

LIST OF TOOLS & EQUIPMENT FOR THE TRADE OF ELECTRICIAN

(For the batch of 16 trainees)

Sl. No.	Items	Quantity
TOOL KIT		
1.	Rule wooden 4 fold 60 mm	16
2.	Plier insulated 150 mm	16
3.	Plier side cutting 150 mm	16
4.	Screw driver 100 mm	16
5.	Screw driver 150 mm	16
6.	Electrician connector, screw driver 100 mm insulated handle thin stem	16
7.	Heavy duty screw driver 200 mm	16
8.	Electrician screw driver 250 mm thin stem insulated handle	16
9.	Punch centre 150 mm X 9 mm	16
10.	Knife double bladed Electrician	16
11.	Neon Tester	16
12.	Rule steel 300 mm	16
13.	Saw tenon 250 mm	16
14.	Hammer, cross peen 115 grams with handle	16
15.	Hammer ball peen 0.75 kg. With handle	16
16.	Firmer chisel wood 12 mm	16
17.	Gimlet 6 mm.	16
18.	Bradwal	16
19.	Scriber 150 mm X Ø 4 mm (Knurled centre position)	16
20.	Pincer 150 mm	16

SHOP TOOLS, INSTRUMENTS & MACHINERY

1.	C. Clamp 200 mm, 150 mm and 100 mm.	2 nos. each
2.	Spanner 150 mm adjustable 15 degree	2 nos.
3.	Blow lamp 0.5 litre	2 nos.
4.	Melting pot	1 no
5.	Ladle	2 nos.
6.	Chisel cold firmer 25 mm X 200 mm	2 nos.
7.	Chisel 25 mm & 6 mm	4 nos.
8.	Drill Machine hand 0 to 6 mm capacity	1 no
9.	Electric drill machine portable 6 mm capacity	1 no
10.	Pillar electric drill machine 12 mm capacity	1 no
11.	Allen key	1 set
12.	Oil can 0.12 litre	2 nos.
13.	Grease gun	1 no
14.	Out side micrometer 0 to 25 mm	1 no
15.	Bench grinder motorised	1 no
16.	Rawl plug tool & bit	2 set
17.	Pulley puller	1 no
18.	Bearing puller	1 no
19.	Hygrometer	2 set
20.	Thermometer 0 to 100 deg. centigrade	1 no
21.	Scissors blade 150 mm	4 nos.
22.	Crimping tool	1 set
23.	Wire stripper 20 cm	1 no.
24.	Chisel cold flat 12 mm	4 nos.
25.	Mallet hard wood 0.50 kg.	4 nos.

26.	Hammer Exeter type 0. 40 kg.	8 nos.
27.	Hacksaw frame 200 mm, 300 mm adjustable	4 nos. (2 each)
28.	Square try 150 mm blade	4 nos.
29.	Divider 150 mm, outside & inside calliper	2 each
30.	Plier flat nose 100 mm	4 nos.
31.	Plier gas round nose 100 mm	4 nos.
32.	Plier Gas 150 mm	4 nos.
33.	Tweezers 100 mm	4 nos.
34.	Snip straight 150 mm	2 nos.
35.	Snip bent 150 mm	2 nos.
36.	Spanner D.E. metric standard set	2 nos.
37.	Drill hand brace 0 to 100 mm	4 nos.
38.	Drill S.S. Twist block 2 mm, 5 mm 6 mm set of 3	4 sets.
39.	Plane, smoothing cutters, 50 mm	4 nos.
40.	Gauge, wire imperial	2 nos.
41.	File flat 200 mm 2 nd cut	8 nos.
42.	File half round 200 mm 2 nd cut	4 nos.
43.	File round 200 mm 2 nd cut	4 nos.
44.	File flat 150 rough	4 nos.
45.	File flat 250 mm bastard	4 nos.
46.	File flat 250 mm smooth	4 nos.
47.	Rasp, half round 200 bastard	4 nos.
48.	Iron, soldering 25 watt, 65 watt, 125 watt	4 each
49.	Copper bit soldering iron 0.25 kg.	4 nos.
50.	Desoldering gun	4 nos.
51.	Vice hand 50mm jaw	4 nos.
52.	Vice Table jaw 100 mm	8 nos.
53.	Vice Hand 50 mm jaw	4 nos.
54.	Pipe cutter to cut pipes upto 5 cm. dia	4 nos.
55.	Pipe cutter to cut pipes above 5 cm dia	1 no.
56.	Stock and die set for 20 mm to 50 mm G.I. pipe	1 set
57.	Stock and dies conduit	1 no.
58.	Multi meter 0 to 1000 M Ohms, 2.5 to 500 volt	6 nos
59.	Digital Multi meter (3 ½ digits)	2 nos.
60.	A.C.Voltmeter M.I. 0 –500V A.C.	1 no.
61.	Mill Voltmeter centre zero 100 – 0 – 100 m volt	1 no.
62.	D.C.Milliammeter 0 -500ma	1 no.
63.	D.C.Ammeter MC 0-1 A	1 no.
64.	Ammeter MC 0-5 A	1 no.
65.	Ammeter MC 0-15-25 A	1 no.
66.	A.C. Ammeter M.I.. 0-5A	1 no.
67.	A.C. Ammeter M.I.. 0-15-25A	1 no.
68.	K.W. Meter 0-1-3Kw	2 nos.
69.	A.C. Energy meter (single phase 5 amp. 230 V)	1 no.
70.	Single phase power factor meter	1 no.
71.	Frequency meter	1 no.
72.	Tacho meter with stop watch	2 no.
73.	Current transformer	2 no.
74.	Potential transformer	2 no.
75.	Growler	1 no.
76.	Tong tester / Clamp meter 0 – 100 Amp. AC	1 no.
77.	Megger 500volts	1 no.
78.	Wheat stone bridge complete with galvanometer and battery	1 no.
79.	Relays – Over current, under voltage, etc. 3 volt, 100 amp.	2 each

80	Contactors 3 phase, 440 volt, 16 amp. 2 NO & 2 NC auxiliary contacts	2 nos.
81	Contactors 3 phase, 440 volt, 32 amp. 2 NO & 2 NC auxiliary contacts	2 nos.
82	Limit Switch	2 nos.
83	Rotary Switch 16A	2 nos.
84	Load bank- 5 KW (Lamp / heater Type)	2 nos.
85	Brake test arrangement with two spring balance of 0 to 25 kg rating	2 sets.
86	Knife switch DPDT fitted with fuse terminals 16 amp	12 nos.
87	Knife switch TPDT fitted with fuse terminals 16 amp	12 nos.
88	DC power supply 0 - 100 volt, 5 amp	2 nos.
89	Inverter 1 KVA Input 12 volt DC, Output 220 volt AC with 12 battery	1 no.
90	Voltage stabiliser- Input 150 – 230 volt AC, Output 220 volt AC	1 no.
91	Rheostat 0 – 1 Ohm, 5 Amp.; 0 – 10 Ohm., 5 Amp. ; 0 – 25 Ohm, 1 Amp. ; 0 – 300 Ohm., 1 Amp.	2 no. each
92	Domestic appliances –	
	a) Electric hot plate 1500 watt. 220 V with temperature control	2 nos.
	b) Electric kettle, 1000 watts, 230 V	2 nos.
	c) Electric iron, 1200 watts, 230V with temperature control	2 nos.
	d) Immersion heater 750/1000/1500W-230 V	2 nos.
	e) Geyser 25 litre 240 V (Storage type) .	1 no.
93	Flux meter	2 nos.
94	Laboratory type induction coil 6 volt to 800-10,000 volt	1 no.
95	3-point D.C. starters	1 no.
96	4-point D.C. starters	1 no.
97	Cut out, reverse current, over load, under voltage relays.	1 each
98	Starters for 3-phase, 400 V, 50 cycles, 2 to 5 H.P. A.C. motors	
	a) Direct on line starter	1 no.
	b) Star delta starter with manual, semi-auto and automatic	1 no.
	c) Auto transformer type starter	1 no.
99.	<u>Electrical machine trainer</u> : -Suitable for demonstrating the construction and functioning of different types of DC machines and AC machines (single phase and three phase). Should be completed with friction brake dynamo meter, instrument panel and power supply units	1 per Institute
100	Motor generator (AC to DC) consisting of : Motor induction squirrel cage, 7 HP 400 Volts, 50-cycles, 3-phase with star delta starter and switch directly coupled to DC shunt generator 5 KW 440 volts, and switch board mounted with regulator, air circuit breaker, ammeter, voltmeter knife blade switches and fuses, set complete with case iron and plate, fixing bolts, foundation bolts and flexible coupling.	1 no.
101	Motor generator (DC to AC) set consisting of - Motor shunt 5 HP, 440 Volts with starting compensator and switch directly coupled to generator AC. 3.5 KVA, 400/230 Volts, 3-Phase, 4 wire, 0.8 PF 50 cycles with exciter and 1 switch board mounted with regulator, circuit breaker, ammeter, voltmeter frequency meter, knife blade switch and fuses etc. Set complete with cast iron bed plate, fixing bolts, foundation bolts and flexible coupling.	1 no.
102	Used DC generators-series, shunt and compound type for overhauling practice	1 each
103	D.C. shunt generator, 2.5 KW, 220 V with control panel	1 no.
104	D.C. compound generator, 2.5 K.W. 250 V, with control panel including field rheostat, voltmeter, ammeter and circuit breaker	1 no.

105	Diesel generator set, 5 KVA, 44 volt, AC 3 phase with change over switch, over current circuit breaker and water-cooled with armature, star-delta connections.	1 no.
106	Motor series DC, 220 Volt, 0.5 to 2 HP, coupled with mechanical load	1 no.
107	Motor shunt DC 220 volt, 2 to 3 HP	2 nos.
108	Motor DC compound wound 220 volt 2 to 3 :HP with starter and switch	2 nos.
109	Motor AC squirrel cage, 3-phase 400 volt, 50 cycles, 2 to 3 HP with star delta starter and triple pole iron clad switch fuse.	1 no.
110	Motor AC phase-wound slip ring type 5 HP 400 volts, 3-phase, 50 cycles with starter and switch.	1 no.
111	Motor A.C. series type 230V, 50 cycles, ¼ HP with mechanical load	1 no.
112	Motor AC single phase 230 volt 50 cycles 1 HP capacitor type with starter switch 1 HP	1 no.
113	Motor universal 230 volt, 50 cycles ¼ HP with starter/switch	1 no
114	Stepper motor with digital controller	1 no.
115	Fan A..C. 230 volt 1200 mm	2 nos.
116	Transformer single phase, 1 K.V.A., 230 / 115-50-24-12 volts, 50 cycles core type, air cooled.	3 nos.
117	Transformer three phase, 5 K...V...A., 440/230 volts, 50 cycles, delta / star, shell type oil cooled.	2 nos.
118	Variable auto transformer 0-250 V, 8 amps.	2 nos.
119	Oscilloscope –Dual Trace,30 MHZ	1 no.
120	Function Generator	1 no.
121	Discrete component trainer	1 no.
122	Linear I.C.Trainer	1 no.
123	Digital I.C.Trainer	1 no.
124	Bath impregnating	1 no.
125	Oven stoving	2 nos.
126	Oil testing Kit	1 no.
127	Battery charger with variable output 1 KW	1 no.
128	Hydrometer	1 no.
129	A.C.B. 5 KVA	1 no.
130	M.C.B. 16 amp.	1 no.
131	Thyristor/IGBT controlled D.C. motor drive 1 HP with tacho-generator feedback arrangement.	1 no.
132	Thyristor/IGBT controlled A.C. motor drive with VVVF control ,3 Phase 2 HP	1 no.
133	Lockers with 2 drawers (standard size)	2 nos.
134	Bench working 2.5 x 1.20 x 0.75 meters	4 nos.
135	Almirah 2.5 x 1.20 x 0.5 meter	1 no
136	Instructor's table	1 no.
137	Instructor's chair	2 nos.
138	Fire extinguisher	2 nos.
139	Fire buckets	4 nos.
140	Metal rack 100 x 150 x 45 cm	4 nos.

NOTE

No additional items except those under Trainees Kit are required to be provided for a second batch.

For the batch working in the second shift, only the items under Tool-Kit and lockers are required to be provided.

For the second batch the items under trainees tool kit are required to be provided.

