

**TENDER FOR SUPPLY AND INSTALLATION OF LAB EQUIPMENT  
AT INDIAN MARITIME UNIVERSITY- NAVI MUMBAI CAMPUS**



**TENDER No: IMU/2018/0003  
Issue Date: 19<sup>th</sup> March, 2018**

Issued To,

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<b>Cost of Tender Form /Document</b>	Rs.500/- (Rupees Five Hundred only) plus GST @ 18% per tender should be drawn in the form of Demand Draft / Pay Order in favor of "IMU, Mumbai Campus" payable at Mumbai or Navi Mumbai
<b>Issue of Tender Document</b>	1000 Hrs on <b>19<sup>th</sup> March, 2018 till</b> 1330 Hrs on <b>2<sup>nd</sup> April, 2018</b>
<b>Last Date and Time of submission of the Tender</b>	1330 hrs on <b>2<sup>nd</sup> April, 2018</b>
<b>Date and Time of opening of the Technical Bids</b>	1400 Hrs on <b>2<sup>nd</sup> April, 2018</b> , IMU Navi Mumbai Campus
<b>Tentative Date and Time of opening of the Financial Bids</b>	1630 Hrs on <b>2<sup>nd</sup> April, 2018</b> , IMU Navi Mumbai Campus

All bidders are requested to visit IMU Mumbai Campus website: [www.imunavimumbai.com](http://www.imunavimumbai.com) for regular updates.

## A. INSTRUCTIONS TO THE BIDDERS:

### 1. General Information:

- i. Sealed Tenders are invited by the Deputy Registrar (Admin.) Indian Maritime University, Navi Mumbai Campus, Karave, Nerul, Navi Mumbai – 400 706 for and on behalf of Indian Maritime University for **SUPPLY AND INSTALLATION OF LAB EQUIPMENT at** Indian Maritime University- Navi Mumbai Campus.
- ii. Tender documents consisting of Technical and Financial Bids shall be submitted by the bidders in two separate sealed envelopes, Cover –I named 'TECHNICAL BID IMU/2018/0003' and Cover –II named 'FINANCIAL BID IMU/2018/0003', latest by 1330 hrs on **2<sup>nd</sup> April, 2018**. Both the above said Sealed Covers i.e. Cover –I & Cover –II be then put in another separate big cover (Cover–III) and properly wax sealed.
- iii. Bids should be forwarded by Bidders under their original memo / letter pad inter alia furnishing details like GST number, Bank address with EFT Account if applicable, etc. and complete postal & e-mail address of their office.
- iv. Sealed bids should be dropped in the Tender Box at First Floor, Administrative Building, Indian Maritime University, Navi Mumbai Campus, Karave, Nerul, Navi Mumbai 400 706 or sent by registered post in the address mentioned for communication below and to reach this office by due date and time. Late tenders will not be accepted in any circumstances and no responsibility will be taken for any postal delay or non-receipt/non-delivery of the bid documents.
- v. A bidder may modify or withdraw his bid after submission provided that the written notice of modification or withdrawal is received by this office prior to deadline prescribed for submission of bids. No bid shall be modified after the deadline for submission of bids and expiration of the period of bid validity specified. Withdrawal of a bid during this period will result in Bidder's forfeiture of bid security.
- vi. The technical bids of the tender shall be opened by a committee nominated by the Indian Maritime University, Navi Mumbai Campus in the presence of the authorized representatives of the bidders, if present, at **1400hrs on 2<sup>nd</sup> April, 2018** in the office of the Deputy Registrar (Admin), Indian Maritime University, Navi Mumbai Campus.
- vii. The technical bids, which do not contain full information and documents called for, shall be rejected. The financial bids of only those bidders shall be opened, whose technical bids are qualified.
- viii. The financial bids of the tender shall be opened by a committee nominated by the Indian Maritime University, Navi Mumbai Campus in the presence of the authorized representatives of the bidders, in the office of the Deputy Registrar (Admin.), Indian Maritime University, Navi Mumbai Campus.

- ix. The bidders shall submit all details, documents etc. as required in the tender document duly signed on each page. In case bidder fails to do so, Indian Maritime University, Navi Mumbai Campus reserves the right to reject the tender without seeking any further clarification. All the pages of tender document including the documents enclosed with it should be serially numbered. The total number of pages should be mentioned in the forwarding letter.
- x. The bidder shall submit the copy of the tender document and addenda thereto, if any, with each page signed and stamped to confirm the acceptance of the entire terms and conditions of the tender.
- xi. All communications with regard to this tender to be addressed to

**The Deputy Registrar,  
Indian Maritime University  
Navi Mumbai Campus,  
Karave, Nerul,  
Navi Mumbai - 400706  
Tel:022-27706804 Fax:022-27716805  
Email: dradmin.navimumbai@imu.ac.in**

- xii. Indian Maritime University, Navi Mumbai Campus at its sole discretion reserves the right to extend last date of submission of tender and the same shall be updated in Indian Maritime University, Navi Mumbai Campus website and all bidders are requested to visit the website for latest updates.
- xiii. Indian Maritime University, Navi Mumbai Campus reserves the right to annul the bidding process at any time without any liability for such annulment, without assigning any reason there to.
- xiv. Indian Maritime University, Navi Mumbai Campus reserves the right to invite revised tenders with or without amendment at any stage without any liability for such invitation and without assigning any reason thereof.
- xv. Indian Maritime University, Navi Mumbai Campus shall notify the successful bidder through Registered letter/ speed post / fax / e-mail or in person confirming that their offer has been accepted. Indian Maritime University, Navi Mumbai Campus will issue the Award letter to the successful bidder. This award letter shall indicate the list of lab equipments to be delivered by the bidder and the amount which Indian Maritime University, Navi Mumbai Campus shall pay to the successful bidder in consideration of the delivery of the lab equipments by them.
- xvi. At any time prior to the deadline for submission of tenders, Indian Maritime University, Navi Mumbai Campus may for any reason, suo motu or in response to a clarification by a prospective bidder, modify the tender documents by issuing amendments (addenda/ corrigenda etc.). The bidders should keep on checking Indian Maritime University, Navi Mumbai Campus website **regularly**.
- xvii. Any amendment to the tender thus issued will be hosted on the website up to Two days prior to the last date i.e. **2<sup>nd</sup> April, 2018** as

- specified for submission of the bids. All the bidders shall verify if any such amendments(s) have been issued by Indian Maritime University, Navi Mumbai Campus, before submitting their bid and shall take cognizance of and include such amendment(s) in their submission. In any case, the amendment(s), if any, shall be binding on the bidder. No separate notice/ intimation of amendments will be sent to the bidders.
- xviii. Tenders shall remain valid for **120** days from the last date for submission of tender i.e. **2<sup>nd</sup> April, 2018**.
- xix. The bidders have to quote the prices for equipments in the financial bid. The bidders may quote the price for a single equipment, more than one equipment or all of the equipments.
- xx. Tender opening, Bidder Participation, stages of Evaluation (Technical and Financial)
- a) Tenders will be opened at the Deputy Registrar's office, Indian Maritime University, Navi Mumbai Campus, Karave, Nerul, Navi Mumbai, at 1400 hours on **2<sup>nd</sup> April, 2018**. Any bidder who are willing to observe the tender opening, may, in person or through his authorized representative, be present at the venue and witness the tender opening. **In case of authorized representative**, bidder should send a letter of authorization containing the specimen signature of their representative who is deputed to be present at the time of opening of tender. Representatives without carrying the letter of authorization will not be permitted to witness the opening of the tender. The maximum number of representatives that a bidder can depute to witness the opening of the tender will be limited to one.
  - b) The bidder or his authorized representative who are present shall sign a register evidencing their attendance. In the event of the specified date of tender opening being declared as a holiday for the Indian Maritime University, Navi Mumbai Campus, the tender shall be opened at the specified time on the next working day.
  - c) The tenders will be opened in the presence of the committee members and authorized representative of bidders. The financial bids of all the bidders will be kept in a separate cover, sealed and signed by the members and bidder's representative.
  - d) The information furnished by the bidder in **Cover - I** in the prescribed format supplied by the Indian Maritime University - Navi Mumbai Campus will form the basis for the evaluation. In exceptional cases Indian Maritime University, Navi Mumbai Campus or his representative reserves the right to obtain the additional documents / clarifications from any of the bidder without vitiating the tendering process. If, in the opinion of the Indian Maritime University, Navi Mumbai Campus, information and documents supplied in support of the tender do not indicate meeting the requirements of the tender specifications, the tender may be determined as non-responsive and may be rejected by the Indian Maritime University, Navi Mumbai Campus.

- e) The **Cover- II -Price Bids** will be opened in the presence of the qualified bidders or their authorized representatives, if they choose to attend and present. The procedures and number of participants etc., for opening **Cover - II** will be the same as the procedures outlined in Clause (a) & (b).
- f) After evaluating the price bids received under **Cover - II**, the bidder who quoted the lowest (L-1) Price will be awarded the work. The L-1 may be evaluated for individual items or cumulatively for a group or all items at discretion of IMU.
- g) In case the financial bid of more than one bidder is same as L-1, then Indian Maritime University, Navi Mumbai Campus may decide L1 on the basis of turnover of bidder for last three years average.
- h) The estimated cost of this tender for all items is approximately Rs. 13 lakh (Rupees Thirteen Lakhs only).

## **2. E.M.D, Guarantee and Damages**

### **i. Earnest Money Deposit (E.M.D)**

Earnest Money Deposit (E.M.D): Rs. 26,000/- (Rupees Twenty Six Thousand Only) by way of D.D./ P.O in favor of IMU- Mumbai Campus payable at Mumbai or Navi Mumbai to be submitted to Dy. Registrar (Administration), IMU- Navi Mumbai Campus along with Technical Bid.

The bids of the bidder, who fail to submit E.M.D, shall be summarily rejected. The EMD of the bidders, who are not qualified under the technical bid, shall be returned after finalization of tender.

**Note:** No interest will be allowed on the Earnest Money Deposit from the date of its receipt until it is refunded.

The EMD will be forfeited in the following cases: –

- a) In case the bidder withdraws his tender once submitted after opening tender document.
- b) If the successful bidder fails to deliver the lab equipments as specified in the tender document within 21 calendar days from the date of receipt of Purchase Order.

### **ii. Security Deposit:**

After the delivery of items, the bill to be submitted by the vendor for the items delivered. 5% of the value of awarded work will be kept as Security Deposit from the bill submitted after delivery of lab equipments. The same will be refunded after completion of warranty period.

### **iii. Cancellation of order/for feature of Security Deposit, Risk purchase clause:**

In the event of failure to comply with delivery schedule, Guarantee/warranty terms mentioned under clause 'C' (ii) and (iii) – scope of work on page no.13 & 14 of this tender document.

- a) To cancel the order.
- b) To forfeit the security deposit.
- c) To avail Services from next bidders at the vendors risk, responsibility and cost. Any extra cost incurred in the procurement/maintenance of the equipments from the alternative source will be recovered from Security Deposit as referred to earlier and if the value of the materials under risk purchase exceeds, the amount of Security Deposit, same may be recovered, if necessary, by due legal process.

### **3. Time Period:**

Within 21 calendar days from the date of receipt of Purchase Order, the Contractor shall supply the items as specified in the tender document.

### **4. Settlement of Disputes:**

The Bidder shall make request in writing to the Director, Indian Maritime University, Navi Mumbai Campus for settlement of any dispute within 30 (*thirty*) days of arising of the cause of dispute, failing which no disputes/claims shall be entertained by the Indian Maritime University, Navi Mumbai Campus. The decision of the Director, Indian Maritime University, Navi Mumbai Campus will be final and binding on the parties.

Jurisdiction: The Court of Mumbai in the State of Maharashtra only will have the jurisdiction to deal with and decide any legal matters or disputes what-so-ever arising out of this contract.

### **5. Payment Terms:**

Payment after delivery subjected to clause no.2(ii) on page no.5 of this tender document.

### **6. Penalty for Late Delivery:**

<b>Sr. No.</b>	<b>Day</b>	<b>Amount</b>
1	1 – 5 days	Rs. 500 per day
2	5 – 10 days	Rs. 1000 per day
3	11 – 15 days	Rs. 1500 per day
4	15 and above	Rs. 2000 per day

## **B. PRE-QUALIFICATION CRITERIA**

- i. The bidder should submit copy of valid Trade License, PAN and GST/Sales Tax / VAT Registration No. with the Technical bid of Tender documents.
- ii. The annual turnover in the business of Supply and Installation of lab equipment of the bidder shall be Rs. 10,00,000/- (Ten Lakhs only) each year during the last 3 years. The details to be furnished by the bidder in the technical bid giving the audited profit & loss account and balance sheet for last three years ending **31<sup>st</sup> March 2017**. It should be duly attested by the bidder's Chartered Accountant.
- iii. The Bidder should have successfully implemented, similar orders / work of Supply and Installation of Lab Equipment as listed below during the last 3 years period from **2014-15 to 2016-17**:

*One* similar work in last three years period from **2014-15 to 2016-17** costing not less than 80% of the present estimated cost this tender in Universities/Institutes/Colleges/PSU/Corporate Sector;

**(or)**

*Two* similar works in last three years period from **2014-15 to 2016-17** costing not less than 60% of the present estimated cost this tender in Universities/Institutes/Colleges/PSU/Corporate Sector;

**(or)**

*Three* similar works in last three years period from **2014-15 to 2016-17** costing not less than 40% of the present estimated cost this tender in Universities/Institutes/Colleges/PSU/ Corporate Sector;

**[Mode of proof:** *Copy of Purchase Order/Contract for providing 'Award of Work'. Copy of Completion Certificate'/Final Invoice/Letter indicating return of Security Deposit for providing satisfactory 'Completion of Work' should be furnished for each of the projects.*

- iv. Earnest Money Deposit (E.M.D): Rs. 26,000/- (Rupees Twenty-Six Thousand Only) by way of D.D./ P.O in favor of IMU- Mumbai Campus payable at Mumbai or Navi Mumbai

## **C. SCOPE OF WORK:**

To supply the following laboratory equipments at Indian Maritime University, Navi Mumbai Campus, (TSC) Karave, Nerul, Navi Mumbai 400 706 as per the below specification and quantity mentioned in Financial Bid:

### i. Specification of Items:

Sr. No.	Name of Instruments / Kits	Specifications / Features
1	Study of Radar Trainer (educational)	<ul style="list-style-type: none"> <li>• Complete hardware and software setup to demonstrate Radar concepts</li> <li>• Signals study on Software / Oscilloscope with the help of test points on trainer board with Object Counter</li> <li>• Real time fan RPM measurements and vibrations measurements with the help of tuning forks</li> <li>• Tripod stand provided for height and level matching</li> <li>• LED Indication for Doppler Echo Signal</li> <li>• On board alarm for detected signals Scope of Learning</li> <li>• Measurement of Doppler Frequency, Amplitude</li> <li>• Measurement of Velocity, RPM</li> </ul>
2	Characteristics of Photoelectric cell	<p>Study, perform, demonstrate and plot the characteristics of a Photo Cell as a light dependent device.</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Study, perform and demonstrate effect of variable light intensity (radiant energy) on photo cell.</li> <li><input type="checkbox"/> Built - in Photo Cell, Load Resistors and other necessary components.</li> <li><input type="checkbox"/> Built - in variable intensity light source.</li> <li><input type="checkbox"/> Mains ON / OFF switch with LED indicator for supply "ON".</li> <li><input type="checkbox"/> Multi - coloured sturdy 4mm test points with various stages in the circuit to observe the waveforms, voltages and for necessary inter connections.</li> <li><input type="checkbox"/> Provision for connecting external voltmeter / current meter as per requirement.</li> <li><input type="checkbox"/> Working on 230V, 50Hz, single phase AC mains.</li> </ul>
3	Use of Solar cell	<p>The basic steps in the operation of a solar cell are:</p> <ul style="list-style-type: none"> <li>• the generation of light-generated carriers;</li> <li>• the collection of the light-generated carries to generate a current;</li> <li>• the generation of a large voltage across the solar cell</li> <li>• the dissipation of power in the load resistances.</li> </ul>
4	Hartley Oscillator	<ul style="list-style-type: none"> <li><input type="checkbox"/> Construction and study of Hartley Oscillator which contains a tuned L - C circuit with transistor.</li> <li><input type="checkbox"/> Study the change in output frequency by changing L - C combinations, by varying shunt capacitance "C" and / or varying inductance L.</li> <li><input type="checkbox"/> Determination of the frequency of oscillation using the formula.</li> <li><input type="checkbox"/> Verification of observation and calculated frequency.</li> <li><input type="checkbox"/> Instruction manual complete with theory and operating details.</li> <li><input type="checkbox"/> Built - in DC regulated power supply with short circuit protection and LED indication for supply "ON" to works on 230V AC Mains.</li> </ul>
5	Colpitt Oscillator	<ul style="list-style-type: none"> <li><input type="checkbox"/> Construction and study of Colpitt's oscillator which contains</li> </ul>



		<p>a tuned L - C circuit with transistor and inductance.</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Study the change in output frequency by changing L - C combinations, by varying inductance 'L' and / or capacitance C.</li> <li><input type="checkbox"/> Determination of the frequency of oscillation using the formula.</li> <li><input type="checkbox"/> Verification of observation and calculated frequency.</li> <li><input type="checkbox"/> Instruction manual complete with theory and operating details.</li> <li><input type="checkbox"/> Built - in DC regulated power supply with short circuit protection and LED indication for supply "ON" to works on 230V AC Mains.</li> </ul>
6	Verification of KVL	<ul style="list-style-type: none"> <li><input type="checkbox"/> Demonstrates the principle &amp; verification of Kirchoff's Law : <ul style="list-style-type: none"> <li>i. Current Law.</li> <li>ii. Voltage Law.</li> </ul> </li> <li><input type="checkbox"/> based on resistive circuit.</li> <li><input type="checkbox"/> Facility for connecting external Power Supply.</li> <li><input type="checkbox"/> Built - in Resistor bank for building various combinations.</li> <li><input type="checkbox"/> Set of required number of patch cords.</li> <li><input type="checkbox"/> Multi - coloured test points are provided in the circuit to observe voltages.</li> <li><input type="checkbox"/> Instruction manual complete with theory and operating details.</li> <li><input type="checkbox"/> Built - in DC regulated power supply with short circuit protection &amp; LED indication for supply "ON" to work on 230V AC Mains.</li> </ul>
7	Verification of KCL	<ul style="list-style-type: none"> <li><input type="checkbox"/> Demonstrates the principle &amp; verification of Kirchoff's Law : <ul style="list-style-type: none"> <li>i. Current Law.</li> <li>ii. Voltage Law.</li> </ul> </li> <li><input type="checkbox"/> based on resistive circuit.</li> <li><input type="checkbox"/> Facility for connecting external Power Supply.</li> <li><input type="checkbox"/> Built - in Resistor bank for building various combinations.</li> <li><input type="checkbox"/> Set of required number of patch cords.</li> <li><input type="checkbox"/> Multi - coloured test points are provided in the circuit to observe voltages.</li> <li><input type="checkbox"/> Instruction manual complete with theory and operating details.</li> <li><input type="checkbox"/> Built - in DC regulated power supply with short circuit protection &amp; LED indication for supply "ON" to work on 230V AC Mains.</li> </ul>
8	Verification of Superposition Theorem	<ul style="list-style-type: none"> <li>▶ Demonstrates the principle &amp; verification of Super Position Theorem based on resistive circuit</li> <li>▶ Facility for connecting external Power Supply.</li> <li>▶ Built - in Resistor bank for building various combinations.</li> <li>▶ Set of required number of patch cords.</li> <li>▶ Multi - coloured test points are provided in the circuit to observe voltages.</li> <li>▶ Built - in DC regulated power supply with short circuit protection &amp; LED indication for supply "ON" to work on 230V AC Mains.</li> </ul>
9	The ratio of Inductance	Ferromagnetic Material used

	value of a coil having air core and iron core	
10	Measurement of Inductance and Capacitance by AC Bridge	As per Maxwell Bridge Equations
11	Low pass filter	<input type="checkbox"/> Demonstrates The Principle & Working Of Low Pass Filter Circuit. <input type="checkbox"/> Built - In Bank Of Resistors Capacitors <input type="checkbox"/> Various Combinations Of RLC In Series. <input type="checkbox"/> Set Of Required Number Of Patch Cords. <input type="checkbox"/> Instruction Manual Complete With Theory And Operating Details.
12	High Pass filter	▶ Demonstrates the principle & working of high pass filter circuit. ▶ Study the attenuation & phase characteristics of the filter circuit. ▶ Set of required number of patch cords. ▶ Instruction manual complete with theory and operating details.
13	Band Pass filter	<input type="checkbox"/> Demonstrates the principle & working of band pass Filter circuit. <input type="checkbox"/> Study the attenuation & phase characteristics of the filter circuit. <input type="checkbox"/> Set of required number of patch cords. <input type="checkbox"/> Instruction manual complete with theory and operating details.
14	Band Stop filter	▶ Demonstrates the principle & working of band stop/ reject filter circuit. ▶ Study the attenuation & phase characteristics of the filter circuit. ▶ Set of required number of patch cords. ▶ Instruction manual complete with theory and operating details.
15	Study of R-L-C series resonance circuit	- Demonstrates the principle & verification of Series Resonance circuit - Built - in bank of resistors capacitors and coils. - Various combinations of RLC in series possible. - Multi - coloured test points are provided in the circuit to observe voltages. - Set of required number of patch cords. -Instruction manual complete with theory and operating details.
16	Study of R-L-C Parallel resonance circuit	<input type="checkbox"/> Demonstrates the principle & verification of Parallel Resonance circuit <input type="checkbox"/> Built - in bank of resistors capacitors and coils. <input type="checkbox"/> Various combinations of RLC in series possible. <input type="checkbox"/> Multi - coloured test points are provided in the circuit to observe voltages. <input type="checkbox"/> Set of required number of patch cords. <input type="checkbox"/> Instruction manual complete with theory and operating details.

17	Study of Venturimeter	As per Borunli's principle
18	Class -B push pull amplifier, frequency response	<p>Dedicated trainer board for each Amplifier circuit.</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Completely self - contained stand - alone unit.</li> <li><input type="checkbox"/> Construction and study of a Class "B" amplifier.</li> <li><input type="checkbox"/> Study of output waveforms, distortions, input and output impedance, gain output power, amplification efficiency etc.</li> <li><input type="checkbox"/> Test points are provided at various stages in the circuit to observe the waveforms and voltages.</li> <li><input type="checkbox"/> Housed in an elegant metal cabinet with a well spread intelligently designed circuit layout on the front panel.</li> <li><input type="checkbox"/> Strongly supported by a comprehensive instruction manual complete with theory and operating details.</li> <li><input type="checkbox"/> Built - in DC regulated power supply with short circuit protection and LED indication for supply "ON" to works on 230V AC Mains.</li> </ul>
19	Velocity of sound in air	<ul style="list-style-type: none"> <li>• Two Microphones — crystal microphones</li> <li>• Audio Frequency Generator</li> <li>• Speaker</li> </ul>
20	Gyroscopic Precession Kit	<ul style="list-style-type: none"> <li>• Study of Gyroscopic Precession &amp; Application</li> <li>• Operated on 250 V AC, 50 Hz.</li> <li>• DC motor Supported.</li> </ul>
21	Cathode Ray Oscilloscope(Dual trace 30MHz)	<p>DC - 30MHz Bandwidth</p> <ul style="list-style-type: none"> <li>_ 1mV/div Sensitivity on Both Channels</li> <li>_ CH1, CH2 (Independent Channels), CH1 &amp; CH2 (Alternate / CHOP),</li> <li>CH2 INVT, ADD and SUBTRACT</li> <li>_ X-Y Operation</li> <li>_ 40ns/div to 0.2s/div Time Base</li> <li>_ 140mm Rectangular CRT with Internal Graticule</li> <li>_ Triggering to 40MHz</li> <li>_ Z Modulation (TTL Level)</li> <li>_ 8 x 10 cm. Display</li> <li>_ TV Triggering Frame (V) &amp; Line (H)</li> <li>_ MAINS Trigger</li> <li>_ Variable Hold Off</li> <li>_ Built-in Component Tester / Comparator</li> </ul>
22	Function Generator	<p>Wide Frequency Range</p> <p>Sine, Triangle, Square, Ramp, Pulse, TTL (Sync) &amp; DC Outputs</p> <p>Low Distortion High Resolution on Low Frequency</p> <p>Output Attenuation upto 80dB</p> <p>Variable DC Offset Control</p> <p>Four Digit digital Display with Frequency Indication in Hz, KHz, MHz / Amplitude display</p>
23	Analog Multimeter	<p>Drop shock proof meter</p> <ul style="list-style-type: none"> <li>■ Null (zero center) meter <math>\pm 5 / \pm 25</math> in DCV</li> <li>■ High resistance up to <math>200M\Omega</math> with low voltage</li> <li>■ Measurement : AC,DC, AC Current,Resistance,Capacitance</li> <li>■ Capacitance, dB, Li measurement</li> </ul>

		Bandwidth : 30~100kHz (AC10V)
24	Digital Multimeter	Measurement : AC,DC, AC Current, Resistance, Capacitance, Diode, Continuity, Frequency, DC Current, Transistor.
25	Tongue Tester	<input type="checkbox"/> 18mm triangular jaw allows for easy measurement on small cables <input type="checkbox"/> Large, easy-to-read backlit display for easy viewing <input type="checkbox"/> 200 A ac and dc current and 600 V ac and dc voltage measurement range <input type="checkbox"/> 300-3000 $\Omega$ resistance range, continuity detection <input type="checkbox"/> Zero function allows the display to be cleared for DC measurements <input type="checkbox"/> Data Hold function <input type="checkbox"/> CAT III 600 V safety rating
26	Digital Stop Watch	<ul style="list-style-type: none"> <li>• Digital Desktop Stopwatch Counter</li> <li>• Stopwatch show hour, minute, second</li> <li>• Powered by one button cell (Included)</li> </ul>
27	Split Air Conditioner- 2 ton each	<ul style="list-style-type: none"> <li>➤ 2 Ton : Great for large sized rooms (150-200 sq ft)</li> <li>➤ 5 Star : For energy savings upto 25% (compared to Non-Inverter 1 Star)</li> <li>➤ Auto Restart: No need to manually reset the settings post power-cut</li> <li>➤ Copper : Energy efficient, best in class cooling with easy maintenance.</li> <li>➤ Sleep Mode: Auto-adjusts the temperature to ensure comfort during your sleep</li> </ul>
28	Diffraction grating element(15000-18000 LPI)	<p>Student Grating Glass Or Diffraction Grating Glass 600 Lines I.e 15000 LPI  Size: 63mm x 48mm  Lines Per mm : 600 Lines  Lines Per Inch: 15000LPI</p>

## ii. Guarantee/Warranty Terms:

- a) The successful Bidder has to warrant that the Goods supplied under this Contract are new, unused, of the most recent or current models and incorporate all recent improvements in design and materials unless provided otherwise in the Contract.
- b) The successful Bidder further have to warrant that the Goods supplied under this Contract shall have no defect arising from design, materials or workmanship (except when the design and/or material is required by the Tender Inviting Authority's specifications) or from any act or omission of the successful Bidder, that may develop under normal use of the supplied goods.
- c) All the equipments including the accessories supplied as per the technical specification as mentioned in the bidding document should carry comprehensive warranty (including all spares, accessories and

consumables) for a period mentioned in this document in the first instance. During this period, the successful Bidder shall replace all defective parts / accessories / consumables and attend to all repairs/break downs and undertake stipulated number of preventive maintenance visits to every user installation site. The cost of spare parts for all replacements has to be borne by the successful Bidder during the period of comprehensive warranty. The items which are not covered under warranty should be clearly mentioned along with rate of the items.

- d) The Bidder shall attend any number of break down/repair calls as and when informed by the institute authority.
- e) The equipment which requires quality assurance test shall be done at free of cost immediately after installation, during the comprehensive warranty period, during the CMC / AMC period, by the demand of User and also when major spares are replaced.

### **iii. Warranty Period:**

- a) The "Complete System" shall remain under warranty period of 3 years from the date of satisfactory installation.
- b) During warranty period of 3 years, bidder shall provide at least once **every** three months maintenance visits per year at regular interval for usual maintenance and supervision. If bidder fails to provide these maintenance visits at regular interval, a proportionate deduction in the form of penalty on pro-rata basis will be recovered from the bidder from the Security Deposit money. In case the Security Deposit money is not adequate, Institute shall have right to recover the losses / penalty from other sources as well.

## ANNEXURE – A

### Cover Letter Format (In letter head)

TENDERERS PARTICULARS FOR TENDER NO: .....

The Director  
Indian Maritime University,  
Navi Mumbai Campus,  
Karave, Nerul,  
Navi Mumbai 400 706

Sir,

Being duly authorized to represent and act on behalf of \_\_\_\_\_ hereinafter called "The Tenderer" and having visited the site and examined the Scope of work, Conditions of Contract, Specifications, Schedules and Bill of Quantities for the work of **"TENDER FOR SUPPLY AND INSTALLATION OF LAB EQUIPMENT AT INDIAN MARITIME UNIVERSITY- NAVI MUMBAI CAMPUS, KARAVE, NERUL, NAVI MUMBAI – 400706"**

1. I/ we here by submit my/our offer as follows:
  - a) Technical Bid – (in separate sealed cover along with EMD of Rs. 26,000/- & other documents) (Cover **I**)
  - b) Financial Bid– part of the tender document. (Cover **II**)
  - c) The two sealed covers containing technical bids and financial bids referred to above have been put in main cover (Cover **III**) as required.
2. I hereby undertake to abide by various terms and conditions contained in your **TENDER No: IMU/2018/0003** (Copy, duly signed, enclosed).
3. We understand that IMU Navi Mumbai Campus reserves the right to:
  - a) Amend the scope of tender
  - b) Reject or accept any tender including the lowest, cancel the tender process and reject all tender.
  - c) We agree that the IMU Navi Mumbai Campus will not be liable for any such action and will be under no obligation to inform the Tenderer of the grounds for such action.
  - d) I also certify that the details furnished in the bids, various enclosures and other documents are true and correct.
  - e) This bid contains pages from \_\_\_\_\_ to \_\_\_\_\_ and all pages are serially numbered, signed and stamped.

4. I also express my willingness to sign the contract incorporating the Standard terms and special conditions of the contract as contained in the Tender.
5. Our GST Number is \_\_\_\_\_
6. Our Pan Number is \_\_\_\_\_

Yours Sincerely,

***(Signature of the Owner/ Bidder/ Authorized signatory and please indicate capacity which signed Viz. on own behalf or as Power of Attorney or Authorized signatory of the owner. Please also include the contact No. and address in the Place)***

**Note: -**

Please put this offer letter in Cover I (containing Technical Bid) along with other required documents.

**ANNEXURE – B**

**ANNEXURE – B Format for Eligibility Criteria Evaluation  
(To be filled by bidder)**

Sr. No.	Criteria	Complied (Y/N). If no give Reasons for Non-Compliance	Supporting Document attached at page number
1	The bidder should submit copy of valid Trade License, PAN and GST/Sales Tax / VAT Registration No. with the Technical bid of Tender documents.		
2	The annual turnover in the business of Supply and Installation of Lab Equipment of the bidder shall be Rs. 10,00,000/- (Ten Lakhs only) each year during the last 3 years. The details to be furnished by the bidder in the technical bid giving the audited profit & loss account and balance sheet for last three years ending 31st March 2017. It should be duly attested by the bidder's Chartered Accountant.		
3	<p>The Bidder should have successfully implemented similar orders / work of Supply and Installation of Lab Equipment as listed below during the last 3 years i.e. in last three years period from <b>2014-15 to 2016-17</b>:</p> <p>One similar work in last three years period from <b>2014-15 to 2016-17</b> costing not less than 80% of the present estimated cost this tender in Universities/ Institutes/Colleges/PSU/Corporate Sector;</p> <p><b>(or)</b></p> <p>Two similar works in last three years period from <b>2014-15 to 2016-17</b> costing not less than 60% of the present estimated cost this tender in Universities/Institutes/Colleges/PSU/Corporate Sector;</p> <p><b>(or)</b></p> <p>Three similar works in last three years period from <b>2014-15 to 2016-17</b> costing not less than 40% of the present estimated cost this tender in Universities/Institutes/Colleges/PSU/Corporate</p>		



	Sector;  [ <b>Mode of proof:</b> Copy of Purchase Order/Contract for providing 'Award of Work'. Copy of Completion Certificate'/Final Invoice/Letter indicating return of Security Deposit for providing satisfactory 'Completion of Work' should be furnished for each of the projects.		
4	Earnest Money Deposit (E.M.D): Rs. 26,000/- (Rupees Twenty Six Thousand Only) by way of D.D./ P.O in favor of IMU- Mumbai Campus payable at Mumbai or Navi Mumbai		

The bids are liable to be rejected in case of failure to comply with any of the above requirements.

**Signature:**

**Name of Authorised Representative:**

**Date:**

**Place:**

**Seal:**

**ANNEXURE C**

**Details Regarding Similar Orders**

Sl. No.	Name of the Client	Nature of Job (Enclosed Purchase Orders)	Value of Purchase Order	Date of Commencement	Date of Completion

**[Mode of proof:** Copy of Purchase Order/Contract for providing 'Award of Work'. Copy of Completion Certificate'/Final Invoice/Letter indicating return of Security Deposit for providing satisfactory 'Completion of Work'. Should be furnished for each of the Projects.]

**Signature:**

**Name of Authorized Representative:**

**Date:**

**Place:**

**Seal:**

**ANNEXURE- D****Details Regarding Annual Turnover****ANNUAL TURNOVER**

<b>Sl. No.</b>	<b>Financial Year</b>	<b>Annual Turnover In Rupees Lakhs</b>
1.	2014 -15	
2.	2015-16	
3.	2016-17	

Copies of the Audited Balance Sheet and Profit and Loss Account for the last three Financial Years **2014-15, 2015-16 and 2016-17** should be attached

**Place:**

**Date :**      **Signature of the Tenderer with seal**

**TENDER FOR SUPPLY AND INSTALLATION OF LAB EQUIPMENT  
AT INDIAN MARITIME UNIVERSITY- NAVI MUMBAI CAMPUS**



**TENDER No: IMU/2018/0003  
Issue Date: 19<sup>th</sup> March, 2018**

**FINANCIAL BID**

Last Date and time of Submission	1330hrs on <b>2<sup>nd</sup> April, 2018</b>
Date and Time of Opening of Financial Bid	Will be uploaded on the website and the email will be sent to the qualified bidders

<b>Sr. No.</b>	<b>Name of the Equipment</b>	<b>No of Quantity Requirement</b>	<b>Rate per Item</b>	<b>Total Amount*</b>
1.	Study of Radar Trainer	02		
2.	Characteristics of Photoelectric cell	02		
3.	Use of Solar Cell	05		
4.	Hartely Oscillator	05		
5.	Colpitt Oscillator	05		
6.	Verification of KVL	05		
7.	Verification of KCL	05		
8.	Verification of Superposition Theorem	05		
9.	The ratio of inductance value of a coil having air core and iron core	05		
10.	Measurement of Inductance and capacitance by AC Bridges	05		
11.	Low Pass Filter	05		

12.	High Pass Filter	05		
13.	Band Pass Filter	05		
14.	Band Stop Filter	05		
15.	Study of R-L-C series resonance circuit	05		
16.	Study of R-L-C parallel resonance circuit	05		
17.	Study of Venturimeter	05		
18.	Class-A and Class -B push pull amplifier, frequency response	05		
19.	Velocity of Sound in Air	03		
20.	Gyroscopic Precession	02		
21.	Cathod ray Oscilloscope (Duel Trace 30MHz)	07		
22.	Function Generator	04		
23.	Analog Multimeter	10		
24.	Digital Multimeter	10		
25.	Tongue Tester	02		
26.	Digital Stop Watch	05		
27.	Split Air conditioner -2 ton each	05		
28.	Diffraction grating element (1500-18000 LPI)	05		

\*Strike out the box where the firm has not quoted

\*The rates quoted above should be only the unit price (*i.e. inclusive of basic price, packing, transportation and any other charges*) and **exclusive** of applicable GST and any cess on GST. L1 bidder will be decided on the basis of unit price only.

Signature \_\_\_\_\_

Name \_\_\_\_\_

Place:

Date:

**Official Seal**