



Government of India



सं/No.: D-21011/12/2018/PS-NSTIB  
भारत सरकार /Government of India  
कौशल विकास और उद्यमिता मंत्रालय  
**Ministry of Skill Development and Entrepreneurship**  
प्रशिक्षण महानिदेशालय  
**Directorate General of Training**  
राष्ट्रीय कौशल प्रशिक्षण संस्थान भुवनेश्वर  
**National Skill Training Institute Bhubaneswar**  
मंचेश्वर कैंपस/Mancheswar Campus,  
5 वीं और 6 वीं मंजिल NSIC-IMDC बिल्डिंग  
5<sup>th</sup> & 6<sup>th</sup> Floor NSIC & IMDC Building, IDCO Plot No.06,  
मंचेश्वर इंडस्ट्रियल एस्टेट, भुवनेश्वर, ओडिशा - 751010  
**Mancheswar Industrial Estate, Bhubaneswar Odisha - 751010**  
दूरभाषा/TELEPHONE NO. : 0674-2974438/98 & 0671-2394317  
ई-मेल आई.डी /E-mail ID : [atib-msde@gov.in](mailto:atib-msde@gov.in)

सं/No.: D-21011/12/2018/PS-NSTIB

**TENDER DOCUMENT**

**FOR**

**PROCUREMENT OF TOOL & EQUIPMENTS FOR SOLAR  
TECHNICIAN CRAFTS TRAINING SCHEME**



सं/No.: D-21011/12/2018/PS-NSTIB  
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ई-मेल आई.डी /E-mail ID : [atib-msde@gov.in](mailto:atib-msde@gov.in)

Dated: 31<sup>st</sup> January, 2019

### **TENDER NOTICE**

Subject: **PROCUREMENT OF TOOL & EQUIPMENTS FOR SOLAR TECHNICIAN TRADES UNDER CRAFTS TRAINING SCHEME.**

This institute of National Skill Training Institute Bhubaneswar invites sealed limited tenders from the manufacturers/authorized dealers/distributors for procurement of tool & equipment required for Solar Technician Trade under Craftsmen Training Scheme. The terms and conditions, Technical Bid and Financial Bid are given in Annexure II to V.

1. Sealed tenders in Annexure II to V each duly filled, signed with seal of the company should be dropped in the Tender Box available at Mancheswar Campus (5<sup>th</sup> Floor), NSIC Building (Dharmapada Bhawan) Mancheswar Industrial Estate Bhubaneswar latest by **3.30 PM on 12<sup>th</sup> February 2019**, which shall be opened by tender opening committee at **4.00 PM on 13<sup>th</sup> February, 2019** in the presence of the tenderers or their representatives having authorization letter from the Firm concerned. The tenders received after scheduled date and time due to any reason including postal delay will not be considered. All tenders should be addressed to **the Assistant Director, National Skill Training Institute Bhubaneswar, Mancheswar Campus, 5<sup>th</sup> & 6<sup>th</sup> Floor NSIC Building, IDCO Plot No.06, Mancheswar Industrial Estate, Bhubaneswar, Odisha – 751010.**

2. No conditional Tenders will be accepted and such Tenders are liable to be summarily rejected. The institute reserves the right to reject or accept any tender without assigning any reason thereto. The decision of the Director, NSTI Bhubaneswar shall be final and binding on the Tenders.

Dy. Director of Training/HOO  
For Director

## ANNEXURE – I

### General Terms and Conditions

1. The tender has been invited under **two bid system i.e. Technical Bid and Financial Bid**. The interested agencies are advised to submit two separate sealed envelopes super scribing “**Technical Bid (Annex-II-V)** and “**Financial Bid (Annex –VI)** for supplying of **Tools & equipment Solar Technician**) under Craftsmen Training Scheme. Both sealed envelopes should be kept in a third sealed envelope super scribing “**Tender bid for supplying of Tools & Equipment Solar Technician**”.
2. The tenderer shall submit the following document with the bid -:
  - (i) Copy of PAN of the firm.
  - (ii) Copy of TIN No & GST number with latest clearance certificate or challans.
  - (iii) Registration No. of the Firm if any
  - (iv) Three years of experience of supplying of the said items.
  - (v) Income Tax Return for the last 3 preceding years (2015-16, 2016-17 & 2017-18)
  - (vi) Copy of Balance of Payment for last three Financial years.
3. Detailed specification of the model if any for which the price bid has been submitted. A written undertaking to the effect that the firm is not blacklisted by any institution/Government Department.
4. The bidder should produce the proof of Authorized dealership along with complete address.
5. The bidder should have good track record of supplying such items to Government Departments and have past experience of dealing in these items.
6. The bidder should be registered with GST and any other Central/State authorities as prescribed by law. Copy of the same should be enclosed with the tender documents.
7. The warranty/guarantee conditions shall be clearly mentioned in the tender documents by the bidder.
8. This office reserves the right to increase or decrease the actual quantity required. The Successful Bidder shall have to supply the items or execute the work (installation, testing and demonstration) within 15 days after issue of award letter.
9. The interested bidders can visit the office to understand the scope of work, site of work etc during office hours on any working day from the date of issue of tender to the date of submission of tender.
10. The rates quoted in financial Bid should be inclusive of all charges such as cartage, loading, unloading etc. but excluding GST and other taxes if any. The price/rate should be valid for 90 days from the date of opening of the tender.
11. No advance payment will be made. The Agency is required to submit a Bill for payment after completion of supply of goods and execution of work.

12. The rates should be quoted in figures and words. In case of mismatch between two, the rates quoted in words will be considered.
13. The rates should be quoted excluding taxes. The taxes as applicable from time to time will be paid extra. The lowest tender will be decided on the basis of rates (excluding taxes) mentioned in Financial Bid.
14. The Technical Bid, Financial Bid along with duly accepted terms and conditions should be submitted in prescribed Proforma without addition, alteration and corrections. All cutting and overwriting should be duly attested under signature and seal of the company. No conditional tender will be accepted.
15. The successful Bidders will have to submit Performance Security @ 5% of the contract value. Performance Security may be furnished in the form of an account payee demand draft, fixed deposit receipt from a commercial bank, bank guarantee issued/confirmed from any of the commercial bank in India in an acceptable form, safeguarding the purchaser's interest in all respects in the favour of **“the Drawing & Disbursing Office, National Skill Training Institute Bhubaneswar payable at Bhubaneswar”**.
16. Annual Turnover of Bidder should be more than Rs.10,00,00,000/-.
17. Installation, Demonstration & Training to be provided by selected bidder at NSTI Bhubaneswar (Mancheswar Campus) within one week after supply.
18. Bidders should quote at least one annexure in full.

**Encl :** As stated above.

Dy. Director of Training/HOO  
For Director

**Copy to :** E-publishing through MSDE Web site.

For Director

**SUBMISSION OF FIRM DETAILS**

Sl. No	Particulars	Details to be filled by the organization
01.	Name of the firm (Tel./Mob. Nos)	
02.	Office Address Telephone Number Fax Number e-mail	
03.	Contact Person(s) (Tel./Mob. Nos)	
04.	GST Registration No.	
05.	PAN	
06.	e-mail Income Tax return of last three years	
08.	Past performance Certificate issued during last three years.	

**Authorized Signature of Supplier with stamp**

## TECHNICAL BID

## LIST OF TRAINEES TOOL KIT FOR SOLAR TECHNICIAN

Sl. No.	Brief Description of Item	Quantity	Offered specification
01.	Measuring Steel Tape (5 meter)	17 Nos.	
02.	Combination Plier Insulated 200 mm	17 Nos.	
03.	Screw Driver Insulated 4mm X 150mm, Diamond Head	17 Nos.	
04.	Screw Driver Insulated 6mm x 150mm	17 Nos.	
05.	Electrician screw driver thin stem insulated handle 4mm X 100mm	17 Nos.	
06.	Heavy Duty Screw Driver insulated 5mm X 200mm	17 Nos.	
07.	Electrician screw driver thin stem insulated handle 4mm X 250mm	17 Nos.	
08.	Punch Centre 9mm X 150mm	17 Nos.	
09.	Knife Double Bladed Electrician 100 mm	17 Nos.	
10.	Neon Tester 500V	17 Nos.	
11.	Steel Rule Graduated both in Metric and English Unit 300 mm with precision of 1/4th mm	17 Nos.	
12.	Hammer, cross peen with handle	17 Nos.	

## LIST OF SHOP TOOLS&amp; EQUIPMENT FOR SOLAR TECHNICIAN

Sl. No.	Brief Description of Item	Quantity	Offered specification
01.	Electrical Symbol and Accessories Charts	04 Nos.	
02.	Pipe vice Cast Iron with hardened jaw open type 100mm	02 Nos.	
03.	Hand Vice 50 mm jaw	02 Nos.	
04.	Table Vice 100 mm jaw	02 Nos.	
05.	Hacksaw frame (with blade) Adjustable 300mm Fixed 150 mm	02 Nos.	
06.	File flat 200 mm 2 <sup>nd</sup> cut with handle	02 Nos.	
07.	File half round 200 mm 2 <sup>nd</sup> cut with handle	02 Nos.	
08.	File round 200 mm 2 <sup>nd</sup> cut with handle	02 Nos.	
09.	Pliers long nose insulated 150 mm	04 Nos.	
10.	Pliers flat nose insulated 200 mm	04 Nos.	
11.	Pliers, round nose insulated 100 mm	04 Nos.	
12.	D.E. metric Spanner Double Ended 6 - 32 mm	02 Sets	
13.	Gauge, wire imperial stainlees steel marked in SWG & mm Wire Gauge - Metric	02 Nos	
14.	Portable Electric Drill Machine 0-12 mm capacity 750W, 240V with chuck and key	01 No	
15.	Crimping Tool 1.5 sq mm to16 sq mm	01 No	
16.	Crimping Tool 16 sq mm to 95sq mm	01 No	
17.	Pliers Side Cutting 150 mm	02 Nos	
18.	Wire stripper adjustable length	02 Nos	
19.	Hammer, ball peen With handle	02 Nos	
20.	Scriber (Knurled centre position )	02 Nos	
21.	Tool kit Box/bag portable	05 Nos	
22.	Allen Key	01 Sets	
23.	Scissors blade 150 mm	02 Nos	

Contd.....2/-

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24.	Electrical loads: set of Incandescent lamp, Tube light, CFL, LED light, Heater and Geyser	02 Nos	
25.	Torque wrench 8N-m to 15N-m	01 Sets	
26.	Pipe Cutter to cut pipes upto 5 cm. Dia	01 No	
27.	Pipe Cutter to cut pipes above 5 cm dia	01 No	
28.	Try Square 150 mm blade	02Nos.	
29.	Multi Meter (analog) 0 to 1000 M Ohms, 2V to 500 V,100 Micro A to 10A DC and AC	01 No	
30.	Load Bank (variable) Up to 1.2 KW (Lamp / heater Type)	01 No	
31.	Wire Cutter and Stripper 150 mm	04 Nos	
32.	Earth Plate 60cm X 60cm X 3.15mm Copper Plate	01 No	
33.	Earth Plate 60cm X 60cm X 6mm GI Plate	01 No	
34.	Earth Electrode Primary Electrode 2100x28x3.25mm Secondary Cu Strip 20x5mm	01 No	
35.	Out Side Micrometer 0 - 25 mm least count 0.01mm	02 Nos	
36.	Tap set Different size	02 Sets each	
37.	Trolley for Transportation of Batteries	02 Nos	
38.	Die for Threading Different sizes	02 Sets	
39.	Rooftop Mounting Structure For 4 x 250 W solar panels mounting practice, with tilt adjustment	02 Sets	
40.	Electrical wiring and switch gear rack Electrical control elements suitable for practice of control circuits using V	01 Nos	
41.	Protective relays and contactors rack suitable for practice of control circuits using banana plugs and V	01 Nos	
42.	MCCB 100Amps, Triple pole	01 Nos	
43.	ELCB and RCCB 25Amps, double pole And 25Amps,double pole, IΔn 30 mA	01 Each	
44.	Fuses HRC Glass Rewire Type	04 Nos each	
45.	Twisted Pair Nonmetallic Sheathed Cable Underground Feeder Cable Ribbon Cable Metallic Sheathed Cable Multi-Conductor Cable Coaxial Cable Direct-Buried Cable 1 mt each	01 No each	

**Contd.....3/-**



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46.	Solar cable (Red) 5 square mm	01 Coil	
47.	Solar cable (Black) 5 square mm	01 Coil	
48.	Three core wire (230 V, 15 A)	01 Coil	
49.	Battery cable 7.5 sq mm	01 Coil	
50.	Resin cored Solder	02 Nos	
51.	Solder wax	04 Nos	
52.	MC – 4 connector	04 Nos	
53.	Lugs 7.5 mm	04 Nos.	
54.	Hacksaw blades 200 mm, 300 mm	500 Nos each	
55.	Bolts, nuts, anchor bolts, washers,		
56.	screws, other pins, lugs etc	04 Nos	
57.	Civil work utensils spade, mixing spoon, leveling plates	02 Sets	
58.	Plumbing tools	02 Sets	

## LIST OF EQUIPMENT FOR SOLAR TECHNICIAN

Sl. No.	Brief Description of Item	Quantity	Offered specification
01.	Multimeter Digital 0 to 1000 M Ohms, 2V to 700 V,100 microA to 10A DC and AC	02Nos.	
02.	Megger Analog - 500 V	01No.	
03.	Hydrometer	04Nos.	
04.	Solar Insulation meter	02Nos.	
05.	Pyranometer	01No	
06.	Pyrheliometer	01No.	
07.	Lux meter Lux meter LCD read out 0.05 to 7000 Lumens with battery.	02 Nos.	
08.	Magnetic Flux Meter 0-500 tesla	02 Nos.	
09.	Tong Tester / Clamp Meter 0 - 100 A (Digital Type)	01 No.	
10.	Soldering Iron 25 Watt, 65 Watt and 120 Watt, 230 volt	02 Nos. Each	
11.	Temperature controlled Soldering iron 50 Watt, 230 Volt	02 Nos.	
12.	Thermometer Digital 0° C - 150° C	01 No.	
13.	Sun Shine recorder	02Nos.	
14.	Weather monitoring station To monitor and record Sunshine, wind velocity, temperature, rainfall etc with software.	01 No.	
15.	Solar cell based sunlight radiation meter For Solar power measurement up to 2000 w/square meter	02 Nos.	
16.	Magnetic compass	04 Nos.	
17.	Cut models of photo voltaic cell assembly	02 Nos.	

Contd.....2/-

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18.	Cut model of Lead acid battery	01 No.	
19.	Lead Acid battery 12V, 40Ah, 75Ah	01 No. each	
20.	Lead Acid battery 12V, 100 Ah	04 Nos.	
21.	Solar simulator for solar cell characteristic study To study IV <sup>2</sup> curve of a solar cell of minimum 2 watt under variable illumination, temperature and Suitable load	01 No.	
22.	IV Curve tester	01 No.	
23.	Sun path finder	01 No.	
24.	Solar energy trainer with grouping of solar cells To group (series or parallel) at least six solar cells each with minimum 2 W with suitable loads	01 No.	
25.	Solar tracker demonstrator kit To study manual and automatic control of 10 W solar panel in East-west and North-south	01 No.	
26.	Solar PV e-learning software using animations for training NA	01 License	
27.	Halogen lamp with stand for illumination of solar panels in lab AC mains operated to provide 0 to 1000 watts per meter square	02 Sets	
28.	Motorized Bench Grinder AC mains operated	01 No.	
29.	Battery Charger 0 - 6 - 9 - 12 - 24 - 48 V, 30amp	01 No.	
30.	Solar photovoltaic module 75 W mono crystalline module 75 W Amorphous silicon module 250 W thin film module 5W, 10W, 40W poly Crystalline module	01 No. each	
31.	Solar panels 250 Wp	04 Nos.	
32.	Solar Charge controller with Dusk to Dawn automatic switching 12V, 10A	05 Nos.	
33.	Solar charge controller with manual switch ( Day lighting) 12 V 10 A	05 Nos.	
34.	Array junction box for connecting 250W x 4 Nos. Solar panel with DC fuse, DC MCB, and surge Suppressor protection	02 Nos.	
35.	Solar lantern LED type	01 No.	

**Contd.....3/-**

36.	Solar lantern CFL type	01 No.	
37.	Solar lantern assembly sets	01 No.	
38.	Solar cell kit	01 No.	
39.	Clinometer for Angle measurement	01 No.	
40.	Spirit level For floor level check	01 No.	
41.	Anemometer for wind speed measurement	01 No.	
42.	DC table fan 12 VA.C. Voltmeter M.I 0 –500V ACA.C. Voltmeter M.I 0 –500V ACA.C. Voltmeter M.I 0 –500V ACA.C.	02 Nos	
43.	Volt meter 0 - 30V	01No	
44.	Volt meter 0 - 100V	01 No	
45.	Ammeter MC 0 - 1A	02 Nos.	
46.	Ammeter MC 0 - 5A	02 Nos.	
47.	Ammeter MC centre zero 0 - 20A	02 Nos.	
48.	Ammeter MC centre zero 0-50A	02 Nos.	
49.	Power Factor Meter	01 No.	
50.	Rheostat 0 -1 Ohm, 5 Amp 0 -10 Ohm, 5Amp 0- 25 Ohm,1 Amp 0- 300 Ohm, 1 Amp	01 No each	
51.	A.C. Energy Meter Single Phase, 10A, 240 V induction type	01 No.	
52.	A.C. Energy Meter Three Phase, 15A, 440 V induction type	01 No.	
53.	Kilo Wattmeter Analog 0-1.5-3KW, pressure coil rating- 240v/440v, current rating-5A/10A Analog, portable type Housed in Bakelite case	02 Nos.	
54.	Digital Wattmeter 230 V, 1 KW, 50 Hz	02 Nos.	
55.	Phase Sequence Indicator 3 Phase, 415 V	02 Nos.	
56.	Frequency Meter 45 to 55 Hz	02 Nos.	
57.	DC LED Lamp 3W, 5W, 10W	50 Each	
58.	DC Pump 24 V	02 Nos.	
59.	PWM Controller	04 Nos.	
60.	MPPT Charge Controller	04 No.	

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61.	Inverter with Battery 1 KVA with 12 V Battery Input- 12 volt DC,Output-220 volt AC	01 Nos.	
62.	Solar PCU Off grid 1 KW MPPT Sine wave Solar Power Conditioning Unit	04 Nos.	
63.	Solar Grid tied inverter Demonstrator kit 300W KW	01 No.	
64.	Solar Street Light 12V, 75Ah battery, 75 Wp solar panel, 12V, 10A dusk to dawn charge controller, 60 W LED lights and 9 m height pole all dismountable	01 Nos.	
65.	Solar, wind and hybrid power plant 1 KW cumulative	01 No.	
	Solar Traffic Light 12V, 75Ah battery, 75 Wp solar controller, 15 W LED lights with suitable colors and 9 m height pole all dismountable	01 No.	
66.	Used water treatment solar plant demonstrator kit 1 liter capacity	01 No.	
67.	solar DC pump 1 HP	01 No.	
68.	Demonstration kit for wind generation (Wind turbine with blower) 300 W	01 No.	
69.	Rechargeable battery 12 V 100 Ah	01 No	
70.	Rechargeable battery 12 V 7 Ah	10 Nos	
71.	Rechargeable battery 6 V 5 Ah	10 Nos	
72.	LED lights 12 V DC	10 Nos	
73.	LED lights 6 V DC	10 Nos.	

**LIST OF SAFETY & PROTECTIVE EQUIPMENTS FOR SOLAR TECHNICIAN**

<b>Sl. No.</b>	<b>Brief Description of Item</b>	<b>Quantity</b>	<b>Offered specification</b>
01.	Rubber Gloves	10 Pairs	
02.	Cotton Gloves	05 Pairs	
03.	Gum Boots	02 Pairs	
04.	Safety Goggles	10 Nos.	
05.	Safety Helmet	10 Nos.	
06.	First Aid Kit	02 Nos.	
07.	Fire Extinguisher CO2 2 KG	02 Nos.	
08.	Fire Buckets Standard Size	02 Nos.	

**FINANCIAL BID**

Sl. No	Technical Specification	Qty	Quoted Unit Rate in INR	Quoted unit rate inclusive of all the duties, taxes, commissioning and training on FOR basis	Total Amount

**Authorized Signature of Supplier with stamp**