OFFICE OF THE PRINCIPAL GOVT I.T.I. DURG
DISTT. - DURG, CHHATTISGARH

Phone No. 0788-2211156/57, E-mail - itidurg@rediffmail.com

Tender No. – DURG/WB/VTIP/O4/DEC.2013, Dated 16.12.2013

NOTICE INVITING TENDER

Principal, ITI DURG Chhattisgarh invites sealed tender from eligible bidders (Manufacturers, or their authorized dealer) for procurement of various Packages of Tools, Equipments & Machinery for Center of Excellence related to **"PROCESSES PLANT MAINTAINANCE"** Sector under World Bank assisted Vocational Training Improvement Project (VTIP) in Shopping Mode.

The tender form (complete set of bidding documents along with the packages including details of Items with quantity for purchase) is available on the website **www.cg.gov.in**, from **16.12.2013**. A complete set of bidding documents may be downloaded free of cost by any interested eligible bidder

The sealed tender should reach the Office of the **Principal, ITI DURG**, **Chhattisgarh** on or before 15.01.2014 by 13.00 hours and will be opened on the same day at 14.00 hours. Any bid received after the deadline for submission of bids as prescribed above will be rejected and returned to the Bidder. The undersigned has all the rights pertaining to the tender.

Principal,
Govt. I.T.I. DURG

OFFICE OF THE PRINCIPAL GOVT I.T.I. DURG
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World Bank Assisted Vocational Training Improvement Project

TERMS & CONDITIONS OF THE TENDER

Tender documents/Qualification requirements should be submitted in **Main envelope** as given below:

1. On the top of Main envelop mention Tender No., Due Date, all package nos. & names for which Bid are submitted.
2. Following documents should be kept inside the envelope :
    1. Covering letter for submission of Bid which should indicate -
        - Index for all the submitted documents for the tender
        - All particulars of Bidders viz address, phone No., e-mail, name of the authorized person(s), TIN/ TAN/ Service Tax No. etc. for correspondence.
        - Package Nos. & name for which Bid is submitted.
    2. Completely filled Form - "A" with signature & seal of authorized person which includes Earnest Money/ Bid security details - @ 3% of total tendered value.**Tender received without form "A" duly signed (As token of acceptance of tender conditions by the tenderer) will not be accepted.**
    3. Demand Draft/ Bank Guarantee (as given in the Performa Annexure-III) for earnest money/ bid security.
    4. All the pages of **Terms & Conditions of Tender** duly signed & stamped by the tenderer in token of his acceptance of tender conditions along with other documents.
    5. Valid certificates related to TIN / TAN / Service Tax No. etc. issued by competent Govt. authority pertaining to tender and latest VAT clearance certificate is compulsory.
    6. Undertaking for "After Sales Services" on letter head of bidder.
    7. **Affidavit in prescribed format as given in Annexure-V on non judicial stamp paper of Rs. 50/- certified by Notary.**
    8. Manufacturer's Company Profile showing its product range, turn over, web-address and certifications like ISO/ ISI etc. along with the documentary proof of such certificates if company/ products bear such certificate.
    9. All relevant particulars, illustrative catalogue/ broachers etc. which should indicate the products technical specifications for all packages/items which is submitted in the bid.
    10. Filled Manufacturer's Authorization Form as given in SECTION XII (Annexure-VI) for all the quoted items in original letter head.
    11. Package wise Commercial Bid in prescribed format (i.e. Annexure-I) should be submitted (separately for each package) in individual sealed envelope duly signed in hard copy along with the soft copy in CD (MS-Excel / PDF).
    12. On the top of each envelope of Commercial bid, bidder should clearly mention Tender No., Due Date, Package No. and Package Name with seal & sign of bidder.
3. Complete tender document must be duly singed, stamped, paged & indexed by the bidder. **Unsigned or unpaged bids shall be straightway rejected.**
4. The bid would be evaluated separately for each item.
5. A manufacturer or their authorized dealer can bid for a package(s). For each of the quoted items, appropriate documentary evidence for being a Manufacturer or their authorized dealer (Manufacturer's Authorization Form given in SECTION XII as Annexure-VI or latest dealership

certificate) must be submitted necessarily in original letter head. In absence of above the bid will be treated non-responsive & likely may be rejected.

6. If bided items are manufactured out of India then manufacturer's authorized distributor/agency for India may specially authorize a dealer who may participate in this tender. The relevant certificates in proof of such Authorizations and Manufacturing must be submitted.

7. The bid should be accompanied by Earnest Money/ bid security of @ 3% of total tendered value (for all packages) as part of the bid, in the form of Bank Draft/ Bank Guarantee of Schedule Bank. Bank Draft should be in favour of Principal, Govt. I.T.I. Durg payable at Durg, Chhattisgarh. If the bidder deposits earnest money/ bid security in the form of Bank Guarantee, he/she shall furnish the same to the Principal, Govt. I.T.I. Durg for 3% of total tendered value through a bank guarantee by a schedule bank in the prescribed Performa as Annexure-III. Earnest Money submitted in any other form will not be accepted and the tender will be rejected. Unsuccessful bidder's earnest money will be discharged/ returned as promptly as possible.

8. The bidder should submit the Manufacturer's Make/ Brand name being use for marketing and registration no. of Commercial Tax Department.

9. Prices shall be quoted in Indian Rupees only. All quoted rates should be for **new and unused** items unless and otherwise specified so.

10. The Technical specification of the Items given in the packages are as per the requirements of the curriculum of the related sectors/trades. Bidder may give equivalent / superior specification as manufactured along with the Technical details / catalogue / brochure etc.

11. Complete Tender Documents will be opened on the prescribed date and time in the presence of Bidders / representatives who choose to attend. The Bidders / representatives who are present shall sign a register evidencing their attendance.

12. The rates quoted by the bidder must be inclusive of all the charges (like – transportation, installation charges, delivery charges, inspection charges, training charges, charges for services, excise duty, customs duty etc.) except VAT. The VAT should be mentioned separately.

13. The tender matter including prices should be typed neatly; corrections/ overtyping in prices will not be accepted. However if correction/ overtyping is there, it should be attested by the tenderer with signature, date and their seal. Hand written and xerox tender will not be accepted.

14. 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.

15. Bids shall remain valid for 45 days after the deadline for submission of bids prescribed by the Purchaser. A bid valid for a shorter period shall be rejected by the Purchaser as non-responsive.

16. Tenderer should give all relevant particulars about every item, such as maker's name Country of Manufacture and Specifications and Price etc., "Specifications as given in catalogue" quoted in tender by the tenderer will not be accepted. Full specification must be written in tender positively and should also be supported by technical literature (Catalogue/ Broachers). Purchase Committee's approval/ decision will be final and binding.

17. Vague expression such as "complete with standard accessories" or "as per your specification" will not be accepted. The tenderers must specifically indicate all specification of the items and should mention clearly what item will be supplied under "accessories" with the Equipment/ Machinery in price schedule enclosed as Annexure-I. Any ambiguity or vagueness in tender for item concerned will be liable for rejection.

18. Makers stickers pasted on equipments/tools will not be accepted.

19. Catalogues/ brochures must be clear, specific and should reflect all the essential specifications of the products/ items, otherwise it will not be considered for comparison. It should be clearly indexed to reflect which item is related to which Catalogues/ brochures.

20. Supplies for any particular item in each package of the bid should be from one manufacturer only. Bids from agents offering supplies from different manufacturers, for the same item of the package in the bid, will be treated as rejected.

21. Contracts will be awarded only for those items which have minimum 3 valid rates.

22. The bids will be examined to determine whether they are complete, whether any computational errors have been made, whether required sureties have been furnished, whether the documents have been properly signed, and whether the bids are in order.

23. The decision of the Tender Committee will be final in the scrutiny of successful bidders.

24. The tenderer will have to submit samples on demand before the technical team at the purchaser end, in the prescribed time limit. In case the samples are not produced in the prescribed time it shall be open to the undersigned to forfeit Earnest Money Deposited by the tenderers. If the samples sent by the party are approved the same will be adjusted in regular supply and in the case of rejection, they will be returned back to the party at his cost.

25. Since this procurement is financed by a World Bank loan/ credit, bidders/ suppliers/ contractors are required to permit the bank to inspect their accounts and records and other documents related to the bid submission and contract performance and to have them audited by auditors appointed by the Bank.

26. The fact that the tenderer has signed the form “A” will mean that the tenderer has completely accepted Terms & Conditions of the tender and that the tenderer agrees to abide by these Terms & Conditions of the tender. No deviation from Terms & Conditions of the tender will be accepted under any circumstances. The Terms & Conditions of the tender and clause usually printed on the parties tenders or bills will not be binding on this department.

27. The contents of the form “A” should not be changed or amended otherwise will not be acceptable by this office.

28. The Principal, Govt. I.T.I. Durg Chhattisgarh reserves the right at the time of Contract award to increase or decrease the quantity of goods originally specified in the Packages without any change in unit price or other terms and conditions.

29. **Contracts for procurement of packages will be awarded as per the priority and availability of budget.** Suppliers has to deliver and complete the task of installation strictly as per the specification of ordered items within stipulated time otherwise above contract may be treated as canceled without any prior notice.

30. **Before executing the awarded contract** the Supplier shall furnish Performance Security to the The Principal, Govt. I.T.I. Durg Chhattisgarh for an **amount of 5%** of the contract value through a Bank Guarantee by a schedule bank, in the prescribed Performa as Annexure-IV, valid upto 60 days after the date of completion of performance obligations including warranty obligations. If the desired Performance Security is not deposited by the tenderer in the specific period, the Earnest Money already deposited with the tender shall be forfeited. In the event of any correction of defects or replacement of defective material during the warranty period, the warranty for the corrected/ replaced material shall be extended to a further period of 12 months and the Performance Bank Guarantee for proportionate value shall be extended 60 days over and above the extended warranty period. In the event of any contract amendment, the Supplier shall, within 21 days of receipt of such amendment, furnish the amendment to the Performance Security, rendering the same valid for the duration of the Contract, as amended for 60 days after the completion of performance obligations including warranty obligations.

31. If the Supplier fails to deliver any or all of the Goods or to perform the services within the stipulated delivery period(s) specified in the Contract, the Principal, Govt. I.T.I. Durg Chhattisgarh shall, without prejudice to its other remedies under the Contract, forfeit the Bid Security and the order is liable to cancel.

32. If the supplier/ dealer fails to supply the items as per the specifications, items will not be received by the consignee and supplier/ dealer has to return it back on his/ her own cost. The supplier / dealer may supply the items of higher specifications (due to manufacturing obligations) if accepted by consignee after examination and testing.

33. The one time extension in the delivery period may be granted at the discretion of the undersigned. The liquidated damage at a rate of 2% per month subject to a ceiling of 10% of the contract price of the full cost of the tool/equipment/machine is liable to be charged for the extension of the delivery period. Once the maximum is reached, the Purchaser may consider termination of the Contract. Equipment received after the delivery period or dispatched after the delivery period mentioned in the order will also be subjected to this liquidated damage. Power to extend delivery period would remain reserved with Principal, Principal, Govt. I.T.I. Durg Chhattisgarh.

34. Loading/ Unloading charges shall be borne by the supplier.

35. The undersigned may get, the items supplied by the successful tenderer, inspected on receipt of the same by such person or persons he deems fit and to reject such of these items as in his opinion do not come up to the specification. The decision of the under signed will be final in such cases. The rejected items will be returned on the tenderer's cost.

36. Warrantee/Guarantee should be for a period of 1 year minimum after delivery for the goods and its accessories. An undertaking shall be given by the bidder for "After Sales Services" (in case of authorized supplier/ dealer it should be given by the Manufacturer).

37. All the equipments shall be suitably protected, coated, covered or boxed and crated to prevent damage or deterioration during transit/ handling and storage at site till the time of installation/ commissioning. While packing all the materials, the limitations from the point of view of availability of railway wagon sizes, in India should be taken into account. The contractor shall be responsible for any loss or damage during transportation, handling and storage due to improper packing.

38. If any Machines/Equipments require training for users, then supplier/ dealer has to arrange such training program at the destinations free of cost. Installation and working trial is to be given at site at the expenses of supplier.

39. 100% payment will be released after the safe receipt of goods, as per the specifications given in purchase order & and after ensuring successful installation, commissioning and performance of supplied items etc.

40. It must be noted that normally all correspondence and transactions will be made only with the parties whose tenders have been accepted and not with anybody else.

41. The undersigned reserves the right to accept or reject any bid, and to annul the bidding process and reject all bids at any time without assigning any reason prior to contract award, without thereby incurring any liability to the affected bidder or bidders.

42. At any time prior to the deadline for submission of bids, the Purchaser may modify the bidding documents by amendment. All prospective bidders who have purchased the bidding documents will be notified of the amendment by uploading in the website **www.cg.gov.in** or by E-mail or by fax and will be binding on them.

43. If any document given by the bidder is found fake/manipulated, then the entire EMD deposited by the bidder in the tender will be forfeited without assigning any reason and such bidder will not be entitled for future biddings.

44. Notwithstanding the above, the Purchaser reserves the right to accept or reject any quotations and to cancel the bidding process and reject all quotations at any time prior to the award of contract.

The decision of the "Tender Committee" will be final & binding to all the bidders. Any dispute arising out of this tender or supply of any other matter will fall under the civil jurisdiction of Chhattisgarh High Court only.

Principal,
Govt. Industrial Training Institute, Durg
Distt.- DURG (C.G.)

ANNEXURE-I

Note:- Give Bid Price Item-wise in the following Proforma only. Any deviation will not be accepted.

PRICE SCHEDULE

Package No. ....., Package Name. .....

Name of Bidder .....……

(Amount in Rs)

Item Serial No.	Item Code	Specifications of items, which bidder offers	Name of accessories with specifications (if any)	Make/ Brand of Item	Manufacturer's Name	Catalogue / Brochure Page No. (as indexed by you)	Quantity of Item as per tender With unit	Cost per unit (Inclusive of all Charges) except VAT	VAT	Total value item wise (col. 9 + col. 10)	Total Value in Rs. (col. 8 x col. 11)
1	2	3	4	5	6	7	8	9	10	11	12
Total package Value (in words)											

Note:-

a. The bidding prices shall be for F.O.R. Destination.

b. Rates should be inclusive of all charges (such as charges for Inspection/ Demonstration/ Installation/ Commissioning/ Transportation/ Excise / Custom / Services charges etc. except VAT. VAT should be mentioned separately.

c. Conditional rates will not be accepted.

d. Comparison will be done item wise on the basis of total value as mentioned in column 11.

e. Rates will be finalized for purchase on the basis of individual items having 03 valid rates.

f. Specifications of the items which bidder offers as per the catalogue/ brochure/ Technical details etc. will be considered for comparison and selection. Incomplete details will not be considered for comparison.

g. Price Schedule given in other form will not be accepted and bid will be rejected.

ANNEXURE- II

FORM - A

(To be signed and returned along with the tender)

I/We (Full Name) …….....

Address …….....

…….....

have read the Terms and Conditions of the tender for the supply of various stores as per your tender notice for supply of Package of _____ for INDUSTRIAL TRAINING INSTITUTES ..... of Chhattisgarh under World Bank assisted VTIP Scheme in Shopping Mode due on _____ and I/we fully accept the Terms and Conditions of the Bid supplied to me / us with the Bidding Documents.

I/We also undertake to permit the World Bank to inspect our accounts and records and other documents related to the bid submission and contract performance and to have them audited by auditors appointed by the Bank.

It is further noted that if any manipulation is found at any stage, the tender/ Contract / Supply order shall be rejected and the Principal, ITI ....., Chhattisgarh may take any action against me/us, as she/he deems appropriate.

Details of Earnest Money/bid security in the form of DD/BG (@ 03% of the total tendered value for the package(s) for which bid is submitted) :

(a) DD/BG no. ----------

(b) Value Rs. ----------

(c) Name of Bank ----------

Date: …….....

Signature
(Name & full Address of the firm)

ANNEXURE- III

EARNEST MONEY / BID SECURITY FORM

To: **The Principal, Industrial Training Institute**

_____,

Distt.-_____ Chhattisgarh

WHEREAS ..... (Name of Supplier) hereinafter called "the Bidder" has undertaken, in pursuance of Tender No. ..... dated ..... 20..... to bid in the said tender.

AND WHEREAS it has been stipulated by you in the said Tender notification that the Supplier shall furnish you with a Bank Guarantee by a schedule bank for the sum specified therein as Earnest Money/ Bid Security for compliance with the Bidders obligations in accordance with the Tender terms and conditions.

AND WHEREAS we have agreed to give the Bidder a Guarantee:

THEREFORE WE hereby affirm that we are Guarantors and responsible to you, on behalf of the Bidder, up to a total of ..... (Amount of the Guarantee in Words and Figures) and we undertake to pay you, upon your first written demand declaring the Bidder to be in default under the Terms and Conditions and without cavil or argument, any sum or sums within the limit of ..... (Amount of Guarantee) as aforesaid, without your needing to prove or to show grounds or reasons for your demand or the sum specified therein.

This guarantee is valid until the .....day of.....20.....

Signature and Seal of Guarantors

.....

.....

.....

Date.....20.....……

Address:.....

.....

.....

.....

(Signature of the Bank)

Note: The bank guarantee (submitted by Indian Bidder) should be executed on stamp paper in accordance with stamp Act. The stamp paper should be in the name of executing bank.

ANNEXURE- IV

PERFORMANCE SECURITY FORM

To. The Principal, Industrial Training Institute

_____,

Distt.-_____ Chhattisgarh

WHEREAS..... (Name of Supplier) hereinafter called "the Supplier" has undertaken, in pursuance of Contract (Notification of Award) No. ..... dated..... 20..... to supply..... (Description of Goods and Services) hereinafter called "the Contract".

AND WHEREAS it has been stipulated by you in the said Contract that the Supplier shall furnish you with a Bank Guarantee by a schedule bank for the sum specified therein as security for compliance with the Supplier's performance obligations in accordance with the Contract.

AND WHEREAS we have agreed to give the Supplier a Guarantee:

THEREFORE WE hereby affirm that we are Guarantors and responsible to you, on behalf of the Supplier, up to a total of..... (Amount of the Guarantee in Words and Figures) 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 limit of ..... (Amount of Guarantee) as aforesaid, without your needing to prove or to show grounds or reasons for your demand or the sum specified therein.

This guarantee is valid until the .....day of.....20.....

Signature and Seal of Guarantors

.....

.....

.....

Date.....20.....……

Address:.....

.....

.....

Note: The Bank Guarantee [submitted by Indian Supplier] should be executed on stamp paper in accordance with stamp paper act. The stamp paper should be in the name of executing bank.

ANNEXURE- V

On Non Judicial Stamp Paper of Rs. 50/-

निविदाकर्ता द्वारा Bid के साथ दिये जाने वाला
शपथ–पत्र

निविदाकर्ता फर्म मेसर्स ..... की ओर से मुझे/हमें अधिकृत किया गया है और मैं/हम निम्नलिखित कथन शपथपूर्वक कहता हूँ/कहते हैं कि :–

1. मैंने/हमने निविदा की सारी शर्तें ध्यानपूर्वक पढ़ी हैं और उनसे सहमत हैं तथा उन्हें मानने के लिये वचनबद्ध हैं।
2. मेरे/हमारे द्वारा संलग्न किये गये सभी दस्तावेज सही है और उनमें किसी प्रकार की कांट–छांट नहीं किया गया है एवं गलत जानकारी नहीं दी गई है।
3. मेरे/हमारे द्वारा कामर्शियल बिड में सामग्रियों के लिये जो स्पेशिफिकेशन दिया गया है और उनके सपोर्ट में जो भी संबंधित दस्तावेज, कैटलॉग/ब्रोशर्स आदि संलग्न किये गये हैं उनमें लिखा विवरण निर्माता द्वारा जारी किया गया है एवं मूल रूप में हैं और उनमें कोई फेरबदल या कांट–छांट नहीं किया गया है।
4. मेरे/हमारे द्वारा निर्माता से मुझे/हमें जारी आथॉराइजेशन प्रमाण पत्र जो कि बिड के साथ संलग्न किये गये हैं वे सही एवं मूल रूप में हैं और उनमें कोई फेरबदल नहीं किया गया है।
5. मैं/हम दिये गये क्रयादेशानुसार सामग्रियों को निर्धारित समय सीमा में स्पेशिफिकेशन के अनुसार सप्लाई करने के लिये बाध्य हैं। देर होने या सामग्रियों के स्पेशिफिकेशन में अन्तर होने पर मुझे/हमें दिये गये क्रयादेश को निरस्त किया जा सकता है एवं शासन को होने वाले नुकसान की भरपाई मेरे/हमारे द्वारा की जायेगी।
6. मेरे/हमारे द्वारा दी गई जानकारी असत्य पाये जाने पर मुझे/हमें एवं हमारी फर्म को निविदा में भाग लेने से वंचित किया जा सकता है।

दिनांक .....

हस्ताक्षर : .....

नाम : .....

धारित पद : .....

फर्म का नाम : .....
(सील सहित)

ANNEXURE- VI

SECTION XII

MANUFACTURERS' AUTHORIZATION FORM*****

No. _____ Dated

To

Principal / Head of the Institution
Government ITIs
Under Directorate of Employment & Training
Chhattisgarh

Dear Sir:

Tender no _____ Dated _____

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

No company or firm or individual other than M/s _____ are authorized to bid, and conclude the contract for the above goods manufactured by us, against this specific Tender. *(This para should be deleted in simple items where manufacturers sell the product through different stockists.)*

Yours faithfully,

(Name)

(Name of manufacturers)

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

* Modify this format suitably in case where manufacturer's warranty and guarantee are not applicable for the items for which bids are invited.

INDUSTRIAL TRAINING INSTITUTE DURG

SUMMARY OF PROPOSED PROCUREMENT UNDER SHOPPING MODE OF PMB UNDER WORLD BANK SCHEME

S.No.	Package No. DET	Package No. ITI	Package Name
1	3	1	Hydraulic Items
2	12	4	Temprature calibrator & pyrometer
3	14	6	Humidity sensors, Temprature Recorders & Transmitters
4	15	7	Thermocouples & Thermometers
5	24	17	UPS
6	26	18	Electric/ Electronic/ Controlers/ Actuator
7	28	19	Universal Radial Drilling Machine
8	31	21	Lathe Machine Accessories
9	34	22	Planner and Grooving machine
10	40	24	Volt Meter, Ammeter, Wattmeter, Energy Meter
11	41	25	Pressure Gauge
12	43	27	imppller type flow meter
13	42	26	Deflecting/ Helical/ Rotating vane Flow Meter
14	45	28	Reciprocating piston type flow meter
15	46	29	Coriolis/ Turbine/ Ultrasonic/ Vertex Flow Meters
16	47	30	Level Indicator
17	48	31	Level Measurement equipments
18	49	32	Flow Meters
19	56	36	Water Cooler & Freezer
20	57	37	Air Conditioner
21	58	38	Refrigerator
22	61	40	Pump
23	64	42	Power Supply
24	81	47	Soldering / Desoldering Items
25	86	50	Air Compressors
26	87	51	Coil Spring Compressors/ Air Piston Type
27	88	52	Electric Ovens
28	96	55	Physics Laboratory Meters
29	97	56	Power Hacksaw/Band Saw
30	102	60	DE Spanner, Ring Spanner, Plier, Wrenches, Chisel, Hammer, Punch
31	104	62	Screw Driver, Punch, Steel rule, Scraper, Engineer Square, Calipers
32	106	63	Welding Related Item
33	107	64	Miscellinius Item
34	111	66	Arc welding machine
35	112	67	Micrometers
36	113	68	Transformers
37	116	69	Digital Photocopier
38	117	70	Fax Machine

Schedule of Requirements
Package - 3
Hydraulic items

S No.	CODE No.	Details of Specification	units	Total
1	PMB 334. U522, UIM275	Hydraulic actuators - Consisting of linear and rotary actuator. Power pack of 20 bar capacity with 3 phase electric motor 0.5 HP capacity, pump etc.	1	1

Schedule of Requirements
Package - 12
Temprature calibrator & pyrometer

S No.	CODE No.	Details of Specification	units	Total
1	PMB 336	Electronic temperature calibrator MICROPROCESSOR BASED UNIVERSAL TEMPERATURE CALIBRATOR • It should be Portable, Dry Block with Interchangeable Thermowells • It should be of High Accuracy / Resolution / Stability • Must come wit Type Range (℃) Resolution Accuracy mVL 0 to 100 0.01 0.05% FS mVH 0 to 1000 0.1 0.05% FS Volts 0 to 10 0.001 0.05% FS mA 0 to 25 0.001 0.05% FS Ohms 0 to 500 0.01 0.05% FS K Ohms 0 to 3500 0.0001 0.05% FS TCs Range (℃) Resolution Accuracy J -100 to 1200	1	**1**
2	PMB 304, U511, UIM254, NIM254	Thermocouple type pyro meter with Milli- volt meter with different thermocouple	2	**2**
3	IMA266, U507, UIM255, UIM258, U510, NIM255	Optical pyrometer Optical Pyrometer, Fast response and sensitive measuring system Light weight & portable High measuring accuracy Two measuring ranges in each instrument SPECIFICATIONS Spectral sensitivity: 0.65 µm Accuracy : ± 1% o	1	1

Schedule of Requirements
Package - 14
Humidity sensors, Temprature Recorders & Transmitters

S No.	CODE No.	Details of Specification	units	Total
1	PMB 316	Secondary devices for measurements Of temperature Pressure level and flow for above recorders	2 Each	2 Each
2	PMB 315	Strip charts type recorders	2	**2**
3	PMB 331	Temperature transmitter electronic	1	**1**

Schedule of Requirements
Package - 15
Thermocouples & Thermometers

S No.	CODE No.	Details of Specification	units	Total
1	PMB 301, U501, NIM249	Mercury in glass thermometer	4	**4**
2	PMB 303, UIM253, NIM253	Resistance bulb wheat stone bridge type thermometer	2	**2**

3	PMB 463	Thermometers 0- 350c (liquid in metal)	10	**10**
4	PMB 461, U506	Thermometers 0-110c (liquid in metal)	20	**20**
5	PMB 462, PPMA48	Thermometers 0-250c (liquid in metal)	10	**10**
6	PMB 302, U502, UIM250, U509, NIM250	Alcohol in glass thermometer	4	**4**
7	RA104, RAC254, PMB176	Dial thermometer remote control, armored capillarydial 75mm(-50℃ to +50℃)	1	**1**

Schedule of Requirements
Package - 24
UPS

S No.	CODE No.	Details of Specification	units	Total
1	PMBE	Centralised UPS with 5KVA capacity backup 2 Hours	1	1

Schedule of Requirements
Package - 26
Electric/electronic/Controlers/Actuator

S No.	CODE No.	Details of Specification	units	Total
1	PMB M3	Relays 0-32 amps	4	4
2	PMB M3	Capacitors 100 mfd	4	4
3	PMB M3	Over load protectors 0-20 amps	4	4
4	PMB M3	Selector switch 0- 32 amps	4	4
5	PMB M3	Thermostatic switch 0-440 volts	4	4

Schedule of Requirements
Package - 28
Universal Radial Drilling Machine

S No.	CODE No.	Details of Specification	units	Total
1	PMB M1	redial drill machine 120 mm motorised with tapping attachment with all assessaries	1	1

Schedule of Requirements
Package - 31
Lathe machine Accessories

S No.	CODE No.	Details of Specification	units	Total
1	PMB M2	Lathe General purpose all geared (gap bed) height of centre 150mm with 3 jaw and 4jaw chuck,face plat,taper turning attachments, steadies ect. With all accessories	2	2
2	PMB M2	Assorted Carbide lathe tools with Holder 9 left & right different shapes & size (8mm to 20 mm)	6	6

Schedule of Requirements
Package - 34
planner and grooving machine

S No.	CODE No.	Details of Specification	units	Total
1	PMB M2	Double column planner 1500*1000mm(Motorized)with all attachments	1	1

Schedule of Requirements
Package - 40
Volt Meter, Ammeter, Wattmeter, Energy Meter,Flux meter

S No.	CODE No.	Details of Specification	units	Total
1	PMB 277	Ammeter 0-10 A DC MC type	2	2
2	PMB 275	Ammeter 0-1A DC moving iron type	2	2
3	PMB 278	Ammeter 0-30 MC type	2	2
4	PMB 276	Ammeter 0-3A DC moving coil type	2	2
5	PMB 272, UIM189, NIM189	Ampere hour meter 10A	1	1
6	PMB 281	Voltmeter 0-250V AC/ DC MI type	2	2
7	PMB 280	Voltmeter 0-50V AC/DC MC type	2	2
8	PMB 282	Voltmeter 0-5mV AC/ DC	2	2
9	PMB 279	Voltmeter 0-5V AC/DC MC type	2	2
10	PMB 265	Watt-hour meter 2kw mechanical type	1	1
11	PMB 267	Watt-hour meter 2.5 kw Mechanical type	1	1
12	PMB 266	Watt-hour meter 2.5 kw electronic type	1	1

Schedule of Requirements
Package - 41
Pressure Guage

S No.	CODE No.	Details of Specification	units	Total
1	PMB M3	charging manifold with valves & gauges.	1	1
2	IMA78, IM225, PMB308, UIM201, NIM201	Bourdon tube pressure gauges of various ranges 0 to 200 kg/sq. cm	8	8
3	PMB 310, UIM202, NIM202	Capsule type pressure gauge (- 5 to 0)	1	1
45	RA18, RAC193, PMB148	Compound gauge, diameter 63mm, with recalibration set screw, scale vacuum-760 mm. Pressure 15 Kg/sq.cm	2	2
6	RA17, RAC191, PMB147,	Pressure guage diameter 63mmwith recalibration set screw, scale 0 to 35 Kg/Sqcm.	2	2
7	IM223, PMB309, UIM205, NIM205	Pressure regulator with filter and input & output gauges (range air relife, pyramid)	2	2
8	PMB 178	Vacuum thermocouple gauge 1-3000mic	1	1

Schedule of Requirements
Package - 42
Deflecting/Helical/Rotating vane Flow Meter

S No.	CODE No.	Details of Specification	units	Total
1	PMB 285, UIM227, NIM227	Deflecting vane flow meter (range 25 to 150 lt/min.)	2	2
2	PMB 287, UIM228, NIM228	Helical flow meter (Counting & Deflecting range 50 to 250 lt/min.)	1	1

3	PMB 286, UIM227, NIM227	Rotating vane flow meter (Counting & Deflecting range 50 to 250 lt/min.)	2	2

Schedule of Requirements
Package - 43
Impeller Flow meter

S No.	CODE No.	Details of Specification	units	Total
1	PMB 313, UIM225, NIM225	Impeller type flow meter (range 15 to 20 lt/min.)	2	2

Schedule of Requirements
Package - 45
Reciprocating piston type flow meter

S No.	CODE No.	Details of Specification	units	Total
1	PMB 312, IM229, IM262, UIM224, NIM224	Reciprocating piston type flow meter (range 0 to 200 lt/min.)	2	2

Schedule of Requirements
Package - 46
Coriolis/Turbine/Ultrasonic/Vertex Flow Meters

S No.	CODE No.	Details of Specification	units	Total
1	PMB - M6	Turbidity meter	***1***	1
2	IMA94, PMB 288, UIM228 PMB 306, NIM228	Turbine flow meter VENE TYPE range 25 to 250 Lt/Min.	1	1

Schedule of Requirements
Package - 47
Level indicator

S No.	CODE No.	Details of Specification	units	Total
1	PMB 295, UIM243, NIM243	Float type level indicator for max. range	1	1
2	PMB 293, UIM241, NIM241	Hook type level indicator	1	1
4	PMB 296, UIM244, NIM244	Static pressure level indicator with controller or calibration kit	1	1

Schedule of Requirements
Package - 48
Level Merasurement Equipments

S No.	CODE No.	Details of Specification	units	Total
1	PMB M2, PMB M1	Sprit level 2V 250,05 Metric	1	1
2	PMB M2,	Straight edge steel 500mm	1	2
	PMB M1	straight edge steel 500mm	1	
3	PMB M1	straight edge steel 1 meter	1	1

4	PMB M3	spirit level metallic 200 mm.	1	1
5	PMB M4	Sprit level metal 100mm	2	2

Schedule of Requirements
Package - 49
Flow meters

S No.	CODE No.	Details of Specification	units	Total
1	PMB M3	Gas leak detector for halogen gas electronic	17	17
2	PMB 291, UIM230, NIM230	Orfice type flow meter	1	1
3	PMB 289, UIM229, NIM229	Pitot tube flow meter	1	1
4	PMB 292, UIM232, NIM232	Tapered tube flow meter	1	1
5	PMB 290, NIM231	Venturi tube flow meter	1	1

Schedule of Requirements
Package - 56
Water coller & freezer

S No.	CODE No.	Details of Specification	units	Total
1	PMB M3	air cooler 16"fan size ss body	1	1
2	PMB M3	desert cooler 20" fan size	1	1
3	RA129, RAC275, PMB 200	Deep freezer 165 litres, (-) 18^0C to (-) 40^0C, ¼ HP sealed compressor, Steel tank	1	**1**
4	RA132, RAC279, PMB 201	Water cooler storage type. Steel tank of capacity 200 ltrs. (20mmx60 mm)	1	**1**

Schedule of Requirements
Package - 57
Air Conditioner

S No.	CODE No.	Details of Specification	units	Total
1	RA160, PMB209	Air conditioning plant, direct & indirect water chiller. Complete with all controls including humidity control ele *capacity* 15000kcal/hr with hermetic sealed compressor.	1	1
2	PMB 205	Split air conditioner cap-2000k cal/hr with remote, Air cooled type.	1	1
3	PMB 204	Window air conditioner cap-3000k cal/hr with remote	1	1

Schedule of Requirements
Package - 58
Refrigarator

S No.	CODE No.	Details of Specification	units	Total
1	PMB M3	Working model of vapor absorption system Or refrigeration cap 1500k cal/hr	1	1
2	PMB M3	Condenser, evaporator, receiver, metering device & hose pipe etc	1 Set	1 Set
3	PMB 199	No frost refrigerator compression type 165 lit., Dimensions: 1040 X 520 X 560Nmmapprox.(H x W x D), Fast forward ice system, Electronic monitoring system,. Voltage range: 160-260V	1	1

4	PMB 407	Refrigerator 320 lit Fast forward ice system, Sixth sense cooling, Electronic monitoring system, Door open alarm. Voltage range: 160-260V	1	1
5	RAC186, PMB 198	Refrigerator, compression type 165 ltres. Dimensions: 1040 X 520 X 560Nmmapprox.(H x W x D), Fast forward ice system, Voltage range: 160-260V	1	1

Schedule of Requirements
Package - 61
Pump

S No.	CODE No.	Details of Specification	units	Total
1	PMB M3	vacuum pump.two stage,self contained with motor,portable,final vac.0.1 micron with gas ballistic valve,splash reducing non return valve cap1/2 hp	1	1
2	PMB M6	Vacuum pump	*1*	1
3	PMB 483	Water pumps for vacuum	4	4

Schedule of Requirements
Package - 64
Power supply

S No.	CODE No.	Details of Specification	units	Total
1	PMBE	DC power supply 0V-110V\5A	1	1
2	RAC143, PDB196, PMB 364	Power supplies (0 to 30V) 1 amp.	1	1

Schedule of Requirements
Package - 81
Soldering /Desoldering items

S No.	CODE No.	Details of Specification	units	Total
1	PMBE, PMB M4	Soldering iron 10watt	17	23
		Electric soldering iron 10 watt	6	

Schedule of Requirements
Package - 86
Air Compressor

S No.	CODE No.	Details of Specification	units	Total
1	PMB M3	air compressor two stage for oil less dry air with rust proof tank assembly,heater&controls max pr.10kg/cm2 cap 45 lit 1hpmotor	1	1

Schedule of Requirements
Package - 87
Coil Spring Compressors/Air Piston Type

S No.	CODE No.	Details of Specification	units	Total
1	PMB M3	reciprocating compressor with provision of capacity control etc for demonstration	1	1

Schedule of Requirements
Package - 88
Electric ovens

S No.	CODE No.	Details of Specification	units	Total
1	PMB391, NELE145	Water bath electrically heated (bath impregnating) 2000 watt with tenpreture control sensor	2	2

Schedule of Requirements
Package - 96
Physics laboratory Meters

S No.	CODE No.	Details of Specification	units	Total
1	PMB M6	Polarimeter 100ml	1	1
2	PMB M6	Orsat apparatus 3/4 stage	4	4
3	PMB 403	Pykno meter 50-200 ml	1	1
4	PMB 395	Refracto meter 3 to ml	1	1
5	PMB 398, NMT89	Viscometer g type	1	1

Schedule of Requirements
Package - 97
Power hacksaw/bend saw

S No.	CODE No.	Details of Specification	units	Total
1	PMB M2	Hack saw frame adjustable 250-300mm	2	10
	PMB M1	hacksaw adjustable 300mm	8	
2	PMB M4	Hack saw frame 300mm	4	10
	PMB M2	Hand Hack saw frame fixed 300mm	4	
	PMB M3	Hack saw frame 300mm	2	

Schedule of Requirements
Package - 102
DE spanner, Ring Spanner,Piler, Wrenches, Chisel, Hammer, Punch

S No.	CODE No.	Details of Specification	units	Total
1	PMB M3	Insulated combination pliers 200 mm	17	33
	PMB M5	Combination plier 200mm insulated	16	
2	PMB M5	Plier side cutting 200mm	16	16
3	PMB M5	Plier round nose 200mm	16	16
4	PMB M5	Plier flat nose 150mm	4	4
5	PMB M5	Plier flat nose 200mm	4	4
6	PMB M4	Combination Plier 100 mm	17	17
7	PMB M4	Flat Nose Plier 100 mm	17	17
8	PMB M4	Hammer ball pein 1\4 lb with handle	17	17
9	PPMA M	Cross pin hammer 400 gm with handle	2	2
10	PPMA M	ball pin hammer 200 gm wirh handle	16	16
11	PMB M5	Hammer ball pein 0.25kg	16	16
12	PPMA M	Ball pin hammer 400 gm	4	4
13	PMB M4	Hammer ball pein 1.5 lb	4	4
14	PMB M1	hammer lead 1 kg	1	1
15	PMB M1	sledge hammer 10 pound	1	1
16	PMB M3	Hammer Plastic 300 gm	4	4
17	PMB M1	mallet 1 lb.	2	2
18	PMB M5	Firmer chisel 25mm	4	4
19	PMB M3	Chisel flat 25*150 mm	17	17
20	PMB M3	Chisel cold flat 25x125mm	16	16
21	PMB M1	cold chisel flat 25x200 mm	17	17
22	PMB M3	Spanner set double ended 4.7 to 16 mm	4	4
23	PMB M2	Spanner set D/E G.P.series 97 pcs each	2 set	2 set
24	PMB M4	Spanner adjustable 100mm	2	2
25	PMB M3	Adijustable wrench 250 mm	17	17
26	PMB M3	Ring spanner set 4.7 to 16 mm	4	4
27	PMB M3	Ratchet spanner 6.4 mm sq.reversible	17	17
28	PMB M3	flexible box spanner set 6.4 to 10 mm.	1	1

29	PMB M3	Out fit spanner	6	6
30	PMB M3	socket set reversible ratchet 1/2 sq. drive with extension 4.7to 31.3mm	1	1
31	PMB M3	Pinch off plier for cu tube 6 to 19 mmtool nfor cu tube 6 to 18 mm	17	17
32	PMB M3	L-Allen key set 1.5 to 6.4 mm	2	2
33	PMB M3	T-Allen key set 5/32"&1/8"	2	2
34	PMB M3	torque wrench 300mm 12.7 sq. drive.	1	1

Schedule of Requirements
Package - 104
Screw Driver, Punch, Steel rule, Scraper, Engineer Squares, Callipers

S No.	CODE No.	Details of Specification	units	Total
1	PMB M5	Screw driver 100 mm	16	16
2	PMB M3	Screw driver plastic handle 6*150 mm	17	17
3	PMB M4	Screw Driver electrician 150 mm	17	17
4	PMB M5	Screw driver 200 mm	16	20
	PMB M4	Screw driver heavy duty 200	4	
5	PMB M3	Screw driver plastic handle 10*250 mm	8	8
6	PMB M2	Screw Driver 12"	17	17
7	PMB M2	Screw Driver Heavy Duty 300mm With handle	1	3
	PMB M1	screwdriver heavy duty 300mm	2	
8	PMB M4	Screw Driver watch maker set of 6Psc.	17	17
9	PMB M4	Screw driver set of 6 pcs.	17	17
10	PMB M1	screwdriver set (multi heads)	1	1
11	PMB M1	engineers screw driver	17	17
12	PMB M3	philip screw driver set	4	4
13	PMB M1	spindle blade screw driver 100mm	2	2
14	PMB M3	instrument screw driver set.	1	1
15	PMB M4	Steel rule 150 mm	2	2
16	PMB M2	Steel rule 30cm both English & Metric units	17	38
	PMB M5	Steel rule 300mm	4	
	PMB M3	Engineers steel rule 300mm	17	
17	PMB M2	Steel Rule 60cm graduate bottom English & Metric Units	2	2
18	PMB M5	Steel measuring tape 20 meters	1	1
19	PMB M1	steel tape 2 meter	1	5
	PMB M3	Steel measuring tape 2m	4	
20	PMB M2	Out side caliper spring type 150mm	17	51
	PMB M3	Caliper out side spring joint 150 mm	17	
	PMB M1	out side spring caliper 150 mm	17	
21	PMB M2	Out side spring cliper 200mm	2	4
	PMB M1	out side spring caliper 200 mm	2	
22	PMB M2	Odd leg caliper spring type 150mm	17	21
	PMB M3	Caliper odd leg spring joint 150 mm2	4	
23	PMB M2	Inside caliper spring type 150mm	17	34
	PMB M3	Caliper in side spring joint 150 mm	17	
24	PMB M1	inside spring caliper 200 mm	2	4
	PMB M2	inside spring caliper 200 mm	2	
25	PMB M2	Divider spring type 150mm	17	34
	PMB M3	Divider spring joint 150 mm	17	
26	PMB M1	divider spring 200 mm	2	2
27	PMB M2	Try Squrare 150mm	2	4
	PMB M1	tri square 150 mm	2	
28	PMB M3	Eengineers try square 200mm	7	7
29	PMB M4	Tri square 100mm	2	2
30	PMB M1	center punch 100 mm	17	35
	PMB M3	Center punch 8x 100mm	17	

	PMB M5	Centre punch 100mm	1	
31	PMB M4	Centre punch 10x100mm (DOT)	2	2
32	PMB M4	Letter punch 10x100mm	1	1
33	PMB M1	number/alphabetic punch 100mm	1 each	1 each
34	PMB M3	Punch hole for cutting gasket 4.7 to 16mm Dia	4	4

Schedule of Requirements
Package - 106
Welding related items

S No.	CODE No.	Details of Specification	units	Total
1	PMB M1	welding torch with tips assorted	2	7
	PMB M3	Welding torch tips assorted for alive set	5	
2	PMB M1	welding cable for above capacity in mt	50	50
3	PMB M1	pressure regulator acetylene double stage	1	6
	PMB M3	pressure regulator acetylene double stage	5	
4	PMB M3	Goggle pair welder type	16	16
5	PMB M3	Tongs holding 300mm	6	6
6	PMB M1	lugs for cable	20	20
7	PMB M1	cutting torch oxy-acetylene with tips	2	4
	PMB M3	Cutting torch oxy acetylene with cutting &gauging tips	2	
8	PMB M1	gas trolley	1	3
	PMB M3	Trolley for cylinder	2	
9	PMB M3	spark lighter	16	16
10	PMB M3	Tip cleaner	8	8
11	PMB M3	Oxygen cylinder empty	1	1
12	PMB M3	Acetylene cylinder empty	1	1
13	PMB M1	leather gloves pair	4	4
14	PMB M3	Rubber hose clip	50	50
15	PMB M3	Spindle key for opening	6	6
16	PMB M1	rubber hose pope for oxy.&ace.in mt	50 each	50 each
17	PMB M3	Rubber hose pipe black & red 8mm (each)	3	3
18	PMB M3	Gas welding tables 1200x920x600mm fire bricks on stand with petitioners	5	5
19	PMB M1	arc welding table	4	4
20	PMB M1	screen helmet	4	4
21	PMB M1	electrode holder	4	4

Schedule of Requirements
Package - 107
Miscellanious items

S No.	CODE No.	Details of Specification	units	Total
1	PMB M6	Stirrers with motors 230v,cap.-7 lit	***4***	***4***
2	PMB M6	Magnetic stirrer 2 lit	***1***	***1***
3	PMB M6	Mortar 150mm steel	***1***	***1***
4	PMB M6	Scissors	***2***	***2***
5	PMB M6	Flash point apparatus	***1***	***1***
6	PMB M6	Glass blower lamps for gas, oxygen & tools	***5***	***5***
7	PMB M6	Clamp holder	***20***	***20***
8	PMB M6	Clamps	***40***	***40***
9	PMB M6	Rings with clamps for filtering & heating	***40***	***40***
10	PMB M6	Stands	***23***	***23***
11	PMB M6	Triangle clay	***28***	***28***
12	PMB M6	Burettes micro 5 ml	***10***	***10***
13	PMB M6	Burettes automatic 25 ml	***5***	***5***
14	PMB M6	Pipettes measuring 0-10ml	***2***	***2***

15	PMB M6	Pipettes measuring 0-1ml	***2***	***2***
16	PMB M6	Pipettes automatic 10ml	***1***	***1***
17	PMB M6	Flask 500ml	***2***	***2***
18	PMB M6	Measuring cylinder 25ml	***10***	***10***
19	PMB M6	Weighing bottle 100ml	***20***	***20***
20	PMB M6	Funnels separatory 50ml	***10***	***10***
21	PMB M6	Volumetric flask 100ml	***7***	***7***
22	PMB M6	Volumetric flask 1000ml	***10***	***10***
23	PMB M6	Funnels separatory250ml	***10***	***10***
24	PMB M6	Beaker 1000ml	***10***	***10***
25	PMB M6	Watch glasses Ø 7.5cm	***8***	***8***
26	PMB M6	Watch glasses Ø 15cm	***40***	***40***
27	PMB M6	Dishes evaporating Ø 7.5cm	***15***	***15***
28	PMB M6	Dishes evaporation Ø 15cm	***10***	***10***
29	PMB M6	Filtering 0,1,2,3 glass	***2***	***2***
30	PMB M6	Boiling flasks with round bottom 50ml	***20***	***20***
31	PMB M6	Filtering flasks 250ml	***20***	***20***
32	PMB M6	Filtering flasks 1000ml	***4***	***4***
33	PMB M6	Flasks soxleth with condensers	***10***	***10***
34	PMB M6	Vacuum flasks 250ml	***5***	***5***
35	PMB M6	Vacuum pump	***1***	***1***
36	PMB M6	Vacuum 1000ml	***4***	***4***
37	PMB M6	Condensers lie big 30mm long	***10***	***10***
38	PMB M6	Condensers lie big 50cm long	***5***	***5***
39	PMB M6	Condensers bulb type 30cm long	***4***	***4***
40	PMB M6	Condensers spiral type 20 cm long	***3***	***3***
41	PMB M6	Ventiles for volumetric analysis KCI 03	***15***	***15***
42	PMB M6	CO2determination apparatus (schrotter)	***2***	***2***
43	PMB M6	Gas washing bottles (Dresher)	***20***	***20***
44	PMB M6	Drying tubes with one bulb	***5***	***5***
45	PMB M6	Crucibles porcelain cm, height 4cm indigenous.	***40***	***40***
46	PMB M6	Test tube (160mmx15mm)	***400***	***400***
47	PMB M6	Distillation columns 20-30 cm long	***8***	***8***
48	PMB M6	Gas sampling tubes	***20***	***20***
49	PMB M6	Tubes for centrifuge	***500***	***500***
50	PMB M6	Tube for Gerber centrifuge	***25***	***25***
51	PMB M6	Bottles for solids 50ml	***30***	***30***
52	PMB M6	Bottles for solids 100ml	***20***	***20***
53	PMB M6	Bottles for solutions 250ml	***16***	***16***
54	PMB M6	Bottles for solutions 100ml	***31***	***31***
55	PMB M6	Bottles for solution 1000ml	***10***	***10***
56	PMB M6	Bottles solution 2000ml	***8***	***8***
57	PMB M6	Bottles for solutions 5000ml	***8***	***8***
58	PMB M4	Eye glass 75mm focus watch maker	2	2

Schedule of Requirements
Package - 111
Arc welding machines

S No.	CODE No.	Details of Specification	units	Total
1	PMB M1, UW 59	A C arc welding generator set 350a	1	1

Schedule of Requirements
Package - 112
Micrometers

S No.	CODE No.	Details of Specification	units	Total
1	PMB M2	Micro meter 0-25mm (INSIDE)	1	1
2	PMB M4,	Micrometer Out Side 0-25 mm	1	1

Schedule of Requirements
Package - 113
Transformers

S No.	CODE No.	Details of Specification	units	Total
1	PMBE	Transformer single phase 500mA\250\12V	4	4

Schedule of Requirements
Package - 116
Digital Photocopier

S No.	CODE No.	Details of Specification	units	Total
1	PMBE	Photostat machine standerd multi functiion A-3	1	1

Schedule of Requirements
Package - 117
Fax Machine

S No.	CODE No.	Details of Specification	units	Total
1	PMB M3	Fax machine	2	2

INDUSTRIAL TRAINING INSTITUTE DURG

SUMMARY OF PROPOSED PROCUREMENT UNDER SHOPPING MODE OF PPMAM UNDER WORLD BANK SCHEME

S.No.	Package No. DET	Package No. ITI	Package Name
1	13	5	Heat exchanger and Temprature Trainers
2	61	40	Pump
3	63	41	Valve/ Bearing/ Chain pulley/ Joints
4	80	46	Drill Machine
5	97	56	Power Hacksaw/Band Saw
6	100	58	File / Twist Drill / Morse Socket / Reamer
7	102	60	DE Spanner, Ring Spanner, Plier, Wrenches, Chisel, Hammer, Punch
8	104	62	Screw Driver, Punch, Steel rule, Scraper, Engineer Square, Calipers
9	110	65	Shaper Machine
10	112	67	Micrometers

Schedule of Requirements

Package - 13

Heat exchange and temprature trainers

S No.	CODE No.	Details of Specification	units	Total
1	PPMA7	Shell and tube heat exchanger	1	**1**
2	PPMA173	Six pass straight tube type heat exchanger with M.S. shell size dia 16",	2	**2**
3	PPMA175	S.S. plate type heat exchanger having four plates size 36"	1	**1**
4	PPMAM	Two pass cast steal U tube type heat exchanger with M.S. shell size	2	**2**
5	PPMAM	Four pass straight tube type heat exchanger with M.S. shell size dia	1	**1**

Schedule of Requirements

Package - 61

Pump

S No.	CODE No.	Details of Specification	units	Total
1	PPMA147	Hydraulic pump with pressure gauge cap. 20 kg/ cm^2	2	2
2	PPMA4	Gland type four stage centrifugal pump semi open impeller Dis. Cap-3	2	2
3	PPMA176	Choke removal pump with accessories	1	1
4	PPMA159	External gear pump (Herring bone gears) Dis. Cap- 4 m^3/hr with	2	2
5	PPMA160	Internal gear pump (Spur gear) Dis. Cap- 3 m^3/hr with suitable ISI	1	1
6	PPMA154	Mechanical seal type centrifugal pump with open impeller Dis. Cap- 2	**2**	2

Schedule of Requirements

Package - 63

Valve/Bearing /Chain Pulley/Joints

S No.	CODE No.	Details of Specification	units	Total
1	PPMA166	C.S. Ball valve one piece construction ½" & two piece construction 2"	**4**	4
2	PPMA167	C.S. gate valve 2" & 4"	**2**	2
3	PPMA168	C.S. globe valve 3"	**2**	2
4	PPMA178	Collar type flanges size 50 mm, 75 mm& 100 mm	**4**	4
5	PPMA201	D shackles (18mminternal space)	**4**	4
6	PPMA170	Diaphragm valve 1"	**2**	2
7	PPMA189	Different types of chains	**1**	1
8	PPMA187	Knuckle joint size 6"	**2**	2
9	PPMA188	Kotter joint	**1**	1
10	PPMA183	Needle roller bearing	**2**	2
11	PPMA169	Non return valve ½", ¾", 1", 4"	**2**	2
12	PPMA165	S.S. Ball valve single piece construction 1"	**4**	4
13	PPMA171	S.S. Needle valve 1½"	**2**	2
14	PPMA186	Spider type coupling 75 mm, 100 mm	**2**	2
15	PPMA182,	Taper roller bearing	**2**	2
16	PPMA180	Ball bearing 6004, 6110, 6212, 6420	**1**	1

Schedule of Requirements

Package - 80

DRILL MACHINE

S No.	CODE No.	Details of Specification	units	Total
1	PPMBM	Drill machine cap. 20 mm geared with all accessories	1	1

Schedule of Requirements

Package - 97

Power hacksaw/bend saw

S No.	CODE No.	Details of Specification	units	Total
1	PPMBM	Hack saw frame adjustable 300 mm	8	8

Schedule of Requirements

Package - 100

File/Twist Drill/ Morse Socket/Remer

S No.	CODE No.	Details of Specification	units	Total
1	PPMBM	Half round file smooth - 250 mm	4	4
2	PPMBM	Half round file rough – 250 mm	4	4
3	PPMBM	Round file smooth – 200 mm	8	8
4	PPMBM	Flat file bastard 250 mm	8	8
5	PPMBM	Flat file rough cut 250 mm	4	4
6	PPMBM	Flat file rough cut 300 mm	8	8
7	PPMBM	Flat file smooth 250 mm	8	8
8	PPMBM	Needle file set	4	4
9	PPMBM	Square file – 200 mm	4	4

Schedule of Requirements

Package - 102

DE spanner, Ring Spanner,Piler, Wrenches, Chisel, Hammer, Punch

S No.	CODE No.	Details of Specification	units	Total
1	PPMA M	Combination pliers 200 mm	8	8
2	PPMA M	Long nose pliers 200 mm	4	8
3	PPMA M	Internal circlip plier straight 150 mm	4	4
4	PPMA M	External circlip plier spring type 150 mm	4	4
5	PPMA M	Water pump plier slip joint 250 mm	4	4
6	PPMA M	Cross pin hammer 400 gm	2	2
7	PPMA M	ball pin hammer 200 gm	16	16
8	PPMA M	Ball pin hammer 400 gm	4	4
9	PPMA M	Sledge hammer 2 kg	1	1
10	PPMA M	Mallet	2	2
11	PPMA M	Teflon hammer	1	1
12	PPMA M	Chisel cold flat 20 x 150 mm	16	16
13	PPMA M	Flat chisel cold 25 x 200 mm	2	2
14	PPMA M	Cross cut chisel 150 mm	2	2
15	PPMA M	Adjustable wrench 250 mm	2	2

16	PPMA M	Ring spanner 25x28, 24x26	2EACH	2
17	PPMA M	Box spanner socket set 12.7 mm square drive hexagonal sockets set	2	2
18	PPMA M	Allen key 12,14,15,16,18,20,22 mm	2 EACH	2
19	PPMA M	Pipe wrench 200 mm	2	2
20	PPMA M	Pipe wrench 300 mm	2	2
21	PPMA M	Torque wrench	1	1

Schedule of Requirements

Package - 104

Screw Driver, Punch, Steel rule, Scraper, Engineer Squares, Callipers

S No.	CODE No.	Details of Specification	units	Total
1	PPMA M	Screw driver 300 mm	16	18
	PPMA M	Screw Driver 300 mm	2	
2	PPMA M	Screw Driver 400 mm	2	2
3	PPMA M	Steel scale 300 mm enggineering	16	16
4	PPMA M	measuring tape 3m	16	16
5	PPMA M	outside spring calliper 200 mm	16	16
6	PPMA M	Out side spring calliper 400 mm	2	2
7	PPMA M	Odd leg caliper spring type 200mm	16	16
8	PPMA M	Inside spring calliper 200mm	16	16
9	PPMA M	Inside spring calliper 400mm	2	2
10	PPMA M	Try Squrare 200mm	16	16
11	PPMA M	Try square 300 mm	2	2
12	PPMA M	center punch 10 mm x 100 mm (DOT)	16	16
13	PPMA M	Scriber 150 mm	16	16

Schedule of Requirements

Package - 110

Shaper machine

S No.	CODE No.	Details of Specification	units	Total
1	PPMBM	All geared shaping machine cap. 450 mm with all accessories	1	1

Schedule of Requirements

Package - 112

Micrometers

S No.	CODE No.	Details of Specification	units	Total
1	PPMAM	Depth meter 0-300 mm	1	1
2	PPMAM	Micro meter 0 - 25	1	1