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| logo1COLLEGE OF ENGINEERING AND TECHNOLOGY(AnAutonomous &Constituent College of BijuPatnaik University of Technology, Odisha)TECHNO CAMPUS, GHATIKIA, PO: MAHALAXMIVIHAR, BHUBANESWAR-751029,ODISHA  |  | | --- | | **NAAC ‘A’** | |
| Letter No.790 / CET; Dated :- 15.03.2021 |

**TENDER CALL NOTICE**

Sealed Two bid tenders are invited from reputed Original EquipmentManufacturers (OEM)/Suppliers/Agencies for Supply of Laboratory Equipment at Department of Physicsof College of Engineering and Technology (CET), Techno Campus, Ghatikia, PO:Mahalaxmivihar, Bhubaneswar – 751029, Odisha. in the prescribed format as per the requirements enclosed in the schedule of items given in bid documents. Bid documents with details terms & conditions is to be downloaded from CET website “[www.cet.edu.in](http://www.cet.edu.in)”.

The tenders along with the Tender Cost and EMD as given in bid documents in the sealed envelope should be superscribed with **"Tender for Supply of Laboratory Equipment for the Department of Physics"** and submitted through **Speed Post / Regd. Post** only at Principal Office, CET, Bhubaneswar **on or before 20.04.2021** at 4:00 P.M**.** No hand delivery will be accepted. The authority will not be held responsible for any postal delay. More details are available at our College Website: [**www.cet.edu.in**](http://www.cet.edu.in). The authority reserves the right to accept/reject any or all tenders without assigning any reason thereof. ***No correspondence in this regard will be entertained.***

The interested bidders can inspect the site at any time during working hours on any working day at their own cost before submission of tender. No consideration shall be entertained regarding non awareness of the site conditions and constraints after submission of tender.

**Sd/-**

**PRINCIPAL**

**BID Ref No.790 /CET Date :15.03.2021**

**BID PARTICULARS AND INSTRUCTIONS OF TENDER NOTICE**

**FOR SUPPLY OF EQUIPMENTS**

**FOR**

**DEPARTMENT OF PHYSICS**

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| COLLEGE OF ENGINEERING AND TECHNOLOGY(An Autonomous &Constituent College of BijuPatnaik University of Technology, Odisha)TECHNO CAMPUS, GHATIKIA,PO: MAHALAXMIVIHAR, BHUBANESWAR-751029, ODISHA  |  | | --- | | **NAAC ‘A’** | |

**INVITATIONFORBIDS**

#### Principal College of Engineering and Technology (CET) invites sealed tenders from reputed Original Equipment Manufacturers/Suppliers/Agencies for Supply of Laboratory Equipmentsat Department of Physics,College of Engineering and Technology (CET), Techno Campus, Ghatikia,PO: Mahalaxmivihar, Bhubaneswar – 751029, Odisha.

Interested eligible Bidders may obtain detail information and list of items with technical specifications from **the website of the College** [**www.**](http://www.nitdgp.ac.in)**cet.edu.in**

Particularsaboutsubmissionofbiddingdocument areasfollows:

(a)Priceofbiddingdocument (non-refundable) : **Rs. 1000/-**

(b) Firstdateofavailability of Bidding Document inthewebsite:**20.03.2021**

(c) Lastdateandtimefor submissionofbids **:20.04.2021upto4.00 p.m.**

(d)Timeanddateof openingofbids :**22.04.2021at1.00 p.m**.

(e) Placeofopeningofbids : **Principal Office**

**College of Engineering& Technology Technocampus,Ghatikia, Mahalaxmivihar,Bhubaneswar-751029**

### (f) Addressforcommunication : Principal

### College of Engineering& Technology

### Technocampus, Ghatikia,

### Mahalaxmivihar, Bhubaneswar-751029

**Principal**

### Eligibility of bidder and General Instructions:

### 1.1 Eligibility:

Those who fulfill the following criteria are eligible to participate in the tender.

1. The bidder must be a reputed **OEM** manufacturer and/or the Authorized Dealer of a reputed manufacturer. Manufacturers should provide all documents relating to their **Manufacturing Capabilities.**
2. If the bidder is an Authorized Dealer of a reputed manufacturer, necessary certificate to this effect from the manufacturer must be enclosed.
3. The bidder must have both sales and service center with qualified Service Engineers. All after sales support should be provided directly by the manufacturer only.
4. The bidder must have the willingness for providing comprehensive maintenance support of the Equipment supplied by him.
5. The bidder must provide evidence of successful execution of supply orders with installation and successful after sales support in reputed organizations
6. The bidder must have GSTIN No. and Income Tax payment up-to- date. Attested copies of GSTIN Certificate or non-assessment certificate from the concerned Authority valid up-to-date and attested copy of Income Tax Clearance Certificate or non-assessment certificate, as the case may be, from the competent authority, up-to-date. and/or PAN Number must be enclosed along with the Tender documents.

### 2. General Instructions:

The bidders who are **the Original Equipment Manufacturers (OEM)/ Authorized Dealers** of the product must be manufacturing the complete product, selling under the specified brand name and model are the eligible participants.

The selection for procurement of equipments will be based on quality and performance along with cost. In this context decision of technical committee is final based on documentary evidence or actual physical verification.

The tenders will be opened on **22.04..2021at 1:00PM**in presence of the bidders or their authorized representatives. Authorized representatives will be required to produce their authorization before opening of the bid, failing which they will not be allowed to be present.

Submission of more than one bid by a particular bidder under different names is strictly prohibited. In case it is discovered later on that, this condition is violated, all the tenders submitted by such tenders would be rejected or contract cancelled and earnest money deposited will be forfeited.

The bidders should mention the location of its service center nearest to Bhubaneswar in their tender paper.

All offers should be typed or printed clearly in English and the price quoted for each item should be firm.

Warranty period, delivery period and after-sale-service conditions, etc. are also to be clearly indicated.

The rates and the conditions of the offer will remain valid for three months from the date of opening of the tender and no change or alteration of the rate will be acceptable on any account.

Submitted tender forms with overwriting or erased on illegible specifications and rates will be rejected.

Request from bidder in respect of additions, alterations, modifications, corrections, etc. of either terms & conditions or rate after opening of the bid may not be considered. However, negotiation may be made before finalization.

Bidder shall carefully examine the bid documents and fully inform themselves of all the conditions, which may in any way affect the work of the cost thereof.

Should a bidder find discrepancies or omissions from the specification or other documents and any doubt as to their meaning, he should at once notify the purchaser and obtain clarification in writing.

This, however, does not entitle the bidder to ask for time beyond the due date fixed for receipt of tenders.

The bidder must also specify minimum uptime and maximum time to repair/replace in the event of a failure and penalty thereof.

Verbal clarification and/or information given by the purchaser or its employees or representatives shall not be binding on the purchaser.

Submission of sealed bid will carry with the implication that the bidder agrees to abide by the conditions laid down in the detailed particulars of the bid notice.

Conditional offers and offers qualified by vague and indefinite expression, as ‘subject to immediate acceptance’, ‘subject to prior sale’, etc. will not be considered.

While tenders are under consideration, bidders and their representatives or other interested parties are advised to refrain from contacting by any means, to the purchaser's personnel or representatives on matter relating to the tenders under study.

The purchaser, if necessary, will obtain clarification on tenders by requesting such information from any or all the bidders either in writing or through personal contact as may be necessary.

The bidder will not be permitted to change the substance of his offer after the tenders have been opened.

In the event of non-compliance with this provision, the bidder is liable to be disqualified.

### 2.1 Procedure for Submission of Tenders:

a) The Bidders must submit their bids as required in two parts in separate sealed covers prominently super scribed as Part-I “**Technical Bid**” and Part-II “**Financial Bid**” and also indicating on each of the covers the “**Tender call Notice Number & Date**” and **due date and time of submission** as mentioned in Tender Call Notice.

**Part-I (Technical Bid)**

Excepting the price schedule, all other documents as mentioned in para 2.1 i.e details of **technical specifications, leaflet, Copy of Firm Registration Certificate from the competent authorities, GSTIN certificate, Income Tax Clearance, PAN Card copy, list of clients, authorization certificate from Manufacturer in case of Dealer**, **etc**. along with tender document duly signed by the authorized person in each page shall be covered in Part-I (Technical Bid).

**Part-II (Financial Bid)**

All indications of price shall be given in Part-II (Financial Bid)

#### b) Both sealed covers Part-I “ Technical Bid” and Part-II “Financial Bid” should be placed in a third cover along with requisite EMD & cost of Tender documents (separately in the form of DD drawn in favour of Principal, College of Engineering & Technology, Bhubaneswar at any Nationalized Bank payable at Bhubaneswar), others requisite supporting documents etc. and sealed. The sealed cover containing tender documents as per procedure indicated above should be submitted by speed post / Registered Post to the office of the Principal, addressing to the Principal, College of Engineering & Technology, Techno-campus,Ghatikia, P.O. : Mahalaxmivihar, Bhubaneswar-751029, Odishawithin the due date and time as stipulated in Tender. No hand delivery is accepted. The sealed envelope must show the name of the bidder and his address and should be super scribed as “Tender for supply of Equipment forDepartment of physics”on the top of the envelope.

**c)** All the documents submitted must be in the papers showing signature of the bidder and printed office name of the bidderon official seal.

**d)** All the documents must be submitted in a **sequential manner** with **separator/flags** to help in quick scanning of the topics. Wherever possible, data in tabular form should be given

### 3. Requirements by Bidder before Supply:

### Rating Plate, Name Plate and Labels:

Each of the equipment is to have permanently attached to it, a rating plate of non-corrosive material in a conspicuous position, upon which the total specifications along with the manufacturer’s name, address, etc. are to be engraved.

### Packaging:

All the equipment are to be suitably protected, covered in water–proof packing and crated to prevent damage or deterioration during transit and storage till the time of installation. The supplier shall be responsible for any loss or damage caused during transportation, handling or storage till their successful installation.

### Inspection:

All materials/equipment shall be inspected and tested for completeness, proper assembly, operation, cleanliness and state of physical condition and performance as per quoted specification.

The test shall be conducted, reported and certifications to provided by the bidder

The bidder shall provide all test and measuring equipment/tools required for inspection/testing.

The cost of all such tests shall be borne by the Bidder.

CET reserves the right to reject any equipment if it does not comply with the specifications during site testing, installation and commissioning stage.

Inspection & testing would be conducted, jointly, at various stages as applicable during unpacking, installation and commissioning of respective equipment/ components at the manufacturing site.

### Environmental Condition:

All the equipment supplied shall be rugged and should operate without any deviation in quality, or degradation of equipment performance. All the specification/parameters shall be guaranteed over the following environmental conditions:

\* Storage Temperature 0 to 70 degree Celsius

\* Operating Temperature 0 to 50 degree Celsius

\* Humidity 95% RH (non-condensing)

All the equipment are intended to operate under 220 V, 50 Hz power supply.

### Requirements by Bidder after Supply:

### Supply:

**The material would be delivered and installed by the supplier at Department of Physics, College of Engineering & Technology, Techno Campus,Ghatikia,P.O. :Mahalaxmivihar, Bhubaneswar – 751029, Odisha.**

The items should be supplied directly from the manufacturing terminal having passed all tests successfully with Certifications as required.

The equipment should conform to the latest relevant National/International standards and shall be completed in all respect.

Any component, fitting etc. which may not have been specifically mentioned in the specifications but which are usual and necessary for the equipment, shall be supplied by the bidder at no extra cost.

In case, articles are found damaged in transit or found short at the time of delivery the full cost of the same will be deducted from the bill of the supplier in case the supplier does not replace the stock within a week from the date of lodging the complain.

The articles ordered must be supplied in one lot within 4 (four) weeks of placing of the purchase order.

In case of delay in delivery or successful installation, a penalty of 1% (one per cent) per week shall be levied.

CET reserves the right to procure the materials from alternative sources at the risk and cost of the successful bidder giving 15 days notice.

Any increase in tax and duties after expiry of delivery period will be to the seller’s account.

In case the items supplied by the supplier are found not up to the specification shall be rejected.

The supplier will be intimated to take back the stocks at his own cost within three days from the date of rejection and to replace the same within 7 days, failing which the EMD will be invoked in addition to taking legal actions.

Imported consignment, if any, should be destined to “**The Principal, College of Engineering & Technology, Techno Campus, Ghatikia, P.O.: Mahalaxmivihar, Bhubaneswar–751029, Odisha. India**” through nearest custom clearing Airport (Bhubaneswar Airport).

The suppliers shall be responsible for releasing the consignments from the carriers/transporters.

The equipment shall be delivered and installed at site at the cost of the bidder.

All taxes, levies, surcharges including the customs clearance and handling freight and insurance should be paid and handled by the bidder.

### Installation and Commissioning:

Installation and Commissioning shall include the following:

1. Installation and Testing of the Equipment, Machineries etc. supplied by the bidder.
2. It will be the responsibility of the bidder to provide all necessary spares and consumables, which may be required during installation and commissioning at no extra cost to purchaser.
3. The bidder is to bring their own testing and measuring instruments required for installation, testing, commissioning, which can be taken back after completion.
4. Installation must complete within 15 days after delivery on site.
5. The bidders should provide all necessary raw materials for running of the machine during commissioning.

### Documentation:

Detailed technical manuals, handbooks, drawings, warranty card and factory quality assurance checklist, test results and any other certifications mentioned in the technical specifications shall be supplied along with the consignment.

Supplied manuals/handbooks must cover detailed technical specifications and installation, operation, maintenance and system safety procedures.

For Experimental setups details of theory, procedure and methods of taking measurementsetc**.** should be provided in the form of hand books for each experiment in duplicate.

The receipts for taxes paid, if any, for the supplied materials should also be submitted

### Trial Operation and Performance Guarantee Test:

After successful completion of installation and commissioning of the equipment, a 7-day continuous trial operation putting those on optimum use shall be conducted by the bidder at site, during which the performance of the equipment shall be demonstrated for trouble-free continuous operation, meeting the specified standards and proper training shall be imparted to two persons of the purchaser.

During trial operation, bidder shall do all necessary adjustments required to ensure the performance as per the acceptable level.

In case, guaranteed performance is not established, the bidder shall be given opportunity to rectify/replace the equipment/components, and restart the 7 days continuous trial operation, at the risk and cost of the bidder.

### On-Site Warranty:

a) The entire materials may be used continuously. The reliability and safety of the total installed system and trouble-free operation are, therefore, of prime importance. The supplied devices/equipment and components shall be covered under **two-years or more** comprehensive on-site warranty from the date of issue of successful completion of Performance Guarantee Report.

b) During the period of warranty, it shall be the responsibility of the bidder to provide all essential spares and consumables, which may be required for maintenance and trouble-free operation of the devices / components at the bidder’s cost

c) Software, if any, has to be tested with at least one-year warranty for trouble free operation.

### Comprehensive Maintenance Contract:

The bidder shall be under the obligation of entering into a Comprehensive Maintenance Contract (CMC) with CET for a minimum period of two years, renewable if felt necessary, on mutually acceptable rates, terms and conditions. CMC shall start after the completion of Warranty.

The scope of CMC shall cover maintenance and supply/replacement of materials and components, for smooth and reliable operation of the systems without trouble.

Accordingly, the bidder has to offer rates for the CMC structure per equipment along with the price for the Systems and other associated Equipment supplied.

### After Sales Service:

During the warranty period and subsequently, after signing of Agreement for CMC the bidder shall attend to the problems reported by the users of CET on a priority basis.

For any problem reported, the bidder shall attend and rectify the problem within 3 (three) days or provide a standby system of the similar configuration.

The report on any problem will be informed through phone or fax number of which shall be given by the bidder.

The branch office of the concerned manufacturing firm will be fully responsible to provide maintenance service, in case of any negligence, in providing the service by the bidder

On failure to comply with those instructions, the Bank Guarantee provided for the warranty period shall be invoked.

### Financial Terms:

### EMD

The bidder has to submit a Demand Draft/Banker’s Cheque/Pay Order for the equipment as mentioned below in favour of **Principal, College of Engineering and Technology** payable at **Bhubaneswar** in any Nationalized Bank towards EMD and cost of the Tender Paper. Without EMD and cost of the Tender Paper the tender will be summarily rejected.

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| Sl. No. | Name of Equipment | EMD(inRs.) | Cost of Tender Document | Period of complete Delivery, Installation and Commissioning |
| 1 | Zeeman Effect set up Apparatus | 10000/- | Rs.1000/- | 4 weeks |
| 2 | Malus Law Apparatus kit |
| 3 | Quink’s Tube Apparatus Kit |
| 4 | Lattice Dynamic Kit |
| 5 | Velocity of Sound by Kundt’s tube |
| 6 | Michelson Interferometer |
| 7 | Resistivity Measurement kit four probe |

There will be no interest paid to the bidder towards EMD money.

In no case the EMD money in cash or any other forms will be accepted at the time of opening of the bid.

No request for adjustment of claims, if any, will be accepted.

The EMD of unsuccessful bidders will be refunded as soon as possible after the tenders are finalized.

### 5.2 Performance Security Deposit

In case of successful Bidder **EMD** will be kept as **Performance Security Deposit** and will be **refunded after expiry of stipulated warranty periods from the completion date of installation and commissioning on satisfactory performance of the equipment.**

### Prices:

Price quoted should be **FORCollege of Engineering and Technology, Bhubaneswar only. Tax components as applicable should be mentioned clearly in the financial bid.**

Price should be quoted for unit item; however, the actual requirements may be much more. (A bidder may propose to give discounts if any for purchase of more than one unit of a particular item.)

Purchase order will be placed as a single lot for each type of item or for all the items together, as the case may be.

In case of items of import, the bidder should take full responsibility for customs clearance, handling, tax payment, etc. and specify the charge for the same in the price bid.

* 1. **GST Concession:**

GST Concession if any is to be availed on production of the required certificates applicable to Educational Institution.

* 1. **Discount:**

Our Institute is a pioneer Institution in the field of Teaching and Research in Engineering and allied disciplines and do not run with profit motive.

As such we are availing price discount for purchase of equipment/instruments.

The rate of discount or any other Institutional benefit arising out of Govt. Policy etc., on each item may also be indicated in the bid specifically.

* 1. **Payments:**

a) In case of imported items, payment will be made by opening LC in the name of the manufacturer subject to the condition that a Bank Guarantee for an equal amount will be submitted by the bidder to CET for the period of completion of installation and commissioning. Custom duty will be paid extra as per actual.

b) In case of purchase in Indian Rupees, payment of 100 percent of the ordered value will be made after successful installation and commissioning of the equipment subject to submission of satisfactory performance report by the Head of the Department.

* 1. **Penalty:**

If the delivery, installation and commissioning is not carried out in time as specified in other part of the tender document, the bidder/manufacturer will be charged @ 1% (one per cent) per week of the total value of the concerned machine/equipment.

* 1. **Rate Contract with DGS&D or any other Government Organisation:**

In case the bidder has entered into a Rate Contract with DGS & D or any other Government Organization such as EPM, rate contract preference, number & copy of rate contract have to be submitted along with tender.

### Instruction to the Bidder:

Technical Offer and Price Bids should be separately given in two different covers.

Each cover should be earmarked as to know the contents within as either ***“Technical Offer” or “Price Offer”***.

Both these covers should be placed in a third cover super scribed as **“*Tender for equipment for Department of Physics ”.***

Some of the minimum specifications specified may be redundant, obsolete or incompatible and in these cases, quote the particulars of correct specification of latest trend and technology.

Higher specifications instead of minimum specifications are allowed if a minimum specification is not available, obsolete or incompatible.

Otherwise, model with higher specification should be in addition to the model with minimum specifications.

Specify brand name and full model name and number for each offer.

Include the printed catalogue and price list if any for each of the equipment quoted.

Specify the list of Accessories required along with each of the equipment.

Quote the additional price of the accessories; only those, which are fully compatible with the quoted model, should be furnished.

Specify the list of Accessories to be given free of cost, along with the equipment as “**Free Accessories” ,** these should be fully compatible with the quoted models.

* 1. **Solving Disputes:**

CET, the bidder and the manufacturer shall make all efforts to resolve amicably by direct informal negotiation on any disagreement or dispute arising between them under or in connection with this contract.

All disputes arising out of the contract shall be referred to courts under the jurisdiction of the Bhubaneswar court only.

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***The above terms and conditions except those otherwise agreed upon, shall form a part of the Purchase Order***.

***Sign on each page of this tender document and Return it along with the offer enclosing this part together with the Technical Offer.***

***\*\*\* The CET authority has all rights to accept/reject any tender without assigning any reasons there of.***

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1. **Technical Specifications :**

Following are the minimum specifications of the equipment.

The minimum specifications are indicative and not exhaustive.

The models with higher specifications may be quoted.

The quoted materials should be of latest trend and technology.

The Equipment should be complete in itself without needing any extra requirements except the requirement of general test and measuring instruments.

All bidders qualifying in technical evaluation may arrange for a **demonstration of the equipment.**

The demonstration will be held at **Department of *Physics, College of Engineering & Technology, Techno campus, Ghatikia, P.O. :Mahalaxmivihar, Bhubaneswar – 751029*.**

**Financial Bid will be opened only if Tenders must qualify in Technical evaluation.**

**List of E*quipments and Instruments with Technical Specifications.***

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| --- | --- | --- | --- |
| **Sl. No.** | **Name of Equipments** | **Specifications** | **Quantity**  **required** |
| 1 | **Zeeman Effect set up Apparatus** | **Technical Specification**:Electromagnet:-  Coils : 400 turns., Coil Current : 10 Amp (Max.), Connection : 4mm safety socket. U Core : 150x130mm(LxH), 40x40mm cross section., I Core : Length=150mm, 40x40mm cross section. Core material : Ferromagnetic., Supplied with 4 support legs with levelling knob.  Observation the line Triplet & Doublet for the normal transverse & Longitudinal Zeeman effect, The FabryPerot interferometer of high resolution allows the user to measure this small energy band gap and from this we calculate Bohr’s magnetron (μ)  Optical Bench 1 metre :Material : Aluminium alloy, section, Scale : 0-100cm,LC : 1mm, Supplied with 4 fixed saddle.  Power Supply for Electromagnet: Input Voltage : AC 220V ±5%, Output Voltage : 0-30V  Output Current : 0-10Amp, Voltage Display : 3½ Digit LED, Current Display : 3½ Digit LED  Fabry Perot Etalon: Mirror optics :Lamda/20, Mirror gap : 3 mm, adjustable, Filter : 532nm, Green Interference Filter , Clear view : 40mm dia, Rod : 10 mm dia.  CCD Camera: Sensor : CMOS, Output : VGA Connector : BNC, Power : 5V DC  Focus : Manual adjustment, Rod : 10 mm dia.  Digital Gauss Meter: Range : 200 Gauss & 2 k Gauss, Display : 3½ Digit LED, Resolution : 0.1Gauss at 0 - 200 Gauss, Offset : By Potentiometer to set ZERO, Input Voltage : 220 V, ± 5 %, 50 Hz AC , Axial Hall Probe : InAs  Convex Lens on Holder: Focal Length : 100mm , Diameter of Lens : 50 mm  Frame Diameter : 130 mm to avoids , scattering of lights Rod Diameter : 10 mm  Transverse Saddle: Material : Aluminium, Locking : Spring loaded, Motion : X-Y axis , Holder : 10mm dia.  Polarizer filter:Angle : Adjustable (0°-90°) , Aperture : 21mm dia., Frame : 130mm dia., to avoids scattering of lights ,Polarization : Linearly polarized Rod : 10 mm dia.  Quarter Wave Filter: Angle : Adjustable (0°-90°), Frame : 130mm dia., to avoids scattering of lights, Polarization : Circular polarized Aperture : 15mm dia. Rod: 10mm dia. | 01 No. |
| 2 | **Malus Law Apparatus kit** | **Technical Specification :**  OPTICAL BENCH- 1.5 Meter, Material :Type : Black Ionised Hexagonal section, Scale : 0-150cm, Least count : 1mm Supplied with 3 fixed saddle.  DIODE LASER-,Wavelength : 635 nm, Operating Current : 250mA Optical Power: 0.8mW  Light sensor with Data logger(Add on Module)  Contour Dimension(lxbxh) : 300x62x82 mm, Weight : 1.5 kg (approx.)  Half Wave Plate\_ Adjustable (0°-90°)  POLARIZER / ANALYZER-Angle : Adjustable (0°-90°), Aperture : 21mm dia., Frame : 130mm dia., to avoids, scattering of lights, Rod : 10 mm dia.  PHOTO DETECTOR- Detector : Silicon photocell, Terminals : 4mm safety socket, Aperture : 1 mm Rod : 10 mm diameter  TRANSVERSE SADDLE-Material : Aluminium, Locking : Spring loaded, Motion : X-Y axis Holder : 10mm dia | 01 No. |
| 3 | **Quink’s Tube Apparatus Kit** | **Technical Specification:**  Power Supply for Electromagnet- Digital Voltage : 0-16V DC continuously variable & stabilized, Voltage display : 3½ digit LCD Display , Ripple : Less than 25mV Overload : Current limiting protection, Current : 5 A continuously variable, Current display : 3½ digit LED  **Digital Gauss Meter with Hall Probe**-Range : 200 G & 2 kG , Resolution : 1G at 0 - 200G**Electromagnet** – Coils: 400 Turns. Coil Current: 4.5Amp (Max.), Connection: 4mm safety socket.U Core: 150x130mm (LxH), 40x40mm cross section. I Core: Length=150mm, 40x40mm cross section.Core material: Ferromagnetic.Eyepiece Ramsden: 8x, Reticle: 90° Cross on glass **Including Accessories:** Tube with Stand 1, Connecting Lead Red & Black , Yellow1, Manganese Sulphate(Empura) -500gm 1. | 01 No. |
| 4 | **Lattice Dynamic Kit** | **Technical Specification:**  50MHz Digital output with Audio oscillator with amplitude control and facility to vary the frequency from 0.10 KHz to 80 KHz. It has built in power supply and output stage to match the impedance of simulated lattice. It also consists of transmission line, which simulates one-dimensional mono-atomic and di- atomic lattices. Digital frequency counter | 02 Nos. |
| 5 | **Velocity of Sound by Kundt’s tube** | **Technical Specification:**  Frequency range: 20 to 5000 Hz  Length of sound tube: 1000 mm  Diameter of sound tube: 70 mm  Scale: 950mm  Hose connectors: 5 mm diameter  Speaker power output: 3W  Impedance of speaker : 50 Ω  DC power supply, 0 – 20 V, 0 – 5 A (230 V, 50/60 Hz)  **Microphone Probe, Long -** Frequency range-20 Hz – 16 kHz , Length of Rod900mm | 01 No. |
| 6 | **Michelson Interferometer** | **Technical Specification:**  Base dimension : 290x212x168 mm  Distance of mirror M2 from beam splitter : 100mm.  Dimensions of beam splitter : 50 x 38 x7 mm (LxWxT)  Dimensions of compensating plate : 50 x 38 x 7 mm (LxWxT)  Dimensions of mirrors M1 and M2 : 30 mm diameter  Thickness :10 mm.  Reflectivity : Transmitivity : 50 : 50  Flatness of beam splitter : λ/8  L.C.(coarse adjustment knob) : 0.01 mm  Least count(fine adjustment knob) : 0.0001 mm,  He -Ne Laser : 2mW  It is a Sodium source within built power supply. It Can be mounted on rod or can be placed on a lab jack. It is provided with rubber feet with Michelson interferometer  Dimension (L x B x H) : 300x62x82 mm, Weight: 1.5 kg (approx.)  Laboratory Jack: Plate Material: Aluminium,  Top Plate Size: 32 x 32cm,  Sodium Light Source: Operating Voltage : 220 Volts, 50 Hz.  Lamp House : Excluding Rod (300 x 85 mm dia.)  Optional Provision for : He-Ne Laser  Scope of Supply : Complete with housing for sodium vapor lamp, transformer, Base, Mounting rod, Bosshead and Sodium Bulb.  Starting Voltage : 470 Volts | 02 Nos. |
| 7 | **Resistivity Measurement kit four probe** | **Technical Specification:**  Voltmeter Display : 3½ digit, 7segment LED, auto polarity & Voltage Range : X1(0-200.0mV DC) &X10 (0-2.00 V DC), Current Display : 3½ digit, 7segment LED, Current Range : 0-20mA DC, 4mm socket Oven Supply : 45V AC (Switch position LOW), 60V AC (Switch position HIGH), Oven Connector : 5 Pin, DIN typeInput Voltage : 220V, 50Hz AC , Fuse : 1A, 250 V  **OVEN WITH THERMOMETER**  Heating Element : 35 ohm, 75 Watt, Oven Supply : 45V/60V AC Oven Connector : 5 Pin, DIN type, Ambient Temperature : 175° C Fuse : 2A,Type : Mercury,  Temperature Range : 0-200° C  Least Count : 1° C, Length : 300mm approx.  **FOUR PROBE ARRANGEMENT**  Four probe : Spring type, Probe Spacing : 25mm  Crystal : Ge Wafer, P type,  Crystal Size : 12 x14 x 0.5mm (L x W x Thickness)  Resistivity : 1~ 10 ohm-cm, Orientation : <100> | 02 Nos. |

#### COLLEGE OF ENGINEERING AND TECHNOLOGY

#### (An Autonomous &Constituent College of BijuPatnaik University of Technology, Odisha)

#### TECHNO CAMPUS, GHATIKIA,

#### PO: MAHALAXMIVIHAR, BHUBANESWAR-751029, ODISHA

**www.cet.edu.in**

**Email:principalcet@cet.edu.in**

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**TECHNICAL BID**

(To be enclosed in separate sealed cover)

Name and address of the bidder:

Note: A DD for EMD and Tender document fee should be enclosed with this bid separately as mentioned in para 5.1 of tender paper

1. Name of the bidder
   1. Full postal address
   2. Full address of the premises
   3. Telegraphic address
   4. Telex number
   5. Telephone number
   6. Fax number
2. Monthly supply capacity of goods quoted for
   1. Normal
   2. Maximum
3. Total annual turn-over(value in Rupees)(Previous year)

(Copy of Balance Sheet / Audit Statement / IT returns, etc. to be attached as proof)

1. Past supply details for 3 years (Attach proof)
2. Whether similar job work undertaken in the past, if so details.

(Demo of the Lab Equipments to be arranged if required)

**Customer** **Quantity supplied** **Year**

6. GSTIN No.

**Signature and seal of the bidder**

#### COLLEGE OF ENGINEERING AND TECHNOLOGY

#### (An Autonomous &Constituent College of BijuPatnaik University of Technology, Odisha)

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**FINANCIAL BID**

(To be enclosed in separate sealed cover)

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Sl. No** | **Item Description** | **Make / Model** | **Quantity**  **Required.** | **Unit Cost** | **Total** | **GST % & Cost** | **Any Other** | **Total** |
| **1** | Zeeman Effect set up Apparatus |  | 01 No. |  |  |  |  |  |
| **2** | Malus Law Apparatus kit |  | 01 No. |  |  |  |  |  |
| **3** | Quink’s Tube Apparatus Kit |  | 01 No. |  |  |  |  |  |
| **4** | Lattice Dynamic Kit |  | 02 Nos. |  |  |  |  |  |
| **5** | Velocity of Sound by Kundt’s tube |  | 01 No. |  |  |  |  |  |
| **6** | Michelson Interferometer |  | 02 Nos. |  |  |  |  |  |
| **7** | Resistivity Measurement kit four probe |  | 02Nos. |  |  |  |  |  |

**Signature and seal of the bidder**

# PROFORMA FOR SUBMITTING ELIGIBILITY REQUIREMENT AND UNDERTAKING

To

The Principal,

CET, Bhubaneswar

**Sub: Submission of Tender for “Supply, Installation & Commissioning of Equipment in Research laboratory” of department of Physics.**

Sir / Madam,

Having examined the conditions of contract and specifications including agenda, I/we, the undersigned, offer to undertake Supply, Installation, Testing & Commissioning of above mentioned items at Department of Physics, CET, Bhubaneswar, in conformity with the specifications, terms & conditions of Tender.

1. I/We agree to abide by the terms and provisions of the said conditions of the contract and provisions contained in the notice inviting tender. I/We hereby unconditionally accept(s) the tender conditions.

It is certified that I/we have not stipulated any condition(s) in our tender offer. In case any condition(s) are found in our tender offer violated after opening tender, I/We agree that the tender shall be rejected without prejudice to any other right or remedy be at liberty to forfeit the EMD absolutely.

1. I/We hereby submit the earnest money of [INR…………..……….……] for the Tender for the above mentioned work in the form of demand draft.
2. That, I/We declare that I/We have not paid and shall not pay any bribe to any officer of CET for awarding this contract at any stage during its execution or at the time of payment of bills, and further if any officer of CET asks for bribe/gratification, I/We shall immediately report it to the CET authorities.
3. That, I/We undertake that CET’s tender document shall form part of contract agreement.

I/We understand that you are not bound to accept the lowest or any bid, you shall receive.

Thanking you

Yours faithfully

Dated:

Signature of Bidder

Name: ……………

Telephone:………… Witness…...................

Signature....................

Address......................

Enclosures :