



جامعة عليا Aliah University

(A UGC & AICTE approved autonomous Institution under the Department of Minority Affairs

and Madrasah Education, Govt. of West Bengal)

IIA/27, New Town, Rajarhat, Kolkata – 700 160, West Bengal

Web: www.aliah.ac.in

NOTICE INVITING TENDER

Ref No: **20/AU/REG/NIT./17-18**

Date: 30/01/2018

Sub: Sealed Tenders are invited from the bonafide and resourceful Contractors/Service Providers/Agents/Wholesalers/Suppliers for instruments for Undergraduate Laboratory of Physics Department, Aliah University.

Aliah University, Kolkata a Premier Educational Institute under the Minority Affairs and Madrasah Education Department, Government of West Bengal, invites **Sealed Tenders** from the bonafide and resourceful **Contractors/Service Providers/Agents/Wholesalers/Suppliers for Application for Tender for instruments for Undergraduate Laboratory of Physics Department, Aliah University.** The tentative quantity of the required items along with technical configuration of each items are mentioned at Annexure separately.

Interested **Bidders** may submit their **Tender** complete in all respect To, The Registrar Aliah University IIA/27, New Town, Kolkata- 700160, West Bengal, India by **12/03/2018 up to 2 P.M.** The Technical Bid will open on **13/03/2018 up to 2 P.M.**

Scope of Work:

In this regard NIT has been invited in two fold basis i.e. Technical Bid and Financial Bid.

Interested bidders are requested to provide their Quotes following the format in **Annexure- II in their official letter heads along with signed Compliance Statement and Price Bid (Annexure- II).**

The University retains the right to cancel any of the items at a later date after the contract is awarded. The University at its own discretion may cancel any or all the bids without assigning any reason thereof.

For any information in this regard please Email: registrar@aliah.ac.in and copy to store&purchase@aliah.ac.in

Sl.	Schedule	Date & Time
1	Date of uploading of NIT (Publishing Date) at Aliah University Website	27/02/2018 up to 2 P.M
3	Bid submission start date	28/02/2018 up to 12 P.M
4	Bid Submission closing	12/03/2018 up to 2 P.M
5	Techno Commercial Bid opening date O/o The Registrar, Aliah University, New Town (Tentative)	13/03/2018 up to 2 P.M

Sd/-
Registrar
Aliah University,

ANNEXURE I: GENERAL TERMS & CONDITIONS

1. The work must be completed within 30 days if issuing work order
2. The successful tenderer will be required to furnish a **Performance Security Deposit** of 10% of contract amount in the form of Fixed Deposit Receipt or Bank Guarantee from any scheduled Bank duly pledged in the name of the **“Aliah University”**. The security deposit can be forfeited by order of this University in

- the event of any breach or negligence or non-observance of any condition of contract or for unsatisfactory performance or non-observance of any condition of the contract. The Security Deposit can also be deducted from the bill & same will be refunded after satisfactorily completion of warranty period. Guaranty/Warranty period for the products must be for 1 year.
3. The tenderer should bear all the transportation & insurance **risk** till the on door delivery point. Selected bidder shall take all possible care for Govt. Property & of any damages due to negligence of his workers; the bidder/Agency shall be responsible for all such damages & repair the same at his own cost.
 4. **The rates** so quoted must be inclusive of all Taxes, VAT, Central Excise, Service Tax, customs Duty if any, packing freight to destination, Insurances and levies and necessary installation and fixing at designated places at Aliah University and all charges i.e. cost of Equipment and other incidental charges for supplying at destination level and onsite warranty 1 (One) year and also delivery charges up to the point of delivery at proper destination level and as per instruction in the work/ supply order. No extra charges will be entertained. Prices can be quoted in Indian Currency only (₹).No extra payment will be made for carrying of materials involving head load/ trolley etc.
 5. All necessities cables and adapters for functioning of the equipments to be supply along with the Work
 6. Supply of Items will be made in conformity with the specification & time as mentioned in the work order as decided by the authority. **No deviation in specification** will be accepted. After delivery of the materials to the respective points by selected bidder (s), authority reserves the right to collect the samples of supply the materials at random basis and send those materials for testing to ensure the quality of products etc. If it is found that materials are not according to the specification, the authority has every right to cancel the total lot or otherwise forfeit the security money, blacklisting the respective Manufacturer / Supplier and terminate the contract.
 7. If any part of the service in respect of the work assigned and undertaken by you not rendered/delivered in time, Aliah University shall be entitled to levy and recover liquidated damages/ penalty at 1% per week or part thereof the delay/ default, subject to 5% maximum, on the payment due to the agency/contractor for the particular stage. Any delay beyond scheduled dates may attract higher penalty to be decided by the Aliah University
 8. The bidder will be selected on overall rate only.
 9. All disputes are subject to exclusive jurisdiction of competent Court and Forum in Kolkata, India only.
 10. Any dispute arising out of this contract shall be referred to the Registrar, Aliah University, and if either of the parties hereto is dissatisfied with the decision, the dispute shall be referred to the decision of an Arbitrator, who should be acceptable to both the parties, to be appointed by the Vice-Chancellor of the University. The decision of such Arbitrator shall be final and binding on both the parties.
 11. Payment terms: 90% payment will be released within (30) days only after successful installation and commissioning of the supplied items duly certified by the concern authority and rest 10% will be released after submission of **Performance Security Deposit** mentioned in the **Point No. 2 Of Annexure -I** . No advance payment or payment against Performa invoice will be made. Payment will be made after receipt, inspection, and installation/testing. The payment will be made by RTGS / FUND Transfer mode only.Advance payment not allowed. **Hence, following information must be clearly written in the Price Bid for RTGS / FUND TRANSFER:**
 - A. Name of the Firm with complete postal address
 - B. Name of the Bank with Branch where the Account exist
 - C. IFSC CODE
 - D. ACCOUNT No
 - E. PAN No
 12. The Tenders are liable to be rejected if the fore going conditions are not complied with. The bid should be complete in all respects and duly signed wherever required. Incomplete and unsigned offer will not be accepted.
 13. The products asked for should be of very high standard and of reputed brand and with **B.I.S/I.S.I** code.
 14. **Experience** of at least **One (1)**nos similar works in renowned Central or State Government Departments/Technical institutes/Training or Educational Institute/Universities

Annexure II : Technical Bid Application Format
(Please attach all relevant documents)

To
The
Registrar
Aliah University
IIA/27, New Town,

Kolkata-700 160

Sub: **Application for Tender for instruments for Undergraduate Laboratory of Physics Department, Aliah University.**

Ref: - _____ N.I.T. Nodated

Sir,

1. ABOUT THE ORGANIZATION				
1.1	Name of the Organization			
1.2	Name of Authorized Person			
1.3	Registered Office Address with telephone no. & email address			
1.4	Authorized Service Station Name, address, contact person name, phone number, e-mail			
2. TECHNICAL DOCUMENTS				
2.1	Company Registration No./Trade License No./Partnership Deed No. (Photocopy Required to Be Submitted along with NIT)			
2.2	PAN Registration No (If any) (Photocopy Required to Be Submitted along with NIT)			
2.3	VAT/GST Registration No (If any) (Photocopy Required to Be Submitted along with NIT)			
2.6	An undertaking should be given stating therein that the Firm has not been debarred or penalized for any reason and consequently thrown out of work by any Government Department.			
2.7	Experience of supplying similar materials any Central or State Government Organization (At least one)			
3. EXPERIENCE				
3.1	Experience of at least One (1) nos similar works in renowned Central or State Government Departments/Technical institutes/Training or Educational Institute/Universities in India			
Sl	Name and Address of Central / State Government Organization / Autonomous Institution / University	Equipment/Instrument Supplied	Cost	Supporting Document like Work order/ Money Receipt.

COMPLIANCE STATEMENT AND PRICE BID:

	Para of Quotation Enquiry Specification of Items Offered	Quantity	Compliance to Quotation specification whether YES/ NO	TOTAL RATE Inclusive of all Taxes/GST, Insurances and levies and should be for delivery & warranty, fixing&

				Installation Charges
	1	2	4	5
1	<p>Determination of rigidity modulus of a material of a wire by dynamic method. Complete in all respect <i>Accessories:</i> i) Modulus of Rigidity Apparatus- (Stand type)-complete in all respect ii) Slide calipers -(Stain less steel)-2pcs iii) Screw gauge -(Stain less steel)-2pcs iv) Digital stop watch (Good quality)-2pcs</p>	01		
2	<p>Determination of refractive index of a liquid by using a plane mirror and a convex lens. Complete in all respect <i>Accessories:</i> Convex lens Meter scale Spherometer (Brass)</p>	02		
3	<p>Investigation of capacitance by using a series CR circuit Complete in all respect <i>Specification:</i> Signal Generator: .1Hz-100KHz signal Generator with Digital Frequency counter. Amplitude: 0-15V/P-P Wave: Sine, Squire, Triangle wave. In-built digital meters: High impedance Digital True RMS AC Millivoltmeter, Range-20V/2V/200mV Digital milliammeter (20mA/200mA)-1nos All Digital meter Accuracy-$\leq 1\%$, Dual range, 3½ Digit 7 segment (Green display) LCR component: Decade L,C, R Bank (10nos each) Set of 2mm Patch cords for interconnections</p>	01		
4	<p>Investigation on a series resonant LCR circuit. Complete in all respect <i>Specification:</i> Signal Generator: .1Hz-100KHz signal Generator with Digital Frequency counter. Amplitude: 0-15V/P-P Wave: Sine, Squire, Triangle wave. In-built digital meters: High impedance Digital True RMS AC Millivoltmeter, Range-20V/2V/200mV Digital milliammeter (20mA/200mA)-1nos All Digital meter Accuracy-$\leq 1\%$, Dual range, 3½ Digit 7 segment (Green display) LCR component: Decade L,C, R Bank (10nos each) Set of 2mm Patch cords for interconnections</p>	01		
5	<p>Determination of self-inductance of a coil by using Anderson's bridge. Complete in all respect</p>	01		
6	<p>Determination of the thermoelectric power at a given temperature by using a thermocouple Complete in all respect</p>	01		
7	<p>Estimation of temperature a torch bulb filament from resistance measurement for the verification of Stefan's law. Complete in all respect</p>	01		
8	<p>Study of I-V characteristics of a p-n junction diode and its performance as a half and full wave rectifier. Complete in all respect <i>Specification:</i></p>	01		

	<p>AC Supply: Variable AC Source by Variac transformer with 18-CT-18 AC supply for load & Line regulation In-built digital meters: Digital DC voltmeter (20V/200V)-1nos Digital RMS AC voltmeter (20V/200V)-1nos(To measure ripple factor) Digital milliammeter (20mA/200mA),-1nos All Digital meter Accuracy-$\leq 1\%$, Dual range, 3½ Digit 7 segment (Green display) On-board Circuits: Half wave circuit involving one 1N4007 diode Full wave Circuit involving two 1N4007 diode Bridge Circuit involving one 1N4007 diode. Filter Circuit. Filter: C-filter-2nos, L-filter-1nos Load resistance : Variable load resistance. Set of 2mm Patch cords for interconnections</p>			
9	<p>To design a series regulated power supply with a power transistor as a pass element, a second transistor as a feedback element and Zener diode as a reference voltage source Complete in all respect</p>	01		
10	<p>B-H curve using ballistic galvanometer Complete in all respect Specification: Anchor ring- The mean diameter of iron ring is about 75cm. and cross sectional dia. Of iron ring about 10mm. Primary turns are 300 and the secondary turns are wound over the primary and has tapping at 50,200,300 turns. Standard solenoid- The non conducting tube of about 5cm.dia. &1meter long. Primary turns are 550 – 580 on a length of 100cms. The secondary turns are wound at the middle over primary having tapping at 100,250,1000 turns. Ballistic Galvanometer Type-D C.D.R- 300Ω, Time period- 13.5sec. Focal length-1Meter. Make- SETT & DE(An ISO Certified Company) Lamp & scale setup for Galvanometer- Resistance box – 10000Ω 2nos pohl's commutator (four way) Two way key 2nos Tapping key Plug key Rheostat- (50Ω/5A)- 0 – 30 Volt/5A. Regulated Power Supply- With digital voltmeter, ammeter ,CRS,FINE variation & highly short circuit protected.</p>	01		
11	<p>Measurement of the wavelength separation of sodium D-lines using diffraction grating Complete in all respect Specification: Plane diffraction Grating 2500 LPI (100 LPM)/7500 LPI(300 LPM) Imported (HILGER) Sprit level EDF Prism RI-1.65(good quality) 32×32mm Spectrometer Make- Diameter 178mm. Circle stainless steel scale and venires calibrated on high precision German Dividing Engines to an accuracy of $\pm 0.001\%$ or better. and least count 20 secs. Achromatic optic, optical cross line reticule. Stainless steel slit jaws. Prism & grating holders. With Gauss eye piece Adjustable single slit with micrometer</p>	01		

	Sodium lamp house with power supply- (Sodium lamp 35w.			
12	Determination of the refractive index (μ) of the material of a prism by using spectrometer and hence the study of dispersion curve <i>Complete in all respect</i>	02		
13	To design a CE amplifier with a given midband gain and to study its performance <i>Complete in all respect</i>	02		
14	To determine the Hybrid parameters of a bipolar junction transistor in CE mode by using an ac source. <i>Complete in all respect</i>	02		
15	To find the temperature coefficient of resistances for platinum, using a platinum resistance thermometer and a Callender and Griffith's bridge <i>Complete in all respect</i>	01		
16	To determine the wavelength of sodium light by using bi-prism diffraction experiment. <i>Complete in all respect</i> Complete With sodium lamp house, Biprism	01		
17	Determination of mechanical equivalent of heat (J) by Callendar and Barne's method. <i>Complete in all respect</i> Specification: Callender & Barnes Apparatus Spiral heating element inside a 15"long corning glass tube surround by another vacuum glass tube 0-30 volt/5Amp. Power supply Model- RPS3005 Water trunk Measuring cylinder (Borosil) 50mL- Potentiometer(Wooden) (Ten wire type with jockey) Plug key Two way key Table Galvanometer	01		
18	To study the use of OP-AMP as (i) an inverting amplifier (ii) a non-inverting amplifier (iii) a unity gain buffer (iv) an adder and (v) a differential amplifier <i>Complete in all respect</i>	01		
19	To study the use of OP-AMP as (i) logarithmic amplifier (ii) antilog amplifier (iii) simple voltage comparator and (iv) Schmitt trigger <i>Complete in all respect</i>	01		
20	Determination of the Fourier spectrum of certain complex wave form by using a parallel resonant circuit. <i>Complete in all respect</i>	01		
21	To design and construct a Wein bridge oscillator using OPAMP and diodes as amplitude stabilizer; also to study the performance of the oscillator and lead-lag network by using a CRO. <i>Complete in all respect</i>	01		
22	Determination of the resistance of a suspended coil galvanometer by the method of half deflection method and half deflection method <i>Complete in all respect</i> Dead beat Galvanometer- Internal resistance-480 Ω , Time period- 20sec Lamp & scale setup for Galvanometer- Standard low resistance- DC Power supply- 2volt (fixed)-	01		

	Commutator-Resistance Box- (1Ω-5000Ω)-			
23	To determine wavelength of spectral lines using plane-transmission grating Complete in all respect Plane diffraction Grating 2500 LPI (100 LPM)/7500 LPI(300 LPM) Sprit level EDF Prism RI-1.65(good quality) 32×32mm Diameter 178mm. Circle stainless steel scale and venires calibrated on high precision German Dividing Engines to an accuracy of ±.001% or better. and least count 20 secs. Achromatic optic, optical cross line reticule. Stainless steel slit jaws. Prism & grating holders.With Gauss eye piece Adjustable single slit with Micrometer Sodium lamp house with transformer Sodium source	01		
24	Verification of state tables of R-S flip-flop, J - K flip-flop, T Flip-Flop, D Flip-Flop Using NAND and NOR gates. Complete in all respect	01		
25	DC Power supply 0-1A/0,+,-,15V	08		
26	Digital Multimeter Spec: DC voltage: 200mV-1000V AC Voltage: 2V-750V DC Current: 2mA-200mA AC current: 20mA-200mA Resistance: 200ohm-200Mohm Capacitance: 2nF-20μF Frequency: 0-20KHz	08		
TOTAL QUOTE				

I/We agree to supply the above goods/equipment/products in accordance with the technical specifications for a total contract price of Rs..... (Amount in figures) (Rupeesamount in words) within the period specified in the invitation for Tender. We confirm that the normal commercial warranty/guarantee of mentioned in this tender shall apply to the offered items and we also confirm to agree with terms and conditions as mentioned in the invitation letter. We hereby certify that we have taken steps to ensure that no person acting for us or on our behalf will engage in bribery. Certify that all above information are correct to the best of my/our information, knowledge and belief.

Signature of the Bidder
Name _____
Designation _____
Seal

Date _____

Ref. No: 20/AU/REG/NIT./17-18

Dated: 30/01/2018

Copy to:

1. **Deputy Registrar & Chairman, Departmental Purchase Committee**
2. **HoD, Physics Department**
3. **Notice Board at Aliah University**
4. **Website: www.aliah.ac.in**
5. **Guard File**

Sd/-
Registrar