

Name of the Trade		Welder GMAW & GTAW		
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S. no	Name of Item	Std. List No.	Type of Item (Tool / Equipment / Machinery)	Specification
Consumable kit				
1	Leather Hand Gloves 14"	1	Consumables	14"(inner insulated rubber)
2	Cotton hand Gloves 8"	2	Consumables	8"(Non Synthetic)
3	Leather Apron leather	3	Consumables	Made From flexible leather
4	S.S Wire brush 5 rows and 3 rows	4	Consumables	S.S & M.S. Wire brush 5 rows and 3 rows
5	Leather hand sleeves 16"	5	Consumables	16"
6	Safety boots for welders	6	Consumables	with steel strip and long neck
7	Leg guards leather	7	Consumables	made from leather
8	Rubber hose clips 1/2"	8	Consumables	clips size 1/2"
9	Rubber hose oxygen 8 mm dia X 10 Mts long as per BIS	9	Consumables	8mm dia *10Mts long ,canvas rubber,having good flexibility and light weight
10	Rubber hose acetylene 8 mm dia X 10 Mts long as per BIS	10	Consumables	8mm dia *10Mts long ,canvas rubber,having good flexibility and light weight
11	Arc welding cables multi cored copper 400/ 600 amp as per BIS	11	Consumables	multi cored copper 400 amp, super flexible rubber insulation having fine copper wires nd woven fabric reinforcement layers
12	Arc welding single coloured glasses 108 mm x 82 mm x 3 mm. DIN 11A &12 A	12	Consumables	108 mm x 82 mm x 3 mm. DIN 11A & 13 A
13	Arc welding plain glass 108 mm x 82 mm x 3 mm.	13	Consumables	108 mm x 82 mm x 3 mm,transparent glass
14	Gas welding Goggles with Colour glass 3 or 4A DIN	14	Consumables	3 or 4A DIN (with side protection)
15	Safety goggles plain	15	Consumables	ACRYLIC Plastic glass
16	Spark lighter	16	Consumables	Rust Free
17	AG 4 Grinding wheels	17	Consumables	dia200mm x 12mm thick, coarse grained wheels

Trainees tool kit				
18	Welding helmet fiber	1	Tool	Very sturdy and light weight. With adjustable ratchet head gear.
19	Welding hand shield fiber	2	Tool	Very sturdy and light weight. . Standard vision 110 mm X 85mm
20	Chipping hammer with metal handle 250 Grams	3	Tool	250 Grams (spring Handle)
21	Chisel cold flat 19 mm x 150 mm	4	Tool	Face size 19mm * length 150 mm,made of hardened and tempered HCS
22	Centre punch 9 mm x 127 mm	5	Tool	centre punch with face 9mm, 127mm length and working point Hardened & Tempered High Carbon Steel
23	Dividers 200 mm	6	Tool	divider with 200 mm length, working point Hardened & Tempered High Carbon Steel
24	Stainless steel rule 300mm	7	Tool	Standard Steel Rule of 300 mm Length ,both side marking in inches ,cm & mm
25	Scriber 150 mm double point	8	Tool	Scriber of 150mm length, both sides Hardened & Tempered High Carbon Steel pointed
26	Flat Tongs 350mm long	9	Tool	tongs flat in size of 300mm long
27	Hack saw frame fixed 300 mm	10	Tool	Standard Hacksaw Fixed/adjustable frame made of Steel suitable for 30Cm blade fitment.
28	File half round bastard 300 mm	11	Tool	A Standard half round File 30 cm long Bastard Type made of High Carbon Steel with handle
29	File flat 350 mm bastard	12	Tool	A Standard Flat File 35 cm long Rough/Bastard Type made of High Carbon Steel with handle
30	Hammer ball pane 1 kg with handle	13	Tool	hammer ball pein 1 kg with wooden handle
31	Tip Cleaner	14	Tool	14 no's cleaning wires standard size (For nozzle no. 1-90)
32	Try square 6"	15	Tool	Having length of 6 inches blade & having markings in inches, cm & mm made of Hardened Steel
General machinery shop outfit				
33	Spindle key	16	Equipment	standard size spindle key for opening the cylinder valve

34	Screw Driver 300mm blade and 250 mm blade	17	Equipment	300mm blade and 250 mm blade
35	Number punch 6 mm	18	Equipment	Hardened steel suitable to punch soft metals and mild steel. Number punch set of 0 to 9, of face 4mm & length 100 mm
36	Letter punch 6 mm	19	Equipment	Hardened steel suitable to punch soft metals and mild steel. Letter punch set of A to Z (Capital) of face 4mm & length 100 mm
37	Magnifying glass 100 mm . dia	20	Equipment	magnifying glass with dia 100mm with steel frame and handle
38	Universal Weld measuring gauge	21	Equipment	For measurement of weld bead in flat & fillet joints , Available in Standard or Metric
39	Earth clamp 600A	22	Equipment	Copper /Brass 600 amp as per BS 638
40	Spanner D.E. 6 mm to 32mm	23	Equipment	Spanner set made of Drop forged carbon steel, Polished /Chrome Plated of sizes Size :6-32mm
41	C-Clamps 10 cm and 15 cm	24	Equipment	Double-rolled thread for faster clamping and increased durability & Larger handle for greater clamping pressure with less effort and reduced hand fatigue & of size 10 cm & 15 cm
42	Hammer sledge double faced 4 kg	25	Equipment	DOUBLE FACE, 4 kg. WITH WOODEN HANDLE
43	S.S tape 5 meters flexible in case	26	Equipment	5 meters flexible Material with Measuring Scale Metric, Inch & Foot
44	Electrode holder 600 amps	27	Equipment	electrode holder suitable for carrying 600 amps current with copper alloy jaws and fully insulated
45	H.P. Welding torch with 5 nozzles	28	Equipment	copper alloy made with five nozzles(1,2,3,5,7 Nos.)
46	Oxygen Gas Pressure regulator double stage	29	Equipment	Heavy duty double stage Regulator suitable for 200/230bar inlet pressure and imported safety pressure gauges design for 300 bar service pressure.

47	Acetylene Gas Pressure regulator double stage	30	Equipment	Heavy duty double stage Regulator suitable for 200/230 bar inlet pressure and imported safety pressure gauges design for 300 bar service pressure
48	CO2 Gas pressure regulator, with flow meter	31	Equipment	Heavy duty double stage Regulator suitable for 230 bar inlet pressure and imported safety pressure gauges design for 300 bar service pressure.
49	Argon Gas pressure regulator with flow meter	32	Equipment	Heavy duty double stage Regulator suitable for 230 bar inlet pressure and imported safety pressure gauges design for 300 bar service pressure.
50	Metal rack 182 cm x 152 cm x 45 cm	33	Equipment	Metal rack of size 182 cm x 152 cm x 45 cm made of MS angle iron 40*40*5* mm and sheet of 16 SWG & three sides covered with sheet & rigid frame & with 4 compartments
51	First Aid box	34	Equipment	Complete for cuts and burns on body
52	Steel lockers with 8 Pigeon holes	35	Equipment	A Standard Steel Locker having capacity of 8 compartment having 6.5 Ft X 3 Ft X 1.5 Ft Dimensions (Length X Breadth X Height) and material of the locker is 20 SWG and entire locker should be powder coated with locking arrangement of each compartment.
53	Steel almirah / cupboard	36	Equipment	Standard Steel Almirah having dimensions of 1980 X910X480 mm with cupboard as per IS 3312-1984 made of MS sheet 18 SWG , Five compartments adjustable type , Good quality handle , Fitted with lock & key
54	Black board and easel with stand	37	Equipment	Blackboard and easal size 6 foot by 4 foot with stand
55	Flash back arrester (torch mounted)	38	Equipment	A spring loaded non-return valve prevents slow or sudden reverse gas flow which could form explosive mixtures in the gas supply.
56	Flash back arrester (cylinder mounted)	39	Equipment	A temperature sensitive cut-off valve extinguishes sustained flashbacks long before the internal temperature of the arrestors reaches a dangerous level. A spring loaded non-return valve prevents slow or sudden reverse gas flow forming explosive mixtures in the gas supply.

General installation				
57	Welding Transformer with all accessories (400A , OCV 60 – 100 V, 60% duty cycle)	40	Machinery	Input Voltage= AC 415V+ -10%.3 PH, Frequency= 50 Hz, O.C.V-60-100Volt, Output Current (minimum) 60-Output Current (Maximum) 300amps, forced air cooled type, Rated Duty Cycle= 60% , Efficiency = 85%, class of Insulation A. (copper winding)
58	Welding Transformer or Inverter based welding machine with all accessories (300A , OCV 60 – 100 V, 60% duty cycle)	41	Machinery	Input Voltage-415± 10%, 3 PH, Frequency= 50 Hz, O.C.V-60-100Volt, class of Insulation A, Forced air cooling type
59	D.C Arc welding rectifiers set with all accessories (400 A. OCV 60 – 100 V, 60% duty cycle)	42	Machinery	Input Voltage-415± 10%, 3 PH, Frequency= 50 Hz, O.C.V-60-100Volt, class of Insulation A, Forced air cooling type
60	GMAW welding machine 400A capacity with air cooled torch, Regulator, Gas preheater, Gas hose and Standard accessories	43	Machinery	Input Voltage= AC 415V, 50hz, 3Ph, Frequency= 50 Hz, Output Current (Maximum) 400amps, Thyristor or Diode type, class of Insulation F, Forced air cooling type, air cooled torch, wire feeder with permanent magnet DC motor, gas pre-heater
61	AC/DC GTAW welding machine with water cooled torch 300 A, Argon regulator, Gas hose, water circulating system and standard accessories.	44	Machinery	Input Voltage= AC 415V+ -10%.3 PH, Frequency= 50 Hz, Output Current (Maximum) 300amps, forced air cooled type, Rated Duty Cycle= 60% , Efficiency = 85%, class of Insulation H. Forced air cooling type, water cooled torch, <u>(MUST HAVE A/C, D/C PULSED CURRENT TECHNOLOGY FOR DEEP PENETRATION</u>
62	Air Plasma cutting equipment with all accessories, capacity to cut 25 mm clear cut	45	Machinery	Input Supply Voltage 415± 10%, 3 Phase, 50 Hz, Cutting Amps. range 25-80 Amps, Cutting capacity mild steel Recommended- 25mm, Duty cycle (Maxi. Output) @ 60%, Pilot Arc facility, Type of cooling-Forced Air, Insulation Class H 9.
63	Air compressor suitable for air plasma cutting system	46	Machinery	5 H.P, Double Cylinder, Double stage, 17.5 CFM, Working Pressure 175 PSI, Tank Capacity-250ltr
64	Auto Darkening Welding Helmet	47	Machinery	Solar/Battery operated Automatic Protection level 9-13, ith machine/equipment.
65	Portable abrasive cut-off machine	48	Machinery	220v 50 Hz , 2100 watts, 3600 rpm/min , Wheel dia 14 inches

66	Pug cutting machine Capable of cutting Straight & Circular with all accessories	49	Machinery	cutting capacity 100 mm of mild steel with torch , straight cut . In 1.8 mtrs length or multiple adding rails , circle cutting 150 mm to 1200 mm dia , bevel cutting upto 45 degrees, cutting speed 100 to 1000 mm/min, power supply 220 / 240 V 1ph, 50 Hz , horizontal adjustment of torch 80 mm , vertical adjustment of torch 60 mm
67	Pedestal grinder fitted with coarse and medium grain size grinding wheels dia. 300 mm	50	Machinery	Double Ended type with direct drive, totally enclosed Motor with Ball Bearing, approved closed wheel guards and eye shields, Cast Iron or Sheet metal pedestal for floor mounting, Complete with control switch with no-volt and over load protection, six vitrified grinding wheels, with Wheel Dia-30 cm (300mm OR 12"), Width Of wheel 50mm, Distance between Wheels 600mm, Spindle speed-1400 Rpm, Motor (copper winded) 1.5 Kw (3 Phase)2800 RPM
68	Bench grinder fitted with fine grain size silicon carbide green grinding wheeldia. 150 mm	51	Machinery	Bench grinder fitted with fine grain size silicon carbide green grinding wheel dia. 150 mm 1.5 hp motor, 3ph,Spindle speed 1400 Rpm, 2800 RPM
69	AG 4 Grinder	52	Machinery	235V AC ,50 Hz, 850 Watts, 13000 rpm, 100 mm Grinding wheel with Side Handle and Safety Guard
70	Suitable gas welding table with fire bricks	53	Machinery	Made of M.S. angle iron 40x40x6mm, Size: L x W x H 122 x 92 x 60 cm (4' x 3' x 2'), with fire bricks as per IS Standard.
71	Suitable Arc welding table with positioner	54	Machinery	Made of M.S. Angle iron frame 40x40x6mm, top M.S. flat, 35x10mm, Size: (L x W x H) 122cm x 92cm x 60cm. (4' x 3' x 2') with positioner for welding in all positions
72	Trolley for cylinder (H.P. Unit)	55	Machinery	Trolley made of M.S. pipe dia25mm x WT 16SWG, base M.S. angle 35x35x6mm, wheel rod dia 25mm thick with lock & key. Cylinder holding chain M.S. heavy duty/Thick, Note: Rubber wheel guarantee/Warranty for Five Years.
73	Hand shearing machine capacity to cut 6 mm sheets and flats	56	Machinery	Hand leaver operated suitable for cutting sheets, flats, Round, Square upto 6mm, Blades made of high carbon steel or high speed steel

74	Power saw machine 18"	57	Machinery	Size - 18 inches blade hydraulic type, with 2HP ,3 ph, rpm 1440 motor fitted. Stroke adjustable-5.25 inches, No. of stroke /min- 85 to 100, capacity of round bar- 12 inches, Cap of square bar 10 inches, fitted with Gear box.
75	Portable drilling machine (Cap. 6 mm)	58	Machinery	Equipped with reverse & forward motion. capacity 6mm, rated voltage-220/230 v, A C, No load speed -2500 rpm, Input power 400 Watts complete with all accessories Durable & Easy to handle Fiteed with ON/OFF switch
76	Oven, electrode drying 0 to 250°C, 10 kg capacity	59	Machinery	ELECTRODE DRYING OVEN TEMPERATURE RANGE 0°C TO 350°C, CAPACITY 10KG (450 MM Electrode Length). THERMOSTATIC DIGITAL CONTROLLED TEMPERATURE, Input Supply 220+10% AC, 50 Hz. 1 Phase, Air Circulation Natural & Siphoning System
77	Work bench 340x120x75 cm with 4 bench vices of 150 mm jaw opening	60	Machinery	Work bench 340x120x75 cm made of heavy wooden top of atleast 50mm thick wood and frame made of angle iron 50*50*6 mm fitted with rigid supports with 4 bench vices of 150 mm jaw opening
78	Oxy Acetylene Gas cutting blow pipe	61	Machinery	copper alloy made with cutting capacity upto 20mm
79	Oxygen, Acetylene Cylinders	62	Machinery	Standard size for commercial use
80	CO2 cylinder	63	Machinery	Standard size for commercial use
81	Argon gas cylinder	64	Machinery	Standard size for commercial use
82	Anvil 12 sq. inches working area with stand	65	Machinery	Anvil 12 sq.inches working area of weight 100 kgs fitted with stand
83	Swage block	66	Machinery	Swage block 50kg
84	Die penetrant testing kit	67	Machinery	Cleaner, Penetrant , Developer (non-toxic & non-corrosive)
85	Magnetic particle testing Kit	68	Machinery	Iron powder (Red & Black), (portable type)
86	Fire extinguishers (foam type and CO2 type)	69	Machinery	CO2 and foam type
87	Fire buckets with stand	70	Machinery	Standard Fire Buckets 4 nos. ,made of GI material,Red painted and round bottom with handle and must be of 9 Litre Capacity filled with dry sand and stand have to arrangement for hanging of 4 Buckets.stand made of MS Angle 35mm x 35mm x 4 mm.

88	Suitable gas cutting table	71	Machinery	Specification :-Made of M.S. Angle iron frame 40x40x6mm a , top M.S. flat40x10mm Size: (L x W x H) (5' x 3' x 2.5') With Stool size 12x 12x18" made of 1" square pipe wt 16 SWG, stool top 3/4" laminated board
89	Welding Simulators for SMAW/GTAW/GMAW	72	Machinery	input power 230V/50Hz, LED Monitor size large enough to accomadate work area , monitor with CPU, height adjustment column.
Class room furniture for trade theory				
90	Instructor's table and Chair (Steel)	1	Furniture	Table specifications- body made from MS square pipe 16 gauge, 30mm ,top size 4' x 2.5' x 2.5' ,commercial ply 19 mm on 1 mm sunmica right hand 3 drawer with lock, MS sheet 22 GAUGE, powder coated paint. Chair pecifications -Chair Frame made of M.S Square Pipe 25 mm, thickness of pipe 1.5 mm, seat size18" x 18" , height 18" with arms, seat and back cushion,Suitable powder coating paint
91	Students chairs with writing pads	2	Furniture	Chair Frame made of M.S Square Pipe 25 mm ,thickness of pipe 1.5 mm, seat size18" x 18" , height 18" with arms, seat and back fitted of 12 mm moulded commercial ply, with writing pad of 20" x 14" made of commercial ply 19 mm with sunmica top having folding arrangement
92	White board size 1200mm X 900 mm	3	Furniture	White board size 6'x4' made of good quality scratch proof material
93	Instructors lap top with latest configuration pre loaded with O.S and MS Office package.	4	Furniture	4th Generation intel i7 processor(3.4 GHz, 8 MB Cache with 4GB RAM, 1 TB harddisk, wi-fi enabled, USB optical mouse, 15"LED Screen , Standard ports and connectors, DVD Writer, inbuilt Speakers and Mic. with web camera with preloaded licensed window 8.1 or latest operating system and latest internet security input. preloaded licensed latest version MS Office .
94	LCD projector with screen.	5	Furniture	type DLP, Multimedia projector display technology , Light output 3700 lumens, 1024x768 resolution, aspect ratio-4:3,contrast ratio-3000:1 with standard accessory
95	Welding Process, Inspection & codes DVD/ CDs	6	Furniture	Inspection & codes DVD/ CDs (as per NIMI & A.W.S)