## LIST OF TOOLS & EQUIPMENT FOR THE TRADE OF ELECTRICIAN

(For the batch of 16 trainees)

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

## SHOP TOOLS, INSTRUMENTS & MACHINERY

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Items</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>C. Clamp 200 mm, 150 mm and 100 mm.</td>
<td>2 nos. each</td>
</tr>
<tr>
<td>2.</td>
<td>Spanner 150 mm adjustable 15 degree</td>
<td>2 nos.</td>
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<tr>
<td>3.</td>
<td>Blow lamp 0.5 litre</td>
<td>2 nos.</td>
</tr>
<tr>
<td>4.</td>
<td>Melting pot</td>
<td>1 no</td>
</tr>
<tr>
<td>5.</td>
<td>Ladle</td>
<td>2 nos.</td>
</tr>
<tr>
<td>6.</td>
<td>Chisel cold firmer 25 mm X 200 mm</td>
<td>2 nos.</td>
</tr>
<tr>
<td>7.</td>
<td>Chisel 25 mm &amp; 6 mm</td>
<td>4 nos.</td>
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<tr>
<td>8.</td>
<td>Drill Machine hand 0 to 6 mm capacity</td>
<td>1 no</td>
</tr>
<tr>
<td>9.</td>
<td>Electric drill machine portable 6 mm capacity</td>
<td>1 no</td>
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<tr>
<td>10.</td>
<td>Pillar electric drill machine 12 mm capacity</td>
<td>1 no</td>
</tr>
<tr>
<td>11.</td>
<td>Allen key</td>
<td>1 set</td>
</tr>
<tr>
<td>12.</td>
<td>Oil can 0.12 litre</td>
<td>2 nos.</td>
</tr>
<tr>
<td>13.</td>
<td>Grease gun</td>
<td>1 no</td>
</tr>
<tr>
<td>14.</td>
<td>Out side micrometer 0 to 25 mm</td>
<td>1 no</td>
</tr>
<tr>
<td>15.</td>
<td>Bench grinder motorised</td>
<td>1 no</td>
</tr>
<tr>
<td>16.</td>
<td>Rawl plug tool &amp; bit</td>
<td>2 set</td>
</tr>
<tr>
<td>17.</td>
<td>Pulley puller</td>
<td>1 no</td>
</tr>
<tr>
<td>18.</td>
<td>Bearing puller</td>
<td>1 no</td>
</tr>
<tr>
<td>19.</td>
<td>Hygrometer</td>
<td>2 set</td>
</tr>
<tr>
<td>20.</td>
<td>Thermometer 0 to 100 deg. centigrade</td>
<td>1 no</td>
</tr>
<tr>
<td>21.</td>
<td>Scissors blade 150 mm</td>
<td>4 nos.</td>
</tr>
<tr>
<td>22.</td>
<td>Crimping tool</td>
<td>1 set</td>
</tr>
<tr>
<td>23.</td>
<td>Wire stripper 20 cm</td>
<td>1 no.</td>
</tr>
<tr>
<td>24.</td>
<td>Chisel cold flat 12 mm</td>
<td>4 nos.</td>
</tr>
<tr>
<td>25.</td>
<td>Mallet hard wood 0.50 kg.</td>
<td>4 nos.</td>
</tr>
</tbody>
</table>
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.
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 2nd cut  8 nos.
42. File half round 200 mm 2nd cut  4 nos.
43. File round 200 mm 2nd 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.
66. A.C. Ammeter M.I.. 0-5A  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. Contactor 3 phase, 440 volt, 16 amp. 2 NO & 2 NC auxiliary contacts 2 nos.
81. Contactor 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. Electrical machine trainer: 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 50cycles 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 filed 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.
106 Motor series DC, 220 Volt, 0.5 to 2 HP, coupled with mechanical load
107 Motor shunt DC 220 volt, 2 to 3 HP
108 Motor DC compound wound 220 volt 2 to 3 :HP with starter and switch
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.
110 Motor AC phase-wound slip ring type 5 HP 400 volts, 3-phase, 50 cycles with starter and switch.
111 Motor A.C. series type 230V, 50 cycles, ¼ HP with mechanical load
112 Motor AC single phase 230 volt 50 cycles 1 HP capacitor type with starter switch 1 HP
113 Motor universal 230 volt, 50 cycles ¼ HP with starter/switch
114 Stepper motor with digital controller
115 Fan A..C. 230 volt 1200 mm
116 Transformer single phase, 1 K.V.A., 230 / 115-50-24-12 volts, 50 cycles core type, air cooled.
117 Transformer three phase, 5 K...V...A., 440/230 volts, 50 cycles, delta / star, shell type oil cooled.
118 Variable auto transformer 0-250 V, 8 amps.
119 Oscilloscope –Dual Trace,30 MHZ
120 Function Generator
121 Discrete component trainer
122 Linear I.C.Trainer
123 Digital I.C.Trainer
124 Bath impregnating
125 Oven stoving
126 Oil testing Kit
127 Battery charger with variable output 1 KW
128 Hydrometer
129 A.C.B. 5 KVA
130 M.C.B. 16 amp.
131 Thyristor/IGBT controlled D.C. motor drive 1 HP with tacho-generator feedback arrangement.
132 Thyristor/IGBT controlled A.C. motor drive with VVVF control ,3 Phase 2 HP
133 Lockers with 2 drawers (standard size)
134 Bench working 2.5 x 1.20 x 0.75 meters
135 Almirah 2.5 x 1.20 x 0.5 meter
136 Instructor's table
137 Instructor's chair
138 Fire extinguisher
139 Fire buckets
140 Metal rack 100 x 150 x 45 cm

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.