

INSTITUTE OF TEXTILE TECHNOLOGY, CHOUDWAR, CUTTACK - 754025

TENDER NOTICE

No.1618, Dated.15.12.2009

The **Principal, Institute of Textile Technology, Choudwar, Cuttack** invites sealed quotations from Manufacturers, Authorized Dealers and Registered Suppliers for supply of Machineries and Equipments of reputed make required for **Mechanical, Electrical, Mechatronics and Electronics branch of ITT, Choudwar** for the year **2009-10**. Interested eligible bidder required to supply the above items, may purchase the bidding document for the above tender on payment of non-refundable fees of **Rs.500/-** (Rupees five hundred) only in shape of **Account Payee Demand Draft** from any **Nationalized Bank**, drawn in favour of "**The Principal, ITT, Choudwar, Cuttack**" payable at **Cuttack** on **18.12.2009 to 04.01.2010** from **O/o Principal, ITT, Choudwar, Cuttack-754025** in all working days during office hours. The tender paper can also be down loaded from the website www.dtetorissa.gov.in and submit the same along with above tender paper cost in shape of Account Payee Demand Draft. All bids must be accompanied by Bid security of **1%** tendered value in shape of **Account Payee Demand Draft** drawn in favour of "**Principal, ITT, Choudwar, Cuttack**" payable at **Cuttack** from any **Nationalized Bank** alongwith copies of valid **VAT Clearance Certificate** and other relevant documents of the bidder failing which the bid will liable for rejection. The bid security in other form like cash, personal cheque etc. will not be accepted and in such case bid will be rejected. In case of outside state bidder, the concerned bidder is required to submit **Orissa VAT Clearance Certificate** alongwith the valid ITCC from the competent authority. The last date and time of receipt of bids is **04.01.2010** upto **5.00 P.M.** and bids will be opened on **05.01.2010** at **11.30 A.M.** in presence of bidders who choose to remain present. The complete bidding document conforming to the terms and conditions for the bid should be sent to the **Principal, ITT, Choudwar, Cuttack-754025**. The Principal, ITT, Choudwar, Cuttack shall not be responsible for non-receipt or late receipt of bid documents sent by post. Bid received late on account of any reason whatsoever will be rejected / returned to the bidder unopened. The authority reserves the rights to reject any or all bids without assigning any reason thereof.

Sd/-
(P.R. MOHANTY)
Principal, ITT, Choudwar,
Cuttack

**INSTITUTE OF TEXTILE TECHNOLOGY,
CHOUDWAR, CUTTACK-754025**

**GENERAL TERMS AND CONDITIONS OF CONTRACT OF
MACHINERIES & EQUIPMENTS FOR ITT, CHOUDWAR, CUTTACK**

1. Eligible Goods and Services :-

1.1 The bidders shall quote the articles of reputed make as enclosed, with their brand names as per the bid technical specifications and may quote alternative standards in the bid. The articles quoted should have adequate service facilities.

2. Documents Establishing Bidder's Eligibility & Qualification :-

2.1 The bidder shall furnish as part of the bid the following documents establishing Bidder's eligibility and qualification to perform the contract, to the Purchaser's satisfaction.

- a) That the bidder who is not a Manufacturer / Producer, has been duly authorized by the Manufacturer / Producer to supply the goods.
- b) That the bidder (in case of manufacturers) has financial, technical and production capacity necessary to perform the contract.
- c) That the bidders (in case of Registered Suppliers) has executed supply of such items as mentioned in schedule of requirement of Goods to different Government Organisations.
- d) Copies of valid VAT / STCC and ITCC / Non-Assessment certificates shall be furnished by the bidder and the originals of the above certificates shall be produced to the purchaser before placement of notification of award. In case of outside State Bidders, the concerned firm is required to submit copy of the Non- Assessment Sales Tax Clearance Certificate issued by competent Sales Tax Authority of the State of Orissa in favour of their firm alongwith copy of the VAT \ CST & Income Tax Clearance Certificate. Any bidder failing to submit the above documents the Bid of the firm may be rejected.

3. Documents Establishing Goods Eligibility :-

3.1 The goods offered against the schedule of requirement of goods should be in accordance with the stipulated specifications.

3.2 The documentary evidence may be in the form of literature, pamphlets, manuals, drawing, circuit diagram etc. and shall furnish :

- a) Detailed description of goods with essential technical and performance characteristics.
- b) A list giving full particulars, including available source and current price of spare parts, special tools etc. necessary for proper and continuing function of the goods for a period of two years following the commencement of the use of the goods by the purchaser.

4. **Bid Price :-**

- 4.1 The bidder shall quote their lowest possible price and prices quoted by the Bidder shall be fixed during the Bidder's performance of the contract and not subject to any variation.
- 4.2 The contract price shall include the cost of the goods, charges towards packing, forwarding, handling, insurance, freight, incidental service, installation & commissioning of the goods and training to the consignee's personnel at site.
- 4.3 The bidder shall furnish the break up of cost as follows solely for the purpose of facilitating the comparison of Bids only. The price must be stated separately for each item.
- a) Ex-Factory / Ex-Warehouse / Ex-Showroom / off the self price
 - b) Packing, Forwarding and Handling charges
 - c) Insurance charges
 - d) Freight up to destination Institution.
 - e) Erection, Assembly, commissioning, incidental service, including testing, training charges
 - f) Tax component (i.e Excise Duty, Sales Tax, VAT other levies) payable by the Consignee.
 - g) Delivery cost at site (including Tax Component)

5. **Bid Security Deposit :-**

- 5.1 All bids must be accompanied by the Bid Security @ 1% of the tender value in shape of Demand Draft only drawn in favour of "**Principal, ITT, Choudwar, Cuttack**" payable at **Cuttack, enclosed in sealed envelope, failing which the tender will be rejected.**
- 5.2 The bid security is required to protect the Purchaser against the risk of Bidder's conduct which would warrant the security's forfeiture.
- 5.3 Unsuccessful bidders' bid security will be discharged or returned as promptly as possible but not later than thirty (30) days after the expiration of the period of bid validity prescribed by the Purchaser.
- 5.4 The successful bidder's bid security will be discharged upon the Bidder signing the contract and furnishing the performance security.
- 5.5 The bid security may be forfeited if a bidder withdraws its bid during the period of bid validity. In the case of a successful bidder, if the bidder fails to furnish performance security in accordance with the Clause-6.

6. **Performance Security :-**

- 6.1 The successful bidder shall furnish performance security within **21 days** after the supplier's receipt of Notification of Award for an amount equivalent to **5%** of the contract price in the form of a irrevocable Bank Guarantee issued by a Nationalized Bank in favour of the purchaser valid upto 60 days after the date of completion of performance obligations including warranty obligations. The performance security forms enclosed in **Annexure-II** of the bid document.

- 6.2 The Performance Security will be discharged by the Purchaser and returned to the Supplier not later than 60 days following the date of completing of the Supplier's performance obligations, including any warranty obligation, under the contract.
- 6.3 The Performance Security is liable to be deducted/ forfeited for any or all the following reasons :
- a) Unusual delay in complying the order
 - b) Termination of contract for default.
 - c) Any default, failure or negligence in fulfilling the contract, losses incurred by the purchaser during guarantee / warranty period.

7. **Delivery of Goods :-**

- 7.1 The delivery of goods shall be made by the supplier in accordance to the order placed / notification of award to the consignee as shall be detailed in the schedule of requirement of goods.

8. **Inspection / Test :-**

- 8.1 The Purchaser or his representative shall have the right to inspect / examine / test the goods in conformity to contract awarded.
- 8.2 The inspection / examination / test may be conducted in the premises of the Supplier or at the goods final destination at the premises of the consignee, as will be decided by the Purchaser.
- 8.3 The purchaser's right to inspect/ examine/test & where necessary to reject the goods after the goods arrival at the final destination, shall in no way be limited or waived by the reason of the goods having been inspected and tested by the manufacturer previously.
- 8.4 In case of any inspected / tested goods fail to confirm to the specification/ working condition, the purchaser may reject them and the supplier shall replace / repair the same free of cost to the purchaser.

9. **Payment Terms :-**

- 9.1 No advance payment is allowed by the purchaser to the supplier for any deal.
- 9.2 The standard payment terms (subject to recoveries, if any) upon submission of required documents shall be as follows :
Full 100% payment shall be made after check / inspection / verification / successful test & demonstration / installation and commissioning / satisfactory training and final receipt and acceptance of goods by the consignee.

10. **Guarantee/Warranty for supply of Machineries and Equipments :-**

- 10.1 The Supplier warrants that the goods supplied under the contract are new, unused, of the most recent or current models and incorporate all recent improvements in design and materials unless provided otherwise in the contract. The Supplier further warrants that the goods supplied under this contract shall have not defect arising from design,

materials or workmanship or from any act or omission of the supplier that may develop under normal use of the supplied goods in the conditions obtaining in the area of final destination.

10.2 Upon receipt of such notice, the supplier shall, with all reasonable speed, repair or replace the defective goods or parts thereof, without costs to the Purchaser.

10.3 If the Supplier, having been notified, fails to remedy the defect(s) within a reasonable period, the purchaser may proceed to take such remedial action as may be necessary at the supplier's risk and expense and without prejudice to any other rights which the purchaser may have against the supplier under the contract.

11. **Packing :-**

11.1 The Supplier shall provide such packing of the goods as is required to prevent their damage or deterioration during transit to their final destination. The packing shall be sufficient to withstand, without limitation, rough handling during transit and exposure to extreme temperatures, salt and precipitation during transit and open storage. packing case size and weights shall take into consideration, where appropriate, the remoteness of the goods, final destination and the absence of suitable handling facilities at all points in transit.

12. **Insurance :-**

12.1 The Purchaser will not pay separately for transit Insurance. The supplier is completely responsible for delivery of goods in perfect condition and shall replace/ rectify the missing / defective parts if any at his own cost.

12.2 The goods to be supplied under the contract shall be fully insured (**110%** of the Ex-Factory / Ex-shop value of the goods) against loss or damage incidental to manufacture or acquisition, transportation, storage and delivery of the goods from Warehouse / Factory / Ex-shop of the supplier to the delivery on "**All Risk**" basis including war Risks and strike clauses.

13. **Transportation :-**

13.1 The Supplier shall be required to meet all transport and storage expenses until delivery of the goods covered in the contract to the Consignee.

14. **Incidental Services :-**

14.1 The supplier shall be required to provide any or all of the following services : (The cost shall be included in the contract price).

- a) Furnishing of detailed literature / pamphlets / circuit diagram / operation and maintenance manual / drawings (as applicable) for each appropriate unit of supplied goods.

- b) Furnishing of tools required for assembly and / or maintenance of the supplied goods.
- c) Performance or supervision of on-site assembly and / or maintenance of the supplied goods.
- d) Performance or supervision or maintenance and/ or repair of the supplied goods, for a period of time agreed by the parties, provided that this service shall not relieve the supplier of any warranty / guarantee obligations under the contract.
- e) Training of the purchaser's personnel at the supplier's plant and / or on site, in assembly, start up, operation, maintenance and / or repair of the supplied goods.
- f) A maintenance contract for the goods supplied, if required by the user beyond the warranty period shall be on mutually agreed terms between the user and supplier. The cost of such maintenance contract shall not be included in the bid cost.

15. Taxes and Duties :-

- 15.1 The Supplier shall entirely responsible for all Government Taxes and Duties etc. incurred until delivery of the contract goods to the consignee subject to recovery after words in the bill as claimed in the bid offer.
- 15.2 The Excise Duty is payable to Manufacturer quoting excisable items, on production of proof thereof, if claimed in the bid offer.
- 15.3 Orissa VAT as applicable is payable, to the suppliers of the State of Orissa if claimed in the Bid offer.
- 15.4 C.S.T will be paid to the Suppliers of the outside State other than Orissa, if claimed in the bid offer.
- 15.5 Entry Tax, if paid by the supplier, at the local (destination head) Corporation / Municipality / NAC is allowed once only on production of money receipt for such payment, if claimed in the bid offer.

16. Period of Validity of Bids :-

- 16.1 The bid shall remain valid for a period of minimum **120 days** for acceptance, from the date of opening of bid as prescribed by the purchaser.
- 16.2 A bid valid for a shorter period may be rejected, as non-responsive.
- 16.3 In absence of any indication of the date of validity in the bid, it will be presumed that the offer will remain valid for a minimum period as prescribed.
- 16.4 In exceptional circumstances the purchaser may solicit the bidders consent for extension of the period of validity. If agreed upon, the bid security so deposited shall also be suitably extended.

17. Standards :-

- 17.1 The goods supplied under this contract shall conform to the standards mentioned in the Technical Specifications and when no applicable standard is mentioned, the goods shall conform to the latest National/ International standards.

18. **Sealing and Marking of Bids :-**
- 18.1 The bidders shall submit bids in sealed covers. **The bid security in shape of draft shall be enclosed along with bid, failing which the tender will be rejected.**
- 18.2 **The sealed bid envelope shall be :-**
- a) Addressed to the purchaser at the following address :
Principal, ITT, Choudwar, Cuttack-754025.
- b) Bear **'PROCUREMENT OF** (as mentioned in the tender notice)
'DO NOT OPEN BEFORE' (the last date & time of opening as indicated in tender notice).
19. **Deadline for Submission of Bids :-**
- 19.1 Bids must be received by the purchaser at the address specified no later than the date and time mentioned in the tender notice,
- 19.2 The purchaser may, at its discretion, extend this deadline for the submission of bids.
20. **Late Bids :-**
- 20.1 Any bid received by the purchaser after the deadline for submission of bids prescribed by the purchaser, will be rejected and / or returned unopened to the bidder.
21. **Opening of Bids by Purchaser :-**
- 21.1 The purchaser will open bids on **05.01.2010** at **11.30 A.M.** in the presence of Bidder's Representatives who choose to attend, at the date and time of opening mentioned in the Tender Call Notice in the following location.
"Directorate of Technical Education & Training, Orissa, Killamaidan, Buxi Bazar, Cuttack-753001, Office Chamber of Deputy Director (SPIU)".
The Bidders' Representatives who are present shall sign a register evidencing their attendance.
- 21.2 The bidders' name, bid prices, modifications, bid withdrawals and the presence or absence of the requisite bid security if any and such other details as the purchaser, at its discretion, may consider appropriate will be announced at the opening.
22. **Preliminary Examination :-**
- 22.1 The purchaser will examine the bids to determine whether they are complete, whether any computational errors have been made, whether required securities have been furnished, whether the documents have been properly signed, and whether the bids are generally in order.

- 22.2 Arithmetical errors will be rectified on the following basis. If there is a discrepancy between the unit price and the total price that is obtained by multiplying the unit price and quality, the unit price shall prevail and the total price shall be corrected. If the supplier does not accept the correction of the errors, its bid will be rejected. If there is a discrepancy between words and figures, the amount in words will prevail.
- 22.3 Prior to the detailed evaluation, the purchaser will determine the substantial responsiveness of each bid to the bidding documents. For purposes of these clauses a substantially responsive bid is one which conforms to all the terms and conditions of the bidding documents without material deviations. The purchaser's determination of a bid's responsiveness is to be based on the contents of the bids itself without recourse to extrinsic evidence.
- 22.4 Bids received without certified copies of ITCC & STCC / VAT valid upto current year issued by competent authority may be treated as non-responsive and liable for rejection.
- 22.5 Bids received without the requisite Bid Security shall be treated as non-responsive and shall be rejected.
- 22.6 The purchaser may waive any minor informality or non-conformity or irregularity in a bid which does not prejudice or affect the relative ranking of any bidder.

23. **Evaluation and Comparison of Bids :-**

- 23.1 The comparison shall be of Ex-factory / Ex-warehouse / off-the shelf price of the goods offered from within the Purchaser's Country, such price to include all costs as well as duties and taxes paid or payable on components and raw-material incorporated or to be incorporated in the goods, the CIF port-of-entry price of the goods offered from outside the Purchaser's Country.
- 23.2 The purchaser's evaluation of a bid will take into account, in addition to the bid price and the price of incidental services, the following factors :-
- a) Cost of the inland transportation, insurance and other costs as per Clause 4 within the Purchaser's Country incidental to delivery of the goods to their final destination;
 - b) Delivery schedule offered in the bid;
 - c) Deviations in payment schedule from that specified in the General Terms & Conditions of Contract;
 - d) The cost of components, spare parts and service.
 - e) The availability in the Purchaser's country of spare parts and after-sales services for the goods offered in the bid;
 - f) The projected operating and maintenance costs during the life of the equipment / goods.
 - g) The performance and productivity of the equipment / goods offered;
 - h) The quality and adaptability of the equipment / goods offered.

24. **Award Criteria :-**

24.1 The purchaser will award the contract to the successful bidder whose bid has been determined as the lowest evaluated bid, provided further that the bidder is determined to be qualified to perform the contract satisfactorily.

24.2 Quality, durability and adaptability of the equipment / goods offered suiting to use in training practice shall continue to be the overriding factor for selecting any goods and determining the lowest evaluated bid.

25. **Purchaser's Right to Accept any Bid and to Reject any Bid :-**

25.1 The purchaser reserves the right to accept or reject any bid and to annul the bidding process and reject all the bids at any time prior to award of contract, without thereby incurring any liability to the affected bidder or bidders of the grounds for the Purchaser's action.

26. **Notification of Award :-**

26.1 Prior to the expiration of the period of bid validity, the purchaser will notify the successful bidder in writing by Registered letter or by Fax, to be confirmed in writing by registered letter or by speed post, that its bid has been accepted.

26.2 The notification of award will constitute the formation of the contract.

26.3 Upon the successful bidder's furnishing of the performance security, the purchaser will promptly notify each unsuccessful bidder and will discharge its bid security.

27. **Signing of Contract**

27.1 At the same time as the purchaser notifies the successful bidder that its bid has been accepted, the purchaser will send the bidder the contract form provided in the bidding documents, incorporating all agreements between the parties.

27.2 Within **21 days** of receipt of the contract form, the successful bidder shall sign and date the contract and return it to the purchaser.

28. **Resolution of Disputes**

a) The consignee and the supplier should try to resolve the disputes (if any) amicably.

b) Thereafter, it should be taken up with the **Principal, ITT, Choudwar, Cuttack**.

c) Thereafter, it may be taken to the proper **Court of Law at Cuttack** only where the **Principal, ITT, Choudwar, Cuttack** is situated.

Principal, ITT, Choudwar, Cuttack

**PRICE SCHEDULE FOR GOODS
(ITEM WISE)**

Bid No. _____

Category _____

1. Item No. :
2. Item with specification :
3. Total quantity to be delivered :
(Approx. quantity as shown in schedule of requirement)
4. Bid Price.
 - a) Rate per unit at delivery point :
(excluding tax component)
 - b) Delivery cost at site (3 x 4a) :
5. Delivery period offered :
6. Break up Price (of SL – 4b)
 - a) Ex-factory/Ex-ware house/Ex-show room/off the shelf price :
 - b) Packing, for warding & handling charge :
 - c) Insurance charge (if any) :
 - d) Transportation cost up to institution :
 - e) Erection, Assembly, Commissioning & incidental service :
 - f) Delivery cost at site (excluding tax component)
(Add 6a + 6e) = 4b.
7. Tax Components.
 - a) Excise duty (if any) :
 - b) VAT/Sales Tax and other levies (if any) :
 - c) Total tax component (Add 7a + 7b) :
8. Delivery cost at site (including tax component)
(Add 6f + 7c)

Signature of the Bidder

PERFORMANCE SECURITY

Bid No. _____

Notification of Award No. _____

Reference No......

Bank Guarantee No.....

To

**The Principal,
I.T.T., Choudwar,
Cuttack - 754025.**

M/s.....

(Address).....

.....

(The Supplier)

Where in the above supplier has undertaken in pursuance of contract for the above referred bid to supply the goods and services as mentioned in the notification of Award of Contract issued by you (the purchaser) in favour of the supplier.

Where as it has been stipulated by you in the said Notification of Award that the supplier shall furnish you with a Bank Guarantee by a Nationalized Bank for the sum as specified there in as security for compliance with the supplier's performance obligations in accordance with the contract.

And where as we have agreed to give the supplier a Bank Guarantee.

Therefore, we hereby affirm that we are guarantors and responsible to you on behalf of the supplier, upto a sum of Rs..... (Rupees) and we undertake to pay you, upon your first written demand declaring the supplier to be in default under the contract and without cavil or argument, any sum or sums within the limits of guarantee amount, as aforesaid, without your needing to prove or to show grounds or reasons for your demand of the sum specified therein. This guarantee is valid until..... Day of month of 200.....

Date :-

**Signature of Authority of Guarantor Bank
Address and Seal.**

WARRANTY MAINTENANCE CONTRACT AGREEMENT.

THIS AGREEMENT made the.....day of, 2010 Between The **Principal, ITT, Choudwar, Cuttack-754025** (hereinafter "the Purchaser") of the one part and M/s (Hereinafter called "the Supplier") of the other part :

WHEREAS the Purchaser invited bids for certain goods and ancillary services viz, supply, installation and commissioning of the equipment at Consignee site including Warranty Maintenance Services and has accepted a bid by the Supplier for the supply, installation and commissioning of the equipment specified below at the Consignee site including Warranty Maintenance Services for a period of 3 years / 1 year from the date of installation and commissioning of the equipment as per Principal, ITT, Choudwar, Cuttack Award of Contract No..... dated.....

Name of the Machineries and Equipments

Quantity

(To be filled in as per details of goods in the award of contract)

NOW THIS AGREEMENT WITNESSETH AS FOLLOWS :

1. Maintenance Services shall consist of Preventive and Corrective maintenance of equipment specified above & will include supply and replacement of parts free of cost.
2. Preventive maintenance, monthly once, which includes:
 - 2.1 Check-up to ensure that device connection is proper, cabling is at proper condition etc.
 - 2.2 Cleaning of the above equipment and checking the System Performance.
3. The Supplier is to furnish the tentative schedule of the preventive maintenance (as mentioned in item-1) of Warranty Maintenance Contract (WMC) to be carried out.
4. The parts replaced must be new parts or equivalent in performance to new parts.
5. The Supplier will also provide the same maintenance service in case of the movement of equipment from the place of original installation to a different place or location.
6. Any complaint informed through telephone must be acknowledged with a Complaint No. by the Supplier which will be noted by Consignee. All further contact with the Supplier on such complaint will be initiated through that Complaint Number Once rectification done, that Number will be canceled by both parties. A register is to be maintained by the Supplier where complaints are to be noted along with Complaint Number.
7. Shoes should be removed before entering into the Computer room or the place at which the equipment has been installed.

8. The maintenance shall normally be done during working hours of the customer i.e. from **10.00 AM to 5.00 PM**. However, in case of emergency, maintenance may have to be done beyond office hours and even on holidays. Prior arrangement through proper communication should be worked out in all such cases by the Supplier and the Consignee.
9. The Service Engineer of the Supplier will be allowed to handle the respective equipment only in presence of the officer in charge at the Consignee site.
10. The Supplier should ensure that maintenance job is not hampered / delayed due to paucity of spares / inadequate man power etc.
11. The Supplier should submit the services call report, to the Consignee for each and every service call without fail.
12. In case of delay / lack of communication, down time will be calculated as mentioned below in WMC Clause.

WARRANTY MAINTENANCE CONTRACT (WMC) CLAUSE

Normal response time for repair is 24 hours from the actual time of reporting of the problem to the Supplier.

	<u>Period</u>	<u>Extension of WMC period</u>
Response Time	Above 24 hrs & below 48 hrs Above 48 hrs & below 96 hrs Above 96 hrs	2 days for delay of each day One Week for each day of delay Two weeks for each day of delay
Down time	Above 24 hrs & below 48 hrs Above 48 hrs & below 96 hrs Above 96 hrs	Two days for each day of delay One Week for each day of delay Two weeks for each day of delay.

13. The Supplier evaluation data format for the WMC of Consignee systems may be filled up for necessary action.
14. All formats after filled up should be signed at the end of each page by the Supplier.
15. The decision of _____ (Head of the Organization) will be final and binding.

Signature

Signature

For the Purchaser

For the Supplier

Name :

Name :

Designation :

Designation :

Address :

Address :

Telephone No :

Telephone No :

MANUFACTURES' AUTHORISATION FORM

No. _____ / Date _____ /

To

**The Principal,
I.T.T., Choudwar,
Cuttack - 754025.**

Dear Sir,

Tender No. _____

We _____ who are
established _____ and _____ reputable _____ manufacturers _____ of
_____ having _____ factories _____ at

(Address _____ of _____ Factory) _____ to _____ thereby _____ authorize
M/s. _____ (Name and Address of Agent) to
submit a bid and sign the contract with you against the above tender.

* No company or firm or individual other than
M/s. _____ are authorized to bid and conclude the
contract in regard to this business against this specific IFB.

We hereby extend our full guaranty and warranty as per general conditions of
contract for the goods and services offered by the above firm against this tender.

Yours faithfully,

(Signature for and on behalf of Manufacturers)

Note : This letter of authority should be on the letterhead of the manufacturer and
should be signed by a person, competent and having the power of attorney to
bind the manufacturer. It should be included by the bidder in its bid.

* This para should be deleted for simple items where manufacturers sell the
product through different stockiest.

SPECIFICATION OF COMPUTERS

DELL Make	Desktop Computer	DELL - Intel Core 2 Duo Make
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a.	CPU	:	Intel Pentium Dual Core E 2130 2.0 GHz, 1 MB L2 cache and 800 MHz FSB with Intel EM 64T.
b.	Chipset	:	Intel 3 series/n Vidia Gforce 7 series or better on OEM Motherboard.
c.	Bus Architecture	:	Integrated Graphics, 2 PCI, 1 PCI Express x 1 and 1 PCI Bxpress x 16.
d.	Memory	:	1 GB 667 MHz DDR2 RAM with 4 GB Expandability.
e.	Hard Disk Drive	:	160 GB 7200 rpm Serial ATA HDD.
f.	Monitor	:	38.1 cm (15 inch) TFT Digital Colour Monitor TCO-03 certified.
g.	Keyboard	:	104 keys
h.	Mouse	:	Optical
i.	Bays	:	4 nos. (2 nos. 5.25 inches for optical Media Drives and 2 nos. 3.5 inches for Hard Disk Drives).
j.	Ports	:	6 USB Ports (with at least 2 in front), audio ports for microphone and headphone in front.
k.	Cabinet	:	Mini tower.
l.	DVD ROM Drive	:	8 x or better DVD ROM Drive.
m.	Networking facility	:	10/100/1000 on board integrated Network Port with remote booting facility remote system installation.
n.	Operating System	:	Windows Vista Business preloaded with Media and Documentation and Certificate of Authenticity.
o.	OS Certifications		Win Logo Vista Business OS and Linux certification.
p.	Power Management		Screen Blanking, Hard Disk and System Idle Mode in Power On, Set up Password, Power supply SMPS Surge protected.
q.	Preloaded Software		Norton, McAfee, ETrust or equivalent Antivirus (Latest Version) with 60 days License).

SPECIFICATION OF UPS

SI. No.	Name of Equipment	Specification
1	Interactive UPS	0.65 KVA Minimum VAH-108 Single Phase power supply from 160V to 280V

SPECIFICATION OF ELECTRICAL ITEMS

Sl. No.	Name of Equipment	Specification
1	AC induction Motor	415V, 1.5kW, 4A, 6 Terminals
2	AC induction Motor	415V, 0.75kW, 1.8A, 3 Terminals
3	DC Shunt Motor	220V, 0.373kW, 2.9A, 4 Terminals
4	Motor Generator Set	220V, 1.5kW, 8.3A, 4 Terminals
5	Contactator	415V, 16A
6	Timer	5A, 250V AC/28V DC 2 NO 2 NC, 0.1 sec-30 min
7	Overload Relay	415V, 2A, 2 NO 2 NC, 0-6 amp

List of machineries for Mechanical Branch

1. Lathe Machine

- (i) Lathe all geared head stock S-S & S.C. height of centre over bed 15cm gap head complete with accessories e.g. pump all fittings and splash guard driving plate with drive, face plate, 3 jaw and 4 jaw chucks fixed and traveling steady compound turreted post taper turning attachment, fixed and running centers, driving dogs straight and bent tails.
- (ii) Gear Box with Lead Screw and Feed shaft separate.

<u>Length</u>	<u>A.B.C.</u>
4.75'	550
5.75'	850
Centre Height	215mm
Width of Bed	280mm
Spindle Hollow	50mm

- (iii) Gear Box with Lead Screw and Feed shaft separate.

<u>Length</u>	<u>A.B.C.</u>
4.6'	700
5.6'	1000
Height of Centre	175mm
Width of Bed	240mm
Spindle Hollow	40mm

2. Drill Machine

Drill Machine pillar type.	
Drilling Capacity	40mm
Spindle Nose	MT-4
Centre Travel	220mm
Centre of Spindle to Column	305mm
Column Dia	130
No. of Spindle Speed	8
Spindle Speed (RPM)	75-2070
Drilling Motor H.P.	1.5 H.P.

3. **Pedestal Grinding Machine** :- 6", 8", 10", 12".

4. **Surface Grinding Machine** :-

Working surface of the table : 175 x 350mm
 Magm. Chuck size : 150 x 300
 Maximum height from table to Grind wheel : 275mm
 Vertical feed Gradu. : 0.01
 Cross feed Gradu. : 0.05
 Electrical motor H.P. : 0.75

5. **Cylindrical Grinding Machine** :-

6. **Milling Machine** :-

TECHNICAL SPECIFICATIONS	
Specification	No.2 (K-2H) Milling Machine without Elect 1 Fee
Table	
1. Working Surface	1050*250 mm
2. No. of T. Slots & size	3 & 16 mm
3. Dist. Bet. T-Slots	63 mm
4. Table Swiveling side to side	25 Degree
Range	
• Longitudinal feed by hand.	250 mm 450 mm
• After Mounting vertical attachment, vertical move.	650 mm 300 mm
• Max. safe weight on table.	150 kg.
Spindle	
• Spindle Arbour.	25.4 mm
• No. of Spindle speeds.	6
• Range of Spindle RPM.	65 to 635 RPM
• Spindle Nose taper.	ISO-40
• Size hole through spindle.	22 mm.
• Dist. From base of over arm to spindle center.	140 mm
• Spindle bearing front.	32214
• Spindle bearing rear.	32211

Feed	
<ul style="list-style-type: none"> • No. of feeds. • Cross feed mm. / Rev. • Vertical feed mm. / Rev. • Longitudinal feed mm. / Rev. 	<p>3 - - 23,46,79 mm. / Re. no.</p>
Drive	
<ul style="list-style-type: none"> • Spindle motor 1440 RPM. • Pump Motor. 	<p>1.5 Kw., 2 HP 1/10 HP.</p>
Packing Details	
<ul style="list-style-type: none"> • Floor Space • Height • Weight 	<p>650*1020 mm. 1600 mm 1250 kgs (approximately)</p>

7. Mechanical Lab. :-

1. Model of Ice Plant
2. Gyroscope
3. Turbine models
4. Bernoulli Apparatus setup
5. Model of Ignition system of automobile
6. Compression testing machine

LIST OF EQUIPMENTS FOR ELECTRONICS AND MECHATRONICS DISCIPLINES

MICRO PROCESSOR / MICRO CONTROLLER TRAINER

CPU WISE SPECIFICATIONS

Model CPU	8085	XPO-88/86 8088/86
MEMORY CAPA. Monitor EPROM Battery Back Up Scratch Pad (Expandability)	36KB(64 KB) 16KB(64 KB) 4KB(8 KB)	128 KB 64 KB (128 KB) 64 KB (64 KB)
ADVANCED S/W Assembler Disassembler (Optional)	1 Pass line assembler 2 Pass Assembler 2 Pass Disassembler Basic Interpreter Hex Dump	Line assembler Disassembler Hex Dump
ADDITIONAL SERIAL I/O	SID / SOD Based (8085) NA (Z80)	N A
INTERRUPTS	8 Nos. Using 8259 (8085) 4 Nos. Using CTC (Z80)	8 Nos. Using 8259A

Technical specifications

User Manual	Set of Manuals: Student workbook, Instructor Guide and technical Reference, Sample programs on CD
Speed	20 MHz crystal operated multi-output clock source to operate various resources on Mother Board like CPU, Baud rate, T/C etc.
Parallel I/O	48 I/O lines using two 8255 through 2 nos. of 26 pin FRC header, printer I/F
Serial I/O	RS-232c serial interface using 8251 and RS 232 driver IC through 9 Pin male D connector.
Timer counter	3 nos. T/C using 8253 ;pins brought out on 6 pin reliamate.
Display(Choose one out of 3 options)	8 digit 7 segment(Red led) 16x2LCD(Backlit) 20X4 LCD(Backlit)
Key Board(Optional)	Single chip micro-controller 89C2051 to support 101 Keys PCAT/PS2 keyboard.
System Bus	50 pin FRC buffered Bus to connect periwasure cards as well as to facilitate ROM Emulation of 8 bit/16 bit system memory using external ROM emulation card cum converter card.
Battery Backup	Rechargeable NiCd battery (3.6/60maH) provided to supply power to battery backup memory and Optional RTC 58167.
Onboard Features	<ul style="list-style-type: none"> • External Loud speaker (80hm/0.5W) interface for experiments on frequency's synthesis. • Reset and single step/interrupt push button. • EP socket for experiments ;with Cassette recorder interface • Programmable wail state generator • Real Time clock IC 58167(Optional) • 11 nos. fault links to teach troubleshooting skills by introducing faults in the circuit • PALs-All glue logic like Memory I/O decoders are implemented using 4(5) nos. of EEPROM PALs 16V8.
Power supply(SMPS)(Optional)	1)5V/2.5 Amp SMPS ;with RCA plug. li)5V/2.5Amp SMPS with RCA plug +12V/850mA,12V/250 mA with 4 pin reliamate SMPS.
mechanical Details	Aesthetically designed injection molded plastic enclosure of size 215(L)X165(W)X75(H) mm. Weight=900 gm.(1.5 Kg. with manuals)

FUNCTION GENERATOR

Specification		FC 50M				FC 2G	
Frequency	Frequency range	2Hz to 50 Mhz				2Hz to 2GHz	
	Range selection	2 step switch settings to select 2Hz to 1MHz or 1 MHz to 50 MHz				3 step switch settings to select 2Hz to 1MHz or 1MHz to 70MHz, 70MHz to 2HGz (separate BNC)	
Display	Freq. Display Hz	8 digit, 0.5" red LED display with accuracy of +/- 1 count +/- crystal controlled time base accuracy (500 PPM).				8 digit, 0.5" red LED display with accuracy of +/- 1 count +/- crystal controlled time base accuracy (500 PPM) X 1000 LED to indicate GHz range.	
Gate Time	Sec	1 Sec derived from crystal of 32.768 Khz					
Input	Attenuator	X1	X0.1	X10, X50		X1, X0.1, X10, X50,	RF IN
	Max Voltage (DC+AC Peak)	30Vpp	300Vpp	3Vpp		Max Vtg. is same as model FC50M	+/- dBm 1V/
	Impedance	1 Mohm (25pF – 140pF)				AC separate BNC for RF I/P 500 hm	
	Coupling	AC (RC = 33 us)				AC (RC = 33 us)	(AC Coupled)
Sensitivity	Frequency		X1	X0.1	X10	X50	RF IN Sensitivity
	2Hz-1MHz	<MHz	250mVpp	2.5Vpp	50mVpp	20mVpp	Frequency Range
	1Hz - 10MHz	> MHz	250mVpp	2.5Vpp	300mVpp	100mVpp	50MHz-70MHz
	> 10MHz		250mVpp	2.5Vpp	60mVpp	20mVpp	70MHz-100MHz
						is same as model FC50M	+/-1.5V +/-1V dBm

DECADE BOXES

Technical Specification	Resistance	Inductance	Capacitance
No. of Decades	5 No. rotary switches of 10 step each	5 No. rotary switches of 10 step each	5 No. rotary switches of 10 step each
Range	0-1000 K 5 decades of 10 , 100 , 1K, 10K, 100K	0-1000mH 5 decades of 10 H, 100...H, 1mH, 10mH, 100mH	Option1 – 0 10 F 5 decades of 100pF, 1KpF, 100KpF, 1 F Option1 – 0 – 100 F 5 decades of 1KpF, 10KpF, 100KpF, 1 F, 10 F
Resolution	10	10 H	Option 1 – 100pF, Option 2 – 1KpF
Accuracy	+ - 1%	+ - 2%	+ - 1%
Wattage / Voltage	3W/ (100Vpp)	1/2W (150Vpp)	250VDC
Insulation resistance	500M /500V	2000M (min)	2000M (min) @ 1000V
Mechanical Dimension	214mm(L) x 100mm(W) x 92mm(H) Net Weight : 700gm approx.		

R.F. SIGNAL GENERATOR

TECHNICAL SPECIFICATIONS

1	Frequency Range	10MHz to 600MHz
	Display	5 digit display (LCD optionally)
	RF output level	0.4 VRMS
	Impedance	50 ohm
2	Amplitude Modulation : (optional) : Internal / External Modulation facility	
3	Frequency Modulation : (optional) Internal / External Modulation facility	
4	General	
	Power	230V + 10% 50Hz
	Operating	0 - 40°C and 40°C at 95% RH
	Dimension	295 (W) x 220 (D) x 98 (H). mm
	Accessories	Power cord, BNC to BNC cable 50ohm., BNC to BNC cable

ANALOG – DIGITAL TRAINER

SPECIFICATIONS OF MASTER UNIT

- Built in Power Supply :
DC Power Supply : 5V / 1A, +/- 12V, 500mA
0 - +/- 12V 150mA (variable)
AC 12-0-12, 150mA AC
- Built in Function Generator :
Output Waveform : Sine, Triangle & Square / TTL.
Out Frequency : 1 Hz to 200KHz in 6 ranges, with amplitude and frequency control pots. O/P Voltage 20V p-p max.
- Clock Generator : 10 MHz TTL clock.
- Input Data Switches and output LED status indicators for High / Low indication (15+1 No).
- Pulser switches (2 Nos) with four debounced outputs – 2 No.
- Fixed TTL (5V) clocks : 4 Nos. 1 KHZ, 100Hz, 5Hz, 1Hz.
- Logic probe to detect High / Low level pulses upto 1 MHz, with bi-colour LEDs to indicate status.
- 2 digit 7 segment display with BCD to 7 segment decoder.
- LED BAR graph with 10 LED indicator to display 0-2.5V or 0-4V input.
- Onboard DPM is provided with mode selection. DC volt/current : 200mA / 20V – 1 No.
- Audio Amplifier with gain 20.
- Onboard POTS : 1K – (1 No.) & 1M – (1No.)
- Onboard speaker : 8 Ω, 0.5 Watt – (1 No.)
- Built in bread board panel with 1280 tie points and 400 distribution points, totaling to 1680 points along with 4mm banana sockets for tapping from the trainer +5V, +12V GND for the circuits to be assembled on bread board using single stand (#22/24) wire.
- Computer Interface Adapter :
Facilitates connecting your trainer to either IEEE 488 or RS 232 com port of PC using 25 pin (male) D connector through 25 nos. of banana sockets. Optionally a 16 pin ZIF may be provided in place of 'D' connector.
- Mechanical Dimensions :
Master Unit : 400mm(W), 125mm(H), 270mm(D), Net weight : 8 Kg., Gross weight : 10 Kg., Panel : 215mm(W), 165mm(H), 40mm (D), Net Weight : 700 gm approx.
- Operating Voltage : 230V +/- 10%, 50Hz / 72VA.

PNEUMATIC / ELECTRO PNEUMATIC TRAINER (TECHNICAL SPECIFICATION)

Items	Pneumatic Trainer	Qty.	Electro Pneumatic Trainer	Qty.
Air distribution and manual control	Flow & Pressure Regulator (FRL) unit with Pressure gauge (10 bar), ¼" BSP (F).	1	Flow & Pressure Regulator (FRL) unit with Pressure gauge (10 bar), ¼" BSP (F).	1
	Main fold 4 way, ¼" BSP (F).	1	Main fold 4 way, ¼" BSP (F).	1
	One-way flow control adjustable valve ¼" BSP (F).	1	One-way flow control adjustable valve ¼" BSP (F).	1
	Ball valve ¼" BSP for ON-OFF (M-F).	1	Ball valve ¼" BSP for ON-OFF (M-F).	1
	Silencer.	1	Silencer.	
Control Element	3/2 way directly actuated valve [with push button ¼" BSP (F).	1	5/2 way DC valve spring return ¼" BSP (F) 24 VDC single solenoid.	1
	3/2 way Mushroom button operated spring return valve ¼" BSP (F).	1	5/2 way DC valve BSP (F) 24 Vdc double solenoid.	1
	3/2 way roller lever actuated valve ¼" BSP (F).	1	3/2 way Single Solenoid valve 24 VDC.	1
	5/2 way valve with selector switch 230 VAC (operated) ¼" BSP (F).	1		
	5/2 way pilot operated spring return valve ¼" BSP (F).	1		
	5/2 way double pilot valve (with manual over ride) ¼" BSP (F).	1		
	3/2 way hand level valve ¼" BSP (F).	1		
	2/2 way directional control valve with 230 VAC (operated).	1		
	5/3 way directional control valve mid position closed.	1		
	Quick exhaust valve ¼" BSP.	1		
Actuating devices (O/P)	Single acting cylinder – Bore 25mm, Stroke 100mm	1	Single acting cylinder – Bore 25mm, Stroke 100mm	1
	Double acting cylinder – Bore 25mm, Stroke 100mm	1	Double acting cylinder – Bore 25mm, Stroke 100mm	2
	Vacuum suction generator operating on Venturi principle.	1	Not applicable	
Logic control	OR gate / shuttle valve ¼" BSP (F).	1	Limit switches	3
	AND gate ¼" BSP (F) (Optional).	1	Proximity switch (Inductive)	1
Resource Panel	NA	-	24V DC power supply. 8 Relay card PLC interfaceable with NO NC contact & 24 Vdc coil, Dual Timer WITH NO-NC contacts or Optionally LGPLC (12 input + 8 O/P) with CDP and ladder software.	1
Electrical Connections	Mains cord with stackable connector (M)	2	1 meter =	12
			500 mm =	10
			100 mm =	5

HYDRAULIC / ELECTRO HYDRAULIC TRAINER (TECHNICAL SPECIFICATION)

Item	Hydraulic Trainer	Qty.	Electro – Hydraulic Trainer	Qty.	
Oil Distribution and Manual Controls, Gages	Sub Plate (1 station manifold) with 4 ports each equipped	4	Sub Plate (1 station manifold) with 4 ports each equipped	2	
	Quick Release plugs (4x4)	21	Quick Release plugs (4x4)	13	
			Check valve with 50 bar gage		
			Throttle cum check valve sub plate mounted	1	
	Modular Pressure relief valve (sub plate mounted)	1			
Direction Control Element	4/2 way DC valve lever operated spring return	1	4/2 way single solenoid 24 VDC 3/8" BSP (F)	1	
	4/2 way DC valve, AC 230Vac solenoid operated spring return	1			
	4/3 way DC valve, lever operated spring return	1	4/3 way double solenoid 24 VDC 3/8" BSP (F)	1	
	4/3 way DC valve lever operated detented.	1			
Actuating devices (Output)	Single acting cylinder 40mm x 100mm stroke with QR socket	1	Single acting cylinder 40mm x 100mm spring return and QR socket	1	
	Double acting cylinder with in line flow control valve 40mm x 100mm stroke and QR socket	1	Double acting cylinder 40mm x 100mm and QR socket	1	
Connections	Flexible hoses, R1 type ¼" ID with Quick release sockets one end 90° and other straight)		Flexible hoses, R1 type ¼" ID with Quick release sockets one end 90° and other straight)		
	Length 2000mm	2	Length 2000mm	2	
	Length 1000mm	2	Length 1000mm	2	
	Quick release sockets	8	Quick release sockets	8	
Electrical Connection	AC solenoid 230Vac 20VA rating	1	Electrical circuit 4mm Banana Patch cord		
				1 mtr.	12
				500 mm	10
			100 mm	10	
Resource Panel	N A	-	24V DC power supply. 8 relay card PLC interface able with NO NC contact and 24Vdc coil, Dual WITH NO-NC contacts OR Optionally LGPLC (12 input + 8 O/P) with CDP and ladder software.	1	
Power Generation	Power pack consist of : a) Tank 25L, b) Gear Pump 2-3L Per Minute with ball valve for flow measurement in Beacker (optional), c) Electric motor 0.5HP 1440 RPM 230 V AC, d) Breather Oil level indicator, sunction filter / Stainer, Return line filter, 50 Bar Gage, e) Relief valve with 3 ports.			1 set each	

Siemens Based PLC Trainers :-

(1) :-

- Make : Siemens, Model : CPU 224 XP
- 14 Digital inputs (24 VDC)
- 10 Digital output (24 VDC)
- 2 Analog inputs can be configured as 0-10VDC or 4-20 mA
- 12 KB Program memory and 8 KB Data memory
- 6 High speed counter for 30 KHz
- Built in Real time clock
- One RS 485 communication for PC interface
- 0.22 S bit Processing Speed
- 2 channel PWM output (max speed 20 KHz)
- 256 Timers, counter
- Integrated 8 bit analog Potentiometer provided analog calibration
- 1 Analog output can be configured as 0-10 VDC or 4-20 mA
- Windows based PLC Software
- Supports FBD, IL

(2) :-

- Satellite communication trainer.
- Microwave test bench.
- Antenna trainer.
- Transmission line trainer.
- Fiber optics trainer.