

# **E-Tender | Supply of Tools, Equipment's and Machines for Deendayal ITC Satna (MP)**

***TENDER NO: DDITC/STRIVE/TEN/2023-24/ 01***

FOR THE YEAR

**2023-2024**

**OFFICE**

**Deendayal Industrial Training Centre**

Udyamita Vidyapeeth, Deendayal Parisar, Chitrakoot, Satna – 485334 (MP)

Mob - 9584508202, E-Mail: [udyamita@dri.org.in](mailto:udyamita@dri.org.in), Website: [www.dri.in/iti/](http://www.dri.in/iti/)

## Table of Contents

1. Tender Notice .....	1
2. Tender Rules.....	3
Scope of Tender .....	3
Eligibility Criterion .....	3
Earnest Money Deposit (EMD) .....	3
Validity of Tender .....	4
Preparation and submission of Tender .....	4
Tender Prices .....	4
Opening of Tenders .....	5
Evaluation of Tenders .....	5
Placement of Purchase Orders and Delivery Requirements .....	6
Payment Terms.....	7
Settlement of Disputes.....	7
3. TENDERING PROCESS .....	8
Registration of Bidders on e-Procurement System .....	8
Publishing of N.I.T.....	9
Key Dates and time .....	9
Downloading of the Tender Documents .....	9
Payment of tender document fee .....	9
Preparation of Bids and Submission of Online Bids by the Bidders .....	9
Submission of Earnest Money Deposit.....	10
Opening of Tender.....	10
Contact Details .....	10

[1]

Deendayal ITC under STRIVE scheme

1. **Tender Notice**

**Tender Notice**

OFFICE

**Deendayal Industrial Training Centre**

**Udyamita Vidyapeeth, Deendayal Parisar, Chitrakoot, Satna – 485334 (MP)**

**Invites online bids (Two bid system) from Manufacturers or Authorized  
dealers for Supply of Tools, Equipment's and Machines for**

**Deendayal ITC under STRIVE scheme as below:**

<b>Tender No</b>	<b>Description</b>	<b>Earnest Money Deposit</b>	<b>Bid Document Price</b>
<b>01</b>	<b>Tools &amp; Equipment's</b>	<b>INR 00</b>	<b>INR 00</b>

- Online bidding go through [https:// www.dri.org.in/iti/](https://www.dri.org.in/iti/) and online e-tenders are invited as per key dates from **Manufacturers or their Authorized Dealers for Supply of Tools, Equipment's and Machines for Deendayal ITC** under STRIVE scheme Tender document and other details are also available at the websites <https://www.dri.org.in/iti/>
- In all respect the soft copy And hardcopy of the Bids (Envelope-A, and Envelope-B) must be received at the office of the undersigned latest by **3:00 PM on 28.09.2023** and will be opened ONLINE Technical Tender (Envelope-A) on the same day.  
i.e. **28.09.2023 at 4:00 PM**. In the presence of such tendered or their authorized representatives as may be present.
- All corrigendum/ amendments/changes if any will only be issued and made available only on [https:// www.dri.org.in/it/](https://www.dri.org.in/it/)

**(RAJESH PRASAD TRIPATHI)**

**PRINCIPAL**

**Deendayal ITC under STRIVE scheme**

**e-Tender | Supply of Tools, Equipment's and Machines for  
Deendayal ITC Satna (MP) under STRIVE scheme**

**Key Dates and Time**

Sr. No	Task	Date & Time
1.	Opening date	21.09.2024, 12:00 HRS
2.	Submission of Soft & Hard Copy of Bids (Envelope A & Envelope B)	28.09.2023, 15:00 HRS
4.	Online Opening of the Technical Bids (Envelope– A)	28.09.2023, 16:00 HRS
5.	Online Opening of the Financial Bids (Envelope– B)	28.09.2023, 17:00 HRS

## **2. Tender Rules**

### **Scope of Tender**

The PRINCIPAL/SECRETARY, Deendayal ITC, Chitrakoot, Satna - 485334 (MP) (hereinafter referred as Tender Inviting Authority and/or Tender Acceptance Authority and/or Ordering Authority unless the context otherwise requires) Invites online bids (Two bid system) from Manufacturers or Authorized dealers for Supply of Tools, Equipment's and Machines for , Deendayal ITC, Chitrakoot, Satna - 485334 (MP) as below :

<b>Tender No</b>	<b>Description</b>	<b>Earnest Money Deposit</b>	<b>Bid Document Price</b>
<b>01</b>	<b>Tools &amp;Equipment's</b>	<b>INR 00</b>	<b>INR 00</b>

### **Eligibility Criterion**

The Tenderer should fulfill the following eligibility criteria:

- a) The Tenderer should be Manufacturer or Authorized Dealer having relevant Licence of Manufacturer/ Authorized Dealer and such a Registration should be valid as on the date of Tender submission.
- b) The Tenderer should have achieved annual turnover as follows (every FY) in the last three financial years.

<b>Tender No</b>	<b>Description</b>	<b>Minimum Annual Turnover</b>
<b>01</b>	<b>Tools &amp;Equipment's</b>	<b>50 Lakhs</b>

- c) The Tenderer (and tenderer's principal manufacturer, if tenderer is Authorized Dealer) should not be blacklisted either by the Tender Inviting Authority or by any State Government or by Government of India.
- d) The Manufacturer should be in the business of manufacturing of similar equipment for a period not less than 5 Years.
- e) The Tenderer must submit the Form –“A” on letterhead with signature & stamp. Annexure-1

### **Validity of Tender**

- a) The Tender will be valid for a period of 10 DAYS after the due date of submission of Tenders. A Tender valid for a shorter period shall be rejected by the Tender Inviting Authority as non-responsive
- b) In exceptional circumstances, prior to the expiration of the Tender validity, the Tender Inviting Authority may request the Tenderers to extend the Tender validity for further period as deemed fit. The request and the responses thereto shall be made in writing. A Tenderer may refuse the request without forfeiting its EMD. A Tenderer, agreeing to the request will not be required or permitted to modify its Tender.

### **Preparation and submission of Tender**

- a) The Tender should be Computerized and every correction and interlineations in the bid should be attested with full signature by the tenderer, failing which the bid will be treated as ineligible. Corrections done with correction fluid should also be duly attested.
- b) Bidder should give all relevant particulars about every item, such as maker's name, Country of Manufacture and Specifications and Price etc.

- c) Authorized dealer should submit the certificate from its manufacturer as proof topurchase supplied items from OEM.
- d) All documents/papers should be numbered, signed and sealed by the Tenderer on each page.
- e) The Tender is required to be prepared and submitted in two parts viz. 'Part A - Technical Bid' and 'Part B - Price Bid'.
- f) The **'Envelope of Part-A Technical Bid'** shall contain all essential documents for Technical Tender. Such documents attached as per Annexure-1 to (Online).
- g) The **'Envelope of Part-B- Financial Bid'** shall contain duly filled, stamped and signed Price Schedule in the format provided in Annexure – 3.
- h) The Online tenders as above should be submitted on [udyamita@dri.org.in](mailto:udyamita@dri.org.in) as per Scheduled date and time.
- i) Tender submitted or received after the closing date and time will not be considered and shallnot be considered.

## **Tender Prices**

**e-Tender | Supply of Tools, Equipment's and Machines for  
Deendayal ITC, Chitrakoot, Satna (MP)**

- a) Tender has been called for in the names of Items. The Tenderers should quote the rates for the Items mentioned in tool & equipment and machinery as mentioned in DGT trade details all motor will be off copper & all tools equipment and machinery of brands.
- b) The Tenderer should mention the name of manufacturer of the item being quoted.
- c) The rates should be quoted in format of Price Schedule shown in **Annexure-5. Rates quoted in any other format tender will be rejected.**
- d) Rates inclusive of Excise Duty, Customs duty, transportation, insurance, and any incidental charges, but exclusive of State VAT/CST should be quoted for each of the required item, separately on door delivery basis (FOR Destination, at Stores) as per format of Price Schedule given in Annexure – 5.
- e) Quoted rates are valid up to one year from the date of signing of contract agreement and shall be firm during the currency of the contract.

**Opening of Tenders**

- a) The Tenders shall be opened at the scheduled date, time and venue by the committee constituted by the Tender Inviting Authority. The Tenderers' representative may attend the Tender opening.  
Technical Bid & financial bid shall be opened Online and Physical copy submitted by post to address of **Deendayal Industrial Training Centre , Udyamita Vidyapeeth, Deendayal Parisar, Chitrakoot, Satna – 485334 (MP)**
- b) The date and time of opening of Price Bid shall be informed to all such Tenderers who qualify in technical Bid evaluation. The tenderer's representative may choose to attend the opening of Price Bid.
- c) In the event, the date of opening as above is declared government holiday; the tenders shall be opened at the same time on the next working day.

**Evaluation of Tenders**

- a) The purchase committee, constituted by the Tender Inviting Authority, shall evaluate the tender with reference to technical requirements and various other commercial criteria given in the Tender Document.
- b) Tendering agency reserved the right to cancel; disqualify any tender despite being of low rate, if not satisfied with the quality of products offered.

### Placement of Purchase Orders and Delivery Requirements

- a) The Tender Inviting Authority shall place individual Purchase Orders for supply of Items the period of 15 days from the date of award of contract with successful Tenderer (s). Tender Inviting Authority reserves the right to extend the validity of purchase order further by 01 months on the same rates and terms & conditions of the contract.
- b) The supplier should complete the supply at the **Deendayal Industrial Training Centre , Udyamita Vidyapeeth, Deendayal Parisar, Chitrakoot, Satna – 485334 (MP)** within 20 days from the date of issue of purchase order.
- c) If at any time the Tendered has, in the opinion of the Tender inviting authority, delayed the supply of Items due to one or more reasons related to force Majeure events such as riots, mutinies, wars, fire, storm, tempest or other exceptional events, the time for supplying the Items may be extended by the Tender inviting authority/ordering authority at its discretion for such period as may be considered reasonable. However such extension shall be considered only if a specific written request is made by the Tendered within 7 days from the occurrence of such event. The exceptional cause does not include scarcity of raw material, power cut and labour disputes.
- d) The undersigned reserves the rights for any changes/cancellation/rejection of any part or whole tender, without assigning any reason what so ever.
- e) **Warrantee/Guarantee should be for a period of minimum 5 year.**
- f) All consignment must be dispatched freight paid to concern ITI "To pay" Railway Receipt/Freight Receipts will not be accepted. Loading /Unloading charges shall be borne by the supplier.
- g) It must be noted that normally all correspondence and transactions will be made only with the parties whose tenders have been accepted and not with anybody else.
- h) The undersigned reserves the right to split up the order for supply of articles at tender for amongst more than one tender.



**e-Tender | Supply of Tools, Equipment's and Machines for  
Deendayal ITC, Chitrakoot, Satna (MP)**

- a) The Tender inviting authority may ask for samples and demonstration of any particular item quoted by the bidders. The bidders shall have to submit samples and give Demonstration in the prescribed time limit. In case the samples are not produced in the prescribed time it shall be open to the undersigned to forfeit Earnest Money Deposited by the bidder. If the samples sent by the party are approved the same will be adjusted in regular supply and in the case of rejection, they will be returned back to the party at his cost.
- b) The Items including its packing (packaging), to be supplied, shall be of the best quality and shall comply with the specifications given in the Tender Document.
- c) All Items should be supplied with quality certificate. The undersigned may get the items inspected by such person or persons he deems fit and to reject such of these items as in his opinion do not come up to the specification. The decision of the undersigned will be final in such cases. The rejected items will be returned on the bidder's cost.
- d) If any of the Items supplied by the tenderer, found to be 'Not of Standard Quality' after the delivery, the tenderer should supply the whole Item quantity again irrespective of consumption of that particular. The balance stock, if any, should be taken back within 7 days by the supplier at his/her own cost otherwise the authority will destroy it and no claim in this regard shall be entertained.
- e) **Guarantee Certificate:** - The Bidder will have to submit the GUARANTEE CERTIFICATE as per Annexure – 4
- f) **Warranty/Guarantee should be for a period of minimum 5 year.**

**Payment Terms**

- a) The 50% payment will be released on placing order, 50% payment dispatch and remaining successful complete verification of goods and supply. However, if supplied Items are found not as per specifications, then whole payment will be withheld and shall be released only after receipt of replacement of Items which were found not of standard quality.

**Settlement of Disputes**

- a) In the event of any dispute arising out of the tender or orders such dispute would be subject to the jurisdiction of Courts of Kanpur Nagar Uttar Pradesh nearest to the place of Tender Inviting Authority.

**e-Tender | Supply of Tools, Equipment's and Machines for  
Deendayal ITC, Chitrakoot, Satna (MP)**

**Publishing of N.I.T.**

For the Tenders processed using the e-Procurement System, the Detailed Notice and terms and conditions of tender shall be published only on the e-Procurement System. The bidders can view the Detailed Notice, Terms & Conditions of tender document and the time schedule for all the Tenders processed using the e-Procurement System on the website

<https://www.dri.org.in/iti/>

**Key Dates and time**

The Bidders are strictly advised to follow the time schedule (Key Dates and time) of the tender for their side of tasks and responsibilities to participate in the tender, as all the stages of each tender are locked before the start time and date and after the end time and date for the relevant stage of the tender as set by the concerned Department Official.

**Downloading of the Tender Documents**

The tender documents can be downloaded online from the website <https://www.dri.org.in/iti/>.

**Preparation of Bids and Submission of Online Bids by the Bidders**

The Bidders have to prepare their Bids online, and submit the same by Email.

**e-Tender | Supply of Tools, Equipment's and Machines for  
Deendayal ITC, Chitrakoot, Satna (MP)**

**Opening of Tender**

The concerned Department Official receiving the tender or his duly authorized person shall open the online.

**For any further queries, bidders may kindly contact**

For more details, please contact on working days within working hours (10:30 to 17:30) ,

Mob. 9584508202

E-tendering Helpdesk at **Deendayal ITC, Chitrakoot, Satna (MP)**

Tel. No. 9584508202

E-mail:- [udyamita@dri.org.in](mailto:udyamita@dri.org.in)

## FORMAT OF COVERING LETTER

Ref No: .....

Date: .....

To,

**The Principal/Secretary**

**Deendayal ITC, Chitrakoot**

**Satna, (MP)**

**Sub: Submission of Supply of Tools & Equipment for. Deendayal ITC under STRIVE scheme , Tender  
SPN No. DITC/STRIVE/TEN/2023-24/01**

Dear Sir,

As per terms & conditions of the tender following documents are submitted as under:

1. Form "A" Enclosure No. ....
2. Other Testimonials .....

We have quoted rates for items (Number of quoted item to be mentioned) in the Tenders as stated below:

<b>Tender No</b>	<b>Total Item in Tender Enquiry</b>	<b>No of Item Quoted</b>
<b>01</b>		

The entire item is quoted with brand name & full specification. The technical detail as desired  
is submitted in prescribed format as per enclosed Annexure

<b>Authorized Signatory Name &amp; Signature with Seal</b>	
<b>Date</b>	

**Annexure-1****FORM – A**

(To be signed and returned along with the tender)

Ref No: .....

Date: .....

To,

**The Principal/Secretary**  
**Deendayal ITC, Chitrakoot**  
**Satna, (MP)**

**Sub: Submission of Supply of Tools & Equipment for. Deendayal ITC under STRIVE scheme, Tender**  
**SPN No. DITC/STRIVE/TEN/2023-24/01**

Dear Sir,

I/We

<b>Name of Authorized Signatory</b>	
<b>Name of Bidder</b>	
<b>Address of Bidder</b>	
<b>Phone</b>	
<b>e-Mail</b>	

Have read the Tender rules for the supply of various goods as per Tender notice to the Deendayal ITC, Chitrakoot, Satna (MP) I/We accept all rules for Tender. I qualify the eligibility criteria of tender documents.

<b>Authorized Signatory</b> <b>Name &amp; Signature with Seal</b>	
<b>Date</b>	

## **MANUFACTURERS' AUTHORIZATION FORM**

Ref No: .....

Date: .....

To,

**The Principal/Secretary  
Deendayal ITC  
Chitrakoot, Satna (MP)**

Dear Sir,

We who are established and reputable manufacturers of *(name and description of goods offered)* having factories at *(address of factory)* do hereby authorize M/s *(Name and address of Agent)* to submit a bid, and sign the contract with you for the goods manufactured by us against the Tender Published by you.

Yours faithfully

**(Name)**

**(Name of manufacturers)**

**Note: This letter of authority should be on the letterhead of the manufacturer and should be signed by a competent person. This AUTHORIZATION FORM should be notarized. It should be attached in the bid.**

## PRICE SCHEDULE

*(To be fill in prescribed Excel format only & same to be upload for Price Bid, should be submit Separate Sheet for each Tender)*

Tender SPN NO	DITC/STRIVE/TEN/2023-24/01
---------------	----------------------------

S.No	Item Code	Name & Specification of Item	Make	Price for each unit (in Rs.)					Total Unit price inclusive of all(Rs. in figures)	Total unit price inclusive of all (Rs. in words)
				Unit Price Including Excise/ Custom Duty (if any)	Service Tax (if any)	Inland transportation, insurance, Installation and other local costs incidental to delivery	Total price inclusive of a+b+c (Rs. in figure)	Sales Tax/VAT/CST/ GST (if any)		
				(a)	(b)	(c)	(a+b+c)=d	(e)	(d+e)	(f)

<b>Authorized Signatory</b> <b>Name &amp; Signature with Seal</b>	
<b>Date</b>	

**GUARANTEE CERTIFICATE**

(On the original letter head of the manufacturer)

Ref No: .....

Date: .....

To,

**The Principal/Secretary  
Deendayal ITC  
Chitrakoot, Satna (MP)**

**Sub: Submission of Supply of Tools & Equipment for. Deendayal ITC under STRIVE scheme Tender  
SPN No. DITC/STRIVE/TEN/2023-24/01**

**Ref: Your S.O.NO ..... Dated placed on our Authorized Dealer**

M/s .....

Dear Sir,

With reference to the above, this is to certify that the following item has been supplied by  
our Authorized Dealer M/s .....

SN	Item Name & Description	QTY
1		
2		

We further certify that the material supplied as above has been duly pre inspected by us and have been found to be in conformity with specification as per the terms & conditions of the supply order.

They are hereby guaranteed for a period of 05 YEARS from the date of receipt at respective ITI; against any material defects, manufacturing defects (Including assembly installation, commissioning as applicable) and bad workmanship.

In case of any defect, we guarantee to replace the same immediately without at any cost.

Seal & Signature of Dealer	Seal & Signature of Manufacturer
----------------------------	----------------------------------



## CHECK LIST ENVELOPE – A

SN	Documents	Submitted Y/N	Page No
1.	Duly filled Checklist as per format given in Annexure – 6.		
2.	Covering Letter duly signed & stamped on letter head.		
3.	Form – A duly signed & stamped on letter head		
4.	Self-attested copy firm registration Certificate		
5.	Self-attested copy of registration in Commercial/sales tax department and itsTIN number.		
6.	Item Wise Authorization Certificate in case of Authorized Dealer Annexure – 2.		
7.	Self-attested copy of relevant Licence for Manufacturing/Selling and distribution (whichever appropriate) of the product quoted duly approved bythe Licensing authority for each schedule of product quoted as per specification in the tender.		

<b>Authorized Signatory</b>	
<b>Name &amp; Signature with Seal</b>	
<b>Date</b>	

**Tender No.-DITC/STRIVE/TEN/2023-24/01**

## List of Tools & Equipments

### SOLAR TECHNICIAN (ELECTRICAL) (1+1) (For batch of 40 candidates)

S No.	Name of the Tools and Equipment	Specification	Quantity
<b>A. TRAINEES TOOL KIT</b>			
1.	Measuring Steel Tape	5 meter	42 (40+2) Nos.
2.	Combination Plier Insulated	200 mm	42 (40+2) Nos.
3.	Screw Driver Insulated	4mm X 150 mm, Diamond Head	42 (40+2) Nos.
4.	Screw Driver Insulated	6mm X 150 mm	42 (40+2) Nos.
5.	Electrician screw driver thin stem insulated handle	4mm X 100 mm	42 (40+2) Nos.
6.	Heavy Duty Screw Driver insulated	5mm X 200 mm	42 (40+2) Nos.
7.	Electrician Screw Driver thin stem insulated handle	4mm X 250 mm	42 (40+2) Nos.
8.	Punch Centre	9mm X 150 mm	42 (40+2) Nos.
9.	Knife Double Bladed Electrician	100 mm	42 (40+2) Nos.
10.	Neon Tester	500 V	42 (40+2) Nos.
11.	Steel Rule Graduated both in Metric and English Unit	300 mm with precision of 1/4th mm	42 (40+2) Nos.
12.	Hammer, cross peen with handle	250 grams	42 (40+2) Nos.
<b>B. SHOP TOOLS &amp; EQUIPMENT</b>			
<b>(i) List of Tools &amp; Accessories</b>			
13.	Electrical Symbol and Accessories Charts		04 nos.
14.	Pipe vice Cast Iron with hardened jaw open type	100 mm	2 Nos.
15.	Hand Vice	50 mm jaw	2 Nos.
16.	Table Vice	100 mm jaw	2 Nos.
17.	Hacksaw frame (with blade)	Adjustable 300 mm Fixed 150 mm	2 Nos. Each
18.	File flat	200 mm 2nd cut with handle	2 Nos.
19.	File half round	200 mm 2nd cut with handle	2 Nos.
20.	File round	200 mm 2nd cut with handle	2 Nos.
21.	Pliers long nose insulated	150 mm	4 Nos.
22.	Pliers flat nose insulated	200 mm	4 Nos.
23.	Pliers, round nose insulated	100 mm	4 Nos.
24.	D.E. metric Spanner Double Ended	6 - 32 mm	2 Set
25.	Gauge, wire imperial stainlees steel marked in SWG & mm	Wire Gauge - Metric	2 Nos.
26.	Portable Electric Drill Machine	0-12 mm capacity 750W, 240V with chuck and key	1 No.
27.	Crimping Tool	1.5 sq mm to 16 sq mm 16 sq mm to 95 sq mm	1 No. Each
28.	Pliers Side Cutting	150 mm	2 No.
29.	Wire stripper adjustable length		2 No.
30.	Hammer, ball peen With handle		2 No.
31.	Scriber (Knurled centre position )		2 No.
32.	Tool kit Box/bag portable		5 No.
33.	Allen Key		1 Set

34.	Scissors blade	150 mm	2 No.
35.	Electrical loads: set of Incandescent lamp, Tube light, CFL, LED light, Heater and Geyser	Electrical loads: set of Incandescent lamp, Tube light, CFL, LED light, Heater and Geyser	2 Set
36.	Torque wrench	8N-m to 15N-m	1 No.
37.	Pipe Cutter to cut pipes	upto 5 cm. dia	1 No.
38.	Pipe Cutter to cut pipes	above 5 cm dia	1 No.
39.	Try Square	150 mm blade	2 No.
40.	Multi Meter (analog)	0 to 1000 M Ohms, 2V to 500 V,100 microA to 10A DC and AC	1 No
41.	Load Bank (variable)	Up to 1.2 KW ( Lamp / heater Type)	1 No.
42.	Wire Cutter and Stripper	150 mm	4 Nos.
43.	Earth Plate	60cm X 60cm X 3.15mm Copper Plate 60cm X 60cm X 6mm GI Plate	1 Each
44.	Earth Electrode	Primary Electrode 2100x28x3.25mm Secondary Cu Strip 20x5mm	1 No.
45.	Out Side Micrometer	0 - 25 mm least count 0.01mm	2 Nos.
46.	Tap set	Different size	02 Set Each
47.	Trolley for Transportation of Batteries		02 Nos.
48.	Die for Threading	Different sizes	02 Set
49.	Rooftop Mounting Structure	For 4 x 250 W solar panels mounting practice, with tilt adjustment	2 Set
50.	Electrical wiring and switch gear rack	Electrical control elements suitable for practice of control circuits using banana plugs and sockets	1 No.
51.	Protective relays and contactors rack	suitable for practice of control circuits using banana plugs and sockets	1 No.
52.	MCCB	100Amps, Triple pole	1 No.
53.	ELCB and RCCB	25Amps, double pole and 25Amps, double pole, I $\Delta$ n 30 mA	1 Each
54.	Fuses	HRC Glass Rewire Type	4 Each
55.	<b>Cables:</b> Twisted Pair Nonmetallic Sheathed Cable Underground Feeder Cable Ribbon Cable Metallic Sheathed Cable Multi-Conductor Cable Coaxial Cable Direct-Buried Cable	1 mtr each	1 Each
56.	Solar cable (Red)	5 square mm	As required
57.	Solar cable (Black)	5 square mm	As required
58.	Three core wire	(230 V, 15 A)	As required
59.	Battery cable	7.5 sqmm	As required
60.	Resin cored Solder		As required
61.	Solder wax		As required

62.	MC – 4 connector		As required
63.	pins	5 mm	As required
64.	lugs	7.5 mm	As required
65.	Hacksaw blades	200 mm, 300 mm	As required
66.	Bolts, nuts, anchor bolts, washers, screws, other pins, lugs etc		As required
67.	Civil work utensils	spade, mixing spoon, leveling plates	1 Set
68.	Plumbing tools		1 Set
69.	Plumbing raw materials		As required
70.	Civil work raw materials		As required
<b>(ii) List of Equipment</b>			
71.	Multimeter	Digital 0 to 1000 M Ohms, 2V to 700 V, 100 microA to 10A DC and AC	02 Nos.
72.	Megger	Analog - 500 V	01 Nos.
73.	Hydrometer		04 Nos.
74.	Solar Insulation meter		02 Nos.
75.	Pyranometer		01 No.
76.	Pyrheliometer		01 No.
77.	Lux meter	Lux meter LCD read out 0.05 to 7000 Lumens with battery.	02 Nos.
78.	Magnetic Flux Meter	0-500 tesla	02 Nos.
79.	Tong Tester / Clamp Meter	0 - 100 A (Digital Type)	01 Nos.
80.	Soldering Iron	25 Watt, 65 Watt and 120 Watt, 230 Volt	02 Nos. Each
81.	Temperature controlled Soldering Iron	50 Watt, 230 Volt	02 Nos.
82.	Thermometer Digital	0° C - 150° C	01 No.
83.	Sun Shine recorder		02 No.
84.	Weather monitoring station	To monitor and record Sunshine, wind velocity, temperature, rainfall etc with software.	01 No.
85.	Solar cell based sunlight radiation meter	For Solar power measurement up to 2000 w/square meter	02 No.
86.	Magnetic compass		04 No.
87.	Cut models of photo voltaic cell assembly		02 Nos.
88.	Cut model of Lead acid battery		01 No.
89.	Lead Acid battery	12V, 40Ah, 75Ah	01 Each
90.	Lead Acid battery	12V, 100 Ah	04 Nos.
91.	Solar simulator for solar cell characteristic study	To study IV curve of a solar cell of minimum 2 watt under variable illumination, temperature and suitable load	01 No.
92.	IV Curve tester		01 No.
93.	Sun path finder		01 No.
94.	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.

95.	Solar tracker demonstrator kit	To study manual and automatic control of 10 W solar panel in East-west and North-south & back	01 No.
96.	Solar PV e-learning software using animations for training		01 License
97.	Halogen lamp with stand for illumination of solar panels in lab	AC mains operated to provide 0 to 1000 watts per meter square	02 Set
98.	Motorized Bench Grinder	AC mains operated	01 No.
99.	Battery Charger	0 - 6 - 9 - 12 - 24 - 48 V, 30amp	01 No.
100.	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 Each
101.	Solar panels	250 Wp	04 Nos.
102.	Solar Charge controller with Dusk to Dawn automatic switching	12V, 10A	05 Nos.
103.	Solar charge controller with manual switch ( Day lighting)	12 V 10 A	05 Nos.
104.	Array junction box	for connecting 250W x 4 Nos. solar panel with DC fuse, DC MCB, and surge suppressor protection	02 Nos.
105.	Solar lantern	LED type	01 No.
106.	Solar lantern	CFL type	01 No.
107.	Solar lantern assembly sets		01 No.
108.	Home light system	12 V DC with FM receiver, LED bulb and mobile charger as loads	01 No.
109.	Solar cell kit		01 No.
110.	Clinometer	for Angle measurement	01 No.
111.	Spirit level	For floor level check	01 No.
112.	Anemometer	for wind speed measurement	01 No.
113.	DC table fan	12 V	01 No.
114.	A.C. Voltmeter M.I	0 –500V AC	02 Nos.
115.	Volt meter	0 - 30V	02 Nos.
116.	Volt meter	0 - 100V	02 Nos.
117.	Ammeter MC	0 - 1A	02 Nos.
118.	Ammeter MC	0 - 5A	02 Nos.
119.	Ammeter MCcentre zero	0 - 20A	02 Nos.
120.	Ammeter MCcentre zero	0-50A	02 Nos.
121.	Power Factor Meter		01 No.
122.	Rheostat	0 -1 Ohm, 5 Amp 0 -10 Ohm, 5 Amp 0- 25 Ohm, 1 Amp 0- 300 Ohm, 1 Amp	01 No. each
123.	A.C. Energy Meter	Single Phase, 10 A, 240 V induction type	01 No.
124.	A.C. Energy Meter	Three Phase, 15 A, 440 V induction type	01 No.
125.	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.
126.	Digital Wattmeter	230 V, 1 KW, 50 Hz	02 Nos.

127.	Phase Sequence Indicator	3 Phase, 415 V	02 Nos.
128.	Frequency Meter	45 to 55 Hz	02 Nos.
129.	DC LED Lamp	3W, 5W, 10W	50 Each
130.	DC Pump	24 V	02 Nos.
131.	PWM Controller		04 Nos.
132.	MPPT Charge Controller		04 Nos.
133.	Inverter with Battery	1 KVA with 12 V Battery Input- 12 volt DC, Output- 220 volt AC	01 No.
134.	Solar PCU	Off grid 1 KW MPPT Sine wave Solar Power Conditioning Unit	04 Nos.
135.	Solar Grid tied inverter Demonstrator kit	300W KW	01 No.
136.	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.
137.	Solar, wind and hybrid power plant	1 KW cumulative	01 No.
138.	Solar Traffic Light	12V, 75Ah battery, 75 Wp solar panel, 12V, 10A dusk to dawn charge controller, 15 W LED lights with suitable colors and 9 m height pole all dismountable	01 No.
139.	Used water treatment solar plant demonstrator kit	1 liter capacity	01 No.
140.	solar DC pump	1 HP	01 No.
141.	Demonstration kit for wind generation (Wind turbine with blower)	300 W	01 No.
142.	Rechargeable battery	12 V 100 Ah	As required
143.	Rechargeable battery	12 V 7 Ah	As required
144.	Rechargeable battery	6 V 5 Ah	As required
145.	LED lights	12 V DC	As required
146.	LED lights	6 V DC	As required

#### C. SAFETY AND PROTECTIVE EQUIPMENT

147.	Rubber gloves		10 Pair
148.	Cotton gloves		05 Pair
149.	Gum boots		02 Pair
150.	Safety Goggles		04 Nos.
151.	Safety Helmet		04 Nos.
152.	First Aid kit		02 Nos.
153.	Fire Extinguisher CO <sub>2</sub>	2 KG	02 Nos.
154.	Fire Buckets	Standard size	02 Nos.

#### D. SHOP FLOOR FURNITURE AND MATERIALS

155.	Working Bench	2.5 m x 1.20 m x 0.75 m	04 Nos.
156.	Wiring Board	3 meters x 1 meter with 0.5 meter projection on the top	01 No.
157.	Instructor's table		01 No.
158.	Instructor's chair		02 Nos.
159.	Trainee Chair		01 for Each

			Trainee
160.	Trainee table for two trainee		10 Nos.
161.	Metal Rack	100cm x 150cm x 45cm	04 Nos.
162.	Lockers with drawers		01 for Each Trainee
163.	Almirah	2.5 m x 1.20 m x 0.5 m	01 No.
164.	Black board/white board	(Minimum 4X6 feet)	01 No.

1. All the tools and equipment are to be procured as per BIS specification.
2. Internet facility is desired to be provided in the class room.

**(Rajesh Prasad Tripathi)**

**PRINCIPAL/SECRETARY**  
Deendayal ITC under STRIVE