

कार्यालय: प्रादेशिक स्टाफ प्रशिक्षण एवं शोध केन्द्र,  
(व्यावसायिक शिक्षा एवं कौशल विकास विभाग, उ0प्र0)  
परिसर— राजकीय औद्योगिक प्रशिक्षण संस्थान, अलीगंज, लखनऊ।

**(टेण्डर संख्या—T.E.- 02/2014.)**

**प्रेस विज्ञप्ति**

महामहिम राज्यपाल महोदय, उ0प्र0 की ओर से प्रादेशिक स्टाफ प्रशिक्षण एवं शोध केन्द्र, अलीगंज, लखनऊ के विभिन्न व्यवसाय (फिटर, विद्युत एवं मैकेनिक आर0ए0सी0) के साज-सज्जा (टूल्स, उपकरण, मशीनरी एवं फर्नीचर आदि) की आपूर्ति हेतु सील बन्द निविदायें आमंत्रित की जाती हैं। निविदाकर्ता को तकनीकी संस्थानों, राजकीय औद्योगिक प्रशिक्षण संस्थानों सहित आपूर्ति का कम से कम 10 (दस) वर्षों का अनुभव आवश्यक है। निविदा की अन्य शर्तें, विवरण, धरोहर राशि एवं सामग्री सूची निविदा प्रपत्र में अंकित है। निविदा के विवरण निम्नवत, जो कि विभागीय वेबसाइट —[www.vppup.in](http://www.vppup.in) पर भी उपलब्ध है।

- 1— टेण्डर प्रपत्र शुल्क — रूपये 1,000/— एवं रूपये 50/— डाक शुल्क अतिरिक्त।
- 2— अर्नेस्ट मनी — रूपये 5,50,000/— निदेशक (प्राविधिक), प्रादेशिक स्टाफ प्रशिक्षण एवं शोध केन्द्र, लखनऊ के पक्ष किसी भी राष्ट्रीयकृत बैंक से डीमाण्ड ड्राफ्ट/एफ0डी0आर0 के रूप में।
- 3— टेण्डर बिक्री की अन्तिम तिथि एवं समय— दिनांक:18-02-2014 05:00 बजे अपराह्न तक।
- 4— टेण्डर जमा की अन्तिम तिथि एवं समय— दिनांक:19-02-2014 12:30 बजे अपराह्न तक।
- 5— टेण्डर खोलने की तिथि एवं समय— दिनांक:19-02-2014 02:30 बजे अपराह्न।  
(तकनीकी बिड)
- 6— टेण्डर खोलने की तिथि एवं समय— दिनांक:19-02-2014 04:00 बजे अपराह्न।  
(वित्तीय बिड)
- 7— वेबसाइट का नाम— [www.vppup.in](http://www.vppup.in)

अधोहस्ताक्षरी को बिना कारण बताये निविदा के समस्त अथवा किसी अंश को निरस्त या संशोधित करने का अधिकार सुरक्षित होगा। निविदा प्रपत्र/विवरण,की वेबसाइट [www.vppup.in](http://www.vppup.in) पर भी उपलब्ध है, से भी डाउनलोड किया जा सकता है। ऐसी स्थिति में निविदा शुल्क बैंक ड्राफ्ट निविदा के टेक्नीकल ऑफर के साथ संलग्न करना अनिवार्य होगा।

निदेशक(प्राविधिक)  
प्रादेशिक स्टाफ प्रशिक्षण एवं शोध केन्द्र,  
अलीगंज, लखनऊ

# **State Staff Training & Research Center**

(Vocational Education and Skill Development Deptt., U.P.,)

**ITI campus, Aliganj Lucknow**

## **TENDER**

Tender Notice No.T.E.- 01/2014.

**Supply of Tools/equipment, Machinery and  
Furniture for for Different Trades.( Fitter,  
Electrician and Mech. R.A.C.)**

: OFFICE ADDRESS:

**State Staff Training & Research Center  
ITI CAMPUS, ALIGANJ,LUCKNOW UTTAR PREDESH  
PH:0522-2329110, E-mail-sstrclko@gmail.com**

**GENERAL INSTRUCTION:-**

The tendering firms are required to purchase the tender document by payment of tender fee **Rs 1000/-**. Tender form can be obtained by post also by making a payment of **Rs.50/- extra for postal charges**. The payment of tender fee (Including the postal charges wherever applicable) can be made by **Bank draft or by cash**. It is clarified that no other mode of payment shall be acceptable. The bank draft should be made payable to **Director (Technical), State Staff Training & Research Center, Aliganj, Lucknow**, payable at Lucknow and should be crossed. In case the tenderer is desirous to get tender documents by post, and then he should send a self addressed envelope of size – 12” x 10” along with the request for tender form as cited above.

**(1) Documents to be submitted:-**

The tendering firms are required to submit the following documents failing which their tender will be ignored.

- (a) The proof of being a registered firm with **Govt. Dept.** indicating their VAT No. by submitting such certificate.
- (b) The proof of having minimum ten years experience of supplying of tools/ equipment and machinery, to technical institutes including GITIs.
- (c) The firm should submit leaflet/literature indicating the name of the manufacturing organization, Make/Brand etc. If there is no standard printed leaflet, then hand drawing/figure/photo should be given as far as possible.
- (d) The tenderer has to give a undertaking that he is not black listed by any Govt. Organization/ Undertaking/ other organisation .
- (e) Copy of **PAN No. issued by Income Tax Department** to tendering firm.
- (f) Copy of balance sheet of last three financial year shall be enclosed . Average turn over of last three years should not be less than 1.00 cr, in the case of supply of Tools/equipment , machinery and furniture.

**(2) Tender / Bid Price :-**

- (a) The contract shall be for the full quantity as described . Corrections, if any shall be made by crossing and rewriting with signature and date .
- (b) All duties taxes and other levies payable on the tools /equipments, machinery and furniture shall be included in the total price.
- (c) Sales Tax in connection with the sale shall be shown separately. **Any firm showing rates inclusive of VAT, its offer will be summarily rejected.**
- (d) The rates quoted by the bidder shall be fixed for the duration of the contract and shall not be subject to adjustment on any account.

- (e) The prices shall be quoted in Indian Rupees only.
- (f) The **Fixed Deposit / NSC / Bank Guarantee of Nationalized Bank** for earnest money Rs. 5.50 Lakhs in favour of **Director (Technical), State Staff Training & Research Center, Aliganj, Luknow** as mentioned in the tender should be enclosed with the offer otherwise the offer against tender shall be rejected. The earnest money will be refunded in case offer is not accepted. The earnest money should be enclosed in a separated envelope super scribing the amount of earnest money on the top right corner of the envelop. This envelope should be placed inside the envelope in which the **technical offer** is sent.

3. **Each Bidder shall submit only one Tender/Bid in two parts :-**

- (a) Financial Bid
- (b) Technical Bid

4. **MODE OF FILLING TENDER :-**

- 1- The firm should submit the offer indicating the brand name with the specification and rate. It should be clearly cited that the rate quoted is of which Brand. The firm should as far as possible attached the pamphlet/ leaflet of item / items being quoted. It should be ensured that specification given in the offer and in the leaflet and the literature should tally with each other. Only if the items with Brand name or make specified in the given list are not available the rates of the ISI/ISO marked or equivalent marked items with brand name should be quoted.
- 2- The firm has to submit their offer in the two separate sealed envelopes.
  - (a) **First Envelope** (termed as technical offer) containing detail technical specification /Model/Brand/Make of the items along with Documents / Papers of formalities and **earnest money. (Excluding Rates.) in prescribed format for Technical Bid.**
  - (b) **Second Envelope** (termed as financial offer) containing rates in words and figures of each item indicating Brand name with the specification should be quoted. as per format **in prescribed format for Financial Bid.**
- 3- If there are any discounts in rates it should be quoted after deducting the discount. Rates should be given in words and figures both. There should not be any cutting or overwriting.
- 4- The envelope should be of thick paper and must be properly sealed with sealing wax along with stamp. It is clarified that the unsealed envelope will not be entertained.
- 5- If any tenderer does not follow the instruction regarding filling up technical and financial offer, such offer will be summarily rejected and no correspondence will be done.

- 6 Only those items which are available on the ready stock should be quoted since the supply is to be made immediately.

**NOTE :-**

Both the envelope should be super scribed clearly as “**Technical Offer**” and “**Financial Offer**” and both the envelopes will be kept in one cover indicating tender no. and date of opening. The outer cover (main envelope) should also be sealed properly as cited above. The cover indicating technical offer will be opened before the representatives of the firm on the date of opening of tender and the financial offer will be opened later if there technical offer is accepted.

5. **VALIDITY OF TENDER / BID :-**

Tender/Bid shall remain valid for a period not less than 90 days after the dead line date specified for submission.

6. **EVALUATION OF TENDER / BID :-**

The Purchaser will evaluate and compare the Tender/Bid determined to be substantially responsive i.e. which.

- (a) Are properly signed and
- (b) Confirm to the terms and conditions, and specifications.

The Tender/Bid would be evaluate separately for each item. Sales Tax in connection with sale of goods shall not be taken into account in evaluation.

7. **Award of Contract :-**

The Purchaser will award the contract to the bidder whose Tender/Bid has been determined to be substantially responsive and who has offered the lowest evaluated Tender/Bid price.

- (a) Notwithstanding the above, the Purchaser reserves the right to accept or reject any Tender/Bid and to cancel the bidding process and reject all Tender/Bid at any time prior to the award of contract.
- (b) The bidder whose bid is accepted will be notified of the award of contract by the **Purchaser prior to expiration of the Tender/Bid validity period. The terms of the accepted offer shall be incorporated in the purchase order.**
- (c) If suppliers fail to supply as per order their E.M.D. will be forfeitted .

8. **PROCEDURE :-**

- (a) You or your representative may be present at the time of opening of the tender along with your authority letter.
- (b) You have to deposit 10% of security deposit of the total value of the order placed. It should be in the form of **(a) Fixed Deposit receipt of any Nationalized Bank. (b) National Saving Certificate (NSC) (c) Bank Guarantee of Nationalized Bank** pledged to the **Director (Technical), State Staff Training & Research Center, Aliganj, Luknow** and is refundable to you after 6 month of the satisfactory supply of the material for which you have to produce the clearance to the Institute. The supply contract agreement will be signed on Rs. 100/- non judicial stamp paper between bider and purchaser.
9. Payment shall be made as soon as possible after satisfactory delivery of the goods.
10. Normal commercial Warranty/ Guarantee shall be applicable to the supplied goods.
11. The details of items are shown in Annexure .
12. You are requested to submit your Tender/bid latest by 12.30 P.M. on 19-02-2014.
13. The **Tender Technical Bid** will be opened in presence of Purchase committee on 19-02-2014 at 02:30 P.M. and **Financial Bid** will be opened on the same day at 04:00 P.M..
14. In case of supply of Tools/equipments and Machinery which is required to be installed at site Tenderer has to quote rates accordingly for complete work.

**REMARKS :-**

**The jurisdiction for the purpose of litigation arising if any will be civil court, Lucknow (U.P.)**

We look forward to receive your **Tender/Bid** and thank you for your interest in this Project.

**Delivery Period :-** 15 Days from the date of order.

**Place of Delivery :-** State Staff Training & Research Center, Campus: Government Industrial Training Institute, Aliganj, Lucknow (U.P.)

**Websit name:-** www.vppup.in email.ID- sstrclko@gmail.com

**PH:0522-2329110**

Enclosure Annexure (Format of Tender/Bid)

(Purchaser)

**Director(Technical)**  
**State Staff Training & Research Center,**  
**Campus: Government Industrial Training Institute,**  
**Aliganj, Lucknow (U.P.)**

**Format for Technical Bid**

S. No.	Name of Items	Specification/Model/Brand/Make	Other Remarks

**FORMAT OF FINANCIAL TENDER/BID**

Sl. No.	Description of tools/equipments, machinery and furniture	Specification/Model/Brand/Make	Quantity	Unit Rate (in Indian Rs.)	Trade Tax/VAT	Total	
				In Figure	in Figure	In Fig	In Words

We agree to supply the above goods in accordance with the technical specifications within the period specified in the invitation for **Tender/Bid**.

We also confirm that the normal commercial warranty/guaranty of ..... months shall apply to the offered goods.

We hereby certify that we have taken steps to ensure that no person acting for us or on our behalf will engage in bribery.

**Signature of Supplier**

Name-.....

Address-.....

Tel. No.....

Fax. No.....Email.No.....

**SSTARC**  
**List of Tools & Equipment for a batch of 20 Trainees (SSTARC)**  
**Module - TT-I**  
**Trade:FITTER**

Sl. No.	Description of tools/equipments , machinery and furniture	Specification/ Model/ Brand/Make	Quantity	Unit Rate	Trade	Total	
				(in Indian Rs.)	in Figure	In Fig	In Words
1	Try Square 10 cm blade		42 nos.				
2	out side caliper 15 cm spring		5 no.s				
3	Inside caliper 15 cm spring		5 no.s				
4	Caliper 15 cm Hermaphrodite		11 nos.				
5	Divider 15 cm spring		1 1nos.				
6	Straight scribe 15 cm		42 nos.				
7	Screw Driver 15 cm		10 nos.				
8	Chisel cold Flat 12 mm		11nos.				
9	Hammer ball pane 0.45 kg with handle		31 nos.				
10	hammer ball pane 0.22 kg with handle		20 nos.				
11	Wording File 15 cm smooth		08 nos.				
12	File Flat 25 cm 2 <sup>nd</sup> cut		42 nos.				
13	File Flat 25 cm 2 <sup>nd</sup> cut smooth.		27 nos.				
14	File half round 15 cm 2 <sup>nd</sup> cut		16 nos.				
15	Hacksaw frame fixed 30 cm.		42 nos.				
16	Safety goggles		42 nos.				
17	Dot punch 10 cm x100 mm long(Approx)		20 nos.				
18	Knife edge file 15 cm smooth		08 nos.				
19	File cant saw 15 cm smooth		08 nos.				
20	File feather edge 15cm smooth		08nos.				
21	File triangular 15cm smooth		06 nos.				
22	File round 20cm 2nd cut		16 nos.				
23	file square 25cm 2nd cut		08 nos.				
24	Feelar gauge 10 blade		02 sets				
25	File Triangular 20cm 2nd cut		12nos.				
26	File swiss type needle set of 12		04 set				
27	File half round 25 cm 2nd cut		06 nos.				
28	File round 30 cm bastered		08 nos.				
29	File card		12 nos.				
30	Stone oil 15cmX5cmX2.5cm		08 nos.				
31	Stone carborandum 15cmx5cmx5cmx4		04 nos.				
32	Oil cane 0-25 ltrs		02 nos.				
33	Pliers combination 15 cm		04 nos.				
34	Spanner Metric - worth D.E set of 10 pcs		12 set				
35	Interchangeable ratchet socket set with a 12mm driver		02 sets				
36	Box spanner set 6-25 mm set of 8 with tommy bar		02 sets				
37	Clamp toolmaker 5cm and 7.5 cm set of 2		04 nos.				
38	Clamp"C" 5 cm		04 nos.				
39	Clamp"C" 10 cm		04 nos.				
40	Spanner adjustable 15cm		04nos.				
41	Hand Reamer adjustable cover max 9,12,18mm-set of 3		01 set				
42	Hand Reamer taper 4-9 mm set of 6 or 4-7mm set of 4		02 set				
43	Reamer parallel 12-16 mm set of 5		02 no				
44	Scraper flat 15 cm		12 nos.				
45	Scraper 3 corner 15 cm		12 nos.				
46	Spanner adjustable 15 cm		04 set				
47	scraper half round 15 cm		12 nos.				
48	Chisel cold 9mm crosscut and 9mm diamond		12 each				
49	Chisel cold 19 mm flat		12 nos.				
50	Chisel 9 mm round nose		12 nos.				
51	Extractor stud EZY out		04 nos.				
52	Set of combination 30 cm		04 nos.				
53	Out side Micrometer 0-25 mm		06 nos.				

54	Out Side Micrometer 25-50 mm with 25 mm test piece		06 nos.				
55	Out side Micrometer 50-75 mm with 50 mm test piece		04 nos.				
56	Vernier Micro meter in side 25-50 mm		02 no				
57	Vernier Caliper 20cm		06 nos.				
58	Vernier Height gauge 30 cm		02 nos.				
59	Vernier bevel protactor		02 no				
60	Screw pitch gauge		02 no				
61	Wire gauge matric standard		02 no				
62	Drill twist T/S 6mm to 25mm x 1.5		02 set				
63	Drill chuck 12 mm		02 no				
64	Wheel dressor (1 for 4 unit)		01 no				
65	Machine vice 10cm		02 no				
66	Machine vice 15 cm		02 no				
67	Sleeve Drill moarse 0-1,1-2,2-3		02 set				
68	Bench vice 12 cm jaws		40 nos.				
69	Leg vice 10 cm Jaw		04 nos.				
70	Fire Extingusher		04 nos.				
71	Fire buckets		04 nos.				
72	Wing Compass 25.4 cm or 30cm		04 nos.				
73	Hand hammer 01 kg with handle		04 nos.				
74	Radius gauges (Assorted)		20 nos.				
75	Dial test indicator 0,01 mm with magnatic base		02 nos.				
76	Lathe tools HSS Tipped set		04 nos.				
77	Lathe Tool Bit HSS 6 mm,8mm,10mmX100mm		20 each				
78	Borign and counter shinking tool		04 nos.				
79	Arm strong type bit holder RH		04 nos.				
80	Arm Strong type bet holder Lh		04 nos.				
81	Arm strong type bit holder straight		04 nos.				
82	Engeneers try Square (knife wedge) 150 mm <b>Blade</b>		02 nos.				
83	Rule steel 30 cm to read matric		08 nos.				
84	Rule steel 60 cm		08 nos.				
85	Straight edge 45 cm steel		04 nos.				
86	Surface plate 45X45cm ci/granite		04 nos.				
87	Marking table 91X91X122cm		01 no				
88	Universal scribing block 22 cm		04 nos.				
89	V-block pair 7cm and 15cm with clamps		04 nos.				
90	Square adjustable 15 cm blade		04 nos.				
91	Angle plate 10X20 cm		04 nos.				
92	Sprit level 15 cm metal		02 no				
93	Letter punch 3mm set		02 no				
94	Number punch set 3mm		02 no				
95	Portable hand drill (electric) 0 to 6 mm		04 nos.				
96	Twist drill s/s 1.5 mm to 12 mm by 1/2 mm		02 set				
97	Twist drill s/s 8mm to 15 mm by 1/2mm		02 set				
98	Tap and dies complete set in box B.A		02 no				
99	Tap and dies complete set in box widthworth		02 no				
100	Taps and dies complete set in box 3-18 mm set of 10		02 nos.				
101	Lathe General purpose all geared type Centre Height 150mm between centres 1000 mm with all accessories and attachment		04 nos.				
102	Drilling machine pillar type 0-20mm capacity		04 nos.				
103	Pedustal Grinder Double Ended type		03 nos.				
104	Power Saw machine		02 no				
105	Fly Press 4T Capacity		01 no				
106	Steel cupboard with 8 pigeon Lockers		06 nos.				
107	Chair with arm		04 nos.				
108	Table for Trainer		03 no				
109	Work bench 240X120X90cm		10 nos.				
110	Steel cupboard 180x90x45cm		06 nos.				
111	Steel cupboard 120X60X45		06 nos.				
112	Whiteboard with magnetic duster 6'x4'		03 no				
113	First aid box		02 no				

114	Metal rack 182X182X45cm		02 no				
115	Flat tong 300mm		04 nos.				
116	Roung tong 300,,		02 nos.				
117	Straight snips 250/300 mm		06 nos.				
118	Soider bit/soldering iron hatchet type 250g		04 nos.				
119	Anvil 50 kg		02 nos.				
120	Swage block		01 no				
121	Trammel		02 nos.				
122	Hand groover 4mm,5mm		2 nos. each				
123	Portable forge with hand blower 450 mm		1 nos.				
124	Leather gloves		4 pairs				
125	Leather apron		4 nos				
126	Asbestos gloves		4 pairs				
127	Arc welding transformer single fase 200 Aamps (with cable electrode holder and all other accessories)		2 nos.				
128	Oxy acetylene gas welding plant with all accessories		1no.				
129	Gas cutting torch with defferent noses		1no.				
130	Arc welding table with positioner 100cmX75cmX70cm height		2 nos.				
131	Gas welding table with fire bricks		1 nos.				
132	Safty charts and posters		as req.				
133	Bend snips 250/300mm		06 nos.				
	<b>TOTAL</b>						

**SSTARC**

**List of Tools & Equipment for a batch of 20 Trainees (SSTARC)**

**Module - TT-II**

**Trade:FITTER**

Sl. No.	Descriptionof tools/equipments , machinery and furniture	Specification/ Model/ Brand/Make	Quantity	Unit Rate	Trade	Total	
				(in Indian Rs.)	in Figure	In Fig	In Words
1	Table for surface plate		02 nos.				
2	Punch Hollow 6mm to 19 mm set of 5		2nos				
3	Punch Round 3mm to 4 mm set of 2		2nos				
4	File square 15 cm 2 <sup>nd</sup> cut		04 nos.				
5	File square 25 cm 2 <sup>nd</sup> cut		04 nos.				
6	File flat 30 cm 2 <sup>nd</sup> cut		06 nos.				
7	File half round 25 cm bastard		04 nos.				
8	Vice grip pliers		02 nos.				
9	Blow lamp 0.55 liters		02 nos.				
10	Adjustable pipes tape set BSP with Die set cover pipe size 15,20,25,32,38,50mm		01 no.				
11	Reamer parallel 12-16 mm set of 5		01 no.				
12	Micrometer in side 25-50 mm		01 no.				
13	Drill twist T/S 6 mm to 25 mm x 1.5		01 set				
14	Pipe wrench 40 cm		01 no.				
15	Pipe wrench 30 cm		01 no.				
16	Pipe vice 100 mm		02 nos.				
17	Gauge slip as johnson metric set		01 set				
18	Carbide wear block 01 mm- 02 mm		02 each				
19	Gauge snaps Go and No Go 25 to 50 mm by 5 mm set of 06 pcs.		01 set				
20	Gauge pluge single ended 05 to 55 by 5mm set of 1 1 pcs.		01 set				
21	Gauge Telescopic up to 150 mm		01 no.				
22	Sine bar 125 mm		01 no.				
23	Sine bar 250 mm		01 no.				
24	Counter Boring and Counter sinking tool		02 nos.				
25	Pipe cutter 6 mm to 50 mm wheel type		01 no.				
26	Adjustable Spanner 38 cm long		01 no.				

27	Dial Vernier Caliper 0-200mm LC 00.05 MM(Universal type)		01 no.				
28	Vernier Micrometer		01 no.				
29	Depth Micrometer 0-100 mm, 0.01 mm		01 no.				
30	Vernier Caliper 150mm LC 0.02MM		01 NO.				
31	Comparators Stand With Dial Indicator LC 0.01 mm		01 no.				
32	Surface Roughness comparison plates N1-N12 Grade		01 no.				
33	Digital Vernier Caliper 20 cm		01 no.				
34	Digital Outside Micrometer 0-25 mm		01 no.				
35	Digital Dial Test Indicator		01 no.				
36	Brinell Hardness Tester		02 no.				
	TOTAL						

**LIST OF MACHINES, EQUIPMENTS AND FURNITURES FOR THE TRADE FITTER**

Sl. No.	Description of tools/equipments, machinery and furniture with Specifications	Specification/ Model/ Brand/Make	Quantity	Unit Rate	Trade	Total	
				(in Indian Rs.)	in Figure	In Fig	In Words
1	CNC Trainer Lathe machine: FANUC/SINUMERC base machine is directly linked to P.C., Center height - 100 mm (min.), distance between center - 200 mm (Min.), Swing over carriage- 60 mm (min.), Longitudinal travel - 300 mm (min), Spindle Speed with back gear - 40 to 2000 RPM, with linear and circular interpolation, minimum 8 tool offset with turret.		01 no.				
	<b>TOTAL</b>						

**MODULE :ENGG. TECHNOLOGY PART-2 ENGG.DRG.**

**TRADE:FITTER**

Sl. No.	Description of tools/equipments, machinery and furniture with Specifications	Specification/ Model/ Brand/Make	Quantity	Unit Rate	Trade	Total	
				(in Indian Rs.)	in Figure	In Fig	In Words
1	Well settled and furnished classroom for the capacity of 60 nos of trainees with the following						
a	Drawing desk table as per the numbers of trainees		60				
b	Stool or chairs as per the numbers of trainees.		60				
c	One number of office table for Training officer		1				
d	One number of office chair for training officer		1				
e	Computers with necessary accessories		5				
f	Computers Table & Chairs		5				
g	Software for Auto cad		1				
h	Printer small size		1				
i	Printer big size for printing of big size drawing		1				
j	Over Head slide projector 01 nos		1				
k	White Board (folding) for display of study materials through OHP		1				
l	Drawing Board as per the numbers of trainees		60				
m	T-Squares as per the number of trainees		60				
n	Set- Squares sets and french curves sets as per the numbers of trainees		60				
o	Mini-Drafters as per the numbers of trainees		60				
p	Cup board for keeping of Drawing Board, T-Squares, set-Squares sets, French curves sets and Mini -Drawing		2				
q	Geometrical box for Engineering Drawing		2				
r	Models and charts for Engineering Drawing as per requirements		1				
s	Cup board for keeping of Models and charts		2				
2	Well furnished Chamber/ Room for faculty members with the following items						
a	Office tables		2				
b	Office chairs		2				
c	Visitors Chairs		6				

d	Almirah small Size		2				
e	Almirah big size		2				
3	Chair for Trainer (armed) movable		01 no.				
4	Table for Trainer (4 1/2ft X 2 1/2ft) with Drawer and cupboard		01 no.				
5	LCD Projector		01 no.				
6	Multimedia Computer system with all accessories with UPS (.5 KVA)		01 set				
7	Computer Table		01 no.				
8	White Board (6 ft x 4ft.)		01 no.				
9	LCD Projector Screen		01 no.				
10	Air Conditioner 1.5 ton (OPTIONAL)		02 nos.				
11	Wall Clock		01 no.				
12	Wall charts, Transparencies and DVDs related to the trade		As required				
13	Document Camera/ Visualiser		01 no.				
14	Smart Board / Inter Active Board		01 no.				
15	Over Head Projector		01 no.				
16	Video Camera with Stand		01 no.				
17	Printer cum Scanner		01 no.				
	<b>TOTAL</b>						

**SSTARC**  
**LIST OF FURNITURE, ACCESSORIES AND AUDIO VISUAL AIDS FOR AUDIO VISUAL LAB**  
**Teaching methodology (COMMON FOR ALL ENGG. TRADES)**  
**TRADE- FITTER**

Sl. No.	Description of tools/equipments, machinery and furniture with Specifications	Specification/ Model/ Brand/Make	Quantity	Unit Rate	Trade	Total	
				(in Indian Rs.)	in Figure	In Fig	In Words
1	Class Room Chairs (armless)/ Dual desk may also be allowed		50/25				
2	Class Room Tables (3ft X 2ft) / Dual desk may also be allowed		50/25				
3	Chair for Trainer (armed) movable		2				
4	Table for Trainer (4 1/2 ft X 2 1/2 ft) with Drawer and cupboard		2				
5	LCD Projector		2				
6	Multimedia Computer System with all accessories with UPS (.5 KVA)		2 set				
7	Computer Table		2				
8	White Board (6ft X 4 ft.)		2 no.				
9	LCD Projector Screen						
10	Air Conditioner 1.5T (OPTIONAL)		4				
11	Wall Clock		2 no.				
12	Wall Charts, Transparencies and DVDs related to the trade		As required				
13	Document Camera / Visualiser		1				
14	Smart Board / Inter Active Board		1				
15	Over Head Projector		1				
16	Video Camera with stand		1				
17	Printer cum Scanner		1				
	<b>TOTAL</b>						

**FURNITURE, ACCESSORIES AND AUDIO VISUAL AIDS**  
**MODULES:TT-I AND TT- II (COMMON FOR ALL ENGG. TRADES)**  
**TRADE- FITTER**

Sl. No.	Description of tools/equipments, machinery and furniture with Specifications	Specification/ Model/ Brand/Make	Quantity	Unit Rate	Trade	Total	
				(in Indian Rs.)	in Figure	In Fig	In Words
1	Laser Printer with scanner		1				
2	Steel Cupboard with 8 pigeon lockers		3				

3	Work bench for fitters with two vices of 100 mm		2				
4	Multi drawer tool rack trolley with minimum 4 drawers and 20 tool capacity		4				
5	First aid box.		1				
	<b>TOTAL</b>						

**SSTARCs**  
**List of Tools & Equipment for a batch of 20 Trainees**  
**ELECTRICIAN - Module - TT - 1**

**TOOL KIT**

Sl. No.	Description of tools/equipments , machinery and furniture	Specification/Model/Brand/Make	Quantity	Unit Rate	Trade Tax/VAT	Total	
				(in Indian Rs.)	in Figure	In Fig	In Words
1	Wooden/Fibre Rule		40 nos.				
2	Plier insulated 150 mm		40 nos.				
3	Plier side cutting 150 mm		40 nos.				
4	Screw driver 100 mm		40 nos.				
5	Screw driver 150 mm		40 nos.				
6	Electrician connector, screw driver 100 mm insulated handle thin stem		40 nos.				
7	Heavy duty screw driver 200 mm		40 nos.				
8	Electrician screw driver 250 mm insulated handle thin stem		40 nos.				
9	Punch centre 150 mm x 9 mm		40 nos.				
10	Knife double bladed Electrician		40 nos.				
11	Neon Tester		40 nos.				
12	Rule steel 300 mm		40 nos.				
13	Saw tenon 250 mm		40 nos.				
14	Hammer, cross peen 115 grams with handle		40 nos.				
15	Hammer, ball peen 0.75 kg. with handle		40 nos.				
16	Firmer Chisel wood 12 mm		40 nos.				
17	Gimlet 6 mm		40 nos.				
18	Bradwal		40 nos.				
19	Scriber 150 mm x Ø4 mm (Knurled centre position)		40 nos.				
20	Pincer 150 mm		40 nos.				
21	Wire stripper 20 cm		40 nos.				
	<b>TOTAL</b>						

**SHOP TOOLS, INSTRUMENTS AND MACHINERY**

**TOOL KIT**

Sl. No.	Description of tools/equipments , machinery and furniture	Specification/Model/Brand/Make	Quantity	Unit Rate	Trade Tax/VAT	Total	
				(in Indian Rs.)	in Figure	In Fig	In Words
1	C. Clamp 200 mm, 150 mm and 100 mm		04 nos.				
2	Spanner 150mm adjustable 15 degree		04 nos.				
3	Blow lamp 0.5 litre		04 nos.				
4	Melting pot		02 nos.				
5	Ladle		04 nos.				
6	Chisel cold firmer 25 mm x 200 mm		04 nos.				
7	Chisel 25 mm x 6 mm		08 nos.				
8	Drill Machine hand 0 to 6 mm capacity		02 nos.				
9	Electric Drill Machine Portable 6 mm capacity		02 nos.				
10	Pillar electric drill machine 12 mm capacity		02 nos.				
11	Allen key		02 sets				
12	Oil can 0.12 litre		04 nos.				

13	Grease gun		02 nos.				
14	Outside Micrometer 0 to 25 mm		02 nos.				
15	Bench grinder motorized		02 nos.				
16	Rawl plug tool and bit		04 sets				
17	Pulley puller 3 legs (250 mm) adjustable		02 nos.				
18	Bearing puller 3 legs (120 mm)/flexible		02 nos.				
19	Hydrometer		04 sets				
20	Thermometer 0 to 100°C		02 nos.				
21	Scissors blade 150 mm		08 nos.				
22	Crimping tool		02 sets				
23	Chisel cold flat 12 mm.		02 nos.				
24	Mallet hard wood 0.50 kg		05 nos.				
25	Hammer Exeter type 0.40kg		12 nos.				
26	Crimping tools heavy duty		10 nos.				
27	Hacksaw frame 200 mm, 300 mm adjustable		12 nos.				
28	Try Square 150 mm blade		06 nos.				
29	Driver 150 mm, outside and Inside Caliper		04 nos.				
30	Plier flat nose 100mm		08 nos.				
31	Plier round nose 150 mm		08 nos.				
32	Plier long nose 150 mm		06 nos.				
33	Tweezers 100 mm		08 nos.				
34	Snip straight 150		06 nos.				
35	Snip bent 150 mm		06 nos.				
36	Spanner D.E. metric standard set (4.7 mm to 20 mm)		06 nos.				
37	Drill hand brace 0 to 100 mm		06 nos.				
38	Drill S.S. Twist Block 2 mm, 5 mm 6 mm set of 3		06 nos.				
39	Plane, smoothing cutters, 50 mm		06 nos.				
40	Gauge, wire imperial		06 nos.				
41	File Flat 200 mm 2 <sup>nd</sup> cut		12 nos.				
42	File half round 200 mm 2 <sup>nd</sup> cut		08 nos.				
43	File round 200 mm 2 <sup>nd</sup> cut		06 no.				
44	File flat 150 mm rough		12 nos.				
45	File flat 250 mm bastard		08 nos.				
46	File flat 250 mm Smooth		08 nos.				
47	Iron, soldering 25 watt, 65 watt, 125 watt each		08 nos.				
48	Copper bit soldering iron 0.25kg		08 nos.				
49	Desoldering gun		08nos.				
50	Vice hand 50 mm jaw		08nos.				
51	Vice table 100mm jaw		12nos.				
52	Pipe cutter to cut pipes upto 5 cm dia		06nos.				
53	Pipe cutter to cut pipes above 5 cm dia		05nos.				
54	Stock and die set for 20 mm to 50 mm G.I. pipe		09nos.				
55	Stock and dies conduit (12 mm to 30 mm )		05nos.				
56	Multi meter 0 to 100 M Ohms, 2.5 to 500 volt		07nos.				
57	Digital Multi meter (3 1/2 digits)		03nos.				
58	A.C. Voltmeter centre zero 100-0-100 m volt		02nos.				
59	Mill Voltmeter M.I.O-500V A.C. 0-250-500V		07nos.				
60	D.C. Milliammeter 0-500 ma, digital + analog		03nos.				
61	D.C Ammeter MC 0-1A		02nos.				
62	Ammeter MC 0-5 A		02nos.				
63	Ammeter MC 0-15 - 25A		02nos.				

64	A.C. Ammeter M.I. 0-5A, 0-500MA (digital)		02nos.				
65	A.C. Ammeter M.I. 0-15 -25A, 0-10-20 A(digital)		02nos.				
66	K.W. Meter 0-1-3 Kw		03nos.				
67	Single phase power factor meter, 0-30A, 230V, (Analog + Digital)		02nos.				
68	Frequency meter (Analog + Digital)		02nos.				
69	Tacho meter with stop watch (Analog + Digital)		03nos.				
70	Current transformer Primary 0-10-20, secondary - 5A		04nos.				
71	Potential transformer 0-230-400V/110V		03 nos				
72	Growler (Internal + external)		02no.each				
73	Tong tester/Clamp meter 0-100 Amp.AC( multi range analog + digital)		03no.each				
74	Megger 500 volts + Earth megger 0-30 Ohm		03no.each				
75	Wheat stone bridge complete with galvanometer and battery		03nos.				
76	Relays - Over current, under voltage, etc. 3 volt, 10 amp.		03nos.				
77	Brake test arrangement with two spring balance of 0 to 25 kg. rating		03nos.				
78	DC power supply 0 - 250 volt, 5 amp.		03nos.				
79	Inverter 1 KVA input 12 volt DC, output 220 volt AC with 12 battery		02nos.				
80	Voltage stabilizer Input -150 - 230 volt AC, Output 220 volt AC - 1 KVA		03nos.				
81	Rheostat 0-10 ohm- 5Amp, 0-100 ohm-5Amp, 0-250 ohm-1Amp., 0-300 ohm-3A		14nos.				
82	Flux meter		2 nos.				
83	Laboratory type induction coil 6 volt to 800-10,000 volt		1 no.				
84	3-point D.C. starters 220 V, D.C., 3 KW		2 nos.				
85	4-point D.C. starters 220 V, D.C., 3 KW		2 nos.				
86	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 completed with friction brake dynamo miter, magnetic break, instrument panel and power supply units		01 per institute				
87	Motor generator (AC TO DC) consisting of: Motor induction squirrel cage, 7 HP 400 Volts, 50 cycles, 3-Phase with star delta starter and switch directly coupled to DC shunt generator 5KW 400 Volts, and switch board mounted with regulator, air circuit breaker, ammeter, voltmeter knife blade switches and fuses, set complete with case iron and plate, fixing bolts, foundation bolts and flexible coupling.		02 no.				

88	Motor generator (AC TO DC) consisting of: Motor shunt 5HP, 440 Volts with starting compensator and switch directly coupled to generator AC .3.5 KVA , 400/230 Volts, 3-phase, 4 wire, 0.8 PF 50 cycles with exciter and 1 switch board mounted with regulator, circuit breaker, ammeter, voltmeter, Synchronous scope meter frequency meter, knike blade switch and fuses etc. Set complete with cast iron bed plate, fixing bolts, foundation bolts and flexible coupling.		04nos.				
89	Phase sequence meter		04nos.				
90	Used DC generators-series, shunt and compound type for overhauling practice		1 no.				
91	DC shunt generator, 2.5 KW, 220 V with control panel		1 no.				
92	D.C. compound generator,2.5 KW 250 V, with control panel including field rheostat, voltmeter, ammeter and circuit breaker		1 no.				
93	Motor series DC 220 volt , 0.5 to 2 HP , coupled with mechanical load		1 no.				
94	Motor shunt DC 220 volt , 2 to 3 HP, coupled with magnetic break		2 nos.				
95	Motor DC compound wound 220 volt 2 to 3 HP with starter and switch		2 nos.				
96	Transformer single phase, 1 KVA, 230/115-50-24-12 Volts, 50 cycles core types, air cooled		3 nos.				
97	Transformer three phase, 5KVA, 440/230Volts, 50 cycles, Delta/Star, Shell type Oil cooled		2 nos.				
98	Variable auto transformer 0-250V, 8 Amps.		2 nos.				
99	Bath impregnating		02nos.				
100	Oven stoving		02nos.				
101	Oil testing kit		1 no.				
102	Battery charger with variable output 1 KW		1 no.				
103	Hygrometer		1 no.				
104	A.C.B. 5KVA		1 no.				
	<b><u>FURNITURES</u></b>						
1	Lockers with two drawers (standard size)		04nos.				
2	Bench working 2.5 X 1.20 X 0.75 meters		08nos.				
3	Almirah 2.5 X 1.20 X 0.5 Meters		02no.each				
4	Fire extinguisher		04nos.				
5	Fire buckets		08nos.				
6	Metal rack 100 X 150 X45 cm		08nos.				

#### COMPONENTS OF RENEWABLE ENERGY SOURCES

Sl. No.	Description of tools/equipments , machinery and furniture	Specification/Model/ Brand/Make	Quantity	Unit Rate		Trade Tax/VAT		Total	
				(in Indian Rs.)		in Figure	In Fig	In Words	
1	Solar cooker		6 nos.						
2	Components of SWH and solar cookers for assembling and dismantling		As required						
3	Different makes of solar lighting systems		6 nos.						
4	Components of solar lighting systems		As required						
5	Cut model of D.C. compound motor		1 no. each						

6	Lux meter		1 no.				
7	Altimeter		1 no.				
	TOTAL						

**SSTARCs**  
**List of Tools & Equipment for a batch of 20 Trainees**  
**ELECTRICIAN - Module - TT - 11**  
**TOOL KIT**

<b>1</b>		<b>Specification/Model/ Brand/Make</b>					
a	Domestic Appliances:- Electric Hot Plate 1500 watt, 220 volt with temperature control		2 nos.				
b	Electric Kettle - 1750 watt, 230 volt		2 nos.				
c	Electric Iron- 1200 watts, 230 volt with temperature control		2 nos.				
d	Immersion Heater 7 750@1000@1500 WATT & 230 Volt Geyser 25 litre, 230 volt		2 nos.				
e	Geyser 25 litre, 230 volt( Storage type)		1 no.				
f	Microwave Oven 20 Lt. convection		2 no.				
g	Washing Machine 6.2 kg automatic		1 no.				
h	Mixer/Grinder		2 no				
i	Hair dryer		2 no.				
2	Cut Out, reverse current, over load, under voltage relays		1 no each				
3	Starter for 3 phase, 400 volt, 50 cycles, 2 to H.P., A.C. motors Direct on line starter Star delta starter with manual, semi & auto and automatic Auto transformer type starter		1 no each				
4	Motor AC squirrel cage, 3 phas 400 volt, 50 cycles, 2 to 3HP with star delta starter and triple pole iron clad switch fuse.		2 nos				
5	Motor AC phase & wound slip ring type 5 HP 400 volts, 3 & phase, 50 cycles with starter and switch		1no				
6	Motor AC series type 230 V, 50 cycles, 1/4 HP with mechanical load.		1 no.				

7	Motor AC single phase 230 V, 50 cycles, 1/4 HP capacitor type with starter switch 1 HP		1 no				
8	Motor universal 230 volts, 50 cycles 1/4 Hpwith starter/switch.		1 no				
9	Stepper motor with digital controller		2 nos				
10	Fan AC 230 volt 1200 mm.		2 nos				
11	Oscilloscope dual Trace, 30 MMHZ		1 no				
12	Function generator		1 no				
13	Discrete component trainer		1 no				
14	Linear I.C. Trainer		1 no				
15	Digital I.C. Trainer		1 no				
16	Thyristor/IGBT controlled DC motor drive 1 HP with tacho- generator feedback arrangment		1 no				
17	Thyrisor /IGBT controlled AC motor drive with VVVF Control,3 phase 2 HP		1 no				
18	A.C drive with microcontroller		1no				
19	D.C. drive with microcontroller		1no				
20	stepper motor		1no				
21	P.L.C.Trainer kit 6/4 input-output micro type		1no				
22	8051 micro controlled kit with simple application		1no				
23	Frequency meter(Digital)		1no				
24	Synchronous scope meter		2nos.				
25	Tachometer digital		2nos				
26	Cut model of 3 phase induction motor		1no				
27	Cut model of watermill and hydro power		1 each				
28	Components of typical small hydro power unit		1set				
29	Components of a typical water mill		1set				
	<b>Furnitures</b>						
1	Instructors table		1 no				
2	Instructor chair		2 nos				

**SSTARCs**  
**List of Tools & Equipment for a batch of 30 Trainees**  
**MODULE ENGINEERING TECHNOLOGY PART 1&2**  
**TRADE:- ELECTRICIAN**  
**TOOL KIT**

Sl. No.	Descriptionof tools/equipments , machinery and furniture	Specification/Model/ Brand/Make	Quantity	Unit Rate		Trade Tax/VAT in Figure	Total	
				(in Indian Rs.)			In Fig	In Words
1	White marker board (Magnetic)		2 nos.					
2	LCD Projector with latest configuration		o2no.					
3	OHP with latest configuration		2 nos.					
4	Computer with latest configuration		4 nos.					
5	Auto-Cad software - 2008 or latest (Mech.& Elect.)		4 nos.					
6	Scanner cum Printer with latest configuration		02 no.					
7	UPS		4 nos.					
8	Computer chair armed		06 nos.					
9	Computer Tables		06nos.					

10	Drawing Board( 2' X 1 1/2')		30 nos.				
	<b>TOTAL</b>						

**LIST OF FURNITURE, ACCESSORIES AND AUDIO VISUAL AIDS FOR AUDIO VISUAL LAB**  
Teaching methodology (COMMON FOR ALL ENGG. TRADES)

**TRADE- ELECTRICIAN**

Sl. No.	Description of tools/equipments , machinery and furniture with Specifications	Specification/Model/ Brand/Make	Quantity	Unit Rate	Trade Tax/VAT	Total	
				(in Indian Rs.)	in Figure	In Fig	In Words
1	Class Room Chairs (armless) / Dual desk may also be allowed		50/25 nos.				
2	Class Room Tables (3ft X 2ft) / Dual desk may also be allowed		50/25 nos.				
4	Table for Trainer (4 1/2 ft X 2 1/2 ft) with Drawer and cupboard		02 nos.				
5	LCD Projector		02 nos.				
6	Multimedia Computer System with all accessories with UPS (.5 KVA)		02set				
8	White Board (6 ft X 4 ft.)		02nos.				
9	LCD Projector Screen		02nos.				
10	Air Conditioner 1.5 Ton (OPTIONAL)		04nos.				
12	Wall Charts, Transparencies and DVDs related to the trade		As reqd.				
13	Document Camera / Visualiser		01 no.				
14	Smart Board / Inter Active Board		01 no.				
15	Over Head Projector		01 no.				
16	Video Camera with stand		01 no.				
	<b>TOTAL</b>						

**FURNITURE, ACCESSORIES AND AUDIO VISUAL AIDS**  
MODULES:TT-I AND TT- II (COMMON FOR ALL ENGG. TRADES)

**TRADE- ELECTRICIAN**

Sl. No.	Description of tools/equipments , machinery and furniture with Specifications	Specification/Model/ Brand/Make	Quantity	Unit Rate	Trade Tax/VAT	Total	
				(in Indian Rs.)	in Figure	In Fig	In Words
1	wall clocks		02 nos				
2	Wall charts, Transparencies and DVDs related to the trade		As req.				
	<b>TOTAL</b>						

**SSTARC**

**List of Tools & Equipment for a batch of 20 Trainees FOR MODULE TT-1**

**Trade:"REFRIGERATION AND AIRCONDITIONING MECHANIC"**

Sl. No.	Description of tools/equipments , machinery and furniture	Specification/Model/ Brand/Make	Quantity	Unit Rate	Trade Tax/VAT	Total	
				(in Indian Rs.)	in Figure	In Fig	In Words
1	Flaring tool set, single type for tube 4.7to 16 mm OD		10Sets				
2	Swaging tool, punch type, set of size, for tube 4.7 to16 mm OD.		4 Sets				
3	Swaging tool, screw type, with adapter set of size for tube 4.7 to 16 mm OD		4 Sets				
4	Bending spring external type, for copper tube 3 to 6 mm. Dia		4 Sets				
5	Pipe cutter miniature for copper tube 3 to 16 mm. Dia		10 Sets				
6	Pipe cutter with build in reamer and space cutter , for copper tube 3 to 32 mm. Dia		8Nos.				
7	Pinch off tool, for copper tube 6 to 18 mm.dia		8 Nos.				
8	Ratchet spanner of 6.4 mm. sq. reversible		8 Nos.				
9	Capillary plug gauge		4 Nos				
10	Pinch off pliers/crimping pliers tool 6-18 mm.dia		4 Nos.				
11	Piercing pliers 6-18 mm. & piercing valves both with access fittings		8Nos.each				
12	Spanner, double ended 4.7 mm to 16 mm.		6 sets				
13	Spanner, double ended 19 mm to 31.8 mm.		2 set				
14	Ring spanner, off set 4.7 mm to 16 mm.		6 Sets				
15	Ring spanner, off set 19 mm to 31.8 mm.		2 set				
16	Box spanner size 6.4 to 10 mm.		4 sets				
17	Wrench adjustable length 150 mm.		8 Nos				
18	Wrench adjustable length 200 mm.		8 Nos.				
19	Wrench adjustable length 225 mm.		4 Nos.				
20	Pipe wrench size150 mm.		4 Nos.				
21	Pipe wrench size 250 mm.		4 Nos.				
22	Torque wrench 300 mm. 12.7 mm. square drive right and left hand		2 set				
23	Valve key –T, handle – 4.7 & 6.4 mm. sq.		8 sets				
24	Socket set, ratchet, reversible 12.7 mm. square drive with extension, 4.7 to 31.2 mm.		4 sets				
25	Socket set, ratchet, reversible, 1/2 square drive with extension, 3/16 to 11/4 BSW & SR		2 Set				
26	Pressure gauge, diameter 63 mm. with recalibration set screw, scale 0 to 35 kg/sq.cm.		12 Nos.				

27	Compound gauge, diameter 63 mm. with recalibration set screw, scale vacuum 76 mm. pressure 15 kg/sq.cm.		12 Nos				
28	Serviceman thermometer in metal case(-30 to+30 Deg. C)		4 Nos.				
29	Sling psychrometer mounted on aluminum back scale (-50 Deg. c. to +50 Deg. C).		4 Nos.				
30	Gas leak detector for halogen gas		4 Nos.				
31	Lapping plate 250x200 mm.		3 No.				
32	Punch hole for cutting gasket, 4.7 to 16 mm. dia		4Nos.				
33	Scissor, gasket cutting stainless steel, length 25 mm.		4 Nos.				
34	L –Allen key set, size 1.5 to 6.4 mm.		4 sets				
35	T –Allen key set, size 5/32 & 1/8		4 sets				
36	Screw driver, plastic handle, 6 mm. tip length 100,150mm.		10 each				
37	Screw driver, plastic handle, 10 mm. tip length 200.250mm.		10each				
38	Philips screw driver- complete set in leather case		4 sets				
39	Screw driver, plastic handle,3 mm. tip length 100 and 150mm. insulated		4 sets				
40	Pliers combination insulated, length 200 mm.		6 nos.				
41	Pliers long nose, length 200mm.		4 Nos.				
42	Pliers flat nose, length 150mm.		4 Nos.				
43	Hammer ball peen 450 gms.		4 Nos.				
44	Hammer ball peen 220 gms.		4 Nos.				
45	Hammer nylon 300 gms.		4 Nos.				
46	Tape, measuring 10 m graduation in mm.		2 No.				
47	Tape, measuring 2 m graduation in mm.		4 Nos.				
48	Chisel flat length 150 mm.		6 Nos.				
49	Hack-saw tubular metal frame adjustable		8 Nos.				
50	Centre punch length 100 mm.		8 Nos.				
51	Oil can pressure type – 1 liter		4 Nos.				
52	File, flat medium double cut, length 200 mm.		8 Nos.				
53	File, half round medium, double cut length 200 mm		8 Nos.				
54	File, half round, fine double cut, length 150 mm.		8 Nos.				
55	File, round, fine, double cut, length 150 mm.		8 Nos.				
56	File flat, fine double cut, length 150 mm.		8 Nos.				
57	File square, fine double cut, length 150 mm.		8 Nos.				
58	Soldering Iron exchangeable copper tip 65 watts.		10 Nos.				
59	Pipe bending tool, lever type with degree indicator, for tube OD 6.4 to 16 mm.		4 Sets				
60	Puller 3 legged, with flexible arm 120 mm.		2 No.				

61	Puller 2 legged, with flexible arm 300 mm.		2 No.				
62	Hand blower portable complete 1/10 HP motor & other attachments.		2 No.				
63	Snipper sheet metal straight nose 200 mm.		2 No.				
64	Vernier Caliper length 250 mm.		3 No.				
65	Micrometer, outside measurement 0-25 mm.		4 Nos.				
66	Vernier height gauge 250 mm.		2 No.				
67	Bench vice 75 mm. jaw		4 Nos.				
68	Bench vice 120 mm. jaw		4 Nos.				
69	Electrical drill portable with chuck and key, capacity 6.4 mm.		4 Nos.				
70	Pillar drilling machine 200 to 2500 rpm. capacity 20 mm.		2 No.				
71	Pedestal grinder, double ended wheel dia 200 mm. 3000 rpm.		2 No.				
72	Oxy- Acetylene welding set complete with cylinders regulators welding torches with difference nozzles		2 set complete				
73	Gas cylinder truck two wheel type		2 No.				
74	Line tester 500 volt. Heavy duty		8 Nos.				
75	Tong-tester 0-10-30 amps. 0-500 volts (Clamp on Multimeter)		8 Nos.				
76	Voltmeter AC/DC portable, precision grade teak wood case, leather belt, 0 to 5 amp.		10 Nos.				
77	Ammeter AC/DC portable, precision grade teak wood case, leather belt, 0 to 5 amp.		10 Nos.				
78	Ammeter AC/DC portable, precision grade teak wood case, leather belt, 0 to 30 amp.		10Nos.				
79	Megger- 1000 Volt.		2 Nos				
80	Variac input 230 volt output 400 volt. amp. portable complete with meters and controls.		2Nos.				
81	Wattmeter, multi range up to 1 KW		2Nos				
82	Wattmeter, multi range up to 5 KW		2 Nos				
83	Multimeter – Analog type		5 Nos.				
84	Multimeter – Digital type		7 Nos.				
85	Tachometer digital, multi range 0 to 3000 rpm. Portable, small size in leather case		2Nos				
86	Transistor tester		2Nos				
87	R.L.C. Bridge		2 Nos				
88	Stop watch		2 Nos				
89	Hand grinder small		1 No.				
90	Filler, gauge 0.05 mm. -1 mm.		2 Set				
91	Wire gauge metric and Whitworth		2 Set				
92	Refrigerant cylinder capacity 2.5 Kg.		2 Nos.				
93	Refrigerant cylinder capacity 20 Kg.		4 Nos.				
94	Refrigerant cylinder capacity 05 Kg.		4 Nos.				

95	Evacuating & refrigerant charging station comprising Rotary two stage vacuum pump and motor (with gas ballast & anti suck back) Manifold with gauges & valves and capable of pulling vacuum up to 50 microns of Hg and with provision of connecting to a micro level vacuum gauge Graduated charging cylinder with provisions for temperature correction and all necessary isolating valves Evacuating & charging station as above but fitted with weighing scale (up to 2 kg. in lieu of (b) above and with accuracy of +/- 1gram, for charging hydrocarbons.		2 Set.				
96	Dial thermometer remote control, armored capillary dial 75 mm.-50 Deg. C to + 50 Deg. C.		2Nos				
97	Two stage rotary vacuum pump of capacity approx 60-100 L/min., capable of evacuating to 50 microns of Hg and fitted with gas ballast, anti suck back valve and single phase motor.		2 Nos.				
98	Anemometer (Vane type)		2 No.				
99	Air compressor, two stage for oil-less dry air, with rust proof tank assembly, heater and control max. Pressure. 10 kg/sq. cm cap. 45 liter, Motor 1 HP		2 No.				
100	Scraper, triangular blade removable 60 mm.		2 Nos.				
101	Descaling pump set with stainless steel impeller and housing complete with motor 1 HP and accessories.		2 No.				
102	Spray outfit, 'V' twin, with motor ½ HP. delivery up to 120 liter free air pressure up to 3 Kg/sq.cm. with spray gun and fitting.		2 No.				
103	Pressure testing tank with lighting arrangement, pressure gauge (0 to 35 kg/sq.cm.) double stage		1 No.				
104	Heating kit with infra red bulb (200 watt. capacity)		1 Set.				
105	Refrigerator, compression type 165 liter/170 liter		2 Nos.				
106	Refrigerator, compression type 300 liters double door, doubles compressor system.		2 Nos.				
107	Deep freezer 165 liter – 18 Deg. C., ¼ HP		1 No.				

108	Window air conditioning capacity 3000 k. cal/hr		2 Nos.				
109	Window air conditioning capacity 4500 k. cal/hr		2 Nos.				
110	Split air conditioning capacity 4500 k. cal/hr		2 Nos.				
111	Split air conditioning capacity 4500 k. cal/hr		2 Nos.				
112	Bottle cooler, 110 liters, 1/6 HP.		1 No.				
113	Water cooler instantaneous type		2 Nos.				
114	Water cooler, storage type		2Nos.				
115	Ice candy unit complete with stainless steel tank. Mould box. Thermocole insulated sun mica body, agitator compressor, motor etc. Temperature, pressure refrigerant control gauges, motor, pipe fitting etc. 3000 K Cal/hr. or working trainer model/ simulator.		2 Nos.				
116	Prefab PUF insulated panel for cold room 6 x 4.5 x 8 cft. maintaining temp. 0 deg. to +5 deg. C. Condensing unit complete with semi sealed compressor duly mounted on base plate & charged R-22 gas. Evaporator unit complete with expansion valve & other accessories. Electrical control panel complete with digital temperature & pressure indicator & other electrical controls. Fabrication/ Erection/Insulation completed by supplier.		1 complete set.				
117	Air conditioning plant, Direct system with Air cooled condenser, complete with all controls including humidity control etc. capacity 15000 k.cal/hr.or working trainer model/simulator. Alternatively, a packaged Air-conditioner of similar capacity.		2Nos.				
118	Air conditioning plant, Indirect system with Water cooled condenser,chiller, Cooling Tower, complete with all controls including humidity control etc. capacity 15000 k.cal/hr.or working trainer model/simulator.		2 Nos				
119	Condensing unit with open type compressor air cooled condenser controls etc. capacity 3000 kcal./hr.		2Nos.				
120	Condensing unit with open type compressor evaporative condenser controls etc. capacity 3000 kcal./hr.		2Nos.				
121	Reciprocating compressor with provision of capacity control etc. for demonstration, capacity 9000 kcal./hr.		2Nos.				
122	Work bench 1000x600x800 mm.high		8Nos.				

123	Almirahs, 195x90x49 cm.		8Nos.				
124	Lockers of eight compartments		4Nos.				
125	White board portable		2Nos.				
126	Desk top table and two revolving chairs		2Set.				
127	Micron vacuum gauge capable of reading up to 20 microns		4Nos.				
128	Sensor thermometer (digital)		4Nos.				
129	Fin straightener/ fin comb		2Nos.				
130	Hc refrigerant cylinders/ disposable containers		4Nos.				
131	134a refrigerant cylinders		4Nos.				
132	Recovery unit for 134a refrigerants with recovery cylinder.		2Nos.				
133	Recovery unit for CFC refrigerants with recovery cylinder.		2 Nos.				
134	Reverse cycle AC/Heat pump 3000 kcal/hr. or 4500 kcal/hr		2Nos.				
135	Refrigerator 170 liter using 134 A refrigerant		4Nos.				
136	No frost refrigerator 300 liter capacity using HC refrigerant		4Nos.				
137	Automatic Ice cube m/c capacity 5kg/hr		2Nos.				
138	Fire extinguisher powder type		4Nos.				
139	Dry Nitrogen gas cylinder with drier unit and 2 stage pressure regulator.		2Nos.				
140	Two way manifold with gauges		2Nos.				
141	Four way manifold with gauges		2Nos.				
142	Small Car A/C Kit with driving arrangements		2 Nos.				
143	Components of car AC systems wobble plate compressor with mounting brackets serpentine evaporator parallel flow condenser hoses, tubes, receiver, expansion valve electrical components & siring harness		1No.each				
144	Small capacity shell and tube condenser		2Nos.				
145	Fan coil unit with water valves (2&3 way)		2Nos.				
146	Shell and tube, DX chillers (small)		2Nos.				
147	Circulating water pump (small)		2Nos.				
148	Schraeder valve core removal tool		1Nos.				
149	Pitot tube & inclined tube manometer		2Nos.				
150	Hermetic compressors (1/6hp.)		4 Nos.				
151	Hermetic compressors (1/2hp.)		4 Nos.				
152	Semi-hermetic compressor (1/2hp.)		2 Nos.				
153	Rotary compressors 1 TR		4 Nos.				
154	Quick couplers, process tube adaptors for ¼", 3/8" tubes		4 pairs for each tube				
	<b>TOTAL</b>						

**SSTARC**

**List of Tools & Equipment for a batch of 20 Trainees FOR MODULE TT-II  
Trade:"REFRIGERATION AND AIRCONDITIONING MECHANIC"**

Sl. No.	Description of tools/equipments , machinery and furniture with Specifications	Specification/Model/ Brand/Make	Quantity	Unit Rate	Trade Tax/VAT	Total	
				(in Indian Rs.)	in Figure	In Fig	In Words
1	Split type AC 4500 kcal/hr. With indoor unit & outdoor units and electronic remote control inverted control (EER mes)		2 nos				
2	Spirit level precision metallic 200 mm.		1 No.				
3	Anemometer dial type 1-10,000 meter/min.		1 No.				
4	cold storage plant complete with all controls and accessories including cooling tower and water treatment plant capacity 15000k.cal/hr. or working trainer model/simulator.		1 No.				
5	Dial type manometer 0-10,000 meter/minutes		1 No.				
6	Hermetic compressor 1.5 TR (AC)		1No.				
7	Visi cooler 270 Ltr.		1 No.				
8	Recycling unit (Optional)		1 No.				
9	LCD projector		1 No.				
10	Over head projector		1 No.				
11	Computers(Latest Version) with all accessories & UPS 650 VA.		5Sets.				
12	LASER PRINTER		1 No.				
13	Bacnet / Lonwork / Web monitoring tool Software		1 No.				
14	CBT / simulating software on commercial refrigeration system		1 Set.				
15	Hygrometer		1 No.				
16	Hydrometer		1 No.				
17	CBTs on Railway/Bus/Air-craft/ Marine A/Cs.		1 Set				
18	Interactive Board		1 No.				
19	Internet Connectivity		1 No.				
20	EER Machine i.e. VRV & VFD air conditioning system, small capacity.With inverter control system		1 No.				
21	A/C system with digital scroll compressor-twin/triple compressor complete with microprocessor control boards		1 No. compl ete				
<b>TOTAL</b>							

**FURNITURE ACCESSORIES AND AUDIO VISUAL AIDS FOR THE MODULES TT-1 & TT-2  
(COMMON FOR ALL ENGG, TRADES)**

Sl. No.	Description of tools/equipments , machinery	Specification/Model/ Brand/Make	Quantity	Unit Rate	Trade Tax/VAT	Total
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Sl. No.	and furniture	del/ Brand/Make	Quantity	(in Indian Rs.)	in Figure	In Fig	In Words
1	Class Room Chairs (armless) / Dual desk may also be allowec		50/25				
2	Class Room Tables ( 3ft X 2ft) / Dual desk may also be allowec		50/25				
3	Chair for Trainer (armed) movable		2				
4	Table for Trainer (4 ½ ft X 2 ½ ft) with Drawer and cupboard		2				
5	LCD / LED Projector		2				
6	Multimedia Computer System with all accessories with UPS (.5 KVA)		02 set				
7	Computer Table		2				
8	White Board (6ft X 4 ft.)		02 no.				
9	LCD Projector Screen						
10	Air Conditioner 1.5Ton (OPTIONAL)		4				
11	Wall Clock		02 no.				
12	Wall charts, Transparencies and DVDs related to the trade		as required				
13	Laser Printer with scanner		1				
14	Steel Cupboard with 8 pigeon lockers		3				
15	Work bench for fitters with two vices of 100mm		2				
16	Steel cupboard 180x90x45cm		2				
17	Steel cupboard 120x60x45cm		2				
18	Multi drawer tool rack trolley with minimum 4 drawers and 20 tool capacity		4				
19	First aid box.		1				
	<b>TOTAL</b>						

**LIST OF FURNITURE, ACCESSORIES AND AUDIO VISUAL AIDS FOR AUDIO VISUAL LAB  
(COMMON FOR ALL ENGG, TRADES)**

Sl. No.	Description of tools/equipments , machinery and furniture	Specification/Model/ Brand/Make	Quantity	Unit Rate	Trade Tax/VAT	Total	
				(in Indian Rs.)	in Figure	In Fig	In Words
1	Wall charts, Transparencies and DVDs related to the trade		as required				
2	Document Camera / Visualiser		1				
3	Smart Board / Inter Active Board		1				
4	Over Head Projector		1				

5	Video Camera with stand		1				
6	Printer cum Scanner		1				
	Total						