): 4 drawers height 75 mm + 3 drawer height 100 mm + 2 drawers height 150 mm 	Unit	2
P10	Cabinet with Drawers and Casters	<u>Expected characteristics:</u> <ul style="list-style-type: none"> - Rolling trolley in heavy steel sheet with 5 single extension drawers (heights 50 to 200 mm). - Load 70 Kg/ drawer. - Depth 572 mm. Width 717 mm. - Total height 914 mm. - 2 fixed wheels + 2 pivoting wheels with brakes. - Wheel diameter 150 mm with rubber tyre. 	Unit	2
P11	Adjustable Bench- Vices	<u>Expected characteristics:</u> <ul style="list-style-type: none"> - Stationary - Width of jaws 125 mm - Opening 180 mm - Total high 175 mm 	unit	38
P12	Heavy Duty Shelving Bay 1500 X 600 X 2000 mm	<u>Expected characteristics:</u> <ul style="list-style-type: none"> - Dimension W 1500 x D 600 x H 2000 mm - 4 layers per bay, each shelf to take up to 300 kg, overall shelving more than 1200 	unit	4

		kg - Quality steel with powder coating, extra strong & durable		
P13-1	Storage Bins 485 x 310 x 185 mm	<u>Expected characteristics:</u> - Dimensions D 485 x L 310 x H 185 mm - Various colours - Made of impact resistant polystyrene - Temperature for use between -10 °C and +70 C - Large lateral ribs for greater rigidity - Label holder at front - Large front opening to make picking easier	Box 8 units	4
P13-2	Storage Bins 355 x 210 x 160 mm	<u>Expected characteristics:</u> - Dimensions D 355 x L 210 x H 160 mm - Various colours - Made of impact resistant polystyrene - Temperature for use between -10 °C and +70 C - Large lateral ribs for greater rigidity - Label holder at front - Large front opening to make picking easier	Box 12 units	4
P14	Fire Extinguisher	<u>Expected characteristics:</u> - 6 kg dry powder	Unit	2
F15	Mobile trolley with a complete set of Equipment's Engineering Science kits and Work Panels	<u>Expected characteristics:</u> Including 1 Mobile trolley, 3 Work Panels, 1 Spares Kit, 5 Empty trays and 18 Engineering Science kits: • Forces Kit • Moments Kit • Deflection of Beams Kit • Torsion of Circular Sections Kit • Tensile Tester Kit • Simple Harmonic Motion Kit	set	1

		<ul style="list-style-type: none"> • Friction and Inclined Plane Kit • Potential and Kinetic Energy Kit • Pulley Kit • Drive Systems Kit • Cam, Crank and Toggle Kit • Gear Trains Kit • Simple Mechanisms Kit • Bar Linkages Kit • Centrifugal Force Kit • Rotational Friction Kit • Additional Mechanisms Kit • Spring Tester Kit 		
C15-2	Double Tools Grinding Machine	<u>Expected characteristics:</u> - number of positions : 2 - Type of positions : grinding wheels with sharpening lateral support - size of grinding wheels : Ø200x40xØ20 - Motor: 400V 1,8kW (2,5HP) - 2 Turning speeds 1400/2800 rpm (15/30 m/s) <u>Equipment to include:</u> - with pedestal and grinding wheels	Unit	2
D1	Welding Smoke Filter Unit - 2 Arms	<u>Expected characteristics:</u> - 2 exhaust arms - 2 filter stages - Filter method: Disposable filter - Filter surface: ca. 17 m ² - Extraction capacity: 2 x 700 m ³ /h - Motor power: 1.1 kW - Power supply: 3 x 400 V / 50 Hz	unit	3

		<ul style="list-style-type: none"> - Rated current: 2.3 A - Control voltage: 24 V, DC 		
D2	Welding Training Table with drawer	<u>Expected characteristics:</u> <ul style="list-style-type: none"> - Robust steel profile construction - Two-section work surface: iron bar grating and sheet steel support surface with refractory material - Dimensions 600 x 600 x 800 mm (WxDxH) - including forced position welding fixture 	unit	12
D3	Transparent Welding Booth kit	<u>Expected characteristics:</u> <ul style="list-style-type: none"> - Dimension 1800 x 2400 x 3.5 mm (HxWxThick) - 2 different colors (12 of each) - Protective Material Transparent (Vinyl or PVC) - Withstand Temp. 150 Degrees F - Material Weight 0.4 kg/m² - With Grommet - Placement: 30 cm Centers on Four Sides - Front Door to be Curtain. Other Three Sides fixed <u>Equipment to include:</u> 4 Curtains, 25 mm round Tube Steel Curtain Frame, Snap Locks, Nylon Ties, Steel Rings	unit	12
D4	Arc Welding Generator equipped	<u>Expected characteristics:</u> <ul style="list-style-type: none"> - Mains voltage 1 x 230 V (50/60 Hz) - Max. effective primary power 15 A - Max. primary power 24 A - Max. apparent power 5,52 kVA - Slow blow mains fuse 16 A - Cos Phi 0,99 - Current range 10 – 150 A - Welding current range at 10 min./40°C 35% 150 A 	unit	16

		<ul style="list-style-type: none"> - Welding current range at 10 min./40°C 100% 90 A - Open circuit voltage 96 V - Degree of protection IP 23 		
D4-1	Electrodes, Arc Welding Consumables	Electrode rutile (EC4102) Ø 2,5 Universal rutile electrodes for welding general purpose structural steels , steels and shipbuilding steel tubes. Also used for all types of maintenance. Weldability in all position	Pack of 5kg	
D4-2		Electrode rutile (EC4102) Ø3.2 Universal rutile electrodes for welding general purpose structural steels , steels and shipbuilding steel tubes. Also used for all types of maintenance. Weldability in all position	Pack of 5kg	
D4-3		Electrode Basique 3218 Ø 2.5 Universal Basic. Low Hydrogen rate – easy to weld in all positions – High toughness and CVN notch energy rate til -46°C	Pack of 5kg	
D4-4		Electrode Basique (3218) Ø3.2 Universal Basic. Low Hydrogen rate – easy to weld in all positions – High toughness and CVN notch energy rate til -46°C	Pack of 5kg	
D5	MIG MAG Welding Generator (With Earth Clamp)	<u>Expected characteristics:</u> <ul style="list-style-type: none"> - Power supply 3x230 / 400 V 50/60 Hz - Power at primary (60% Duty cycle) 8 kVA - Welding current range Min-Max 30–300 A - Number of steps 14 - Protection Rating IP 22 - Insulation Classification H - Welding current at 40°C Duty cycle 35% 290 A - Welding current at 40°C Duty cycle 60% 225 A - Welding current at 40°C Duty cycle 100% 175 A - Number of feed rolls 4 	unit	8

		- Polarity inverter on front panel yes - Spot welding timer			
		MIG MAG Welding Torch Gas cooled torches - 4m - 340A/60% duty-cycle Euro-connector, guntrigger, M8*30/Ø 1.2mm contact-tip, gas-nozzle conical 16mm	unit	8	
D5-1	MIG MAG welding consumables	MIG/MAG Solid Wires (Castor Mag 45203) Ø 1,0mm Solid wire for welding non- carbon steels and low alloy .	Pack of 15 Kg	30	
D5-2		MIG/MAG Solid Wires (Castor Mag 45203) Ø 1,2 mm Solid wire for welding non- carbon steels and low alloy .	Pack of 15 Kg	30	
D5-3	MIG MAG Accessories consumables	Tube contact Ø 1,0 - M8	set of 10 units	3	
D5-4		Tube contact Ø 1,2 - M8	set of 10 units	3	
D5-5		Nozzle 16/360	set of 10 units	3	
D5-6		Black diffuser for torch/360	set of 10 units	3	
D5-7		Support for torch contact tube.M8/360	set of 10 units	3	
D5-8		Sheath for welding steel length 4 m Ø 1,0-1,2	unit	10	
D6		TIG Welding Generator equipped	<u>Expected characteristics:</u> Duty cycle for max. Power at 25°C : 50 % (170 A)	unit	

	(Torch, earth clamp, manometer)	Max. current at 100% ED (25°C) : 135 A ED for max. Power at 40°C : 32 % (170 A) Max. current at 100% ED (40°C) : 115 A Operating voltage TIG : 10,1 – 16,8 V Operating voltage MMA : 10,3 – 28,6 V Open Circuit Voltage : 93 V Mains voltage (-20% +15%) : 230 V / 50/60 Hz Protection class : IP 23 Cooling class : AF Insulation category : B		
		TIG Torch - 4 m 220A/40% duty-cycle, with second current and Up/Down-function. 7-pole-plug. Bayonet-connector, 1.6mm tungsten-electrode 175mm length, gas nozzle d=9.5mm	unit	1
		Earth clamp 3,5m 35mm ²	unit	
		Regulator for welding gas argon and argon / CO ₂ Class – olive Ø 6 mm.	unit	
D6-1	TIG Consumables compatible with Generator and Torch	TIG filler rods Ø 1,6 TIG filler rods for fabrication welding mechanical structural steel assemblies. TIG filler metal for welding of steel constructions of general and common usage or similar : S235 – S355	Pack of 5Kg	
D6-2		TIG filler rods Ø 2,0 TIG filler rods for fabrication welding mechanical structural steel assemblies. TIG filler metal for welding of steel constructions of general and common usage or similar : S235 – S355	Pack of 5Kg	
D6-3		TIG filler rods Ø 2,4 TIG filler rods for fabrication welding mechanical structural steel assemblies. TIG filler metal for welding of steel constructions of general and common usage or similar : S235 – S355	Pack of 5Kg	

D6-4		Tungsten Electrode WS2 Ø 1,6	Pack of 10	
D6-5		Tungsten electrode WS2 Ø 2,4	Pack of 10	
D6-6	TIG Welding Gas Cylinder (Argon)	Renting and Refilling contract	unit	
D7	Mobile Filter Units - 1 Arm	<u>Expected characteristics:</u> - with 1 flexible exhaust arm Ø 150 mm x Length 2 m - Filter stages 3 - Filter method: Disposable filter - Filter surface: ca. 13 m ² - Extraction capacity: 950 m ³ /h - Motor power: 1.1 kW - Power supply: 1 x 230 V / 50 Hz - Rated current: 6.7 A - Control voltage: 230 V, AC	unit	2
D8	Arc cutting Welding Table	<u>Expected characteristics:</u> - Robust grid-type material support - Integrated slag tray - To be connected to filtration system - Dimensions 1000 x 800 x 850 mm (WxDxH) - Connection spigot 160 mm	unit	2
D9	Protective Screens with Welding curtain	<u>Expected characteristics:</u> - Width 1450 mm - Height 1900 mm - Thickness 0.4 mm - 2 different colors, 12 units of each color (Green, red) - Protective Material against radiation, welding arcs and spatter	Set	12

D10	Plasma Cutting Welding Equipment	<u>Expected characteristics:</u> - Mains voltage 3 x 400 V ± 15% - Mains fuse 16 AT - Cutting current 20 - 60 A - Pilot current 20 A - Cutting current at 40% 60 A - Cutting current at 60% 50 A - Cutting current at 100% 40 A - No-load voltage 320 V - Power factor cosφ 0,9 - Max. cutting thickness (steel) 30 mm - Protection class IP 23 - Air consumption 130 l/min ± 20% at 5.5 bar - Compressed air pressure min 5 bar	unit	2
D10-1	Plasma cutting Consumables compatible with Generator and Torch			
D10-2		Electrodes package 5	Pack of 5 units	
D10-3		2 Gas diffuser torch	unit	
D10-4		5 Tuyères 1.1 mm 50/60 Amp	unit	
D10-5		1 Buse Ext. Coupe contact 40/60 Amp	unit	
D10-6		2 Capots protection gauge 40/60 Amp	unit	
D11	Air Compressor	<u>Expected characteristics</u> - Pump air displacement: IN 40 m³/h (ie 670 l/mn) - OFF 31.5 m³/h (ie 525 l/mn) - Motor 7.5 HP 5,5 kW - Tank size 300 liters - Pressure 11 bars max - Voltage 400 V three-phase	unit	1

D12-1	Welding table	<u>Expected characteristics:</u> - Solid mounting surface with flatness of +/- .0025" - Dimension 39" x 39" - High quality steel - Brinell Hardness 140~160 - 2 ton weight capacity - for Industry Standard 28mm Mounting holes - 100mm hole spacing <u>Including:</u> Table Oiler, Brush and cleaning stone	unit	2
D12-2	Welding Table accessory kit	<u>Accessories to include:</u> - 4 x locating angle square - 4 x locating angle square 2 - 2 x locating leveling ruler - 2 x V-shape locating piece - 6 x wrench locking pin - 4 x flat head quick locking pin - 2 x fixed clamping piece - 2 x adjustable clamping piece - 2 x 45 degree inclined handle - 2 x clamping piece with base - 2 x toggle clamp with base - 3 x hexagonal wrenches - 2 x nylon brushes - 2 x oil stone - 2 x oil pot	Set	2

D13	<p align="center">Portable Gas Welding & Cutting Set</p>	<p><u>Expected characteristics</u> Complete kit for gas welding and cutting (exclude gas cylinders) including:</p> <ul style="list-style-type: none"> - 1/32" A-FN Nozzle - 3/64" A-FN Nozzle - S/S Oxygen 2G Regulator - Cup Spark Lighter - Nozzle Cleaners (Red Lip) - Oxygen and Acetylene Flashback Arrestor - D/H Cutting Attachments - No.2, 3, 5, 7 L/wt Nozzle - S/5 Acetylene 2g Regulator - Panorama Coloured Goggles Indirect Shade 5 - 1/4" x 5M Oxy Fitted Hose - 6mm - 1/4" x 5M Acet - Fitted Hose - 6mm - DF Combination Spanner - D/H Mixer - D/H Shank - Portable Trolley 	Set	2
D14	<p align="center">Portable Oxy/Acetylene (Oxy-Fuel) welding equipment and Cutting Set</p>	<p><u>Equipment to include:</u></p> <ul style="list-style-type: none"> • 1 Oxygen Cylinder 2,3 m³ • 1 Acetylene Cylinder 1,6 m³ • Welding torch • Cutting torch • Oxygen and Acetylene Regulator • set of 5 oxyacetylene-fuel 100-400 l/h • 2 Flashback Arrestors • 2 x 5m - 6,3x11mm Hose OX/AD • 2 quick fittings male and female • 1 Gas Cylinder Trolley 	Set	2

		<ul style="list-style-type: none"> • Welding Goggles • Triple Flint Striker 		
D15	Spot Welding	<p><u>Expected characteristics:</u></p> <ul style="list-style-type: none"> - automatic regulation of the spot welding current and time according to the material thickness - choice between continuous and pulse operation - arms pressure adjustable from 40 kg to 120 kg - handgrip made out of thermic isolating material - thermal protection - 2 phase Mains voltage 400V - Mains frequency 50/60Hz - Max. absorbed power 13 kW - Mains fuse 16 A - Power factor 0,9 cosphi - Max. spot-welding thickness on two sides 2 + 2 mm - Protection class IP20 	unit	1
D16	Welding Turning Roller	<p><u>Expected characteristics:</u></p> <ul style="list-style-type: none"> - Power Input: 1 Phase, AC110/220V, 50/60Hz - Max Speed: 1500mm/Min - Diameter Range: 20-700mm - Turning Capacity 1000Kg - Load Capacity 1000Kg - Drive Motor DC220V 120W - Roller Type 50mm(W)*200mm(Φ) 	unit	1
D17	Digital Ultrasonic Flaw Detector	<p><u>Expected characteristics:</u></p> <ul style="list-style-type: none"> - Test Range 0-1mm up to 0-20,000 mm in steel at 5930m/s - Velocity 256-16000 m/s continuously variable - Delay 0-20,000m in steel at 5930m/s - Gain 0 to 110dB adjustable 	unit	1

- Test Modes: Pulse echo and transmit/receive - Single Crystal, Double Crystal and Pitch-Catch

- 50 and 400 Ohm damping selectable

- Pulser 100-450V -ve spike and square wave. Pulse Width from 30nS to 2500nS.

Rise/Fall times <5nS into 50R load.

- P.R.F Adjustable 5Hz to 5kHz

- 8 selectable filter bands

- Units Metric (mm), inch (in) or microseconds

- Display: Colour Transflective VGA (640 x 480) TFT - Display area: 116.16 x 87.2 mm - A-Scan Area: 400 x 510 pixels (normal), 460 x 620 (FS) - 9 colour options with variable brightness

- Internal Memory: 4GByte storage available

- Power Lithium Ion 14.4V battery pack

- Charger 100-240 VAC, 50-60 Hz

Equipment to include:

- Battery, Charger, charger mains cable.

- User Guide

- Standard Kit, Rugged Shipping Case, Airplane carry on size, Rubber Boot Accessory