

Name of the Trade				
Electrician				
S.No	Name of the Equipment	Std List No	Type of Equip. (Machinery / Tool)	Specifications
1	2	3	4	5
1	Steel Tape, 15 m length	1	T.Tool Kit	steel tape 15m length made of stainless steel /I.S.I Mark
2	Plier Insulated, 150 mm	2	T.Tool Kit	Combination plier 150mm made of alloy steel, tempered mouth with non slip plastic handle ISI Marked
3	Plier Side Cutting, 150 mm	3	T.Tool Kit	150 mm with PVC insulation handle ISI Marked
4	Screw Driver, 100 mm	4	T.Tool Kit	Screw driver 100mm made of alloy steel, tip tempered, insulated stim, with plastic handle.ISI Marked
5	Screw Driver, 150 mm	5	T.Tool Kit	150 mm length with PVC insulation handle.
6	Electrician Connector, screw driver insulated handle thin stem, 100 mm	6	T.Tool Kit	Electrician connector screw driver 100mm made of alloy steel, tip tempered, insulated stim, with plastic handle.ISI Marked
7	Heavy Duty Screw Driver , 200 mm	7	T.Tool Kit	200 mm length with PVC insulation handle.
8	Electrician Screw Driver thin stem insulated handle, 250 mm	8	T.Tool Kit	Electrician screw driver 250mm made of alloy steel, tip tempered, insulated stim, with plastic handle.ISI Marked
9	Punch Centre , 150 mm X 9 mm	9	T.Tool Kit	center punch of size 150mm x 9mm
10	Knife Double Bladed Electrician	10	T.Tool Kit	Electrician's double blade knife 50mm, Nickle plated
11	Neon Tester	11	T.Tool Kit	Neon tester with range of 230v ac/dc voltage supply
12	Steel Rule 300 mm	12	T.Tool Kit	Steel rule 300mm made of stainless steel
13	Hammer, cross peen with handle	13	T.Tool Kit	0.5 kg with wooden handle
14	Hammer, ball peen With handle	14	T.Tool Kit	0.5 kg with wooden handle
15	Gimlet 6 mm.	15	T.Tool Kit	gimlet size 6mm with handle /I.S.I Mark
16	Bradawl	16	T.Tool Kit	Bradawl of size 150mm x 6mm square pointed
17	Scriber (Knurled centre position)	17	T.Tool Kit	Scriber of size 150mm
18	Pincer 150 mm	18	T.Tool Kit	6Inch 150mm End Cutting Plier Carbon Steel Carpenter's Pincer Nail Pull Plier
19	C- Clamp 200mm	1a	Tool	C- Clamp size 200mm I.S.I Mark
20	150 mm	b	Tool	C- Clamp size 150mm I.S.I Mark
21	100 mm	c	Tool	C- Clamp size 100 mm I.S.I Mark
22	Spanner Adjustable 150 mm,	2a	Tool	Adjustable spanner of 150mm legnth
23	300mm	b	Tool	Adjustable spanner of 300mm legnth
24	Blow lamp 0.5 ltr	3	Tool	1 liter capacity made from brass sheet
25	Melting Pot	4	Tool	Melting pot of size 200mm x 150mm
26	Ladel	5	Tool	Standard Quality
27	Chisel Cold firmer 25 mm X 200 mm	6	Tool	Chisel Cold firmer of size 25 mm X 200 mm
28	Chisel 25 mm and 6 mm	7	Tool	Chisel Cold firmer of size 25 mm X 6 mm
29	Hand Drill Machine	8	Mach/Equip.	Hand drill machine of size 6mm capacity
30	Portable Electric Drill Machine 6 mm capacity	9	Mach/Equip.	<p>Electric drill machine portable 6mm capacity</p> <p>Technical Specifications</p> <ul style="list-style-type: none"> • Specification in mm : 6 mm • Speed : 4 • Spindle Nose Taper : Solid • Range of Speed : 500-2825 • Spindle Center to Column : 155 • Spindle Travel : 75 • of Square Table : 210 x 200 • Base Size : 340 x 220 mm • Max Distance From Spindle to Base : 356 • Working Surface of Base Plate : 170 x 170 • Power Required for Electric motor : 0.5 to 1.HP <p>Note:- The equipment will be supplied with necessary tools, attachments and standard accessories, etc.Tenderer should mention list of all standard accessories .</p> <p>• Size</p>
31	Pillar Electric Drill Machine 12 mm capacity	10	Mach/Equip.	<p>1 Maximum distance spindle to table 3-4" or Nearest.</p> <p>2 Maximum distance spindle to base 4" or Nearest,</p> <p>3 Distance Spindle to column 8". 4 Spindle travel 5".</p> <p>5 Base in Spindle No-2 Morse Taper. 6 Size of the slotted Table- 1-3 " X 1-3" or Nearest. 7 H.P> required 1.5 to 2 H.P. Electric supply 400/440 volts. AC phase 50 cycles the motor should be as per ISI specification and Tropically insulated motor should be supplied with push button starter & switch with over load and no load release. pillar 12 mm capacity with accessories</p>
32	Allen Key	11	Tool	Allen key of size No. 5 to 11
33	Oil Can 0.12 ltr	12	Tool	Heavy duty M.S.body oil can with good spring lever and oil capacity 250 ml, Standard Quality
34	Grease Gun	13	Tool	Standard Quality I.S.I. / I.S.O. Mark

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35	Out Side Micrometer	14	Tool	Outside Micrometer RANGE:0-25 mm. Satin-finished chrome frame, tapered (on the anvil side) for hard-to-reach places Carbide-tipped measuring faces Design to be operated efficiently with one hand
36	Motorised Bench Grinder	15	Tool	Body : The body is made of high grade cast iron, normalised to ensure strength and rigidity, consist Three phase motor more than 1 HP SPINDLE : The spindle is of high grade steel and is mounted on deep grooved ball bearings of ample load capacity. The bearings inserted are of high quality. Ball bearings are greased and sealed adequately against ingress of abrasive dust SWITCH : Each Bench Grinder is provided with a Rotary On-Off-Switch, mounted on the base for operating the motor Multi Speed Motor 3 Phase 2HP
37	Rawl plug tool and bit	16	Tool	Rawal tool holder & Bit No.8, 10, 14, & 16
38	Pully Puller	17	Tool	Three/ Four leg having andStandard Quality I.S.I. / I.S.O. Mark
39	Bearing Puller	18	Tool	Three/ Four leg having andStandard Quality I.S.I. / I.S.O. Mark
40	Pipe vice	19	Mach/Equip.	0 to 250mm (0 to1") jaws dia
41	Thermometer 0 to 100 deg Centigrade	20	Mach/Equip.	Thermometer 0 to 100 deg Centigrade scale
42	Scissors blade 150 mm	21	Tool	Scissors blade os size150 mm
43	Crimping Tool	22	Tool	Multi function non ratcheting Crimper Tool with soft comfort grips made from hardened stel, 4 functions in one tool, crimping insulated terminal 1.5/2.5/6.0mm square, Non insulated terminals 1.5 to 4.6 mm square, Bold shearing 2.6-5 mm., wire stripper 0.75 to 6mm
44	Wire stripper 20 cm	23	Tool	Wire stripper of size 20cm
45	Chisel Cold flat 12 mm	24	Tool	Fully Forged Induction Hardened Carbon Steel Cold Flat chisel as per IS 5663-1970 make I.S.I or any I.S.O. mark
46	Mallet hard wood 0.50 kg	25	Tool	wooden mallet of size 0.5kg (75mmx15mm)
47	Hammer Extractor type 0.40 kg	26	Tool	Drop Forged Carbon Hardened & Tempered with Seasoned Saal Wood Handle make I.S.I. or any other I.S.O. mark company.
48	Hacksaw frame 200 mm 300 mm adjustable	27	Mach/Equip.	200 mm 300 mm adjustable
49	Try Square 150 mm blade	28	Mach/Equip.	Try square 150mm , blade made of steel and handle made of cast iron.
50	Outside and Inside Divider Calliper	29	Mach/Equip.	more than 150 mm andStandard Quality I.S.I. / I.S.O. Mark
51	Pliers flat nose 150 mm	30	Tool	150mm with PVC insulation handle ISI Marked
52	Pliers round nose 100 mm	31	Tool	100 mm with PVC insulation handle ISI Marked
53	Tweezers 100 mm	32	Tool	Tweezers 100 mm made of stainless steel ISI Marked
54	Snip Straight and Bent 150 mm	33	Tool	Snip Straight and Bent 150 mm made of stainless steel ISI Marked
55	D.E. metric Spanner	34	Tool	Spanner set DE 6X7,8X9,10X11,12X13,14X15,16X17
56	Drill hand brace	35		Drill hand brace of size 6mm capacity
57	Drill S.S. Twist block 2 mm, 5 mm 6 mm set of 3	36	Tool	Standard Quality I.S.I. / I.S.O. Mark
58	Plane, smoothing cutters 50 mm	37	Tool	Standard Quality I.S.I. / I.S.O. Mark
59	Gauge, wire imperial	38	Mach/Equip.	Gauge, wire imperial made from stainless steel (0 to 36 swg)
60	File flat 200 mm 2nd cut	39	Tool	200 mm 2nd cut teeth 60 degree with PVC handle
61	File half round 200 mm 2nd cut	40	Tool	File half round 2nd cut 200 mm made of high carbon steel, hard and tempered with wooden handle.
62	File round 200 mm 2nd cut	41	Tool	File round 200 mm 2nd cut made of high carbon steel, hard and tempered with wooden handle.
63	File flat 150 mm rough	42	Tool	150mm rough with PVC handle
64	File flat 250 mm bastard	43	Tool	250mm bastard with pvc handle
65	File flat 250 mm smooth	44	Tool	250mm smooth with pvc handle
66	File Rasp, half round 200 mm bastard	45	Tool	File Rasp, half round size 200 mm bastard
67	Soldering Iron 25 watt,	46a	Mach/Equip.	Soldering iron with range of 25w 230v supply
68	65 watt,	b	Mach/Equip.	Soldering iron with range of 65w 230v supply
69	125 watt	c	Mach/Equip.	Soldering iron with range of 125w 230v supply
70	Copper bit soldering iron 0.25 kg.	47	Mach/Equip.	Copper bit soldering iron of size 0.25 kg.
71	Desoldering Gun	48	Mach/Equip.	Desoldering Gun with dimension 225x170mm,voltage 220/240v power 70/75 watt
72	Hand Vice 50 mm jaw	49	Mach/Equip.	Hand vice of size 50mm jaw length
73	Table Vice 100 mm jaw	50	Mach/Equip.	Table vice of size 100mm jaw length
74	Pipe Cutter to cut pipes upto 5 cm. dia	51	Tool	condit pipe cutting & threading machine adjustable for diameters up to 5cm

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75	Pipe Cutter to cut pipes above 5 cm dia	52	Tool	conduit pipe cutting & threading machine adjustable for diameters above 5cm
76	Stock and Die set for 20 mm to 50 mm G.I. pipe	53	Tool	With Double Handle Rachit Type Standard Quality I.S.I. / I.S.O. Mark
77	Stock and Dies conduit	54	Tool	drop head ratchet die stock with split type chaser cutting die & storage case
78	Ohm Meter; Series Type & Shunt Type	55	Mach/Equip.	Portable self contained,battery operated,moving coil type,anti parallax mirror scale and knife edge pointer,accuracy+-5%of the indicated value at centre scale.Range 0 to 2000 Ohms.
79	Multi Meter (analog) 0 to 1000 M Ohms, 2.5 to 500 V	56	Mach/Equip.	Multimeter - Analog type Table Top Type, 0 – 3/10/30/100/300/1000V AC, 1 – 3mA, 30MA, 300mA, 10A DC, 0 – 1K, 10K, 1 M, 10 M ohm, -10 dB to + 60dB for AC Voltage, should have facility for Transistor testing, Open & Short check facility, DC Polarity reversal facility
80	Digital Multi Meter	57	Mach/Equip.	3 & ¾ digit DIGITAL MULTIMETER (Hand Held), 3 ¾ digit Multimeter , 3999 Counts, with Digital & Analog bar graph display with ABS system to prevent incorrect connections for protection of DMM, Protections: Voltage protection up to 1000 Volts continuous in Resistance, Diode, Continuity & Temp. range. Fast Acting Fuses for over current and short circuit protection. High Voltage surge protection with Spark Gap arrangement, Measuring Ranges: Voltage: 1000V AC/DC – Over voltage up to 1200V continuous Current: 300 µA to 10 A AC/DC range Fuse Protected, Resistance: 20 M _Ω or better, Capacitance: 30, µF, Frequency: 100 K Hz or better, Temperature, Diode and Continuity Testing. Duty Cycle, Basic Accuracy 0.25% or better of measured value.
81	A.C. Voltmeter M.I. 0 –500V A.C	58	Mach/Equip.	Portable laboratory type A.C. voltmeter (M.I. 0-500 V) house in ebonite/bakelite Body dial scale 150 mm with knife edge Pointer & antiparallel mirror Accuracy – 1 % Make- Any reputed company having ISO certification
82	Milli Voltmeter centre zero 100 – 0 – 100 m volt	59	Mach/Equip.	Portable laboratory type Milli volt meter center zero (100-0-100 M.V.) , house in ebonite/bakelite Body dial scale 150 mm with knife edge, Pointer & Anti parallel mirror Accuracy – 0.5 % ,
83	D.C. Milli ammeter 0 -500m A	60	Mach/Equip.	Portable laboratory type Milli ammeter center zero (0-500 ma.) , house in ebonite/bakelite Body dial scale 150 mm with knife edge, Pointer & Anti parallel mirror Accuracy – 0.5 %
84	Ammeter MC 0-5 A, 0- 25 A	61	Mach/Equip.	0-15-25Amp,Backlite body,knife edge , Pointer & Anti parallel mirror Accuracy – 0.5 %
85	A.C. Ammeter M.I. 0-5A, 0-25 A	62	Mach/Equip.	Backlite body,knife edge , Pointer & Anti parallel mirror Accuracy – 0.5 %
86	Kilo Wattmeter 0-1-3 kw	63	Mach/Equip.	Standard Quality I.S.I. / I.S.O. Mark
87	A.C. Energy Meter, Single phase 5 amp. Three Phase 15 amp	64	Mach/Equip.	Single phase 5 amp 250v ac , three phase 15amp 440v
88	Power Factor Meter	65	Mach/Equip.	0.5 to 1 to 0.5 leading/ lagging
89	Frequency Meter	66	Mach/Equip.	AC frequency meter analog/digital with range 40to 90hz
90	Flux meter	67	Mach/Equip.	input = 240v , 50 c/s , 25 amp. With output resistance = 1ohm
91	Wheat Stone Bridge with galvanometer and battery	68	Mach/Equip.	The bridge is fully protable with in sensitive galvanometer & dry battery, 4 decadesof 10x1,10x10,10x1000 ohm with range multipliers
92	Laboratory Type Induction Coil	69	Mach/Equip.	6 V to 800-10000V Magnetic flux meter
93	DC Power Supply 0-30V, 2 amp	70	Mach/Equip.	DC power supply of voltage 0 to 30v,2amp current capacity
94	Rheostat 0 -1 Ohm, 5 Amp	71a	Mach/Equip.	0 – 1 Ohm, 5 Amp. Variable
95	0 -10 Ohm, 5 Amp	b	Mach/Equip.	0 – 10 Ohm., 5 Amp. Variable
96	0- 25 Ohm, 1 Amp	c	Mach/Equip.	0 – 25 Ohm,1 Amp. Variable
97	0- 300 Ohm, 1 Amp	d	Mach/Equip.	0-300 Ohm.,1 Amp Variable
98	1 Phase Variable Auto Transformer	72	Mach/Equip.	Variable auto transformer 0/250 V, 8 amps Make- Any reputed company having ISO Certification /ISI standards.
99	Battery Charger	73	Mach/Equip.	Battery charger with 15v, current controlled
100	Hydrometer	74	Mach/Equip.	Standard Quality I.S.I. / I.S.O. Mark
101	Miniature Breaker 16 amp (Raw Material)	75	Mach/Equip.	two pole with colored nobe with box fitted
102	Working Bench 2.5 m x 1.20 m x 0.75 m	76	Mach/Equip.	Work bench , 2.5x1.20x0.75meters
103	Fire Extinguisher CO2, 2 KG	77	Mach/Equip.	Fire extinguishers of size Dry chemical 5 kg
104	Fire Buckets	78	Mach/Equip.	10 LITRE (G.I) Red colour

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105	Instructor's table	1	Furniture	INSTRUCTOR TABLE (STEEL)Made of 1" square pipe with one drawer on right side with lock and top made of ply board with sunmica size of 4'x 2'
106	Instructor's chair	2	Furniture	INSTRUCTOR CHAIR (STEEL)Armed cushioned seat and made by square pipe good quality
107	Metal Rack 100cm x 150cm x 45cm	3	Furniture	100cm x 150cm x 45cm (5 rack minimum) 12 gauge steel parts. 20 gauge galvanized steel shelves.
108	Lockers with 16 drawers standard size	4	Furniture	36" x 72" x 20" deep 1,steel cabinet,powder coating finish, 2. 18gauge thickness 3,Knock down package. Note- with separate locker keys
109	Almirah 2.5 m x 1.20 m x 0.5 m	5	Furniture	STEEL ALMIRAH made of GI sheet of 20 gauge 2.5x1.20x.50 METER with three doors , two doors will cover three feet wide compartment and one door will cover one feet compartment .Total height should include the pedestal of six inch height
110	Black board/white board	6	Furniture	Board Size-1200mm x 2000mm High Quality Stageman White Board with Aluminum Frame. description:Product Details: With linear Aluminum frame, high quality lacquered steel whiteboard or enamel whiteboard.
111	Tachometer	1	Mach/Equip.	Category: optical .Tachometer Accuracy: +/-0.05% Display : 5digits LED Speed range: 0 to 6000 RPM Display : digital
112	Current Transformer 415 Volt,50 Hz, CT Ratio 150 / 5 Amp, 5VA	2	Mach/Equip.	Current transformer with range of 10/1, 20/1,30/1,50/5, 100/5 and 300/5A
113	Potential Transformer 415 Volt,50Hz, PT Ratio 11KV/ 110V, 10VA	3	Mach/Equip.	Potential transformer with range of 20/110,300/110,440/110,600/100V
114	Growler	4	Mach/Equip.	AC voltage 220/230v single phase supply 50 Hz
115	Tong Tester / Clamp Meter 0 – 100 amp. AC	5	Mach/Equip.	Digital clamp meter 0-100amp. multi range & voltage 0-300-600 volt case superior grade bakelite body with selector switch scale the reading should be obtained simply by clipping wire /cable without disconnect Make-any reputed company having ISO Certification,Digital type clamp meter,3 ¼ Digit LCD Display AC/DC TRMS Clamp On Meter + Multimeter with set of Leads
116	Megger 500 volts	6	Mach/Equip.	500 volts ,0 to infinity Mega ohm
117	Contactor & auxiliary contacts 3 phase, 440volt, 16amp (Raw Material)	7	Mach/Equip.	ISI standards and minimum 4 nc&2no
118	Contactor & auxiliary contacts 3 phase, 440 volt, 32 amp. (Raw Material)	8	Mach/Equip.	ISI standards and minimum 4 nc&2no
119	Limit Switch (Raw Material)	9	Mach/Equip.	Standard Quality I.S.I. / I.S.O. Mark
120	Rotary Switch 16 A (Raw Material)	10	Mach/Equip.	Standard Quality I.S.I. / I.S.O. Mark
121	Load Bank 5 KW(Lamp / heater Type)	11	Mach/Equip.	(Lamp / heater Type)
122	Brake Test arrangement with two spring balance 0 to 25 kg rating	12	Mach/Equip.	of 0 to 25 kg rating 2 sets.
123	Knife Switch DPDT fitted with fuse terminals 16 amp	13	Mach/Equip.	with fuse terminals 16 amp
124	Knife Switch TPDT fitted with fuse terminals 16 amp	14	Mach/Equip.	fitted with fuse terminals 16 amp
125	Voltage Stabiliser Input: 150 – 230 volt AC Output: 220 volt AC	15	Mach/Equip.	Input 150–230 volt AC, Output 220 volt AC
126	3- point D.C. Starter	16	Mach/Equip.	3 point d.c starter with range of 230V,15amp, OLC 9to12amp
127	4- point D.C. Starter	17	Mach/Equip.	4 point d.c starter with range of 230V,15amp, OLC 9to12amp
128	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 fitted with friction brake arrangement, dynamo meter, instrument panel and power supply unit	18	Mach/Equip.	The electrical machine trainer system should be provided with specially designed integrated machines of nominal 3 HP rating. Panel containing Power supplies, drives, loading arrangements, electronic and digital instruments will also be provided along with machines.Trainer consist single phase motors, three phase motors and D C Machines more than one HP Along with panel and all accessories.This Machine Trainer should consists Following Machines and Control Panel Sets.function 1ph. and 3ph.ac motor

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129	Motor-Generator (AC to DC) consisting of : Squirrel Cage Induction Motor with star delta starter and directly coupled to DC shunt generator and switch board mounted with regulator, air breaker, ammeter, voltmeter, knife blade switches and fuses, set complete with case iron and plate, fixing bolts, foundation bolts and flexible coupling. Induction Motor rating: 7 HP, 400V, 50 cycles, 3 phase DC Shunt Generator rating: 5 KW, 440V	19	Mach/Equip.	M.G. Set consisting of squirrel cage induction motor 5 H.P. 400 V ,50 cycle with directly coupled compound generator 3K.W. 250 V
130	Used DC Generators-series, shunt and compound type for overhauling practice	20	Mach/Equip.	Capacity 2.5 KW I/P V= 250V with control panel including field rheostat,d.c.(mc)ammeter 0-25 amp, Volt meter (MC) 0-250 v
131	D.C. Shunt Generator with control panel,2.5 KW, 220V	21	Mach/Equip.	Standard Quality I.S.I. / I.S.O. Mark
132	D.C. Compound Generator with control panel including fitted rheostat, voltmeter, ammeter and breaker, 2.5 KW, 220 V	22	Mach/Equip.	with control panel. Including field rheostat, volt meter, Ammeter and circuit breaker
133	Diesel Generator Set with change over switch, over current breaker and water-cooled with armature, star-delta connections AC 3 phase, 5 KVA, 240 volt	23	Mach/Equip.	Capacity = 5KVA, I/P V= 440 V , AC 3 Phase , with change over switch , over current circuit breaker star/delta connection (With Copper Winding)
134	DC Series Motor coupled with mechanical load 0.5 to 2 KW, 220 Volts	24	Mach/Equip.	b. D. C. series motor 3HP 250V,1500 rpmwith 2 point starter copper wound ISO & CE certified,4.3 amp.
135	DC Shunt Motor 2 to 2.5 KW, 220 volts	25	Mach/Equip.	D.C. shunt motor, 3 H.P 250 v with 3 point starter and speed regulator (Laboratory type copper wound ISO & CE certified,rpm 1440
136	DC compound Motor with starter and switch 2 to 2.5 KW ,220 volts	26	Mach/Equip.	3 H.P 250 V,1500rpm, self cooled copper wound with 4 point starter and field regulator (Laboratory type) ISO & CE certified
137	Single phase Transformer, core type, air cooled 1 KVA , 240/415 V, 50 Hz	27	Mach/Equip.	Transformer single phase of size 1 K.V.A. 250/100 v
138	Three phase transformer, shell type oil cooled with all mounting 3 KVA , 415/240 V, 50 Hz , (Delta/Star)	28	Mach/Equip.	Transformer three phase (oil cooled) of size 5 K.V.A. 440/220 v
139	Oscilloscope Dual Trace, 30 MHZ	29	Mach/Equip.	Band width 250 MHZ Rise time 1.4 NS input channel 2 Vertical Resolution 8 bits DC accuracy +3%,-3% Input characteristics one Mohm inparallel with 15 PF input type Single ended , BNC Connector over load protection + 100 V , -100V (DC+ACPeak) Trigger mode normal, auto ,ETS , rapid
140	Function Generator	30	Mach/Equip.	0.03 Hz to 3Mz frequency range 2mV to 20V pk-pk from 50 Ohms or 600 Ohms
141	Discrete Component Trainer	31	Mach/Equip.	IC based DC Reg. Power Supplies : a.) +12 V / 500 mA b.) 0 to +12V/ 500 mA c.)-12V/500 ma d.) 0 to -12V/ 500 mA e.) +5V I 500mA AC Supplies : 9-0-9 V AC / 500 mA. Veroboard : Unique veroboard type socket with termination for use of external components I IC's up to 20 pin without soldering. Potentiometer : Three Potentiometers (1K,10K and 100K) with terminations. Speaker : One 8 ohms miniature speaker with terminations. Relay : One 12V I 1 C. 0. relay with terminations. Power ON : Power ON switch with indicator for mains on indication and fuse for protection. Patch Cords : Set of 20 assorted coloured multi-stand wires with 2 mm termination at both ends. Power : 230V 10% single phase AC. Requirement Instruction Manual : One detailed instruction manual with well thought out experiments covering the above topics.

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142	Linear I.C. Trainer	32	Mach/Equip.	<p>Specifications</p> <p>Power Supply (SMPS) : +5V / 1A (Fixed), $\pm 12V$, 500mA (Fixed), $\pm 12V$, 500mA (Variable), AC Supply : 9V-0-9V / 500mA</p> <p>Breadboard : Breadboard for making various circuits & testing them.</p> <p>Function Generator, Operating modes : Sine, Square, Triangular</p> <p>Frequency Range Modulation / Audio Generator : 1Hz to 100KHz</p> <p>Operating modes : Sine, Square, Triangular, Frequency Range : 1Hz to 10KHz, Signal Analyser, Input : Two channels with bandwidth of 20KHz and Input Amp of 20mV to 1V. Display Mode : Time & Frequency Domain with automatic measurement of voltage and frequency of input signal.</p> <p>Utility : Save, Load, Print waveform facility. PC Interface : Through Sound Card. Continuity tester : For testing the continuity, Provided with beeper sound. Interconnection for Modules : 2mm Patch cords. Power requirements : 220V $\pm 10\%$ 50Hz. Weight : 3.5 Kg (Approx.).</p> <p>Accessories Included : Mains Cord, Jack socket to connect the trainer to PC Operating and experimental manual with more than 20 designed experiments and patch cords. Software having facilities for simulation of fundamentals of Basic Electronics.</p>
143	Digital I.C. Trainer	33	Mach/Equip.	<p>Switches, Diode Logic (DL) Circuit, Resistor - Transistor Logic (RTL) Circuit, Diode - Transistor Logic (DTL) Circuit, Transistor - Transistor Logic (TTL) Circuit. IC based DC Regulated Power supplies</p> <p>a. + / - 5V DC / 0.3 A</p> <p>b. + 12V DC / 0.3 A</p> <p>c. 0 to + 15V DC / .5A Continuously variable</p> <p>Signal Generator : All Signal generator has independent and simultaneous TTL and CMOS level output terminals. CMOS level output range from 0 to +15V and is controlled from the voltage adjustment knob of the adjustable DC Power supply.</p> <p>Standard Frequency generator : Frequency : 1MHz, 50Hz, 1Hz</p> <p>Fanout : 10 TTL load.</p> <p>Clock Signal Generator : Frequency : 1Hz to 1MHz in six ranges.</p> <p>Line Signal Generator Frequency : 50Hz; Output Voltage : 6V rms</p> <p>Data Switches i. 2 x 8 bit DIP switch, 16 bit TTL level output.</p> <p>ii. 4 x Toggle switch each with debounce circuit.</p> <p>Pulsar Switch : 2 sets of independent control output.; Each set with Q, Q' output.</p>
144	Oil Testing Kit	34	Mach/Equip.	Transformer oil testing kit with size automatic 60kv
145	Hygrometer	1	Mach/Equip.	Measurement range thermometer: -30 to +50 degree
146	a. Cut out Relays	2a	Mach/Equip.	15 Amp. 3 Phase 50Hz
147	b. Reverse current	b	Mach/Equip.	16 Amp. 3 Phase 50Hz
148	c. Over current	c	Mach/Equip.	15 Amp
149	d. Under voltage	d	Mach/Equip.	Standard Size
150	Starters for 2 to 5 H.P. A.C Motors a. Resistance type starter	3a	Mach/Equip.	Resistance type starter 5 HP 6/12 Amp. 3 Phase
151	b. Direct on line Starter	b	Mach/Equip.	Closed type variac 0-500V, 10 amp
152	c. Star Delta Starter- manual, semi-automatic and automatic	c	Mach/Equip.	3 contactor over load relay with safety device air cooled
153	d. Auto Transformer type	d	Mach/Equip.	single phase 0 to 300v up to rating 1kva
154	Motor Generator(DC to AC) set consisting of - Shunt Motor with starting compensator and switch directly coupled to AC generator with exciter and switch board mounted with regulator, 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. Shunt Motor rating : 5 HP, 440V AC Generator rating : 3-Phase, 4 wire, 3.5 KVA, 400/230 Volts, 0.8 pf, 50cycles	4	Mach/Equip.	<p>Name of Item:- Trainer for Motor Generator Set To Convert D.C.to A.C.</p> <p>It Consist of</p> <ol style="list-style-type: none"> 1. Work Table 1200 X 600 X height 750 Made Of M.S. Angle 40 X 40 X 6 Covered with 19 mm ply painted With Smoke Grey Synthetic enamel Paint. 2. Display Panel 1200 X 600 mm Mounted On Work Table Covered With 12 mm ply Painted with Pale crème synthetic enamel paint. 3. 3 phase Inductor motor 7 H.P. 400 Volts 50 c/s4. I.C.T.P. main switch 63 Amp 440 Volts 5. Ammeter 0-30 Amps6. Star Delta starter7. M.I. type voltmeter 0-500 V8. M.C.type voltmeter 0-300V9. I.C.D.P. main switch 16 amp 250V10. Ammeter 0-32 Amp.11. Fuse unit 32 amp 250 V12. Air ckt Breaker13. D.C. Shunt Generator 5 Kw 440 volts.14. Am-meter 0-5 Amp M.C. type
155	AC Squirrel Cage Motor with star delta starter and triple pole iron clad switch fuse. 2 to 3 HP, 3-phase ,400 volts, 50 cycles	5	Mach/Equip.	

Name of the Trade		Electrician		
S.No	Name of the Equipment	Std List No	Type of Equip. (Machinery / Tool)	Specifications
1	2	3	4	5
156	AC phase-wound slip ring Motor with starter and switch 5 HP, 400 volts, 3-phase, 50 cycles	6	Mach/Equip.	3Phase slip ring Induction motor: ABB / KIRLOSKAR / SIEMENS make 3HP / 5HP, 440V / 1440 rpm rating..Motor with pulley Mounted on vibro pads and MS base with fully smooth baring supported arrangements for friction loading. It also includes weighing scale and belt. The base is fully powder coated. The rpm sensor is fitted on the base for speed measurement Input power: 3 Ph 415 V AC,50Hz ,3/5 HP Panel: Made from CR sheet .Front door is duly galvanized and powder coated later screen printed and lacker coated. Connection: The motor terminals are brought out and fitted with reputed make BTI 30 connectors on the front panel .External connections are made according to the circuit diagram with the help of patch cords/wires. Circuit diagrams: Necessary connection diagrams for motor terminals and required notations for all meters are screen printed on the panel front door.
157	A.C. Series type Motor with mechanical load ¼ HP, 230V, 50 Hz	7	Mach/Equip.	Leather Belt, Spring load with 25 kg ajustable break
158	Single Phase Capacitor Motor with starter switch 1 HP 230 volt 50 cycles	8	Mach/Equip.	1/2 H.P. single phase 250 v with speed 1500/3000 rpm copper wound ISO & CE certified
159	Universal Motor with starter/switch 230 volt, 50 cycles ¼ HP	9	Mach/Equip.	Operating voltage 230v AC speed 18000 rpm, used in barrel pump motor RPM range from 8000 to 16000 with 30 mint rating on load Armature are dynamically balanced , suported with well lubricated ball bearing making the motor contact Copper wound ISO & CE certified
160	Stepper Motor with Digital Controller	10	Mach/Equip.	Micro controller kits 2V at 400 mille ampere with add on card DAC.ADC stepper motor. Motor Drive system----- Unipolar Step angle-----1.8° full step Voltage & current 12V at 400mA Max continuous power 5W Resistance per phase 23mH Holding torque 2000g-cm Detent torque 220g-cm Rotor inertia 22g-square cm. Leads 18 in. 6AWG UL 1007 Insulation resistance: -100MΩ min. at 500VDC Dielectric strength 500V 50Hz/min. Ambient temperature -10°C to 55°C
161	Shaded Pole Motor	11	Mach/Equip.	Specifications Motor Two pole shaded pole AC, 240 volts, 50 or 60 Hz Self-aligning porous bronze bearings. Furnished with solder lugs, leads, and quick disconnect spades. Integral mounting bosses on bearing bracket.
162	Bath Impregnating	12	Mach/Equip.	TECHNICAL SPECIFICATION 1.MS chambers of 5 mm thickness, fitted with leak Proff lids with handles viewing parts, vacuum/pr. (compound) gauge, vacuum line valve & air leak valve, At the bottom impregnor admittance cum drain valve & inter transfer valves should be provided. Tank size-300 mm Dia x 400 mm height. Varnish carrying capacity. App. 30 liters. 2. Vacuum pump : double state vacuum pump driven by 1/2 HP single phase 230-250 volt motor to create required degree of vacuum i.e. 100 lt/mt. Rotary vacuum pump displacement. 3. Heating arrangement :Thermostatically controlled degree, 0-45 shold be provided with pre setting & automatic tripping arrangment of heating device the temperature indicator/controller should be digital type. 4. Electrical controls : i. MCBs for heater. ii. MCB for motor/pump.. iii. Single phase motore starter (Push botton) for 1/2 HP motor with over load tripping arrangement. iv. Heater 'ON' indicator. v. pump 'ON' indicator. vi. Thermostat & digital temperature indicator/controller. viii. Main 'ON' indicatyor. the complete unit should be mounted on suitable angle iron stand.

Name of the Trade		Electrician		
S.No	Name of the Equipment	Std List No	Type of Equip. (Machinery / Tool)	Specifications
1	2	3	4	5
163	Oven Stove	13	Mach/Equip.	operating voltage 230v ac ,2500 watt heating element
164	Synchronous motor 3 Phase, 3 HP, 415V, 50Hz, 4 Pole, with accessories.	1	Mach/Equip.	With Coupling for starting.
165	Lux meter	2	Mach/Equip.	lux meter of size -1 to 7% sense diameter 0-2 inch,
166	Inverter- 1 KVA with 12 V Battery Input- 12 volt DC,Output- 220 volt AC	1	Mach/Equip.	1 KVA, (MOSFET Tech).with tuboler battery of 12V 13plates 165amp
167	Domestic Appliances – a. Electric Hot Plate 1500 watt	2a	Mach/Equip.	Standard Quality I.S.I. / I.S.O. Mark
168	b. Electric Kettle, 1500 watts	b	Mach/Equip.	Standard Quality I.S.I. / I.S.O. Mark
169	c. Electric Iron 1500 watts	c	Mach/Equip.	Automatic Standard Quality I.S.I. / I.S.O. Mark
170	d. Immersion Heater 1500 watt	d	Mach/Equip.	Standard Quality I.S.I. / I.S.O. Mark
171	e. A.C. Fan	e	Mach/Equip.	1400mm and 75watt,Standard Quality I.S.I. / I.S.O. Mark
172	f. Geyser (Storage type) 15 ltr minimum	f	Mach/Equip.	Standard Quality I.S.I. / I.S.O. Mark
173	g. Mixture & Grinder	g	Mach/Equip.	Standard Quality I.S.I. / I.S.O. Mark
174	Thyristor /IGBT controlled D.C. motor drive with tacho-generator feedback arrangement 1 HP	3	Mach/Equip.	with tacho-generator feedback arrangement. breaking current in seconds -1.5 to 2.7 .
175	Thyristor/IGBT controlled A.C. motor drive with VVVF control 3 Phase, 2 HP	4	Mach/Equip.	with VVVF control ,3 Phase 2 HP No. of operations (life) -10000
176	Pentium IV Computer or latest (Server- Linux), 2.8 GHz & above, 1 GB RAM, 80 GB HDD, DVD Combo Drive, 15/17" Monitor, optical scroll mouse, multimedia key board, 32 bit LAN card with UPP port, necessary Drivers, etc.	1	Mach/Equip.	2.8ghz&above,1gb ram,80 gb hard,dvd combo drive 15/17"monitor,optical scroll mouse key board, 32 bit lan card eith upp port, necessary drivers,etc.
177	Ink jet/ laser printer	2	Mach/Equip.	Standard Quality I.S.I. / I.S.O. Mark
178	Washing Machine	3	Mach/Equip.	Standard Quality I.S.I. / I.S.O. Mark
179	Motor Pump set 1 HP, 1 Phase, 240 V	4	Mach/Equip.	1hp,1phase ,240 volt
180	Pin Type, shackle type & suspension type insulators (Raw Material)	5	Mach/Equip.	suspension type insulators ,pin type ,shackle type