





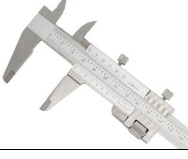





<i>Marine Engineering Workshop</i>			
Item No.	Item description and full technical Specification required (including applicable standards)		
1	Diesel Fuel Injector Nozzle Tester	Injector tester for performing standard tests	
2	Hydraulic Shop Press	Medium level hydraulic Lift Capacity of 30-Ton	
3	Hand pallet truck	Hand pallet truck with capacity to lift 2500kg	
4	Battery Charger	20-240V Charging:12/24V Current capacity: 16/18A	
5	Hose Reel Rewind able	Hose to support compressed air. Length to be above 5 meters	
6	Belt Air Compressor Air with pipeline	Compressor capacity range: 100-150 Liters Pipeline length to be 20-30feet	 
7	Engine oil Gun	Car oil Gun air washing gun	
8	Air Blow Gun	Air Blow Gun Plastic High Pressure Car Cleaning Detailing Gun	
9	Gear Puller Set	Includes forged steel bearing separator and gear puller and Operate up to 10 ton hydraulic pulling power	














TECHNICAL SPECIFICATION – TVET WORKSHOP ITEMS

10	Torque Wrench	Capacity: 140-700Nm Drive Size: 3/8 or 1/2 inch	
11	Torque wrench	Capacity: 100-500Nm Drive Size: 3/8 or 1/2 inch	
12	Torque Wrench	Capacity: 300-1500Nm Drive Size: 3/8 or 1/2 inch	
13	Outside Micrometer metric	Measurement Range: 0-25mm Accuracy: 0.001mm	
14	Outside micrometer	Measurement Range: 50-75mm Accuracy: 0.001mm	
15	Outside micrometer metric	Measurement Range: 75-100mm Accuracy: 0.001mm	
16	Stainless Steel Vernier Caliper	Measuring Range: 0 to 200mm Accuracy: measure up to 1/10mm (or 0.1mm)	
17	Bore Gauge Set	Measuring Range: 0-150mm Measurement Accuracy: 0.01mm	
18	Feeler Gauge	Feeler Gauge Blade Numbers: 10-20 Blades thickness: 0.02mm to 1mm	
19	Dial indicators With Stand	Dial Indicator Gauge and Magnetic Base Set, with Storage Case Measuring Range: 0-20mm	









TECHNICAL SPECIFICATION – TVET WORKSHOP ITEMS








20	Tap and Die Set	No of pieces: 100-160 Range of Taps and dies: M3-M12	
21	Socket Set	No of pieces: 10-144pieces Range of Sockets: 10-19	
22	Combination wrench Set	No of wrenches: 10-26 pieces Size of Wrenches to range from 6-32	
23	Screwdriver Set	Number of pieces in the set to be in the range of 10-25 pieces.	
24	Impact Screw Driver	Standard sized set	
25	Drawer Trolley	5-10 drawers classic bumper type roller cabinet	
26	Heavy duty drill press	Chuck size: 3-18mm	
27	Bench Grinder	Grinding Wheel Diameter: 6inches	
28	Deep Socket Set	No of pieces to be in the range of 5-15 pieces	

TECHNICAL SPECIFICATION – TVET WORKSHOP ITEMS




29	Plastic Hammer	With Wood or Metal Handle	
30	Claw Hammer	Round head hammer with wooden or metal handle	
31	Ball Pein Hammer	Claw hammer with wood or metal handle	
32	Machinist hammer	Machinist hammer with wooden handle and size 100g-8kg	
33	Vice grip plier	Vice grip plier wrench	
34	Combination plier	Combination plier 180MM	
35	Long nose plier	Long nose plier Chrome vanadium steel with PVC handle	
36	Cable cutter	Cutter insulated grip	
37	Chisel	Metal chisel	
38	File Set	Metal file suitable for industrial use (File qty: 5-10 pieces)	
39	Internal Circlip Pliers	Standard Size or Size: 175mm	
40	External Circlip Pliers	Standard Size or Size: 175mm	
41	Spring Caliper Divider	Spring Caliper Divider 10"	

TECHNICAL SPECIFICATION – TVET WORKSHOP ITEMS

42	Hole Punch Set	Number of pieces to be in the range: 5-15 pieces	
43	Piston Ring Compressor	Piston Ring Compressor Size: 175mm	
44	Clampon Meter	1000A 600V high quality digital AC DC clamp meter PM2128S with dual display	
45	Digital Multimeter	AC/DC Multimeter	
46	Bench vice	Bench vise Jaw Size: 8inch	
47	Fuel Injection Pump Distributor	Capacity: 4-6 cylinders	
48	Fuel Injection Pump Inline	Capacity: 4-6 cylinders	
49	Petrol Generator	Capacity: 5 KW	
50	Portable High Pressure 4inch Diesel Water Pump	Portable High Pressure 4inch Diesel Water Pump -Suction, discharge port diameter: [mm(in)] 100(4') -Cont. head(m): 31 Self-priming time(s/4m) 180 Max suction head(m): 8 Cont. capacity(m³/hr) 96	




51	Refurbished 4 cylinder Diesel Marine Engine	Refurbished Diesel Marine Engine: 4 cylinder 72 – 100Hp Must be fully overhauled. Production date not later than 2014. Preferably Yanma brand	
52	Chain block Mounted Engine Lift	Movable lift fixed on a set of 4 rollers for moving engine	
53	Outboard Engine Stand	Secure stand to support an Outboard Engine with capacity to hold 80-110Hp.	
54	Trainer on Boat Steering System	Complete steering system with steering wheel, pump, hoses, connectors etc. <u>Specification:</u> - DM STEERING WHEEL 13"1/2 BK -STEERING SYSTEM O/B - 80HP	
55	Workshop Bench	Size: 6ft * 3ft Steel frame with metal sheet on top	
56	Valve Spring Compressor Tool	Should be adjustable to compress valves between 10 – 35mm	
57	Puller-3 jaw (3 inches)	Jaw Size to be 3 inch	

TECHNICAL SPECIFICATION – TVET WORKSHOP ITEMS



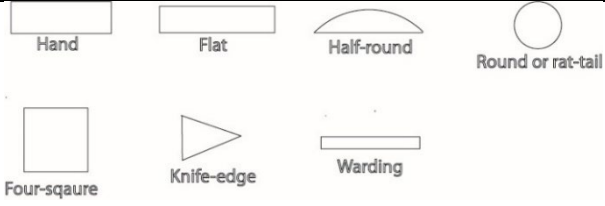






58	Puller-3 jaw (6 Inches)	Jaw Size to be 6 inch	
59	Puller-3 jaw (8 Inch)	Jaw Size to be 8 inch	
60	Oil Extractor	Should be within the range 4-6 litres	

****Note:***






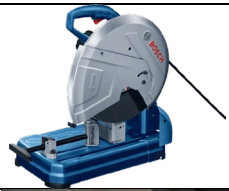
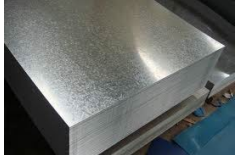

All items specifications must be equivalent or above to the above given specification.

WELDING WORKSHOP			
Item No.	Item description and technical Specification		
1	Welding head shield (color glass No .11)	Overhead welding mask shaded, glass no.11	
2	Mallet (Round wood hammer)	Wooden Mallet with 3inch Diameter and 10inch long	
3	Plasma cutter Set (Plasma Cutter CUT-100A IGBT MODE)	Plasma cutter nozzles collect air water filter automatic darkness overhead welding mask. Cutter roller, Air hose, Polarity 2 cable sets, Welding Earth clamp. Recommended 400A	
4	Air Compressor 150L	Recommended for 150L air compressor 3 phase electric Minimum 2HP.	
5	Oxygen cylinder (standard size)	300 Bar, Industrial uses	
6	Acetylene cylinder (standard size)	300 Bar, Industrial uses	
7	Argon cylinder (standard size)	300 Bar, Industrial uses	
8	Carpenter square (08 inches)	Try square 12” Inch recommended for Industrial use	







TECHNICAL SPECIFICATION – TVET WORKSHOP ITEMS







9	Metal Ruler 12 inches	Steel ruler 1 meter Recommended for Industrial use. Mm and Inches type	
10	Welding machine (200A)	Inverter arc-welding machine 220A-300A with machine holder earth clamp with 20 ft welding cable	
11	Metal Files (9 pcs file set)	 <p>9 file sets (standard size)</p>	
12	Measuring Tape	5 meters with Inch and cm	
13	Welding Hand Shield	Welding Hand shield (10 to 11 shaded glass)	
14	Welding gloves	Leather Gloves	
15	Welding apron	<p>Leather Apron or Leather Jacket for Welsing</p> <ul style="list-style-type: none"> • Size Medium – 5 Pcs • Size Large – 5 Pcs <p>*Please provide combined price for both sizes in the BoQ item line</p>	 

TECHNICAL SPECIFICATION – TVET WORKSHOP ITEMS

16	Black smith tong	Welding tong, 24” Inch/18”Inch recommended	
17	Vernier caliper	Vernier Caliper Metal. Inch and Cm Standard size 8” range	
18	Micrometer 0-25 mm	Micrometer Metal. Inch and Cm measuring range of 25mm.	
19	Welding rods	Arc Welding rods E6013 (mild steel) • 2.6mm diameter – 12 Packets • 3.5mm – 12 Packets • 4mm – 12 Packets *Please provide combined price for all three sizes in the BoQ item line	
20	Grinder Tools	4” inch angle grinder AC	
21	Metal cut off machine	14” inch recommended size	
22	Sheet metals 0.3mm/0.4mm	• Galvanized-8’x4’ 0.3mm - 4 Sheets • Galvanized-8’x4’ 0.4mm - 4 Sheets *Please provide combined price for both sizes in the BoQ item line	
23	Hand saw	24 teeth 34 teeth mixed recommended high speed HSS • 24 teeth – 25 Pcs • 34 teeth – 25 Pcs *Please provide combined price for both sizes in the BoQ item line	

TECHNICAL SPECIFICATION – TVET WORKSHOP ITEMS







24	Handsaw blades	24 teeth 34 teeth mixed recommended high speed HSS	
25	Bench vise	Bench Vise 200MM (8" Inch) Heavy Duty Cast Iron Body with Steel Casting nut No.8	
26	G clamp 8"	200mm (8"inch) G-clamp has a malleable iron frame with a tough steel spindle and sliding T-handle for speed of use	
27	Striped cutting snip	Size: 12" Inch	
28	Round cutting snip	Size: 12" Inch	
29	Chisel set mixed	16-Piece Punch and Chisel Set	

30	Scriper	10”inch	
31	Scriber	10” inch	
32	Wooden mallet 2”	Wooden Mallet with 2”-inch Diameter and 10inch long	
33	Wooden mallet 4”	Wooden Mallet with 4”-inch Diameter and 10inch long	
34	Wooden mallet 3”	Wooden Mallet with 3”-inch by 2” inch square and 10inch long	
35	Plastic hammer	Round 1 ½” diameter and 10-inch long	





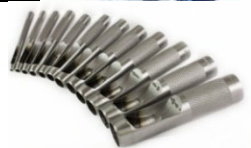

TECHNICAL SPECIFICATION – TVET WORKSHOP ITEMS

36	Sheet metals stakes	Double-Ended Forming Stake Set Alternate sets are acceptable – Must be Equivalent to spec	
37	Straight pein hammer small	Lightweight STRIGHT Pein Hammer with Wooden Shaft	
38	Straight peen hammer medium	Straight hammer with Wooden Shaft	
39	Ball peen hammer small	Small ball peen hammer with Wooden Shaft	
40	Ball peen hammer medium	Medium ball peen hammer with Wooden Shaft	
41	Sheet metal groover	Small 3mm, 4mm, 6mm	







TECHNICAL SPECIFICATION – TVET WORKSHOP ITEMS

42	Sheet metal groover medium	Medium sized	
43	Rivet gun / machine	10"-inch Rivet gun set	
44	Pneumatic rivet gun / machine	Suitable for 3/16", 5/32", 1/8" and 3/32" Rivets size 90 bar	
45	Riveting hammer	diameter head. Head Weight: 84g. Hammer weight 6.2 oz (173 g).	
46	Nibbling machine electric	220V	
47	Sheet metal shearer 4'	4' feet	





TECHNICAL SPECIFICATION – TVET WORKSHOP ITEMS

48	Sheet metal rolling machine	4' feet	
49	Anvil	12"inch	
50	Try square 24"	24"inch	
51	Center punch set	Standard size5HD 5size	
52	Hole punch set	Standard size12HD 12size	
53	Drill gun	220V handy size	







TECHNICAL SPECIFICATION – TVET WORKSHOP ITEMS





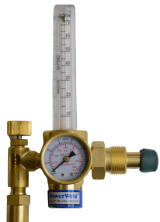

54	Drill bit set high HSS	1mm-13mm size	
55	Stand drill machine	6' feet	
56	Spot welding machine	4'feet 220V Minimum thickness of sheet that will be used - 0.5mm Maximum thickness of sheet that will be used - 2mm	
57	Rubber mallet	400g	
58	Plastic mallet	0.3 Pounds	
59	Grooving machine (with roller set)	30 x 10 x 30 Centimeters	

TECHNICAL SPECIFICATION – TVET WORKSHOP ITEMS




60	Sheet metal bending machine	Manual, Size: 6 Feet To 8 Feet	
61	Tig welding machine 300A	300A- 220V or 300A/385V	
62	Mig welding machine	400A 220V or 300A/385V	
63	Metal shear cutter 12 inch	12”Inch	
64	C02 gas cylinders	300bar	
65	C02 heater	220V	

TECHNICAL SPECIFICATION – TVET WORKSHOP ITEMS







66	Extension lead (power code) 20'	30'feet	
67	Angle grinder 5"	220V dimeter 5"	
68	Bench grinder 6" with carbide wheel	220V wheel dimeter 6"	
69	Shifter 8" and 12"	Size 8" and 12" 1 each	
70	Wrench set	6mm - 24mm	
71	Socket set	6mm -34mm	

72	Screw driver set	Multi-Purpose Sizes	
73	Mole grip	10”inch	
74	Chipping hammer	16”Inch	
75	Grinding goggles	Adjustable sizes	
76	Argon regulator	Regulators, regulator flowmeters, and flow gauge regulators 300bar minimum. Outlet 7mm	
77	Wire brush	Steel wire brush · 4 rows	







TECHNICAL SPECIFICATION – TVET WORKSHOP ITEMS

78	Oxy Acetiline welding and cutting set	6" and weld or braze up to 1/2"	
79	Gas welding goggles	2" Diameter Shaded Lenses 3 3-5-6	
80	Gas welding rod mild steel 2.6mm	steel 2.6mm x1m	
81	Gas welding rod brass 2.6mm	Brass 1 2.6mmx1m	
82	Copper Brazing rods	Copper siver brazing 4mmx400mm	
83	Brazing flux	1kg brazing flux borax	

TECHNICAL SPECIFICATION – TVET WORKSHOP ITEMS

84	Soldering iron 1000W	1000W220V tip size 20mm	
85	Soldering flux	soldering flux paste 500g	
86	Aluminum Rivets 3 sizes	6 Box of Rivets which includes 300pcs with 6 sizes. The box content is as follows; 3.2mm x 12mm 50pcs 3.2mm x 19 or 20mm 50pcs 4.0mm x 12mm 50pcs 4.0mm x 19 or 20mm 50pcs 4.8mm x 12mm 50pcs 4.8mm x 19 or 20mm 50pcs	
87	Copper pipes 1/2" roll	1/2" Copper Pipe 15Mtrs Roll	
88	Mild steel flat bar 6"x 1/4" = 19ft	Mild steel flat bar 6"x 1/4" = 19ft	
89	Mild steel flat bar 3" x 1/4" = 19ft	Mild steel flat bar 3"x 1/4" = 19ft	

TECHNICAL SPECIFICATION – TVET WORKSHOP ITEMS

90	Mild steel flat bar 1 ½" x ¼" = 19ft	Mild steel flat bar 1 ½" x ¼" = 19ft	
91	Mild steel flat bar 1"x 1/8" = 19ft	Mild steel flat bar 1"x 1/8" = 19ft	
92	Flaring tool kit	<ul style="list-style-type: none"> • 1/4" – 3/4" O.D. capacity • Includes: Flaring tool, 2 clamps, tube cutter 5mm – 32mm. In Blow Mould Carry Case 	
93	Cast iron welding rod 3.5mm	Cast iron welding rod 3.5mm Z408 rod	
94	Plier	size UT 122-L	
95	Long nose plier	size UT 122-L	

TECHNICAL SPECIFICATION – TVET WORKSHOP ITEMS

96	Water pump plier	size 3”X18”	
97	End cutting nipper plier	SIZE UT 130 XL	
98	600A earth clamp	600A -10”	
99	Arc welding Holder	600A- 10”	
100	Hand sleeve	Size standard leather	
101	First aid kit (for welding)	OSHA and ANSI Z308.1-2021 standards for a Class A First Aid kit.	

TECHNICAL SPECIFICATION – TVET WORKSHOP ITEMS

102	Fire blanket	1200mm x1500 size	
103	Safety helmet	Standard size M	
104	Face shield	Size M/L MIX	
105	Protractor	12" mild steel	
106	Metal compass	Wide diameter 20" steel type	
107	Level 2ft	Size 24"	








TECHNICAL SPECIFICATION – TVET WORKSHOP ITEMS






108	Arc welding Station with table	Size W 3'ftx B 2'ft xH4ft mild steel drawer size 18"x18"x8"	
109	Gas welding Station with table	Redstone Brick Photos, Images & Pictures Table Size W 3'ftx B 2'ft x mild steel steel drawer	
110	Industrial cut off machine 16" Belt drive	16" 220V belt drive	
111	16" cut-off wheel	16" diameter	
112	14" cut-off wheel	14" diameter	
113	4" Grinding wheel	4" diameter	
114	4" Cutting wheel	4" diameter	

TECHNICAL SPECIFICATION – TVET WORKSHOP ITEMS

115	5" Grinding wheel	5" diameter	
116	Mig welding spray	Anti Spatter Spray 400ml	
117	Metal marking chalk box	Flat French Chalk – Box 144	
118	Exhaust fan	220V diameter 16"	
119	Mig welding wire roll Aluminium and mild steel mix	MILD STEEL MIG WELDING WIRE REEL SPOOL ROLL GAS CO2 ARGON 0.6/0.8/1.0mm 1/5/15KG	
120	Aluminium Mig Welding Wire ER5356	Aluminium MIG WELDING WIRE REEL SPOOL ROLL GAS CO2 ARGON 0.6/0.8/1.0mm 1/5/15KG	








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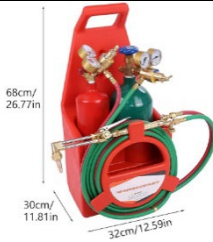




121	Tungsten rod packet (1.6mm,2.6mm)	Pure Tungsten Electrode, 10pcs Professional Non Radioactive Tungsten rod packet (1.6mm,2.6mm) A-1.6mmx150 B-2.6MMX150	
122	Tig welding Ceramic nozzle set no.3, no.4, no.5, no.6 MIX	53N60 No.6 Ceramic Nozzle 19mm 3/4" TIG Weld Alumina Shield WP-9 WP-20 WP-25 WP-24W Welding Torch PK10	
123	Stungsten rod holder collet 3 sizes	SIZE 1.0MM,1.6MM,2.0MM,2.4MM,3.2MM,4.0MM	
124	SS Welding rod	Stainless Steel Welding Electrode 308l 3.15mm/2.5mm	
125	Steel Sheet Metal Plate	SR 320J Slip Roll Rolling Machine 320mm Manual Solid Metal Sheet	
126	Welding Leg Guards	Leg guard Standard size	
127	GI Pipe ½"	GI Pipe ½"	

128	GI Pipe 1"	GI Pipe 1"	
129	GI Pipe 1.5"	GI Pipe 1.5"	
130	GI Pipe 2"	GI Pipe 2"	
131	GI Pipe 3"	GI Pipe 3"	
132	GI Pipe 4"	GI Pipe 4"	









Refrigeration and Air-Conditioning Workshop			
Item #	Item description and technical Specification		
1	File	200 mm, Second Cut, Flat Engineers File	
2	Hammer	Vardan Wooden Handle Iron Hammer (200gm, Wooden) <i>Same specs or Brand or equivalent or higher is required.</i>	
3	Screwdriver set	Plus and Minus Industrial use	
4	Combination Pliers	Stanley VDE Combination plier, 8"/200mm <i>Same specs or Brand or equivalent or higher is required.</i>	
5	Line Tester	Line tester AC DC	
6	Bench Vice	Bench Vice, Bench Vice, Cast Iron 150MM Bench Vice with Swivel Base (8")	
7	Hack Saw	Silverline Hacksaw High Tension 300mm (SW31) Industrial 16" <i>Same specs or Brand or equivalent or higher is required.</i>	
8	Pipe Wrench	Size 250 mm	

TECHNICAL SPECIFICATION – TVET WORKSHOP ITEMS









9	Snip	Size 200 mm	
10	Tube Cutter	4-12 mm	
11	Tube Bender (a)	3/8", 2 1/2"	
12	Tube Bender (b)	1/4", 3/8"	
13	Long Nose Plier	Size 6"	
14	Allen Key Set	Inch and Millimeters 2 types Each 5 Star type and Hexagonal	
15	Brazing Kit	Oxy and Acetylene Oxyacetylene Torch Kit-Oxy Acetylene Torch, Gas Welding Cutting Brazing Soldering Torch Welding Torch Long Pipe Brass Nozzle with Gauge Acetylene Regulator Duel Fuel Welding 1 x 4L Oxygen Cylinder 1 x 2L Acetylene Cylinder 1 x Oxygen Regulator 1 x Acetylene Regulator 1 x Cutting Nozzle 1 x Two-colored Tube with Coupling 1 x Goggle 1 x Pin 1 x Igniter-Equipment 1 x Cylinder Holder 1 x Spanner	





		<p>2 x Welding Nozzles 1 x User Manual Material: Metal, ABS Item Name: Welding Cutting Torch Kit Material: Brass Torch, Poly Carrier Oxygen Regulator Type: (CGA540) Acetylene Regulator Type: (CGA200) Nozzle Size(s): #0-3-101 Cutting / #0 Welding Hose Length: 12-feet, 6-inch Cutting Capacity: 1/2" Welding Capacity: 3/16" Fuel Type: Oxygen/Acetylene DOT Certificate: No Features: Long Pipe, Gauge, Portable Size Details: L: 68cm/26.77", W: 32cm/12.6", H: 30cm/11.81"(Approx.)</p>	
16	Mapp gas	Size 980g	
17	Mapp Gas Torch	Size 12"	
18	Brazing Flux	P7 Flux 100g	
19	Copper Silver Brazing Rod	Size 18"	






TECHNICAL SPECIFICATION – TVET WORKSHOP ITEMS

20	Flaring Kit	Flaring Tool & Swaging Tool Kit for HVAC, Tubing, Copper Pipe Flaring with Tubing Cutter and Ratchet Wrench, 45 Degrees,	
21	Pinching Tool	Size 8"	
22	Malgrip	Size 8"	
23	Gauge Manifold Set	R32, R410A	
24	Compound Gauge	HS-468AL Low Pressure 1-Way Manifold Gauge For R410a R32 Refrigeration Air Conditioning Liquid Meter Snow Table Refrigerant <i>Same specs or Brand or equivalent or higher is required.</i>	
25	Pressure Gauge	R32, R140A	
26	Wrench set	Wratchet type 6mm to 24mm	
27	Ring Spanner Set	Size 6mm to 32mm	









TECHNICAL SPECIFICATION – TVET WORKSHOP ITEMS






28	Socket set	Socket set Multi size 6mm to 32mm	
29	Adjustable Spanner	Size 12"	
30	Crimping Tool	Size 12"	
31	Ball peen hammer	3 Pound	
32	Concrete Drill bit set	6mm to 13mm	
33	Refrigeration Digital Scale	Lab Scale Digital Scale Electronic 110 lb	
34	Drill bit set high HSS	Size 3mm to 13mm	
35	Digital Thermometer	Non-Contact Infra-Red Thermometer	

36	Insulation Tester	INSULATION TESTER IR4056 <i>Same specs or Brand or equivalent or higher is required.</i>	
37	Grinding Machine	Size 4" grinder Rated input power: 900 W No-load speed: 0 rpm Disc diameter: 100 mm Power output: 450 W Weight: 1.9 kg Switch: Lockable Switch Grinding spindle thread: M10 BOSCH, Makita or equivalent. <i>Same specs or Brand or equivalent or higher is required.</i>	
38	Cordless Hammer Drill / Concrete Drilling Machine	COMBINATION HAMMER 18V 3 operation modes: Hammering, hammering with rotation, rotation. *Ergonomically designed handle with rubberized grip provides more control and comfort. *One-touch sliding chuck for easy bit change. *Anti-slip rubberized side grip. *Chisel can rotate full 40 different locking positions without using chisel adapter. *Capacity Concrete: 20mm (13/16") *Steel: 13mm (1/2") *Wood: 26mm (1") *Impacts per minute (ipm) 0-4,000 *No load speed (rpm) 0-1,100 *Dimensions 358x84x259mm *Net weight 3.2kg (7.1lbs) or equivalent. Brand: Makita, Bosch or equivalent. <i>Same specs or Brand or equivalent or higher is required.</i>	
39	Cordless Drilling Machine (cordless driver drill + impact driver combo kit)	220 V Electric *12Vmax cordless driver drill + impact driver combo kit *bit, Fast charger, 2.0Ah Battery cartridge 2pcs *Drill Capacity: Steel: 10 mm (3/8") Wood: 21 mm (13/16") *Impact Driver Capacity: Machine screw: M4-M8 (5/32"-5/16")	

		<p>Standard bolt: M5-M12 (3/16"-1/2") High tensile bolt: M5-M10 (3/16"-3/8") Coarse thread (in length): 22-90mm (7/8"-3-1/2")</p> <p>*Specification Drill: No load speed (rpm) High: 0 - 1,700 Low: 0 - 450 Max. fastening torque: Hard / Soft: 30 / 14 N·m</p> <p>Specification Impact Driver: Impacts per minute (ipm): 0-3,500 No load speed (rpm): 0-2,600 Max. fastening torque: 110N.m (970in.lbs)</p> <p>Brand: Makita/Bosch or equivalent. <i>Same specs or Brand or equivalent or higher is required.</i></p>	
40	Refrigerant Recovery Cylinder	Refrigerant Recovery Cylinder 50lb CFC, HCFC, HFC Refrigerants	
41	Oxy-Acetylene welding Torch Set	Acetylene Regulator, Oxy Regulator, Nozzle set, welding tool set, twin hose set. flashback Arrester, Gas welding Goggles	
42	Vernier Calipers	Size 12"	
43	Refrigeration Ratchet	Size 8"	
44	Extension lead Electric	50 Ft.	






TECHNICAL SPECIFICATION – TVET WORKSHOP ITEMS

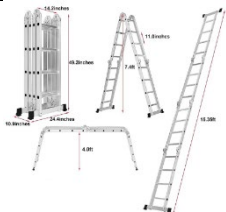





45	Refrigerant Gas (Set of 4 as in the description)	4 Kg (R22, R32, 134a, 210A)	
46	Measuring Tape	5m	
47	Refrigerator Single Door	Size 165 L <i>No specific brand or model.</i>	
48	Refrigerator Double Door	(Frost Free) Size 185 L <i>No specific brand or model.</i>	
49	Bottle Cooler	200 L <i>No specific brand or model.</i>	
50	Deep Freezer	200 L <i>No specific brand or model.</i>	
51	Ceiling mount Ac	12000 BTU <i>No specific brand or model.</i>	
52	Split AC	9000 BTU <i>No specific brand or model.</i>	





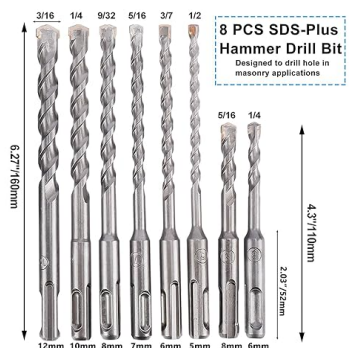
53	Isolator Switch 32A	32 A	
54	15 A Plug	15 A	
55	Recovery and Recycling Unit	Mastercool 69110 Automotive A/C Recovery System <i>Same specs or Brand or equivalent or higher is required.</i>	
56	Vacuum Pump	2 stage QS5 Vacuum Pump 8,52 m3/h <i>Same specs or Brand or equivalent or higher is required.</i>	
57	Copper Tube Roll (a)	¼" Copper tube, 18 m	
58	Copper Tube Roll (b)	3/8", 18 m	
59	Copper Tube Roll ©	1/2", 18 m	
60	Insulation tape	Size: 0.13mm or 0.15mm x 19mm (3/4in) x 10yds <i>Same specs or Brand or equivalent or higher is required.</i>	

TECHNICAL SPECIFICATION – TVET WORKSHOP ITEMS

61	Foam tape Rolls	Single sided Foam tape 10m x 35mm x 2mm	
62	PVC air-conditioner tape rolls	PVC 40mm to 20m	
63	Charging Valve (a)	Copper charging valve. 1/4" Copper Tube Access Valve / Charging Valve for Air Conditioner and Refrigeration.	
64	Charging valve (b) - Set	Red and Blue color Set. Mini R134a High Pressure General Charging Valve Soldering Onto Pipeline Of Auto Air Conditioning Valve Core. Calibre of screw thread: 3/8. High pressure: yes. Connecting type: soldering. Length: 36mm. Material: aluminum alloy.	
65	Shifter	8"	
66	Reamer	INNER-OUTER REAMER Red Inner-Outer Reamer Pipe and Tube Deburring Reamer Tubing Chamfer Tool for PVC/PPR/Copper/Brass/Aluminum Tubes (3/16-inch to 1-1/4-inch) Specifications: Color: Red Material: alloy and plastic Size: 40 x 46 x 40mm/1.6" x 1.8" x 1.6"(ID*OD*H)	
67	Pressure Washer	Electric Pressure Washer 2200 - 4800PSI Power Source: Corded Electric Color: Any Maximum Pressure: 4800 Pound per Square Inch Item Weight: 15 Pounds Hose Length: 25 Feet	

		<p>Product Dimensions: 18"L x 12"W x 11"H</p> <p>Maximum Flow Rate: 2.6 Gallons Per Minute</p> <p><i>Same specs or Brand or equivalent or higher is required.</i></p>									
68	2-in-1 Electric air blower.	<p>220V</p> <p>Max. Air Volume :91 CFM</p> <p>Blower Type: Handheld</p> <p>Max. Air Velocity :179 MPH</p> <p>Power Type: Cordless</p> <p>No Load Speed (variable speed) :0 - 18,000 RPM</p> <p>Form Factor (LXT) :18V LXT®</p> <p>Battery :18V LXT</p> <p>Motor Type: Brushed</p> <p>Overall Length: 20-3/4"</p> <p>Net Weight (with battery): 3.9 lbs.</p> <p><i>Same specs or Brand or equivalent or higher is required.</i></p>	<p>Product Specification</p>  <table><tr><td>Type: 2-in-1 Electric Air Blower</td></tr><tr><td>Color: Blue</td></tr><tr><td>Voltage:18-21 Cordless Air Blower</td></tr><tr><td>Rated Input Power: 880W</td></tr><tr><td>No-Load Speed: 0-18000 (rpm)</td></tr><tr><td>Air Volume: 3.6m³/min</td></tr><tr><td>Compatible with Makita Battery 18v</td></tr><tr><td>Battery Capacity: 2000mAh/4000mAh (optional)</td></tr></table>	Type: 2-in-1 Electric Air Blower	Color: Blue	Voltage:18-21 Cordless Air Blower	Rated Input Power: 880W	No-Load Speed: 0-18000 (rpm)	Air Volume: 3.6m³/min	Compatible with Makita Battery 18v	Battery Capacity: 2000mAh/4000mAh (optional)
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69	Ladder 8 Ft	Aluminum 8 Ft.									
70	40-Foot Extension Ladder, 300-Pound	<p>Material: Aluminum</p> <p>Product Dimensions: 19"W x 6"H</p> <p>Color: Aluminum</p> <p>300-pound Duty rating.</p> <p><i>Same specs or Brand or equivalent or higher is required.</i></p>									
71	15 FT. Folding Ladder, 7-in-1 Multi-Purpose Extension Aluminum Ladder	<p>Size & Capacity: Open Size: 126H cm x 37W cm x 27D cm, Closed Size: 460H cm x 37W cm x 27D cm,</p> <p>Net weight: 13.8 Kg, Color: Silver,</p> <p>No. of Steps: 16</p> <p><i>Same specs or Brand or equivalent or higher is required.</i></p>									

			
72	AC copper filter	Copper filter Drying Refrigerator copper filter 6"	
73	AC capillary Pipes	P&M Capillary Tube with Nuts 1 M	
74	Electronic Charging Solenoid Module	<p>CHARGING SOLENOID MODULE 9 Volts This module allows the user to control the exact amount of refrigerant transferring to and from the A/C System., lightweight, portable and must works with all types of refrigerants. *1/4" x 1/4" fittings include a short hose for tank connection, USB cord and 1/4" FL – 1/2" ACME adapters.</p> <p><i>Same specs or Brand or equivalent or higher is required.</i></p>	
75	Bimetal Switch	<p>Fridge Defrost Thermostat AC 250V10A 3 Wire Cable -14 Celsius Bimetal Refrigerators Defroster Thermostat Switch With fuse Part</p> <p><i>Same specs or Brand or equivalent or higher is required.</i></p>	
76	Refrigerator Compressor relay	Refrigerator PTC Starter Relay 12 Ohm 3 Pin + Compressor Thermal Overload Protector	

77	Fan Motor refrigerator	220 V	
78	Frost free fan motor	Frost Free Fan Motor compatible for Fridge Refrigerator Product Dimensions: Approx.6 x 6 x 7 cm; Item Height: Approx. 7cm Item Width: Approx.6cm Horsepower 300 Watts Material Metal Item Weight 200g	
79	Capacitor	5 UF <i>Same specs or Brand or equivalent or higher is required.</i>	
80	Hack Saw Blade	Silverline Hacksaw Blade High Tension 300mm (SW31) Industrial 16" <i>Same specs or Brand or equivalent or higher is required.</i>	
81	Hammer Drill Bits for Concrete (8pc set)	8pcs Hammer Drill Bits for Concrete 1/4 x 4-inch, 5/16 x 4-inch, 1/2 x 6-inch, 3/7 x 6-inch, 5/16 x 6-inch, 9/32 x 6-inch, 1/4 x 6-inch, 3/16 x 6-inch;	

82	Pipe Cutter	<p>Hose and Pipe Cutter for PVC, PPR, PEX, PE Pipes and Tubes, Ratcheting PVC Pipe Cutter 1-5/8 Inch One-Hand Fast Pipe Cutting Tool with Stainless Steel Blade, Diameter Up to 35mm</p>	
83	Hot Gun	<p>Hot Gun Continuous rating input 1,600W Air temperature (°C) 350-500 Air Flow 300-500L /min Wired electric Same specs or Brand or equivalent or higher is required.</p>	
84	Steel Locker	<p>Sturdy steel locker with hanging rail and key lock. Steel 4 Compartments with Lock Color: Black/White Material: Steel Dimension: Width x Depth x Height Feet (') Inch ("): W 1'3" x D 1'4" x H 6' Reasonable minor deviation in requirement is acceptable.</p>	
85	Tables for Refrigeration & Air-conditioning Classroom	<p>Size: L6feet, H3feet, W3feet (would accept minor differences in size) Table top thickness: 18mm Table top Material: Cupboard plywood/Wood with Formica Table top Colour: Dark Brown or Grey Legs: in hollow GI Square Pipe 2"x1"x1.5mm Leg paint Colour: Black</p>	

		<i>Reasonable minor deviation in requirement is acceptable.</i>	
86	PU leather Seat cushion with armrest	<p>Seat Height: 75 cm Size: 52*53*90-110cm Colour Black</p> <p><i>Reasonable minor deviation in requirement is acceptable.</i></p>	