

Trade: Mechanic (Refrigeration and Air-Conditioning)

LIST OF TOOLS & EQUIPMENT

A. TRAINEES TOOL KIT FOR 16 TRAINEES +1 INSTRUCTOR

SL.NO	Name of tools	Broad specifications
1.	File flat rough double cut	200mm
2.	File, half round, fine double cut,	length 150mm
3.	File, round, fine double cut	length 150mm
4.	File flat, fine double cut,	length 150mm
5.	File square, fine double cut,	length 150mm
6.	File triangular fine double cut	length 150mm
7.	Scriber	150mm length
8.	Centre punch	length 100mm
9.	Try square	150 mm
10.	Divider spring joint	length 150mm
11.	Caliper spring joint in side	length 150mm
12.	Caliper, odd leg, spring joint	length 150mm
13.	Hammer ball pain	220 gms
14.	Cold Chisel flat and cross cut	length 150mm
15.	Engineers rule	300mm long
16.	Tape measuring	10m graduation in mm
17.	Pliers combination insulated	length 200mm
18.	Pliers long nose	200 mm
19.	Pliers flat nose	150mm
20.	Line tester	500 v heavy duty
21.	Tweezers	10 cm

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22.	Surface plate	45 x45 cms
23.	Oil can	500 ml
24.	Surface Gauge universal	150 mm
25.	Bench vice	300mm jaw
26.	Hack saw tubular metal frame adjustable	300mm
27.	Snip sheet metal straight nose	200 mm
28.	Snip sheet metal curved nose	200 mm
29.	Anvil	100X200mm
30.	Stakes [different Types]	100mm
31.	Tin smith	400mm
32.	Wooden mallet /Nylon mallet	500 gm good finish mallet
33.	Round Punch	3mm,4mm,6mm
34.	Grover set	4mm forming
35.	Electrical drill portable drill with chuck and key,	capacity 6.4mm
36.	Tape measuring graduation in mm	2 m
37.	Screw driver, plastic handle,	6mm TIP length 100mm to 150mm
38.	Screw driver, plastic handle, Flat tip	10mm TIP length 200mm & 250mm
39.	Philips screw driver -	complete set in leather case
40.	Screw driver, plastic handle, Flat tip	handle 3mm TIP length 100mm to 150mm insulated
41.	Soldering iron exchangeable copper tip	65 watts
42.	Knife folded stainless steel -	150mm
43.	Tong tester (clamp on multi meter)	0-10-30 amps 0-500 v
44.	Voltmeter, AC/DC portable precision grade Digital Panel board type	0 to 500 volt
45.	Ammeter, AC/DC portable precision grade Digital Panel board type	0 to 30 amp
46.	Megger	1000v
47.	Wattmeter multi-range up	1 KW

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	to	
48.	Multi meter digital type	
49.	Tenon saw	250 mm
50.	Firmer chisel	6,12,25mm
51.	Rawal plug tool	6 mm
52.	K.W. meter	0 -1 K w
53.	Fire extinguisher	ABC dry powder type 2 kg capacity
54.	Fire buckets	10 Litre
55.	D.E spanner	6-32 mm
56.	Ring spanner	6 -32 mm
57.	Diagonal cutter	15 cm
58.	Service Oscillator	
59.	C.R.O Single beam	5 MHZ
60.	C.R.O Dual trace/ Double beam	60 MHZ
61.	A.F.O Oscillators	
62.	Tong, Close mouth and pick up	
63.	Welding table for gas/Arc	1200x760
64.	Flaring tool set, single type for tube.	4.7mm to 16mm O.D
65.	Swaging tool, punch type, set of size for tube.	4.7mm to 16mm O.D
66.	Swaging tool, screw type with adaptor set of size for tube	4.7mm to 16mm O.D.
67.	Bending spring external type, for copper tube	3mm to 16mm DIA
68.	Pipe cutter miniature for copper tube	3mm to 16mm DIA
69.	Pinch of tool, for copper tube,	6mm to 18mm DIA
70.	Ratchet spanner of	6.4 sq.mm reversible
71.	Capillary plug gauge	
72.	Piercing pliers & reversing valve with access fitting	6-18mm
73.	Spanner double ended	4.7mm to 16mm
74.	Ring spanner off set	4.7mm to 16mm
75.	Wrench adjustable	length 150mm
76.	Wrench adjustable	length 200mm
77.	Wrench adjustable	length 250mm
78.	Valve key handle [Treated as consumable]	- 4.7mm & 6.4mm sq.

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79.	Pressure gauge Digital type	diameter 63mm with recalibration set
80.	Compound gauge, Digital type	diameter 63mm, with recalibration set screw, scale vacuum 76mm. Pressure 15 Kg/sq.cm
81.	Service man thermometer in metal case	- 30 C to +30 C
82.	Scissor, gasket cutting stainless steel	length 25mm
83.	L-Allen key	set size 1.5mm to 6.4mm
84.	T-Allen key set	size 5/32" to 1/8"
85.	Pipe cutter with built in reamer and space cutter, for copper tube	3mm to 32mm
86.	Pipe /Tube bender lever type	3-16 mm
87.	Spanner double ended	19mm to 31.8 mm
88.	Pipe wrench	size 50mm to 150mm
89.	Gas leak detector for halogen gas	
90.	Sling psychro meter mounted on aluminum back,	scale 50 C to +50 C
91.	Lapping plate	250mm x 200mm
92.	Hammer ball peen	450 gms
93.	Puller 3 legged with flexible arm	300mm
94.	Hand blower portable complete	1/10 HP
95.	Spirit level precision metallic	200mm
96.	Stop watch	
97.	Tap set with matching drills	3 mm to 16mm
98.	Tap set with matching drills	1/4" to 5/8"
99.	Refrigerant cylinder	2.5 Kg
100.	Vernier caliper	length 250mm
101.	Micrometer outside measurement	0 to 25mm
102.	Heating kit with infrared bulb	(200 w capacity)
103.	Plumbing hammer weight	200 gm
104.	Multi meter analogue type	
105.	Tachometer digital, multi	0 r m p to 3000 r m p.

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	range	Portable small size in leather case
106.	Micron vacuum gauge	capable of reading up to 20 microns
107.	Sensor thermometer (digital)	-50 degree Celsius to 150 degree Celsius
108.	Fin straightened/fin comb.	With strong steel wire based combing on wood
109.	Filler gauge	0.05 mm - 1 mm
110.	Wire gauge metric and with worth	Steel plate embossing converse of British & Metric
111.	Dial thermometer remote control, armored capillary dial	75mm - 50C to +50 C
112.	Anemometer	Digital type
113.	Compressors testers for small hermetic compressors	Fixed with electrical input/ output indicating facilities
114.	Engineers square	150mm with 5' tolerance
115.	Digital thermometer [Treated as consumable]	Graduated disc analogy type
116.	Temperature & Humidity recorder	Capacity to record 24 hrs record
117.	Instrumentation screw driver set	100mm
118.	Digital weighing machine	100 kg
121.	Cylinder 134 a	5 kg

Sl. No	Name of Equipment	Broad specifications
1.	Split phase induction motor	¼ hp, 230 V
2.	Capacitor start induction motor	½ Hp, 230 V
3.	AC 3 Phase motor, 400/50 Hz	2 Hp
4.	Star delta starter	2 hp
5.	Auto Transformer starter	3 hp

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6.	D.O.L Starter	2 hp
7.	Portable air - LPC brazing kit	2 kg. LPC cylinder, torches, hoses, stand make
8.	Oxy-acetylene welding set complete	cylinders, regulators welding torches with difference nozzles
9.	Refrigerator	165L carrying with HFC-134a, & HC
10.	Frost free refrigerator	200L carrying with HC blend
11.	Three/four door refrigerator	300L carrying with HC R-600a
12.	Bench Drilling machine	20 mm capacity, 200-2500rpm
13.	Grinding Machine	200mm, 3000rpm, Double ended 1/2 hp
14.	Evacuating and refrigerant charging station, consist of a) Rotary two stage vacuum pump and motor (with gas ballast and anti suck back) b) manifold with gauges and valves and capable of pulling vacuum up to 50 microns of Hg and with provision of connecting to a microns level vacuum gauge b) Graduated charging cylinder with provision for temperature correction and all necessary isolating valves II) Evacuating and charging station as above but fitted with weighing scale	(CAP. 2 kg. In lieu of (b) above and with accuracy of +/- 1 g for charging hydrocarbons)
15.	Two stage rotary vacuum	capacity approx. 60 -

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	pump	10rpm capable of evacuating to 50 microns of Hg and fitted with gas ballast, anti such back valve and single phase motor
16.	Air compressor,	two stage for oil - less dry air, with rush proof tank assembly, heater and controls max. pr. 10 kgs /sq.m Capacity 45 ltr. Motor 1 hp.
17.	Reciprocating compressor	provision of capacity control etc. for demonstration. Capacity 2 ton open type.
18.	Dry N ₂ in cylinder	2 stage regular or commercial N ₂ in cylinder with drier unit and 2 stage regular 7meter cube
19.	Window A.C	1 Ton with R-22 or HFC Blend reciprocating compressor
20.	Split A.C	1.5 Ton with R134a or R-22 reciprocating compressor
21.	Duct able split A.C 1.5 ton	1.5 Ton with R134a or R-22 reciprocating compressor
22.	Recovery unit with cylinders	CFC & 134 a
23.	Cassette Air conditioner	4500 kcal/hr
24.	De scaling pump set	with stainless steel impeller and housing complete with motor 1/2 hp and accessories
25.	Fan coil unit	with water valves (2 & 3 way)
26.	Shell and tube, DX chillers (small)	5 Ton with Cu tubing only
27.	Circulating water pump (small)	0.5 H.P with stainless steel tank capacity 20 liters within let/ outlet

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		provision.
28.	Shell and tube type condenser	5 Ton
29.	Rotary hermetic compressor	2 Ton
30.	Screw compressor	5Ton
31.	Bottle cooler visible	200 L carrying with HFC-134a& reciprocating compressor
32.	Deep freezer	200 L carrying with HFC-134a& reciprocating compressor
33.	Water cooler storage type	200 L carrying with HFC-134a& reciprocating compressor
34.	Ice candy plant	2 ton with capacity to make 32 ice candy at a time with Forma tray, stainless steel tank on trolley
35.	Air-conditioning, direct and indirect system.	Complete with all controls including humidity control capacity 15000Kcal/hr
36.	Package A/C	5 ton capacity, Air cooled type with open type compressor reciprocating type
37.	Car A.C components(full kit) a) Wobble plate compressor with mounting brackets. b) Serpentine Evaporator c) Parallel Flow Condenser d) Hoses, tubes, Receiver, Ex. valve. e) Electrical components & wiring Harness	
38.	CAR AC tutorial model	