



NATIONAL INSTITUTE OF TECHNOLOGY SILCHAR

(An Institute of National Importance)

SILCHAR - 788 010, ASSAM, INDIA

OFFICE OF THE TEQIP – II Cell

Ground Floor, Old Electronics Building, NIT Silchar

Phone: (03842) - 213926 / 224797 (Fax)
www.nits.ac.in

E-mail: teqip.nits@gmail.com

Website:

Notice for procurement under TEQIP-II

Dated: 24/08/2016

The quotation opening date for the under reference shopping packages are extended till 29th Aug 2016. The interested new supplier/firms are requested to register their firm & send us their best quotation for the following packages as applicable before 29th Aug 2016, 12:00 Hrs.

The supplier are to register their firm as per the format (Annexure-I) & to send us the signed copy of the registration details by email to teqip.nits@gmail.com before 26th Aug 2016, 17:00 Hrs.

List of shopping packages

Sl	Package Code	Package Name	Item Name	Quantity	Specification
1	TEQIP-II/NITS/147	Modernizing/E&I/Transducer/Instrumentation tutor	Instrumentation tutor	2	"Heat Transducers Temperature Rig should consist of the following items. a) Heat bar with 2 x 25w Elements and 1 30w Element. Bar is 235mm long with 22 sensor positions. b) Thermometer -10 to +110 degrees centigrade. c) Thermistor probe 3mm dia, 41mm long with insulated plastic handle & Resistance at 20°C = 2k?. d) Thermocouple probe 3mm dia, 41mm long with insulated plastic handle & Copper constantan junction approx. 50µV/°C. e) Platinum resistance probe 3mm dia, 41mm long with insulated plastic handle & Resistance at 20°C = 100?. f) Thermal relay with insulated handle, operating temp. 45°C Hysteresis 3°C Contact rating 10A. g) Bi-metallic thermostat with insulated handle and its Operating temp. 45°C & Differential 5°C h) Calibration block and i) Clips for heat bar. Light Transducers: Light Transducers Rig should consist of the following items. 1. Light transducers box 78x78x135mm with 3 able sensors. The sensor angle can be adjusted by + or – 30 degrees. Sensors should include: i) Photo-transistor: BPX25, ii) Photo-diode: RS components, iii) Photo resistor: RPY33. 2. Optical Filter: 9 slides mounted: 440nm, 470nm, 490nm, 520nm, 550nm, 580nm, 600nm, 690nm, 700nm. 1 infra-red. 3. 14.4v 100mA lamp mounted on carrier that is mounted on the linear rig such that its distance to the sensor can be adjusted. Measurement Package with DC Power Supply Instrumentation module should consist of the following items: A. Amplifiers and Signal conditioning unit with the following circuits. 1. Wheatstone Bridge with reference potentiometer and able value ratio arms. 2. Operational Amplifier with able gain and differential input. 3. Oscillator with centre frequency of 465kHz. 4. Frequency discriminator with centre frequency of 465kHz. B. Power Amplifier Module 107x107x46mm, Unity voltage gain. Maximum output 4W. C. Linear Test Rig, 370x80x48mm. Plate with mounting for Linear Transducers or Light box. Rig has adjustable operating rod on a slide with has two adjustments, course 0-9cm and fine 0-25mm in



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					0.01mm increments by micrometer 1. Accessories: Set of 2mm and 4mm patch leads, 4 resistors on carriers, Spare fuses and necessary connecting wires & probes etc. Comprehensive Manual should be supplied. On spot Demonstration and Training by experts essential."
2	TEQIP-II/NITS/134	Modernizing/ME/Autoclave Reactor	Autoclave Reactor	1	Autoclave reactor Specifications: • Reactor capacity (volume): 5 L (approx.) • Material of construction: SS 316 • Design pressure and temperature: 100 bar (approx.) and 500oC (approx.) •Nozzle and Fittings: i) External Fittings: Pressure gauge (with swivel connector), vent valve, safety rupture disc , gas inlet- valve & liquid sampling valve suitably mounted on a common Dip tube ii)Internal Fittings : Internal cooling coil, thermowell (with temp. sensor), dip tube • Body & Head Sealing : Spiral wound metallic Gasket with split clamp type quick opening system with clamp bolts • Motor & drive : 1/4 HP AC Motor (Group IIA/IIB) and variable frequency drive with 100- 1300 RPM infinitely variable speed & digital RPM indication • Shaft Sealing : Zero leakage Magnetic drive coupling •Stirrer: 6 bladed turbine stirrer with stirrer clamp & bush for the shaft • Heating: Electrical ceramic band heater with insulation & with high temperature steel cladding & Cascade temperature ON/OFF heater temperature controller to prevent temperature over shoot. It shall have insulated heater plate to prevent thermal shock to operator • Control Panel: ? SS control panel with Microprocessor based Programmable P.I.D temperature controller, pressure indicator with high temperature, pressure alarm system & motor speed controller mounted on it. ? Digital pressure indicator in bar & psi with SS-316 Pr.
3	TEQIP-II/NITS/118	Modernizing/E/SCADA based power transmission simulator	SCADA based 1 kw electrical power transmission line simulator" Electrical Power Transmission on Line Training System Consists of:	1	a. Generating Station Module b. Artificial Transmission line Module (400kV) 2nd Artificial Transmission line for Power Flow management c. Measurement & Protection Section with Fixed VAR Compensator Module d. Receiving Station Module e. RLC Load Setup (Distributed Load System) f. PLC with SCADA Software a. Generating Station Module The Generating Station consists of 2 nos of variable AC source, Earth Fault Relay, Circuit Breaker, and Step Up Transformer to vary the sending end voltage representing the variation in Grid Voltage, Multi Function Meters and synchronizing relay are provided for proper synchronization between two sources ? Input Voltage : 415V, 3Phase, 50Hz. ? Output Voltage : 55-110-220-330V Line to Line. ? Current rating : 2.5A with tap changing switch for voltage regulation. ? Earth Fault (Microcontroller Based) ? I/P given through MCB ? I/P and O/P protected through fuse ? O/P current and voltage displayed through DPM b. Artificial Transmission Line Module (400KV) The transmission line which is considered of 180 Km long. The line may be used as 180 Km, 3? line or 540 Km 1? line. The 180 Km line is divided into 6p sections. Each p Section is 30 km long. The line inductance is taken for every 30 Km and capacitance for every 15 Km. The power carrying capacity of the transmission line is 1000 VA (1KVA) Specification * Type : Artificial Transmission line 3Phase Model * No. of Pi Sections : 18nos. * Operating Voltage : 415V, Line to Line. * Current Rating : 2.5A * Short Circuit Rating : 5A *



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				<p>Voltage rating : 500V P-P(Max) 2ND Artificial Transmission Line Module for Power Flow Management This 2nd Artificial Transmission line is provided for studying the Power Flow Management between two Transmission lines by disconnecting the 1st transmission line which drives the Emergency Load during fault condition and the corresponding load is driven by 2nd Transmission line through Emergency load transfer switch c. Measurement & Protection Section With Fixed VAR Compensator Module This consists of shunt capacitors for voltage control and series reactor to reduce the fault current at the time of occurrence of fault Specification ?Measurements of Sending end Voltage, Current, Power and Power factor etc. ?Measurements of Receiving end Voltage, Current, Power and Power factor etc ?Measurements of ABCD constants ?Protection relays (Over Current, Over / Under Voltage,) are available. ?PC interface facility (Optional) ?Shunt capacitor: 3? delta connected shunt capacitor of 1KVAR Compensation under loading condition ?Shunt reactor with variable inductor available for compensation under no load condition. ?Series reactor with variable inductor available in all the three phases for series compensation to improve the system stability d. Receiving Station Module The receiving station is provided with a Step Down Transformer. It is provided with ON / OFF switch, representing the circuit breaker in real system, two numbers of receiving station module are provided for two Transmission lines. e. RLC Load setup (Distributed Load System) * R Load (Resistive Load) with or Switch – 3 Nos * L Load 1 HP 3? Induction Motor with Mechanical Load – 1 No * C Load (Capacitive load) with or Switch – 2 Nos All the Switching Circuits are connected to SCADA via PLC, so that switchover will be automatic under various fault conditions. f. PLC with SCADA Software (VPST-100HVSC-F): This consist of i. PLC with MODBUS ii. PLC Programming Software iii. SCADA Software (Simatic WinCC Flexible) iv. PLC & SCADA developed programming Software The PLC with MODBUS Communication can interface with all the Intelligent Electronic Devices (IEDs) which in turn can be connected to SCADA Software as Distributed Control System for better monitoring and controlling. i. PLC with MODBUS ?Make : Siemens, ?Model : CPU 1212C – DC / DC / DC ?PLC : S7-1200 ?Bit processing speed 0.1 micro ?Ethernet communication interface (TCP/IP Native, ISO on TCP) ?In built Real Time Clock ?This PLC acts as Master for Serial Communication in MODBUS Protocol ?MODBUS is used to communicates Master (PLC) and Slaves (RTU) ii. PLC Programming Software: ?Windows based powerful software provided to write program in Ladder Language & FBD (Function Block Diagram) ?Siemens PLC programming software, IEC 61131 standard ?Simatic Step 7 – Version 12 ?Wincc – Flexible 2008 – SP3 ?The SCADA software can access all data from PLC through Ethernet where PLC communicates with RTU device through MODBUS protocol iv. PLC & SCADA developed programming Software</p>
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General Terms & Condition for all above packages.

1. You are invited to submit your most competitive quotation for the above packages with item wise detailed specifications given in the above table
2. Government of India has received a credit from the International Development Association (IDA) towards the cost of the **Technical Education Quality Improvement Programme[TEQIP]-Phase II** Project and intends to apply part of the proceeds of this credit to eligible payments under the contract for which this invitation for quotations is issued.
3. Quotation,
 - 3.1 The contract shall be for the full quantity as described above.
 - 3.2 Corrections, if any, shall be made by crossing out, initialing, dating and re writing.
 - 3.3 All duties and other levies payable by the supplier under the contract shall be included in the unit price.
 - 3.4 Applicable taxes shall be quoted separately for all items.
 - 3.5 The prices quoted by the bidder shall be fixed for the duration of the contract and shall not be subject to adjustment on any account.
 - 3.6 The Prices should be quoted in Indian Rupees only.
4. Each bidder shall submit only one quotation.
5. Quotation shall remain valid for a period not less than **55** days after the last date of quotation submission.
6. Evaluation of Quotations,

The Purchaser will evaluate and compare the quotations determined to be substantially responsive i.e. which

 - 6.1 are properly signed ; and
 - 6.2 confirm to the terms and conditions, and specifications.
7. The Quotations would be evaluated for all items together.
8. Award of contract:

The Purchaser will award the contract to the bidder whose quotation has been determined to be substantially responsive and who has offered the lowest evaluated quotation price.

 - 8.1 Notwithstanding the above, the Purchaser reserves the right to accept or reject any quotations and to cancel the bidding process and reject all quotations at any time prior to the award of contract.
 - 8.2 The bidder whose bid is accepted will be notified of the award of contract by the Purchaser prior to expiration of the quotation validity period. The terms of the accepted offer shall be incorporated in the purchase order.
9. Payment shall be made in Indian Rupees as follows:

Delivery, Installation and satisfactory acceptance - 100% of total cost
10. All supplied items are under warranty of **12** months from the date of successful acceptance of items.
11. You are requested to provide your offer latest by **12:00** hours on **29-Aug-2016 ..**
12. Training Clause (if any) **Comprehensive training as required by the department.**
13. Testing/Installation Clause (if any) **Complete installation at NIT Silchar, Cachar, Assam-788010**
14. Information brochures/ Product catalogue, if any must be accompanied with the quotation clearly indicating the model quoted for.
15. Sealed quotation to be submitted/ delivered at the address mentioned below,

To The Nodal Officer (Procurement), National Institute of Technology Silchar Cachar, Assam-788010
17. We look forward to receiving your quotation and thank you for your interest in this project.
18. Delivery period: Within 45 days from the date of issue of Purchase order.

-Sd-
Nodal Officer (Procurement)
TEQIP-II, NIT Silchar



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Annexure-I
Suppliers/Firm's Information Format

Package Code	Name of the Supplier with full address as below
	<p>Name :</p> <hr/> <p>Address: City: PIN:</p> <hr/> <p>E-mail ID Phone/Mobile No.: FAX No. PAN No. TAX No. TAN No.</p>



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FORMAT FOR QUOTATION SUBMISSION

(In letterhead of the supplier with seal)

Date: _____

To:

Sl. No.	Description of goods (with full Specifications)	Qty.	Unit	Quoted Unit rate in Rs. (Including Ex Factory price, excise duty, packing and forwarding, transportation, insurance, other local costs incidental to delivery and warranty/ guaranty commitments)	Total Price (A)	Sales tax and other taxes payable	
						In %	In figures (B)
Total Cost							

Gross Total Cost (A+B): Rs. _____

We agree to supply the above goods in accordance with the technical specifications for a total contract price of Rs. _____ (Amount in figures) (Rupees _____ amount in words) within the period specified in the Invitation for Quotations.

We confirm that the normal commercial warranty/ guarantee of _____ months 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.

Signature of Supplier

Name: _____

Address: _____

Contact No: _____