**ODISHA UNIVERSITY OF TECHNOLOGY AND RESEARCH**

**(Formerly College of Engineering & Technology, Bhubaneswar)**

**Techno Campus, Ghatikia, P.O. - Mahalaxmivihar,**

**BHUBANESWAR-751029, ODISHA**

Ref. No. 3769/Phy/OUTR Date: 25/11/2022

**TENDER CALL NOTICE**

Sealed tenders are invited under two bid systems from reputed Original Equipment Manufacturers (OEM)/Registered Firms/Authorised Dealers/Agencies for Supply, installation and commissioning of “**Laboratory Instruments**” to the **Department of Physics, OdishaUniversity Technology Research (OUTR), Bhubaneswar.** The tender bid documents with other details are to be downloaded from the Website :www.cet.edu.in. **The last date and time of tender submission is 24.12.2022 by 4:00P.M.** The sealed tender will be received by speed post/registered post only. The authority will not be held responsible for any postal delay**.** Tender received after the scheduled date and time will not be accepted. The authority reserves the right to reject/cancel the tenders in whole or in part without assigning any reason thereof.

**Sd/-**

**OFFICER ON SPECIAL DUTY**

**BID Ref No.** 3769/Phy/OUTR **Date : 25/11/2022**

**BID PARTICULARS AND INSTRUCTIONS OF TENDER CALL NOTICE**

**FOR SUPPLY, INSTALLATION AND COMMISSIONING OF**

**“LABORATORY INSTRUMENTS”**

**AT**

**DEPARTMENT OF PHYSICS, OUTR, BHUBANESWAR**

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| **ODISHA UNIVERSITY OF TECHNOLOGY AND RESEARCH (OUTR)**  **(Formerly College of Engineering & Technology, Bhubaneswar)**  **Techno Campus, Ghatikia, P.O. - Mahalaxmivihar,**  **BHUBANESWAR-751029, ODISHA** |

**INVITATION FOR BIDS**

Officer On Special Duty,Odisha University of Technology and Research (OUTR), Formerly College of Engineering and Technology, Techno Campus, Ghatikia, PO: Mahalaxmivihar, Bhubaneswar –751029, Odisha invites sealed tenders from reputed Original Equipment Manufacturers (OEM)/Suppliers/Agencies for Supply ofLaboratory Instruments at Department of Physics,Odisha University of Technology and Research (OUTR),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 University/College:**[**www.**](http://www.nitdgp.ac.in)**cet.edu.in**

Particulars about submission of bidding documents are as follows:

(a)Price of bidding document (non-refundable) :**Rs.1000/- + GST**

(b) First date of availability of Bidding Document in college website:**25.11.2022**

(c) Last date and time for submission of bid **:24.12.2022upto 4.00 p.m.**

(d)Time and date of opening of technical bid :**24.12.2022 at 4.30 p.m**.

(e) **Place of opening of bids:** Office Chamber of the Officer On Special Duty (OSD),Odisha University of Technology and Research (OUTR) (Formerly College of Engineering and Technology), Techno Campus, Ghatikia, PO: Mahalaxmivihar, Bhubaneswar – 751029, Odisha

### (f) Address for communication : Officer On Special Duty (OSD),Odisha University of Technology and Research (OUTR) (Formerly College of Engineering and Technology), Techno Campus, Ghatikia, PO: Mahalaxmivihar, Bhubaneswar – 751029, Odisha

### Eligibility of bidders 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/Supplier 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 Return 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 **Original Equipment Manufacturers (OEM)** of the product must be manufacturing the complete product, selling under the specified brand name and model are the eligible participants. Registered Firms/Authorized Dealers/Agencies can supply the product with necessary Authorized certificates/documents of the Manufacturers for specified brand and model.

The selection for procurement of instrument 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 technical bids will be opened on **24.12.2022 at 4:30PM** in presence of the bidders or their authorized representatives. Authorized representatives are 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 superscribed 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 in details of technical specifications, leaflet, Copy of Firm Registration Certificate from the competent authorities, GSTIN certificate, Income Tax Return for last three years, 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 &Tender paper cost (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 OSD addressing to Officer On Special Duty, Odisha University of Technology and Research (OUTR),(Formerly 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 superscribed as "Tender for Laboratory Instruments at Department of Physics with Reference No. and Date"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 instruments/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 should be providedby 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.

OUTR 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 specifications/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)

### Requirements by Bidder after Supply:

### Supply:

The Instruments should be delivered and installed by the supplier at Department of Physics, Odisha University of Technology and Research (OUTR), (Formerly College of Engineering and Technology), Techno Campus, Ghatikia, PO: Mahalaxmivihar, Bhubaneswar – 751029, Odisha. The items should be supplied directly from the manufacturing terminal having passed all tests successfully with certifications as required.

The instrument/equipment should confirm 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 instruments ordered must be supplied in one lot within 4-6 weeks from the date of placing the purchase order.

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

Odisha University of Technology and Research (OUTR)reserves the right to procure the instruments 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 equipment supplied by the supplier are found not up to the specifications 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 Odisha University of Technology and Research (OUTR), (Formerly College of Engineering & Technology, Techno Campus, Ghatikia, P.O.: Mahalaxmivihar, Bhubaneswar–751029, Odisha”** through nearest custom clearing Airport (Bhubaneswar Airport).

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

The instrument/equipment shall be delivered and installed on 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, testing and commissioning of the Instrument/Equipment, Machineries etc. should be done by the bidder/supplier.
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 instrument/equipment 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 setup 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, testing and commissioning of the equipment, a seven 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 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 instruments/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 (CMC):

The bidder shall be under the obligation of entering into a Comprehensive Maintenance Contract (CMC) with OUTR 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 equipment and components, for smooth and reliable operation of the systems without trouble.

Accordingly, the bidder has to offer rates for the CMC structure of 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 OUTR 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 Demand Draft/Banker’s Cheque/Pay Order for the instrument as mentioned below in favour of **Principal, College of Engineering and Technology** payable at **Bhubaneswar** in any Nationalized Bank towards EMD andTender Paper cost. Without EMD and Tender Paper cost the tender will be summarily rejected.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Sl. No. | Name of Equipment | EMD(inRs.) | Tender Paper cost(inRs.) | Period of complete delivery, installation,testing and commissioning |
| 1 | To determine the dispersive power and Cauchy constant of the given material of a prism using mercury source Apparatus | 10000/- | 1000/- + GST | 4-6 weeks from the date of supply |
| 2 | To study the current vs voltage characteristics of CdS photo-resistor at constant irradiance & To measure the photo-current as a function of the irradiance at constant voltage Apparatus |  |  |  |
| 3 | Determination of specific heat of solid and liquid Apparatus |  |  |  |
| 4 | Mutual inductance of two coils by absolute method Apparatus |  |  |  |
| 5 | Determination of Planck’s constant by reverse photoelectric effect method Apparatus |  |  |  |
| 6 | To study the reflection, refraction of microwaves Apparatus |  |  |  |
| 7 | GM Tube based Gamma Counting System: Beta-Gamma Radiation Counting System Counter Apparatus |  |  |  |
| 8 | Faraday Effect Apparatus (Multi Wavelength) |  |  |  |

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 will be refunded to the unsuccessful bidders as soon as possible after the finalization of tender.

### 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 period from the completion date of installation, testing and commissioning on satisfactory performance report of the competent authority.

### Prices:

Price quoted should be **FOR Odisha University of Technology and Research (OUTR) formerly 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 of instrumentequipment or for all the items together, as the case may be.

In case import of the instrument/equipment, 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 equipment 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 OUTR for the period of completion of installation, testing 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, testing and commissioning of the equipment subject to submission of satisfactory performance report by the Head of the Department Physics.

* 1. **Penalty:**

If the delivery, installation, testing 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 as penalty of the total value of the concerned equipment.

### 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 Laboratory Instruments for Department of Physics with Reference No. and Date"**. 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 the equipment quoted.

Specify the list of Accessories required along with 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:**

OUTR, the bidder/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 or reject any/all 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 Instrument.**

The demonstration will be held at **Odisha University of Technology and Research (OUTR) (Formerly College of Engineering & Technology, Techno Campus, Ghatikia, P.O. -Mahalaxmivihar, Bhubaneswar–751029, Odisha. India”**

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

**List of Instrument with Technical Specifications*.***

|  |  |  |  |
| --- | --- | --- | --- |
| **Sl. No.** | **Name of Instrument** | **Technical Specifications** | **Quantity**  **required** |
| **1** | **To determine the dispersive power and Cauchy constant of the given material of a prism using mercury sourceApparatus:** | Spectrometer : Scale: Brass, Dia :7 inch Brass, L.C :20 Second, Objective : Achromatic lens, focal length : 178mm Aperture :32mm , Slit : Brass with micrometer Reticule : 90 cross etched on glass Eyepiece : 10X,Gaussian eyepiece, in-built magnifier  Base : 280mm Triangular, Cast Iron Prism- Size : 38mmx38mmx38mm,Height : 38mm,  Material : EDF, Sodium Vapour Lamp :35W , Transformer with Metal Box,Mercury Vapour lamp : 80/125W   Metal Lamp House : 300mmx85mm(LxФ),  Aperture dia:25mm | **01 No.** |
| **2** | **To study the current vs voltage characteristics of CdS photo-resistor at constant irradiance & To measure the photo-current as a function of the irradiance at constant voltage Apparatus :** | Optical Bench : Black Ionized Hexagonal , Scale : 0-100cm LC-1mm, Photo Resistor : CdS,10mm Aperture, Rod dia :100mm, Voltage-0-16V DC. Regulated Power Supply : Dual Display DC: 0-16V,1A , ContinuousVariable,Overload Protection. Power Supply for LDR-12V AC/DC :- 2,3,4,5,6,8,10&12V AC. Lamp Housing : Lamp: 12v,21v, Lens: Spherical condenser, to and fro adjustment Connection: 4 mm plug lead, Mounting rod: 10mm dia, Housing: Alumunium, Heat ventilation arrangement, Convex Lens in Holder- Focal length: 100mm, Diameter of Lens: 50mm Frame Diameter: 130mm to avoid scattering of light, Rod of Dia: 10mm, Multimeter- 1000V, Testing: Diode & Transistor Resistance: 200w, 2000w,20k,200k & 2000k W.Photo Resistor LDR IN Mount : Photo resistor: CdS(Cadmium Sulphide) Aperture: 10mm,clear, Mounting rod: 10mm dia ,Connection: 4mm safety terminals Working voltage: 0-16V DC. Polarizer / Analyzer, Angle : Adjustable (0-90 Aperture : 21mm dia. Frame : 130mm dia., to avoids , scattering of lights | **01 No.** |
| **3** | **Determination of specific heat of solid and liquid Apparatus :** | Steam Chamber, Ash aped Stand Three finger Clamp,Dewar Flask, Copper-C9823, Lead-R8211,Glass-R8222, Digital Thermometer, Digital Weighing Balance. Silicone Tubing,1.5m, Spirit Lamp | **01 No.** |
| **4** | **Mutual inductance of two coils by absolute method Apparatus** : | High Current Power Supply : 0-16V, 5A Digital Voltage : 0-16V DC continuously variable & stabilized Voltage display : 3½ digit LED, Ripple : Less than 25mV Current : 5 A continuously variable, 10% to full rating Current display : 3½ digit LED Digital Gauss Meter with Axial Probe - Table type Range : 200 Gauss & 2 k Gauss  Resolution : 0.1Gauss at 0 - 200 Gauss Axial Hall Probe : InAs, display : 3½ digit led induction coil sets Material : Copper  OD(mm) L (mm) N R (Ω) L ( mH) I max  40 75 165 0.7 0.5 2A  40 100 220 1 0.71 2A | **01 No.** |
| **5** | **Determination of Planck’s constant by reverse photoelectric effect method Apparatus :** | Optical Bench- Black Ionised Hexagonal , Scale : 0-100cm , LC-1mm, DC Power Supply : AC/DC- Output :2,3,4,5,6,8,10 & 12V AC Full wave rectified unsmooth & unregulated DC, Overload : Resettable thermal trip, Polarizer/Analyzer- Angle: Adjustable(0-90°) , Aperture: 20mm dia, Frame: 130mm dia, to avoids scattering of lights, Rod: 10mm dia,Lamp Housing : Lamp: 12v,21v, Lens: Spherical condenser, to and for adjustment Connection: 4 mm plug lead, Mounting rod: 10mm dia, Housing: Alumunium, Heat ventilation arrangement Convex Lens in Holder : Focal length: 100mm, Diameter of Lens: 50mm Frame Diameter: 130mm to avoid scattering of light, Rod of Dia: 10mm Multimeter : 1000V,, Resistance: 200w, 2000w,20k,200k & 2000kW. Testing: Diode & Transistor Photo Resistor LDR in mount- Photo resistor: CdS(Cadmium Sulphide), Aperture: 10mm,clear, Mounting rod: 10mm dia ,Connection: 4mm safety terminals Working voltage: 0-16V DC Adjustable Slit Self Centering : Slit width: 0-2 mm,  Height: 6 mm, Frame dia: 120mm to avoid scattering of light, Mounting rod: 10mm diameter | **01 No.** |
| **6** | **To study the reflection, refraction of microwaves Apparatus :** | MICROWAVE POWER SUPPLY : Voltage : 0-12V continuously Variable, Current : 1A Max, Regulation : 0.2% for 10% variation in the mains, supply voltage., Ripple : 1mV rms, Modulation frequency : 1KHz±10%(900-1100Hz) Output Connector : BNC (F) for gunn oscillator and TNC (F) for pin modulator. Goniometer Scale : Circular scale : 0-360°, Transmitter Arms : 0-50mm, Receiver Arms : 0-100mm Reflectors : Dimension : 300x300mm, Material :Aluminium, Acrylic, mild steel, Thickness : 3mm Aluminum Reflectors Material : Aluminium, Size (C7663) : 300 x200mm(Lx W), Size (C7664) : 300 x50mm(L x W), Thickness : 3mm, Microwave Transmitter : As Horn Antenna  Biasing : DC bias, Bias Voltage : 10Volt (Max), Output Connector : BNC(F), Waveguide : WR-90, Microwave Receiver :As Horn Antenna, Band : X, Frequency Range : 8.2 -12.4GHz, Waveguide :WR-90, Diode : Crystal diode IN23 Output Connector : BNC(F), Polarizing Grill : Size : 300 x190mm (L x W), Grill No. : 15 Nos., Aluminium, Angle position : 45° | **01 No.** |
| **7** | **GM Tube based Gamma Counting System: Beta-Gamma Radiation Counting System Counter Apparatus :** | Electronics All solid state, Micro Controller based design Preset Time settable between 1 and 9999 seconds in Step of 1 second, or in HH:MM:SS format, No. of Runs Settable between 1 to 1000, Display Counts : 999999, Time : 9999 or in HH:MM:SS format, Runs : 1000 HV Supply Adjustable to 1500V (±5V), settable through feather touch keypad on front panel.Data Storage Store and recall facility for counts data up to 1000 readings and for the plateau readings User Interface 4 keys keypad with 16x2 line LCD for displaying Key function,Data Transfer To PC USB Port Power Supply: 240 V (±10%), 50 Hz Ac Mains End window GM detector: Detector Type 72314 or equivalent mounted on acrylic planchet Holder with 1meter cable with BNC connector. Al Absorber Set, Lead Shield with door arrangement for GM tube, Radioactive Sources | **01 No.** |
| **8** | **Faraday Effect Apparatus (Multi Wavelength)** : | Optical Bench: 1 Meter Black Aluminium alloy Type : Hexagonal section Scale : 0-100cm Least count : 1mm, Supplied with 3 fixed saddle. He -Ne Laser, 2mW - Wavelength: 632.8 nm , Working current : 4mA ~ 6mA, Output power : > 2mW Input Power : <2 W Dimension (L x B x H) : 300x62x82 mm Diode Laser: Peak wavelength : 635nm Operating voltage : 5V DC, Digital Gauss Meter: Range : 200 G & 2 kG Resolution : 1G at 0 - 200G, Power : 220 V, 50 Hz AC, Hall probe : InAs Electromagnet Unit: Coils : 300, Current: 10Amp (Max.)  Wire : 18SWG, Cu..U Core : 150x130mm(LxH), 40x40mm cross section, Pole piece : Length=80mm Material : Ferromagnetic. Power Supply 0-30V DC, 10A: Input Current : 0-10Amp,Voltage Display : 3½ Digit LED Current Display : 3½ Digit LED, Transverse Saddle: -Material : Aluminium , Locking : Spring loaded, Motion : X-Y axis, Holder : 10mm dia. Convex Lens in Holder: Focal Length : 200mm (SL756) Focal Length :100mm Diameter of Lens : 50 mm, Frame Diameter : 130 mm to avoids scattering of lights Rod Diameter : 10 mm | **01 No.** |

**ODISHA UNIVERSITY OF TECHNOLOGY AND RESEARCH**

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**Techno Campus, Ghatikia, P.O. - Mahalaxmivihar,**

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**Email :osdoutr@gmail.com, principalcet@cet.edu.in**

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**TECHNICAL BID**

(To be enclosed in separate sealed cover)

Name and address of the bidder:

Note: Two Nos. of DD for EMD and Tender paper cost 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/Mobile No.:
   6. Fax number if any:
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. for three years 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 instruments to be arranged if required)

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

6. GSTIN No.

**Signature with Seal of the Bidder**

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**FINANCIAL BID**

**(To be enclosed in separate sealed cover)**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Sl. No** | **Name of Instruments** | **Make / Model** | **Quantity**  **Required.** | **Unit Cost**  **Including installation charges** | **Total** | **GST % & Cost** | **Total**  **amount including installation charges** |
| 1 | To determine the dispersive power and Cauchy constant of the given material of a prism using mercury source Apparatus |  | 01 |  |  |  |  |
| 2 | To study the current vs voltage characteristics of CdS photo-resistor at constant irradiance & To measure the photo-current as a function of the irradiance at constant voltage Apparatus |  | 01 |  |  |  |  |
| 3 | Determination of specific heat of solid and liquid Apparatus |  | 01 |  |  |  |  |
| 4 | Mutual inductance of two coils by absolute method Apparatus |  | 01 |  |  |  |  |
| 5 | Determination of Planck’s constant by reverse photoelectric effect method Apparatus |  | 01 |  |  |  |  |
| 6 | To study the reflection, refraction of microwaves Apparatus |  | 01 |  |  |  |  |
| 7 | GM Tube based Gamma Counting System: Beta-Gamma Radiation Counting System Counter Apparatus |  | 01 |  |  |  |  |
| 8 | Faraday Effect Apparatus (Multi Wavelength) |  | 01 |  |  |  |  |

Signature with seal of the Bidder

# PROFORMA FOR SUBMITTING ELIGIBILITY REQUIREMENT AND UNDERTAKING

**To**

**Officer On Special Duty,**

**Odisha University of Technology and Research (OUTR)**

**(Formerly College of Engineering & Technology),**

**Techno Campus, Ghatikia, P.O. :Mahalaxmivihar, Bhubaneswar-751029, Odisha**

**Sub: Submission of Tender for “Supply, Installation & Commissioning of Laboratory Instruments” at 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 instruments at Department of Physics, OUTR, Bhubaneswar, in conformity with the specifications, terms & conditions of Tender.

i) 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.

ii) I/We hereby submit the earnest money of [INR…………..……….……] for the Tender for the above mentioned work in the form of demand draft.

iii)That, I/We declare that I/We have not paid and shall not pay any bribe to any officer of OUTR for awarding this contract at any stage during its execution or at the time of payment of bills, and further if any officer of OUTR asks for bribe/gratification, I/We shall immediately report it to the OUTR Authorities.

iv) That, I/We undertake that OUTR 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 faithful

Signature of Bidder Witness…...................

Date: Signature....................

Name:

Address: Address......................

Mobile No.: Mobile No.:

Enclosures :