**Sub: Notice Inviting quotation for equipment for Phy. deptt.**

**This Institute is intend to purchase of equipment as per detailed specifications Annexure A enclosed herewith. You are, requested to send your quotation to the undersigned in a sealed cover superscribed “ Quotation for equipment on or before upto 28-2-13.**

**The Terms & Conditions are as under:-**

1. **Rate of ST/VAT if extra must be mentioned clearly.**
2. **The other terms & conditions for submitting the quotation, are given overleaf, which must be carefully read before submitting the quotations.**
3. **Quotation other than those addressed will not be entertained.**
4. **The prices quoted should be FOR SLIET, Longowal.**
5. **Quotations received later than 3.00 PM on due date are liable to be ignored.**
6. **Quotation must be sent on the letter head of the party by Indian Post Office only (Preferably by Speed Post).**

(Dr. R. K. Mishra)

F. I/C PURCHASE

PTO

**TERMS & CONDITIONS COVERING OF QUOTATION**

|  |  |
| --- | --- |
| **METHOD OF SUBMISSION OF**  **QUOTATION** | Quotation should be sent preferably by post in sealed cover marked at the top our N.I.Q. reference and due date for opening SLIET will not be responsible for any damage/opeing the envelope if the NIQ reference is not given on the envelope.. |
| **DELIVERY** | The rate quoted must preferably be free delivery/F.O.R. Longowal after allowing the discount, if any. Where quoted extra advalorem rate payable should clearly be indicated. Supply should be made within the specified delivery period. |
| **TERMS OF PAYMENT** | Our normal terms of payment is within 30 days after receipt of stores in good condition by means of cheque/draft |
| **TAXES** | No sales tax concession against Form C and ‘D’ is admissible to this Institute. However, **form of** **certificate** being an educational institute can be issued if sales tax concession is admissible. |
| **EXEMPTIONS** | Excise and customs duties are exempted to the institute. |
| **DIRECTOR’S RIGHTS** | Director, SLIET, reserves the rights of acceptance or rejection of any or all quotations. The discretion for increasing or decreasing of the quantities also rests with her. SLIET also does not bind itself to accept the lowest price. In case of any dispute, the decision of Director SLIET will be final & binding. |
| **VALIDITY OF QUOTATIONS** | Quotations will be considered valid for 3 months from the date of opening. |
| **CORRESPONDENCE** | No correspondence regarding acceptance/rejection of a quotation will be entertained. |
| **SAMPLE/BRAND/MAKE/WEIGHT** | Sample where asked for, will invariably be made available and sent alongwith the quotations. However, Brand/Make/Weight etc. must be mentioned clearly in the quotations. Technical literature/pamphlet should also be enclosed. |
| **REJECTION** | Quotation not confirming to the set procedure as above will be rejected. |
| DISCOUNT/REBATES | A special discount/rebate wherever admissible keeping in view that the supplies are being made for education purpose in respect of Public Institution of national importance may please be indicated. |
|  | Conditional, telegraphic quotation shall be rejected out rightly. |
|  | SLIET shall not be held responsible for any postal delay in sending or late receipt of quotation. |
|  | Quotation should be free from corrections & errasures. |

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. F.I/C **PURCHASE**

**Physics Department**

**LIST OF EQUIPMENTS/ITEMS**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S. No.** | **Name and Specifications of equipment/Item** | **Qty.** |  |  |
|  | **Four Probe set up for measuring the resistivity of very low to highly resistive samples at temperatures upto 200C with PID controlled oven:**  **SPECIFICATION:** Complete set up: **Probes arrangement** mounted in a suitable stand, holds the sample and RTD sensor; **PID Controlled Oven:** Temperature range ambient to 200C, resolution: 0.1 C, Short Range Stability ±0.2°C, Long range Stability: ±0.5°C, Measurement accuracy; ±0.5°C, Display: 3½ digit, 7 segment LED; **Constant Current Source:** Current range 0-20 mA & 0-200 mA, resolution : 10mA at 0-20mA range, accuracy; ±0.25% of the reading; **Low Current Source: Current range:** 0-2mA, 0-20mA, 0-200mA & 0-2mA, resolution: 1nA at 0-2mA range, Accuracy: ±0.25% of the reading ±1 digit, Power: 3 x 9V batteries; **DC Micro voltmeter** for very low d.c. voltage measurement at very high impedance, range; 1mV, 10mV, 100mV, 1V & 10V with 100% over-ranging. | 02 |  |  |
|  | **Four Probe Method for Band-gap at different temperature:**  **SPECIFICATIONS:** Oven Controller: Ambient *To 473 K; Accuracy* ± 1 K display(3half digit 7 segment LED ); Multi range Digital Volt meter: X1 (0-200mV) and X10 (0-2V); Constant Current Generator: 0-20 mA (Resolution 10 µA ) | 01 |  |  |
|  | **Magnetic Field Measurement Apparatus:**  **SPECIFICATION:** Complete set up: **Digital Gaussmeter:** Range : 0-200, Resolution : 0.1G, Accuracy : ± 0.5%, Display : 3½ digit 7 segment LED with auto polarity. Mounted on a rail with a scale;  **Two Coil;** Diameter : 200 mm, Number of turn : 1000; **Constant Current Power Supply:** Current : 0-0.5A Smoothly adjustable, Line Regulation : ± 0.2% for 10% mains variation; Load Regulation : ± 0.2 % for 0 to full load, Display : 3½ digit 7 segment LED Display; Protection : Against overload/short circuit. | 02 |  |  |
|  | **e/m helical method**  **SPECIFICATION:** DC power supply for apparatus comprises of the following built in parts:  HT (High tension) DC power supply continuously variable from 600V to 1000V 5% for acceleration voltage control, DC power supply for solenoid 0-60VDC continuously variable, potentio-meters mounted on the front panel for focus control, intensity control and X,Y shift contols, two meters to measure acceleration voltage and solenoid current are mounted on the front panel, 8pin octal base is mounted on the front panel to connect the CRT plug, 1 long solenoid wound on 3.5” dia PVC pipe with 24 wire gauge mounted on wooden stand and connections brought out at terminals, CRT mounted inside the solenoid | 02 |  |  |
|  | **Dielectric constant kit**  **SPECIFICATION:** Complete setup comprising of main unit having audio oscillator, digital voltmeter, gold plated dielectric cells of different diameters, different samples. | 02 |  |  |
|  | **Study of microprocessor 8085**  **SPECIFICATION:** Study of microprocessor 8085 for simple programming addition, subtraction, multiplication and division | 02 |  |  |
|  | **Planck’s Constant by Photoelectric Effects:**  **SPECIFICATION:** Complete set up: **Photo Sensitive Device** : Vacuum photo tube, **Light source** : Halogen tungsten lamp 12V/35W, **Colour Filters** : 635nm, 570nm, 540nm, 500nm & 460nm, **Accelerating Voltage** : Regulated Voltage Power Supply, **Current Detecting Unit :** Digital Nanoammeter , **Power Requirement :** 220V ± 10%, 50Hz. or 110V ± 10%, 60Hz. as required. **Optical Bench:** 40 cm, to adjust distance between the light source and the phototube | 02 |  |  |
|  | **Frank Hertz Experiment:**  **SPECIFICATION:** Complete set up to study Frank Hertz experiment for studying the discreet nature of energy transfer. | 02 |  |  |
|  | **Electron spin resonance Spectrometer:**  **SPECIFICATION:** Helmholtz coils with an attachment for the ESR unit, ESR Sample: DPPH, R,F, Oscillator (10 MHz to 19 MHz) | 02 |  |  |
|  | **Hall Effect Experiment for semiconductors:**  **SPECIFICATION:** Complete set Up; Hall probe (Ge Crystal, n or p type), Resistivity; 8-10 ohm cm, Hall effect set Up: Digital Millivoltmeter: range : 0-200mV (resolution 100 uV), constant Current Generator: current: 0-20 mA, Accuracy; 0.25%; ±1 digit, line regulation; 0.05% for±10% changes,  **Electromagnet:** Pole Pieces: 75 mm tapered to 25 mm, Magnetic field :20 KG at 6mm air gap, Energizing Coils: Two of approx. 13 ohm each, Power 0-90 V dc, 3A for coils in series, 0-45 V dc, 6A, for coils in parallel  **Constant Current Power Supply:** IC regulated constant current sources, **Current:** 0-4A (smoothly adjustable), **Line Regulation:** ±0.1% for ±10% mains changes, **Load Regulation:** ±0.1% for no to full load, D**isplay:** 3½ digit, 7 segment LED display, **Protection:** Protected against overload/short circuit.  **Gaussmeter: Range** 0-2KG, 0-20KG, **Accuracy:** ±0.5%, **Display:** 3½ digit, 7 segment LED display with auto polarity and overflow indication, **Transducer:** Hall Probe (InAs), **Special Feature:** Indicates the direction of the magnetic field | 01 |  |  |
|  | **Electronic Plug in Kit**    **SPECIFICATION:** For study of LCR circuit, PN diode/transistor.LED/Zener characteristics, Multivibrator, Oscillators, Logic gates, Flip flops, Op-Amp, LDR characteristics, ADC/DAC circuits etc. | 02 |  |  |
|  | **Curie temperature kit for Ferromagnetic material:**  **SPECIFICATION:** Complete setup to find the value of curie temp. along with furnace, Digital temperature indicator, sample (ferrite material) | 02 |  |  |
|  | **Thermo electric effect Apparatus:**  **SPECIFICATION:** Complete set up for studying the Thermo electric effect,: Thermocouple junctions, heating arrangement, thermoflask, main unit to measure theromemf | 02 |  |  |
|  | **Universal B-H Curve Tracer:**  **SPECIFICATION:** B-H loop of ferromagnetic material without winding primary and secondary coil on the sample | 02 |  |  |
|  | **Stefan’s constant Kit:**  **SPECIFICATION:** Plates set up with heating arrangements, Power supply | 02 |  |  |
|  | **Digital Microscope;**  **Specifications:** Resolution: 1.M pixels, Adjustable magnification 10x -230 x; Interface: USB 2.0: Built –in-8 switches LED for illumination: Instant snapshots and time-lapse video recording; Measurement Software; measure images, angle, area etc. | 02 |  |  |
|  | **Capacitance and permittivity Kit:**  **SPECIFICATION:** Complete setup to find the capacitance and permittivity, parallel plates, samples and spacers | 02 |  |  |
|  | **Curie temperature kit for Ferroelectric material:**  **SPECIFICATION:** Complete setup to find the curie temp. along with furnace, Digital temperature indicator, gold plated dielectric cell with ferroelectrics sample. | 02 |  |  |
|  | **Magnetic susceptibility measurement app**  **SPECIFICATION:** Quinck’s tube with stand ,Sample: FeCl3, Electromagnet, field intensisty7.5KG at 10mm air-gap with flat pole pieces, pole pieces 50mm diameter , power requirement 0-30Vdc, 4A, if coils are connected in series, current range Smoothly adjustable from 0–4A,load regulation 0.1% for load variation from 0 to max., line regulation 0.1% for ±10% mains variation, display3½ digit, 7 segment LED DPM Constant Current Power Supply, smoothly adjustable 0-3A per coil, line regulation:±0.1% for 10% mains variation:±0.1% for no to full load, display 3.5 digit,7 segment LED display,  power supply:220Volt±10%,50Hz ,Digital Gauss meter, range 0-2KG & 0-20KG,resoulation1G at 0-2KG range ,accuracy ±0.5% ,temperature Upto 50°C , diplay3½ digit, 7 segment LED DPM with auto polarity and over flow indication power220V ±10%, 50Hz, Travelling Microscope | 01 |  |  |
|  | **Measurement of magnetoresistance of semiconductor :**  **SPECIFICATION:** Complete set up : Four probe arrangement, Ge-crystal (n type), Magnetoresistance set up ; **Digital Millivoltmeter**: Range : 0-200mV (100mV min.), Accuracy : ±0.1% (±1 digit)  **Constant Current Power Supply:** Current: 0-20mA (10mA min.), Accuracy: ±0.2% of the reading ±1 digit, Load regulation: 0.1% for 0 to full load, Line regulation: 0.2% for 10% variation  Electromagnet : **Electromagnet: Pole Pieces** : f50mm diameter flat ,Fi**eld** : 7.5KG, at 10mm airgap  **Constant Current Power Supply:**  IC regulated constant current sources, **Current:** 0-4A (smoothly adjustable), **Line Regulation:** ±0.1% for ±10% mains changes, **Load Regulation:** ±0.1% for no to full load, **isplay:** 3½ digit, 7 segment LED display, **Protection:** Protected against overload/short circuit.  **Gaussmeter: Range** 0-2KG, 0-20KG, **Accuracy:** ±0.5%, **Display:** 3½ digit, 7 segment LED display with auto polarity and overflow indication, **Transducer:** Hall Probe (InAs), **Special Feature:** Indicates the direction of the magnetic field | 01 |  |  |
|  | **Measurement of Susceptibility by Gouy’s method:**  **SPECIFICATIONS:** Complete setup: Scientific balance: Capacity 200 gms; sensitivity 1/10 mg; Samples: Ebonite(2 samples), Wood (Two samples); Electromagnet: Magnetic field 22KG; Pole pieces 75 mm tappered to 25 mm; Constant power supply: IC regulated ;0-3A per coil; display(3half digit 7 segment LED); Gauss meter: Range 0-2KG, 0-20 KG and 0-40 KG, Accuracy ± 0.5%; display(3half digit 7 segment LED | 01 |  |  |