PONDICHERRY UNIVERSITY, PUDUCHERRY – 605 014

(A central University)

DEPARTMENT OF PHYSICS

Sealed tenders are invited under single bid system for purchase of Minor Equipments. The tenders duly signed and sealed should be submitted in the name of The Registrar, Pondicherry University to the address below. The tenders should be sent by Post (Speed / Registered / Courier) only. The price quoted should include all the costs such as delivery, installation, testing etc., and also inclusive of all taxes. Warranty terms should be explicitly specified in the tender. The technical specifications are given below. **Last date for receiving Tender is 07.08.2012 at 3.00 p.m.**

S.No	Name Of Equipment	SPECIFICATION
1	To Measure Dielectric Constant of Solid & Liquid and to Measure Phase Shift & 'Q of a Cavity	Dielectric constant kit consists of: Klystron Power Supply; Klystron Tube; Frequency Meter; Slotted Section; Detector Mount; Liquid Dielectric cell; Stand; BNC Cable; Movable Short precision; Set of Dielectric; Klystron Mount; Isolator; Variable Attenuator; Tunable probe; Solid dielectric cell; VSWR meter solid state; Wave guide cavity; Cooling Fan; Phase Shifter
2	Biot Savart's Law Experimental Set -up	It consists of : Optical bench , 1m with 2 uprights; Set of 3 circular loops with holders; Power supply 0-30 V DC, 0-20 A; Gauss meter with axial probe; Flexible plug lead (100 cm), Red ; Flexible plug lead (100 cm), Black.
3	Photoconductivity Experimental kit	It consists of : Photoresistor in holder (CdS) ; Power supply 12V AC/DC 5 Amp.;Lamp housing; Convex lens in holder; Polarizer/ Analyzer (pair) ; Optical Bench ; Adjustable slit self centering ; Reg. Power Supply, 0-16V DC, 5A ; Digital Multimeter; Flexible plug lead, 50 cm (Red);.Flexible plug lead, 1m (Black).
4	Zeeman Effect apparatus	**OPTION I** **(Direct Reading Zeeman Effect)** Consists of : F-P clear aperture: 40mm Quartz Spacer thickness: 2.2±0.10mm Magnetic Induction: 0~13000 Gauss Central Wave-length: λ=546.1nm
		OPTION II **(Direct Reading Zeeman Effect with CCD Lens & Monitor)** Consists of : F-P clear aperture: 40mm Quartz Spacer thickness: 2.2±0.10mm Magnetic Induction: 0~13000 Gauss Central Wave-length: λ=546.1nm With CCD Lens and monitor equipped
5	Stefan's constant apparatus	The KIT contains of Electric over, 230v; Black body accessory; Safety connection box with ground; support for electric oven; Digital thermometer with one input; Temperature sensor, NiCr-Ni; Moll's

		thermopile; Microvoltmeter; Small optical bench:; Stand base, V-shape, 28 cm; Leybold multiclamp; Universal clamp, 0…80 mm; cable, 100cm, red/blue, pair; Immersion pump,.12V; Low-volage power supply; Silicone tubing, 7 x 1.5mm, 1 m; Wixe-mouthed can, 10 litre; Sensor-CASSU 2; CASSY Lab2; Nicr-Ni temperature and sensor 1.5 mm; μV box; Leslie's cube with Stirrer; Safety immersion heater; Plastic beaker, 100 ml; Funnel, PP, 75 mmΦ
6	Cooling Curve Kit	It consists of a vertical furnace with digital temperature indicator for reading thermocouple, fireclay crucibles (7 Nos., one each for one sample composition), stirring rod, stop watch, Tin and Lead
7	Microwave Bench	The Setup consists of Microwave Transmitter ; Microwave Receiver ; Gunn Diode Power Supply ; Goniometer Scale; Aluminum Reflectors size 200x300mm ; Aluminum Reflectors size 50x300mm ; Aluminum Reflectors size 300x300mm ; Acrylic Reflectors size 300x300x3mm ; Semi-Silvered reflector size 300x300mm ; Polarizing Grill size 190x300mm ; Digital Multi-meter ; BNC cable
8	Fourier Analysis kit.	It consists of a stabilized dual power supply unit, a function generator (Square, triangular and sine wave forms are generatated whose output frequency should varied in the range of 500 Hz to 15 KHz) and the analyzer are housed in main unit
9	Ferro Electric Phase Transition	1. Variable Temperature Oven – Room Temp. to 200˚C 2. $BaTiO_3$ sample- 2 Qty P-E measurement setup
10	Millikan's Oil dop Experimental Set-up	It consists of in-built power supply, ON/OFF switch, switch for up and down motion of oil drop, telescope and atomizer **Technical Specifications** Input Voltage : AC 220V, 50Hz Output Power : 5W Plate Voltage : 0~500V DC Plate Distance : 5±0.2mm Total Magnification : 30X Linear field of vision : ≥3mm Scale division : 2±0.01mm Objective lens : 100 lines/mm Operating temperature : -10~40°C Relative Humidity : Not less than 85% (at 40°C) Dimensions : 320mm x 220mm x 190mm Electronic Stop Watch – 1 No. Oil atomizer – 1 No.

11	Frank Hertz Experimental Set-up	Frank-Hertz Experiment Set-up, consists of the following**:** • Argon filled tetrode • Filament Power Supply : 2.6-3.4V continuously variable • Power Supply for V_{G1K} : 1.3-5V continuously variable • Power Supply for V_{G2A} : 1.3 - 12V continuously variable • Power Supply for V_{G2K} : 0 - 95V continuously variable • The power supplies should highly stabilised and output voltages can be read on 31/2 digit, 7 segment LED DPM with autopolarity and decimal indication through a selector switch. • Saw tooth waveform for CRO display • Scanning Voltage : 0-80V • Scanning Frequency : 115±20Hz • Multirange Analogue Voltmeter • Range : 0-5V, 0-15V & 0-100V • Multirange Digital Ammeter • Display : 31/2 digit 7 segment LED • Range Multiplier : 10^{-7}, 10^{-8}, 10^{-9} • Power : 220V±10% mains, 50Hz.
12	α - Spectroscopy	It consists of : Alpha spectroscopy chamber; Semiconductor detector; Am-241 preparation, open 3.7 kBq; Ra 226 preparation, 5.kBq; sensor-CASSY 2; MCA box; CASSY Lab 2; Discriminator preamplifier; Multi-core cable 6-pole, 1.5m; BNC cable, 0.25m; vacuum pump S 1.5; T – Piece DN 16 KF; Centering ring (adapter) Dn 10/16 KF, 2 pieces; Air inlet valve with DN 10 KF; Centering ring DN 16 KF, set of 2; Clamping ring DN 10/16 KF; Small flange DN 16 with hose nozzle; rubber tubing (vacuum), 8 x 5 mm, 1m; Two-channel oscilloscope 400; Cross DN 16 KF; Variable leak valve DN 16 KF; pointer manometer; Steel tape measure,l = 2m/78”; gold and aluminium for in holder
13	KBR Press	Capacity: 15 Tons Piston Size Piston Size: 80 mm Piston travel : 50 mm overall dimension: 230 x 180 x 350 mm Net Wt.: 30 Kg
14	Holography and Interferometry Kit	Consists of : He-Ne Laser 1.5 mW 1 ; Aperture Adjustable Bar Clamp ; Lens Holder ;Two-Axis Tilt Holder – 3 Nos; Plate Holder ; Magnetic Base with Post Holder – 5 Nos; Beam Splitter 50/50,50/50,30/70 – 1 each; Flat Mirror 36mm Dia – 3 Nos ; Lens f' = 6.2, 15, 225 mm – 1Each; Sample Stage ;White Screen ; Optical Rail ; Holographic Plate (12 pc silver salt plates, 9x24 cm of each plate) – 1 Box ;Air Chamber, Air pump with Gauge
15	Lens Aberration and Fourier Optics kit	It Consists of : Optical Rail – 1 No Laser Holder and Carrier – 1 No Carrier – 2 Nos

		Carrier – 4 Nos Carrier - 2 Nos Lens f = 4.5, 50, 100, 150 mm – Each -1 No Plano-convex Lens f =75 mm – 1 No He-Ne Laser, 1.5 mW@632.8 nm/LLL -2 – 1 No Tungsten-Bromine Lamp – 1 No Transmission Letter – 1 No Iris -1 No Adjustable Slit 0-2 mm width adjustable -1 No Spatial Filter -1 No White Screen -1 No Filter Red, Green and Blue -1 Each Plate Holder – 1 No Lens Holder – 6 Nos Object Screen – 1 No
16	Precision Interferometer	It Consists of : Interferometer Main Frame – 1 No He-Ne Laser – 1 No Laser Holder – 1 No Ground Glass Screen – 1 No Holder for Beam Expander – 1 No Extension Arm – 1 No Two-in-One Observation Screen – 1 No Transparent Slice Samples –2 Nos Transparent Slice Clamp – 1 No Sodium-Tungsten Lamp – 1 No Air Chamber and Pump with Gauge – 1 No Instruction Manual **SPECIFICATIONS** Flatness of Beam Splitter and Compensator - .05 λ Coarse Travel of Mirror – 10mm Fine Travel of Mirror - 0.625 mm Fine Travel Resolution - 0.25 μm Fabry-Perot Mirrors – 30 mm (dia), R=95% He-Ne Laser Output - 0.7-1 mW@632.8 nm Wavelength Measurement Accuracy - Relative error: 2% for 100 fringes Sodium-Tungsten Lamp Sodium lamp: 10 W; Tungsten lamp: 15 W Air Chamber and Air pump with Gauge - Chamber length: 80 mm; Pressure range: 0-40 kPa
17	XY transition stage	XY traveling stage with adaptor for mounting photo diode. X transition - 10 cm Y transition – 5 to 15 cm Accuracy – ½ mm

(Dr. G.CHANDRASEKARAN)
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Pondicherry University

TERMS AND CONDITIONS

I. General Information:

a) **Last date and time of receipt of the Tender: 07.08.2012; 03.00 p.m.**

b) **Tender Document fee Rs. 100/-**

c) **EMD rates: Rs.5000/.**

d) Quoting merely the lowest price does not confer any right to any bidder for award of supply order. The University's Purchase Committee, reserves the right to select the equipment any bid under the grounds of specification compliance, technologically advanced quality, proven performance track record, brand reputation, service backup support & training, offer of additional / special features, Compatibility with the existing System, etc.

e) DD forTender Document Fee and EMD should be taken separate and submitted along with your Tender

f) The Tender must be submitted along with the stipulated Tender document fee and EMD in the sealed cover, super-scribing **"Tender for Minor Equipments – Department of Physics**". The name and address of the bidder should also be mentioned at the "From address" space.

g) The Tender should be addressed and posted to the following address by speed, registered post or by courier.

The Registrar
Pondicherry University
PUDUCHERRY – 605 014

h) Tenders will not be accepted through fax / e-mail.

i) **Opening of tender will be held on 07.08.2012** at 03.30 p.m. at the Executive Hall, Pondicherry University

II. Common Conditions (Import or Indigenous)

1. Purchase of Tender Document:

The Tender document can be downloaded from the University website **www.pondiuni.edu.in** or procured from the Pondicherry University on payment of fee as specified above, by means of a D.D, drawn in favor of **the Finance Officer, Pondicherry University, payable at Puducherry**. The downloaded application should be accompanied with the Tender document fee, in the form of a Demand Draft.

2. Price Schedule

The rates should be quoted for a single unit and also for the total quantity required by the University. The price should include the Delivery, installation, training charges, etc. at the respective Department, Pondicherry University. The prices quoted shall remain firm until the Equipment is supplied to the respective Department, Pondicherry University.

3. Quoting the Core price & Tax, Duties, Discount etc.

The taxes / duties / discounts, if applicable, are to be explicitly and separately shown in the bid.

4. Eligibility:

The firm must have the requisite domain expertise with regard to supply, installation and post-sale service of the items they are quoting. The firm should have been in existence for at

least six years as on the date of this Tender and must have executed at least three orders for this kind of Equipment) during the last three years.

5. Duty Exemption

The University has been granted the benefit of exemption from the payment of the Central Excise Duty and Customs Duty by the Department of Scientific and Industrial Research (DSIR), India, vide their Notification No.10/97, dated 01-03-1997 and No.51/96 dated 23.07.96 respectively, in respect of

a) Scientific and technical instruments, apparatus, equipment, Software including computers.

b) Accessories and spare parts of goods specified in (a) above and consumables.

c) Computer software, compact disks, CD ROM, Recording magnetic tapes, microfilms, micro-chips etc.

d) Prototypes.

Customs duties at Indian port, if any, will be to the account of the University.

6. Technical Specifications

i. **WARRANTY:**
The Equipment covered under the purchase order, when installed, shall be warranted for the quality, workmanship, trouble free operation and performance for a period of at least 36 months **(preferably 3 years)** from the date of putting the system into operation at the Department of Physics, Pondicherry University, or at least 42 months from the date of receipt of the last lot of the consignment.

ii. If any item covered under warranty fails, the same shall be replaced free of cost including all the applicable charges including shipping cost both ways.

iii. Complete technical specifications of the Equipment including the Operating system to be included in the bid.

iv. The necessary service support should be provided by Bidder during the agreement period.

v. The training should be provided by the supplying companies .

vi. Operating Manual should be provided in English.

vii. A recent customer list (within last five years) with contact details including email address is to be submitted with technical bids / bids as the case may be.

viii. If the Equipment is proprietary a product, a proprietary product certificate should be enclosed.

ix. The Equipment must operate at 230V / 50 Hz single phase and / or equivalent three phase electrical power.

x. The validity of the each quotation should be at least for THREE MONTHS from closing date.

xi. The offers will not be considered if received after the bid closing date and time.

xii. The offers received through telex / tele-fax / e-mail will not be accepted by the University under any circumstances.

xiii. The University shall not be responsible for any delay / loss or non-receipt of the Tender by post / courier service.

xiv. No unsolicited correspondence shall be entertained after the submission of the offer.

xv. If an order is placed with the firm, the purchase shall be governed by an agreement as per the University rules in force at the time.

xvi. Additional terms and conditions will be incorporated in the purchase order, if needed, to safe guard the interests of the University.

xvii. Tender is not transferable.

xviii. In case of any dispute in respect of the Tender, all legal matters shall be instituted within the jurisdiction of the place where the purchaser ordinarily reside

7. Power to reject the offer:

i. Pondicherry University reserves the right to accept / reject any offer in full or in part or accept any offer other than the lowest offer without assigning any reason thereof. Any offer containing incorrect and incomplete information shall be liable for rejection.

ii. No Agency commission will be paid to any authorized agent in India.

iii. Liquidated damages: Timely supply of the ordered items, installation, commissioning (wherever is applicable) and training etc. is the essence of the contract. In case of failure to supply within the time specified in the Purchase order, a penalty / LD of 0.5% of the total value per week or a part thereof shall be levied subject to a maximum of 7.5% in respect of items which are not supplied. The decision of Pondicherry University shall be final in this regard.

iv. Bidder(s) must be authorized business partners of Global / National service providers of the respective Equipment.

v. The Bidders must enclose authorization letter from the respective global / national service providers of the above said Equipment particularly mentioning an undertaking that in case of default by the Bidder, they (Global Service Provider) shall take over all the responsibilities of the Bidder.

vi. The Bidder should not be involved in any Bankruptcy filing for protection from it.

III. Specific Conditions for Imported Equipments

1. Payment of EMD:

The Quotation must be accompanied by EMD as stated above, by means of a Demand Draft, drawn in favor of ***The Finance Officer, Pondicherry University, payable at Puducherry.*** *The Small Scale units are exempted from payment of EMD provided they enclose the proof of their exemption Certificate issued by the competent authority*.

2. Payments terms:

Normally a payment 90% will be released after the installation & training. However, 100% payment will be released **if the supplier provides Bank Guarantee** towards performance Security for the 10 % of the total cost of the furnace to cover the warranty period. Bank charges in India shall be borne by the purchaser and outside India shall be borne by the contractor / supplier. The offer must be in English. The rates should be indicated both in figures and words against item specified in the given table. It is preferable that the price be quoted in US Dollars or in major foreign currencies.
