

# Schedule of supply

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# 1. List of Goods and Related Services

**Workshop name: Welding Shop**

<b>Workshop name: Welding Shop</b>							
<b>Delivery Address: Mahatma Gandhi Government Engineering College Kotla (Jeori), Teh- Rampur, District – Shimla (HP) – 172101</b>						<b>Delivery Time (in days): not more than 180</b>	
<b>Item No.</b>	<b>Name of Goods or Related Services</b>	<b>Description</b>	<b>Unit of Measurement</b>	<b>Quantity</b>	<b>Unit Price (including GST)</b>	<b>Total Price (Including GST)</b>	<b>Remarks (Please mention) Page number of detailed information brochure having make and model no.</b>
1.	Shielded Metal Arc Welding	Single Phase 180 Amps Machine Digitally Controlled 250 AMPS Mains voltage= 380 - 460 V, Mains voltage tolerance $\pm 10\%$ / , Mains frequency= 50 / 60 Hz, Mains fuse protection= 16 A, Primary continuous current (100 %)= 12.9 A, Degree of efficiency= 90% (175 A) , Welding current range TIG 15 - 250 A, Welding current range for electrode= 15 - 250 A, Duty cycle at 10 min/40° C (104° F) =35 % d.c. at 250 A, Duty cycle at 10 min/40° C (104° F)= 100 % d.c. at 175 A, Open-circuit voltage= 88 V Working voltage TIG =10 - 20 V , Working voltage Electrode= 20 - 30 V , Protection = IP 23, Type of cooling AF, Insulation= class F, Dimensions l/w/h mm= 430/180/320	No.	1			

2.	Gas Tungsten Arc Welding set with Argon cylinder	<p>Single Phase 230 Amps Machine  Smart Welding System with Industry 4.0 (Active Wave Technology in Digital AC/DC TIG Welding System.  Can perform SS &amp; Aluminum welding with argon cylinder(fully charged)  Welding current / Duty cycle [10min/40°C] 230A / 35%  Welding current / Duty cycle [10min/40°C] 195A / 60%  Welding current / Duty cycle [10min/40°C] 165A / 100%  Operating voltage 10.1-19.2V  Open-circuit voltage 100,0 V  Mains frequency 50-60Hz  Mains voltage 230V  Mains fuse 16A,  Dimension / b -210.0 mm,  Dimension / l -558.0 mm,  Degree of protection IP23</p>	No.	1			
3.	Gas Metal Arc Welding set with Argon Cylinder	<p>Single Phase 230 Amps Machine.  Welding Machine with Industry 4.0 (Intelligent Revolution Based 400 AMPS Split Synergic, Pulse MIG/MAG Welding System.  Can perform MS, SS &amp; Aluminum welding with fully charged argon cylinder  Welding current max. 230 A,  Welding current min. =10.0 A,  Welding current / Duty cycle [10 min/40°C] = 210A / 30% MAG;  180A / 35% MMA; 230A / 35% TIG,  Welding current / Duty cycle[10min/40°C] =170A / 60% MAG;  150A / 60% MMA; 200A / 60% TIG,  Welding current / Duty cycle [10min/40°C]= 150A / 100% MAG;  130A / 100% MMA; 170A / 100% TIG,  Operating voltage= 14-25V MIG/MAG; 20-27 MMA; 10-19V  Open-circuit voltage 90 V,  Mains frequency =50-60Hz,  Mains voltage =230V,  Mains fuse= 16A,  Degree of protection= IP23</p>	No.	1			

4.	Welding Table	Standard welding table at 600 mm by 450 mm (at least) with appropriate height to perform welding along with provisions for earthing.	No.	4			
5.	Helmet	It should be capable of being used for all the Three Welding Process. The operating time of the battery is approximately 3000 hours and has shed level adjustment from 9 to 13	No.	3			
6.	Welding Gloves	Gloves are made from Hard-wearing special leather with heat-resistant Kevlar seam; meets the requirements of EN 388 / Cat. II	Pair	10			
7.	Welding Jackets	The leather welding jacket is made from split calf leather as per ENISO 11611:2015, class 2, A1. The jacket features a button facing with Velcro fasteners	No.	10			
8.	Googles	Auto Darkening goggles	No.	10			
9.	Regulators	Material: Forged brass, shall be regulate pressure a per requirement. Inlet pressure (100 bar max) outlet (10 bar max)	No.	2			
10.	Teach ware set	Standard teach ware set as compatible with welding workshop requirements	No.	1			
11.	Mobile TIG Grinder	Mains voltage: 230v / 50-60 Hz, Power rating: 500 W, Rotational speed: 27,000 rpm, Grinding angle: 20° to 60°	No.	1			
12.	Welding accessories	Wire Brush, Hand Grinder, Cutting Plier, Multi-Purpose Welding Gauge, Welding Consumables, Welding Posters	No.	1 set			
13.	Welding Tool Kit	Chipping hammer, tong, try square, steel tape, screw driver set, spanner set, combination plier, files, hacksaw etc.	No.	10			
14.	Blow Torch Gas Torch Butane Propane Burner for Brazing Welding Camping	Capacity upto 1-3/8 copper pipe	No.	1			

15.	Gas Welding Plant with oxygen and Acetylene cylinder( with trolley)	Complete Set including welding torch equped with flashback arrestors,Cutting torch, oxygen and acetylene regulators,hoses-2 no- 5 meter each, nozzel set to cut thickness upto 50mm and standard accessories.		1			
16.	Single phase Motorized Resistance Welding Equipment / Rocker Arm Spot Welding Machine	<p>Input supply: single phase            Continuous power rating at 100 % duty cycle in KVA :15            Rating at 50% duty cycle as per IS:4804 Pt II/1968 in KVA: 15            Electrical rating in KVA: 20            Size of horns for weld :45 mm            Type of cooling: air cooled            Thickness of material which can be welded in mm: 50 millimeter            Electrode force in KN: 110 kiloNewton            Squeeze time in second: 10 second            Weld time :99            Hold time: 99            Working Height in mm: 890 millimeter            Weld current in ampere: 300 Ampère            Depth of throat in mm :410 millimeter            Throat Gap in mm: 200 millimeter            Lower arm shall have a solid extension at the front end, in which vertical electrode holder to be clamped: Yes            No deflection in Lower Arm when external weld force is applied: Yes            Warranty in Years 1            Dimensional &amp; Material Paramters            Material of electrode: Copper Alloy            Diameter of electrode in mm: 25 millimeter            Overall Dimensions of Machine(L X WX H) (mm x mm x mm): 750X400X1200</p>		1			
<b>Note: Supporting Wall Charts of the Machinery and equipments are to be provided by the supplier.</b>							

## 2. Delivery and Completion Schedule

The delivery period shall start as of date of Signing the Contract

Item No	Description of Goods or Related Services	Delivery Schedule (Duration)	Delivery Location	Required Arrival Date of Goods or Completion Date for Related Services
1 To 16	As per Schedule 1 –List of Goods and Related Services	Within 180 Days from the Signing of the contract.	Mahatma Gandhi Govt. Engg. College Kotla (Jeori), Tehsil Rampur, Distt. Shimla, Himachal Pradesh. PIN 172101	Within 180 Days from the Signing of the contract.

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## 3. Technical Specifications

Item No.	Name of Goods or Related Services	Technical Specifications of Item and/or Bureau of Indian Standards (BIS) (if applicable) reference	Features	Accessories	Spare parts	Documents	Installation & Training	Warranty of Equipmen t/ parts
<b>Welding Shop</b>								
1.	Shielded Metal Arc Welding	Single Phase 180 Amps Machine Digitally Controlled 250 AMPS Mains voltage= 380 - 460 V, Mains voltage tolerance $\pm 10\%$ / , Mains frequency= 50 / 60 Hz, Mains fuse protection= 16 A, Primary continuous current (100 %)= 12.9 A, Degree of efficiency= 90% (175 A) , Welding current range TIG 15 - 250 A, Welding current range for electrode= 15 - 250 A, Duty cycle at 10 min/40° C (104° F) =35 % d.c. at 250 A, Duty cycle at 10 min/40° C (104° F)= 100 % d.c. at 175 A, Open-circuit voltage= 88 V Working voltage TIG =10 - 20 V , Working voltage Electrode= 20 - 30 V , Protection = IP 23, Type of cooling AF, Insulation= class F, Dimensions l/w/h mm= 430/180/320		cables, connectors, connection insulators, electrode holder		Instruction Manual, testing reports	yes	3 years

2.	Gas Tungsten Arc Welding set with Argon cylinder	<p>Single Phase 230 Amps Machine Smart Welding System with Industry 4.0 (Active Wave Technology in Digital AC/DC TIG Welding System.</p> <p>Can perform SS &amp; Aluminum welding with argon cylinder(fully charged)</p> <p>Welding current / Duty cycle [10min/40°C] 230A / 35%</p> <p>Welding current / Duty cycle [10min/40°C] 195A / 60%</p> <p>Welding current / Duty cycle [10min/40°C] 165A / 100% Operating voltage 10.1-19.2V</p> <p>Open-circuit voltage 100,0 V</p> <p>Mains frequency 50-60Hz</p> <p>Mains voltage 230V</p> <p>Mains fuse 16A,</p> <p>Dimension / b -210.0 mm,</p> <p>Dimension / l -558.0 mm,</p> <p>Degree of protection IP23</p>		trolley, nozzle set, argon cylinder with regulator and hose, moving trolley, tungsten electrodes, key for cylinder	2 extra ceramic torch	Instruction Manual, testing reports	yes	2 years
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3.	Gas Metal Arc Welding set with Argon Cylinder	<p>Single Phase 230 Amps Machine. Welding Machine with Industry 4.0 (Intelligent Revolution Based 400 AMPS Split Synergic, Pulse MIG/MAG Welding System.</p> <p>Can perform MS, SS &amp; Aluminum welding with fully charged argon cylinder</p> <p>Welding current max. 230 A, Welding current min. =10.0 A, Welding current / Duty cycle [10 min/40°C] = 210A / 30% MAG; 180A / 35% MMA; 230A / 35% TIG, Welding current / Duty cycle[10min/40°C] =170A / 60% MAG; 150A / 60% MMA; 200A / 60% TIG, Welding current / Duty cycle [10min/40°C]= 150A / 100% MAG; 130A / 100% MMA; 170A / 100% TIG, Operating voltage= 14-25V MIG/MAG; 20-27 MMA; 10-19V Open-circuit voltage 90 V, Mains frequency =50-60Hz, Mains voltage =230V, Mains fuse= 16A, Degree of protection= IP23</p>		wire feed system, 1mm wire roll MS, Charged argon cylinder with regulator and hose		Instruction manual and testing reports	yes	3 years
4.	Welding Table	Standard welding table at 600 mm by 450 mm (at least) with appropriate height to perform welding along with provisions for earthing.						3 years
5.	Helmet	It should be capable of being used for all the Three Welding Process. The operating time of the battery is approximately 3000 hours and has shed level adjustment from 9 to 13						3 years
6.	Welding Gloves	Gloves are made from Hard-wearing special leather with heat-resistant Kevlar seam; meets the requirements of EN 388 / Cat. II						3 years
7.	Welding Jackets	The leather welding jacket is made from split calf leather as per ENISO 11611:2015, class 2, A1. The jacket features a button facing with Velcro fasteners						3 years
8.	Googles	Auto Darkening goggles						3 years

9.	Regulators	Material: Forged brass, shall be regulate pressure a per requirement. Inlet pressure (100 bar max) outlet (10 bar max)						3 years
10.	Teach ware set	Standard teach ware set as compatible with welding workshop requirements						3 years
11.	Mobile TIG Grinder	Mains voltage: 230v / 50-60 Hz, Power rating: 500 W, Rotational speed: 27,000 rpm, Grinding angle: 20° to 60°						3 years
12.	Welding accessories	Wire Brush, Hand Grinder, Cutting Plier, Multi-Purpose Welding Gauge, Welding Consumables, Welding Posters						3 years
13.	Welding Tool Kit	Chipping hammer, tong, try square, steel tape, screw driver set, spanner set, combination plier, files, hacksaw etc.						3 years
14.	Blow Torch Gas Torch Butane Propane Burner for Brazing Welding Camping	Capacity upto 1-3/8 copper pipe						3 years
15.	Gas Welding Plant with oxygen and Acetylene cylinder( with trolley)	Complete Set including welding torch equiped with flashback arrestors,Cutting torch, oxygen and acetylene regulators,hoses-2 no- 5 meter each, nozzel set to cut thickness upto 50mm and standard accessories.						3 years

16.	Single phase Motorized Resistance Welding Equipment / Rocker Arm Spot Welding Machine	<p>Input supply: single phase  Continuous power rating at 100 % duty cycle in KVA :15  Rating at 50% duty cycle as per IS:4804 Pt II/1968 in KVA: 15  Electrical rating in KVA: 20  Size of horns for weld :45 mm  Type of cooling: air cooled  Thickness of material which can be welded in mm: 50 millimeter  Electrode force in KN: 110 kiloNewton  Squeeze time in second: 10 second  Weld time :99  Hold time: 99  Working Height in mm: 890 millimeter  Weld current in ampere: 300 Ampère  Depth of throat in mm :410 millimeter  Throat Gap in mm: 200 millimeter  Lower arm shall have a solid extension at the front end, in which vertical electrode holder to be clamped: Yes  No deflection in Lower Arm when external weld force is applied: Yes  Warranty in Years 1  Dimensional &amp; Material Paramters  Material of electrode: Copper Alloy  Diameter of electrode in mm: 25 millimeter  Overall Dimensions of Machine(L X WX H) (mm x mm x mm): 750X400X1200</p>		Standard Accessories	one extra pair of electrodes	Instruction manual and testing reports	yes	3 years
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**Note: Supporting Wall Charts of the Machinery and equipments are to be provided by the supplier.**

## 4. Drawings

*Not Applicable*