**BID Ref No. 3200 /CET Date : 18/09/2017**

**BID PARTICULARS AND INSTRUCTIONS OF TENDER NOTICE**

**FOR SUPPLY OF**

**EQUIPMENT AND INSTRUMENTS**

 **FOR**

 **DEPARTMENT OF PHYSICS**

****

**COLLEGE OF ENGINEERING AND TECHNOLOGY**

**(A Constituent College of Biju Patnaik University of Technology)**

**Techno Campus, PO : Mahalaxmivihar, Bhubaneswar –751029**

**INVITATION FOR BIDS**

**Principal, College of Engineering & Technology**, Bhubaneswar invites sealed bids fromeligible bidders for supply of Laboratory Equipment and Instruments to the Department of Physics, College of Engineering & Technology, Techno campus, Ghatikia, Mahalaxmivihar, Bhubaneswar-751029.

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**

Particulars about submission of bidding document are as follows :

 (a) Price of bidding document (non-refundable) : **Rs. 500/-**

 (b) First date of availability of Bidding Document in the website : **28.09.2017**

 (c) Last date and time for submission of bids **: 28.10.2017** **up to 3.00 p.m.**

 (d) Time and date of opening of bids : **28.10.2017** **at 4.00 p.m**.

 (e) Place of opening of bids : **Principal Office**

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

 (f) Address for communication : **Principal**

 **College of Engineering & Technology**

 **Technocampus, Ghatikia,**

 **Mahalaxmivihar, Bhubaneswar-751029**

 **PRINCIPAL**

### Eligibility of bidder and General Instructions:

### 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.

### 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 equipment 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 **28.10.2017 at 4:00PM** 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.

### 2.3 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 Cal 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 Demand Draft 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, P.O. : Mahalaxmivihar, Bhubaneswar-751029, Odisha within 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 and Instruments for* Department 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 bidder on 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 provide 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, 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 6 (SIX) 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, P.O. : Mahalaxmivihar, Bhubaneswar–751029, Odisha. India**” through nearest custom clearing Airport (Bhubaneswar/Kolkata 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 measurements** **etc.** 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 Amount: Rs.10,000/-

 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.

There will be no interest paid to the bidder towards EMD money of Rs.10,000/-.

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 **FOR College 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 equipments and Instruments 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, P.O. : Mahalaxmivihar, Bhubaneswar – 751029*.**

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

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

|  |  |  |  |
| --- | --- | --- | --- |
| **Sl. No.** | **Name of Equipment/ Instruments** |  **Technical Specifications**  | **Quantity****required** |
| 1 | Damping oscillation in various medium | Rotary motion sensor for angle and displacement measurements. Real time Data-logging interface. Mass on the spring oscillates free or damped in various liquids. Easy to measure amplitude.ROTARY MOTION SENSOR WITH DATA -LOGGERResolution : 1° or 0.25°Optical Encoder : Bidirectional, quadrature encoder, 360 cycle per revolution, Maximum Speed : 30 rev/s at 1° resolution 7.5 rev/s at 0.25° resolution, 3-step Pulley : 10 mm, 29 mm and 48 mm groove dia.Computer connection : USB 2.0 Full SpeedMaximum sampling rate : 100,000 samples per secondBOSS HEAD, SLOTTED MASS, SUPPORT BEAMMaterial : Mild steelDimension : 542.6x19.2x19.2 mm (L x W x thickness)Support Rod : 2 Nos, 12.7mm diameter, M6 , Beam Hole : 4.2mm diameter | 01 No. |
| 2 | Magneto Resistance In Bismuth | **Superconductivity Experiment Kit Setup****Superconductivity Unit:**Sample : BSCCO or YBCO, Contact : Four point probe devicesThermocouple : Type 'T' (Copper-Constantan),Sample Placing : Rugged Brass CasingsHosing : Acylic, Connection : 4mm plug**Superconductivity Probe:**Input Voltage : 220V, 50Hz AC, Constant Current Source : 150mA, 4mm SocketVoltage Input terminal, for Superconductor : 4mm Socket Voltage Output terminalfor superconductor : 4mm Socket with gain & offset pot.Temperature Input terminal for Superconductor : 4mm SocketTemperature Output-Voltage terminal : 4mm Socket, Calibrated on room temperature.**Datalogger Interface:**Sampling rate : 50,000/sec. (max.) ,Resolution : 12-bit A/D conversionInternal memory : Stores up to 12,000 data pointsInput/Output lines : 8 TTL (4 on each DIG/SONIC)Channel : Analog-4, Digital-2 , Analog output : 1 channel, ± 3 volts,Power : 6VDC**Differential Voltage Probe:**Input voltage range : ± 6.0V, Max. voltage : ±10 VInput Impedance (to ground) : 10 MÙLinearity : 0.01% Resolution : 12-bit,3.1 mVSupply voltage : 5 VDC , Supply current (typical) : 9 mA, Output voltage range :0–5 VConnection : 4mm**Probe Chamber:** Dimension : 150mm x 100mm, Inner material : ThermocolOuter material : Wooden, This chamber is designed for ,liquid nitrogen.Meissner Effect Sample:Disks : 1" diameter, Material : YBCO or BSCCO, Magnet : Rare earth, Tweezers : Non-magnetic**Liquid Nitrogen Container- 1 no** | 01 No. |
| 3 | Platinum resistance thermometer (Temperature Measurement and Calibration) | Training Board 60 cm X 23cm having Facility of 10OHM On board RPQ Slide Wire and On Board Jockey and Scale Arrngement with Platinum Resistance thermometer with Heating Arrangement and Graduated Thermometer with 90-0 - 90 Galvanometer with High Rating Power Supply. | 01 No. |
| 4 | Thermocouple Kit | Potentiometer 10 Wire with Thermocouple Arrangement and Heating Arrangement with High Current Power supply and GHigh Resistance Box 10000 OHM Spot Galvanometer and Other required Accessories | 01 No. |
| 5 | Kelvin's method to find resistance of Galvanometer | Precision Kelvin Bridge (Range - 2 micro ohm to 110 ohms, Acc. 0.1 %), The bridge comprises 10 steps of standard resistance of X 0.1 ohms and a circular slide wire having total resistance of 0.1 ohm & divided into 500 equal parts so that each division correspond to 0.0002 ohm (or 200 micro-ohm). It is also provided with 5 multiplier ranges of X 0.001, X 0.1, X 1, X 10 & 100 so that the overall range becomes 2 Micro-ohm to 110 ohms. Provided with built in compensation arrangement for taking into consideration self-resistance of leads from bridge to test object. a) Highly Regulated DC source of 5 Amps (≤Ripple Factor)b) Spot Reflecting Galvanometer c) Conductivity attachment of 50 cm length for holding sample d) Brass Clamp with very thick terminals at both side & one at centre for testing zero of kelvin bridge e) Standard Resistance box having five values of 0.001, 0.01, 0.1, 1, 10 ohms enclosed in one box  | 01 No. |
| 6 | Magnetic field analog the axis of a Solenoid(Measurement of field strength B and its variation in a various Solenoid) | Power supply -DC 0-16V, 5/8 Amp**, Digital gauss meter** with axial probe- Range : 200 Gauss & 2 k Gauss Resolution : 0.1Gauss at 0 - 200 Gauss ,Offset : By Potentiometer to set ZERO ,Display : 3½ Digit LED, Different Dia Induction Coil Set – Coil N=165, L=75mm, dia=32mm, Coil N=220, L=100mm, dia=32mm, Coil N=165, L=75mm, dia=40mm, Coil N=220, L=100mm, dia=40mm, Coil N=275, L=125mm, dia=40mm, MLaborotory Jack & Meter Ruler | 01 No. |
| 7 | Spectrometer | Scale - Brass, dia. 150mm. Objective- Achromatic lens, f = 178mm, Aperture 32mm Slit - German silver with knurled screw Reticle- 90 degree cross etched on glass, Least Count 1 Minute Eyepiece -15X, Ramsden eyepiece Vernier - 2 verniers (Prism table) Base- 220mm dia., Aluminum casting | 05 No. |
| 8 | Tunnel Diode Characteristics Apparatus | * Inbuilt Fixed DC regulated power supply
* Output Voltage : +5VDC
* On Board Digital Panel Meter
* Digital panel meter for measuring
* V1 : Voltage across Resistance R 3
* V2 : Voltage across Tunnel Diode
* Potentiometer & Diode
* Potentiometer : R1 (Current control)
* Tunnel Diode : IN 3717
* High quality bekelite used as front panel & mounted on light weight shock proof plastic cabinet
* Power requirement : 230 VAC 10%, 50Hz.
 | 01 No. |
| 9 | Phase transition study using feedback amplifier circuit (using bread board) | Phase transition study using feedback amplifier circuit (using bread board) | 01 No. |
| 10 | Study of dielectric constant in ferroelectric ceramic |

|  |  |
| --- | --- |
| Temperature Range  |   Ambient to 473K |
| Resolution  |   1K |
| Stability |   0.5K |
| Measurement Accuracy  |   1K (typical) |
| Oven  |   Specially designed for Dielectric measurement |
| Sensor |   RTD (A class) |
| Display  |   3½ digit, 7 segment LED with autopolarity and decimal indication |
| Power  |   150W |
| Range  |   50-6000pf |
| Resolution  |   1pf |
| Display  |   3½ digit, 7 segment LED with autopolarity and decimal indication |

 | 01 No. |
| 11 | Study of Thermo luminescence of F-centers in Alkali Halide Crystals |  (a) Experimental set-up for creating the Thermoluminescence(Oven with power supply, digital thermometer, samples, black box etc.)(b) For Measuring of Luminescence Intensity1. Photomultiplier Tube2. PMT Housing with biasing circuit3. EHT Power Supply4. Digital Nanoammeter, | 01 No. |

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#### COLLEGE OF ENGINEERING & TECHNOLOGY, BHUBANESWAR

####  DEPARTMENT OF PHYSICS

#### (A Constituent College of BPUT, Odisha)

#### Techno Campus, P.O. : Mahalaxmivihar

#### Bhuabaneswar,Pin-751029

#### 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 Equipment to be arranged if required)

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

6. GSTIN No.

**Signature and seal of the bidder**

**COLLEGE OF ENGINEERING & TECHNOLOGY, BHUBANESWAR**

**DEPARTMENT OF PHYSICS**

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**Techno Campus, P.O. : Mahalaxmivihar, Bhuabaneswar, Pin-751029** [www.cet.edu.in](http://www.cet.edu.in)

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

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**FINANCIAL BID**

 (To be enclosed in separate sealed cover)

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Sl. No** | **Name of Instruments** | **Make / Model** | **Quantity****Required.** | **Unit Cost** | **Total** | **Taxes Applicable** | **Any Other** | **Total** |
| 1 | Damping oscillation in various medium |  | 01 No. |  |  |  |  |  |
| 2 | Measurement of Magneto Resistance In Bismuth |  | 01 No. |  |  |  |  |  |
| 3 | Platinum resistance thermometer (Temperature Measurement and Calibration) |  | 01 No. |  |  |  |  |  |
| 4 | Thermocouple Kit |  | 01 No. |  |  |  |  |  |
| 5 | Kelvin's method to find resistance of Galvanometer |  | 01 No. |  |  |  |  |  |
| 6 | Magnetic field analog the axis of a Solenoid(Measurement of field strength B and its variation in a various Solenoid) |  | 01 No. |  |  |  |  |  |
| 7 | Spectrometer |  | 05 No. |  |  |  |  |  |
| 8 | Tunnel Diode Characteristics Apparatus |  | 01 No. |  |  |  |  |  |
| 9 | Phase transition study using feedback amplifier circuit (using bread board) |  | 01 No. |  |  |  |  |  |
| 10 | Study of dielectric constant in ferroelectric ceramic |  | 01 No. |  |  |  |  |  |
| 11 | Study of Thermo luminescence of F-centers in Alkali Halide Crystals |  | 01 No. |  |  |  |  |  |

 **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/Instruments in Departmental 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 :