

## Lab requirements for Industrial Electrician

Sr#	Item Description
1.	<b><u>Adjustable ladder</u></b> , Height 08 Ft, Aluminum 22 gauge or better
2.	<b><u>Bearing puller</u></b> , two jaws puller , size 75mm Maximum force 1500kg Cr-v Heat Treated chrome plated
3.	<b><u>Bearing puller</u></b> , three jaws puller , size 150mm Maximum force 4000kg Cr-v Heat Treated chrome plated
4.	<b><u>Chisel Set</u></b> (Min set of two) Min 1 inch width x 12 and 8 inch overall length Material:Made from forged high grade steel set of 2
5.	<b>MCCB:</b> 3 pole 25 Ampere Breaker
6.	<b>MCB:</b> single pole 6 amp breaker
7.	<b><u>Drum Switch;</u></b> for Reverser and forward of 3 phase induction motor 10 Ampere
8.	<b><u>Dust Brush;</u></b> Brass wire brush Style: Scourer Shape: Long Length: Min 250mm Handle Material: Wood Wooden base: Min 15mm thickness
9.	<b><u>Earth tester</u></b> Measurement of 2/3/4-pole earth resistance, soil resistivity, earth voltage, AC voltage Earth Resistance: 0.00Ω-2.00kΩ
10.	<b><u>soldering iron</u></b> 50watt with a Plastic handle Replaceable iron-plated tip Solder iron rest to be included with stand ,soldering wire and paste
11.	<b><u>File Set; (Half, Square, Round)</u></b> Length:8"/200mm, T12 Steel Flat steel file 1pcs Half round steel file 1pcs Round steel file 1pcs Triangle steel file 1pcs Square steel file 1pcs
12.	<b><u>Fuse;</u></b> cartages fuse with holder 10 ampere
13.	<b><u>Hack saw</u></b> : Min 12" heavy duty hacksaw frame with adjustable aluminum handle Blade Length: Min 300mm Material: Steel
14.	<b><u>Hammer</u></b> Weight : 200g Drop-forged hammerhead Heat treatment, 45# carbon steel Unique design Fiberglass handle
15.	<b><u>Electric Drill Machine</u></b> Voltage:220-240V~50/60Hz Input power:650W No-load speed:0-1700rpm Impact rate:0-5500bpm Impact energy:1.7J Max. drilling capacity: Concrete:22mm Steel:10mm Wood:25mm SDS plus chuck system With 3 SDS-PLUS drills
16.	<b><u>long nose plier</u></b> Size - 8" -1000V Highly Insulated handle sleeve. Induction hardened cutting edges and diamond serrated jaws
17.	<b><u>Cable Cutter</u></b> 6" High Leverage Diagonal Cutting Pliers Full Body Hardened & Tempered. Insulated grip
18.	<b><u>Combination plier;</u></b> 8" with insulated grip Material: fully drop forged Carbon steel Surface: cutting edges induction quenched Cutting hardness: less than HRC3
19.	<b><u>Wire Stripper</u></b> 3 in 1 multi-function Stripping, cutting and crimping Stripping wires range:10AWG~24AWG(0.2~6mm <sup>2</sup> ) Cutting function: Copper and aluminum wires Crimping function: Crimp the insulated terminals 0.5-6mm <sup>2</sup> (10- 22 AWG); Crimp the non-insulated terminals: 0.5-6mm <sup>2</sup> (4-22 AWG); Crimp the ignition terminals: 7-8mm <sup>2</sup> Durable and comfortable

	handle
20.	<b>Claw hammer</b> 16oz/450g Drop-forged hammerhead Heat treatment, 45# carbon steel Unique design Fiberglass handle
21.	<b>Snap-off blade knife</b> ; Blade Size:18mmx100mm With 1 pcs SK5 blade Length:158mm With round push button
22.	<b>Bench Vice</b> Swivel Base, Maximum Clamping 1500KGS with anvil Jaw width min 125mm size Maximum jaw opening min 130mm Jaw depth 70mm Made of cast steel, hardened jaws, gunmetal nut, square thread spindle
23.	<b>phase tester</b> Test Voltage: AC 100-500V Slotted size: 3x140mm pocket size tester
24.	<b>Screw Driver Set:</b> 6 pcs screwdriver set Material : CR-V Round blade 1pcs SL5.5*5*75 1pcs SL5.5*5*100 1pcs SL6.5*6*150 1pcs PH1*5*75 1pcs PH1*5*100 1pcs PH2*6*150
25.	<b>Ruler</b> Steel foot rule 12".30cm
26.	<b>Tri square:</b> Stainless steel, sharp edges, size: 12"
27.	<b>Thimble press pliers,</b> 10" Insulated for 0.75 to 10mm
28.	<b>Adjustable Wrench:</b> , Set of 3 Pcs Material: High carbon Steel Surface Treatment: Chrome Type: Adjustable Spanner Set of 3 Pcs 6,10,15, Inches
29.	<b>L-Key Set:</b> Set of 9 Allen key set Long Length 110 mm Key sizes from 1.5 mm to 10 mm with a holder to help avoid losing the keys Keys are manufactured from chrome vanadium Steel
30.	<b>Spanner Set:</b> Double End Ring Spanner Vanadium steel made Chrome plated 12 degree offset bi-hex ring for access Sizes 6x7; 8x9; 10x11; 12x13; 14x15; 16x17; 18x19; 20x22; 21x23; 24x27; 25x28; 30x32
31.	<b>Spirit level/torpedo level:</b> Aluminum box frame with milled edges/Plastic end caps 3 solid vials (horizontal, vertical 45 Degree ) Length : Min 12"
32.	<b>Measuring Tap:</b> Measuring Size - Blade Length: 3.m, and Plastic body with hold button
33.	<b>Hand Saw;</b> Hand Saw min size 400mm – min 0.9mm thick, – min 7 teeth/inch. – Heat treated. – With teeth protector
34.	<b>Rubber hammer</b> Weight : 8oz/220g Fiberglass handle or wooden handle
35.	<b>Tool Bag:</b> size 16" maximum load holding capacity 15kg
36.	<b>Varnier Calipers:</b> Digital Vernier caliper 0-200mm Four way measurement Metric and inch conversion Measuring is clarity and with accurate Suitable for measuring internal diameter, outside diameter, step and depth With fine adjustment device and depth indicator made of carbon steel
37.	<b>Micrometer/screw gauge;</b> Silver mist chrome finish. The thimble must be rotated through two revolutions to open the jaws by 1 mm. Dividing Value: 0.01 Range: 0mm-25mm Reading to 0.01mm
38.	<b>Standard Wire Gauge:</b> Made: Hardened steel Permanently deep etched graduations in British and Metric System Range: 0.005"–0.325" Decimal equivalents 0–36 are shown on the reverse side
39.	<b>Socket Set:</b> 24pcs Socket set 1/2" Include : 18pcs 1/2" CRV DR. Sockets: 10,11,12,13,14,15,16,17,18,19,20,21,22,23,24 ,27,30,32 2pcs 1/2" DR. Extension bar 1pcs 1/2" DR. Sliding T bar 1pcs 1/2" DR. Universal joint 1pcs 1/2" DR. Speeder handle 1pcs 1/2" DR. Quick ratchet handle Packed by metal box

40.	<b>Hand Bit Set:</b> Set of Min eleven vital pieces Sizes required:1.5mm, 2.5 mm, 3mm, 4mm, 5mm,5.5mm, 6mm, 7mm, 8mm, 9mm, 10mm, Material: High speed steel (HSS) Heat and corrosion resistance
41.	<b>Angle Grinder,</b> Voltage:220-240V~50/60Hz Input power:710W No-load speed:11000rpm Disc diameter:100mm Spindle thread:M10 With 1pcs auxiliary handle Guard, Auxiliary Handle ,Inner (Clamping) Flange, Outer (Round Nut) Flange, Spanner Wrench,
42.	<b>Multimeter;</b> Digital Range - 0 to 600V (AC/DC), 0-10 A, 0-1000 Ohm, Battery operated and pair of test leads, Extra function: backlight, data hold, auto power off, low battery indication. Adjustable back tilt device with hook-up design.
43.	<b>Power Clamp on Meter;</b> Should measure AC Current, AC/DC Voltage and Resistance Maximum AC/DC current range: 400A Data Hold “freezes” data in display Should have circular jaw opening to support large cables Audible Continuity beeper Complete set required with battery and should meet internationally proven safety
44.	<b>RC Meter;</b> Functions:resistance ,capacitance continuity test (with buzzer) ,diode test transistor test
45.	<b>Insulation tester;</b> Digital Insulation Resistance: 500 kOhm~ 10 GOhm - best accuracy: +/- (3%+5) Low Resistance: 1000 Ohm Testing Voltage: 100V / 250V / 500V / 1000V - best accuracy: 0 ~ 20% DC Voltage: 1000 V - best accuracy: +/- (1%+3) AC Voltage: 750 V - best accuracy: +/- (2%+3) Auto Ranging Short Circuit Current (< 2 mA) Data Logging (18) Timer (around 30 minutes) Over Range an
46.	<b>Lux meter;</b> Lux Meter Digital: Range: 0 to 20000 lux Max/Data hold function Backlit LCD display
47.	<b>Hydro Meter;</b> Battery Hydrometer (Oval shape analog dial) Range 1.160-1.300
48.	<b>Battery Charger</b> min12 V DC Battery Charger min Charging capacity 30 Amperes, adjustable Transformer less type Composed with ampere
49.	<b>Tool belt Size</b> : 2pcs L26*W23cm 1pcs L15*W13cm Adjustable belt(92-127cm) 14pcs pockets 2pcs hammer holders Max load : 10kg
50.	<b>Energy Meter;</b> three phase 400V / 40A , Digital meter
51.	<b>Motor Set ;</b> 01 nos Single Phase 1 KW Asynchronous/Induction Motor 220V (Winding: 100% Copper, Body: Cast Iron, Freq: 50 Hz), 01 nos Three phase 3 KW induction motor (Winding: 100% Copper, Body: Cast Iron, Freq: 50 Hz), 01nos 12/24V .75 KW Brushed DC motor (Speed: 3000RPM, Housting: Aluminum Frame, Winding: 100% Copper)
52.	<b>Transformer Set;</b> 1Three- Phase (Range: 1 KVA), Coil: 100% Copper 2- Single- Phase (Range: 1/2 KVA), Coil: 100% Copper Material: RoHS Coil Structure: EI
53.	<b>Solar Hybrid Inverter ;</b> Rated Power: 1 kva Surge Power: 1600VA Waveform: Pure Sine wave Inverter Efficiency (Peak): 90% AC Input Voltage: 230VAC Frequency Range: 50Hz/60Hz (Auto sensing) Battery Nominal voltage: 24VDC Maximum AC Charge Current: 10A or 20A (Adjustable) Operating Temperature: 0°C-55°C
54.	<b>Dry Battery;</b> 12 V Sealed lead acid Battery Deep Cycle Battery: 40 AH
55.	<b>Dry Battery;</b> 12 V Sealed lead acid Battery Deep Cycle Battery: 7 A

56.	<b>Solar panel:</b> Watts (Pmax) 250 W , Max Power Voltage (VMPP) 32.26 V , Max Power Current (IMPP) 9.30 A , Max System Voltage, DC 1000 V with Mc4 connector
57.	<b>Proximity Sensor:</b> industrial 220v ac
58.	Photo sensor :industrial 220 volt with reflector
59.	<b>Variable/AC DC Power Supply;</b> Single Channel digital display show current and voltage simultaneously , voltage output 0-30vdc , current Output 0-5A, output power 150watt , over current protection
60.	<b>Electrical Safety Gloves</b> in 5KV high-voltage insulating gloves. insulation gloves for electrician safety rubber insulated gloves Length: min 40CM.with leather gloves
61.	<p><b>First Aid Kit:</b></p> <p>Contents List:</p> <ul style="list-style-type: none"> <li>• 20pcs Alcohol Pads</li> <li>• 9pcs Soap Wipes</li> <li>• 100pcs Wound Plasters</li> <li>• 1 pair of scissors</li> <li>• 4pcs Sterile Gauze Pad (3"x3")</li> <li>• 4pcs Sterile Gauze Pad (4"x4")</li> <li>• 4pcs Sterile Eye Pads</li> <li>• 2pcs Sterile ABD, 1 thermometer</li> <li>• 1pc Burn Dressing</li> </ul>
62.	<b>Safety Harness:</b> 1200KG, min 1.7M Double insurance power electric worker waist belt electrician safety belt harness pole climbing rope Double insurance, thicken and widen waist Min Whole loading capacity: 1200KG min Rope length: 1.7M Material of safety belt: high strength polyester fiber. ISO standard
63.	<b>Electrical Safety Shoes</b> : Upper Material: Genuine Leather Outsole Material: Rubber Feature: Steel toe, Anti slip & Anti-oil Mid-sole: Anti-penetration plate Color: black Required Sizes: (Size- Qty) US Men Shoe Size; for 15-17 years
64.	<b>Safety Goggles:</b> Safety goggles Plastic, with glass
65.	<b>Generator:</b> gasoline 3kva ,4 stroke generator pure copper winded alternator ,AVR control branded quality
66.	<p><b>PLC Trainer</b></p> <p>TRAINER CHARACTERISTICS:</p> <ul style="list-style-type: none"> <li>• Block Diagram</li> <li>• Inputs</li> <li>• Digital Inputs</li> <li>• Digital Inputs Wiring</li> <li>• Digital Outputs</li> <li>• Digital Output Wiring</li> <li>• Analog Inputs</li> <li>• Analog Input Wiring</li> <li>• Analog Outputs</li> <li>• Analog Outputs Wiring</li> <li>• Sample Connections</li> </ul>

67.	<b><u>Industrial Wiring Trainer</u></b> trainer for industrial wiring practice where trainee perform practical on industrial circuits like DOL starter ,Reverse/Forward starter, Star delta Starter trainer contain Safety protection , overload protection under & overload protection .
68.	<b><u>Star Delta Trainer;</u></b> star delta complete trainer along with 1 hp 3 phase induction motor ampere meter volt meter complete in all respects
69.	<b><u>Connectors;</u></b> banana male female connectors four different colors
70.	<b><u>Magnetic Contactor</u></b> : 3 pole with separate auxiliary contacts 220vac 10 amp
71.	<b><u>Push Button;</u></b> industrial Panel Type push button have 1nos NC contact and 1nos NO contact
72.	<b><u>Selector Switch;</u></b> industrial Panel type two way selector switch
73.	<b><u>Relay ;</u></b> 8 pin 220volt relay with base
74.	<b><u>Timer relay;</u></b> 8 pin 220volt timer with base
75.	<b><u>Cable</u></b> 3/0.029: 90 mtr pure cooper coil red and black
76.	<b><u>Bread Board</u></b> , min Rated Current: 3A Material: ABS Plastic Material min 7 Distribution Strip and min 700 Tie-points
77.	<b><u>Vero board;</u></b> dotted, size 12x8
78.	<b><u>MDF sheet;</u></b> 16mm x 8'x4' sheet for wiring practice
79.	<b><u>Earthling Plate;</u></b> size 2'x 2' x 1/8"
80.	<b><u>Safety helmets</u></b> PE shell with vents lining material : Plastic Chin strap included color blue for Electricians
81.	<b><u>R/F switch</u></b> Industrial type reverse forward switch button