



Institute of Engineering & Technology, Lucknow, Sitapur Road, Lucknow,  
Uttar Pradesh - 226021

### INVITATION LETTER

Package Code: TEQIP-III/2019/UP/IET/290

Package Name: IET-TEQIP-EED-LAB-2

**EET/TEQIP-III/2019-232-B**  
Current Date: 06-Jul-2019

Method: Shopping Goods

Sub: INVITATION LETTER FOR IET-TEQIP-EED-LAB-2

Dear Sir,

- You are invited to submit your most competitive quotation for the following goods with item wise detailed specifications given at Annexure I,

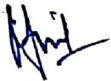
Sr. No	Item Name	Quantity	Place of Delivery	Installation Requirement (if any)
1	Linear System Simulator lab kit	2	Institute of Engineering and Technology, Lucknow	
2	Temperature controller lab kit	2	Institute of Engineering and Technology, Lucknow	
3	AC position control lab kit	2	Institute of Engineering and Technology, Lucknow	
4	AC servomotors study lab kit	2	Institute of Engineering and Technology, Lucknow	
5	Synchro Transmitter & Receiver lab kit	2	Institute of Engineering and Technology, Lucknow	
6	Compensation Design System Kit	2	Institute of Engineering and Technology, Lucknow	

- 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 III 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

- The contract shall be for the full quantity as described above.
- Corrections, if any, shall be made by crossing out, initialling, dating and re writing.

14. Training Clause (if any) YES
15. Testing/Installation Clause (if any) YES
16. Performance Security shall be applicable: 5%
17. Information brochures/ Product catalogue, if any must be accompanied with the quotation clearly indicating the model quoted for.
18. Sealed quotation to be submitted/ delivered at the address mentioned below, **TEQIP-III**  
**Institute of Engineering & Technology, Lucknow, Sitapur Road, Lucknow, Uttar**  
**Pradesh - 226021**
19. We look forward to receiving your quotation and thank you for your interest in this project.



(Authorized Signatory)

**COORDINATOR**  
**TEQIP PHASE-III**  
**Institute of Engineering &**  
**Technology, Lucknow-21**



## Annexure I

Sr. No	Item Name	Specifications
1	Linear System Simulator lab kit	<ul style="list-style-type: none"><li>• Simulated first, second and third order system of type-0 and type-1.</li><li>• Calibrated variable gain amplifier (Resolution 1:1000).</li><li>• Built-in signal sources<ul style="list-style-type: none"><li>- Square wave and Triangular</li><li>- Frequency: 45-90Hz.</li><li>- Amplitude: 0-2.5V approx.</li></ul></li><li>• Trigger output for perfectly steady display on CRO.</li><li>• Uncommitted amplifier for phase adjustment.</li><li>• Provision for disturbance inputs.</li><li>• Complete in all respect, except a measuring CRO.</li><li>• User manual shall be provided</li></ul>
2	Temperature controller lab kit	<ul style="list-style-type: none"><li>• Temperature controller with facilities for P, I D and relay control blocks.</li><li>• Operating temperature: Ambient to 90 C.</li><li>• Separate controls for P, I, D channel gains.</li><li>• Two settings for relay hysteresis.</li><li>• Fast 25W oven fitted with IC temperature sensor.</li><li>• Digital display of set and measured temperature on 3 ½ digit built-in DVM.</li><li>• Buttered output for recorder.</li><li>• IC regulation in controlled circuit power supplies.</li><li>• User manual shall be provided</li><li>• Interconnections<ul style="list-style-type: none"><li>- All interconnections are made using 2mm banana Patch cords.</li><li>- Test points are provided to analyze signals at various points.</li><li>- All ICS are mounted on IC Sockets.</li><li>- Bare board Tested Glass Epoxy SMOBC PCB is used.</li><li>- In-Built Power Supply with Power ON indication</li><li>- Attractive Wooden enclosures of Light weight Australian Pine Wood.</li></ul></li><li>- Set of 2mm Patch cords for interconnections.</li></ul>
3	AC position control lab kit	<ul style="list-style-type: none"><li>• 2-phase servomotor 12V/ phase, 50Hz, 10W.</li><li>• Power amplifier.</li><li>• Servo potentiometer type error detector.</li><li>• In-built 10.00V (rms) panel meter.</li><li>• <math>\mu</math>P based waveform capture card.</li><li>• User manual shall be provided</li></ul>

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## AC servomotors study lab kit

- Interconnections
  - All interconnections are made using 2mm banana Patch cords.
  - Test points are provided to analyze signals at various points.
  - All ICS are mounted on IC Sockets.
  - Bare board Tested Glass Epoxy SMOBC PCB is used.
  - In-Built Power Supply with Power ON indication
  - Attractive Wooden enclosures of Light weight Australian Pine Wood.
- Set of 2mm Patch cords for interconnections
- 2-phase a.c. servomotor – 12V/50Hz per phase.
- Small generator for loading.
- 4-digit speed display.
- 3-digit time constant display.
- 3 ½ digit r.m.s. voltmeter.
- 3 ½ digit d.c. panel meter.
- User manual shall be provided

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## Synchro Transmitter &amp; Receiver lab kit

- Interconnections
  - All interconnections are made using 2mm banana Patch cords.
  - Test points are provided to analyze signals at various points.
  - All ICS are mounted on IC Sockets.
  - Bare board Tested Glass Epoxy SMOBC PCB is used.
  - In-Built Power Supply with Power ON indication
  - Attractive Wooden enclosures of Light weight Australian Pine Wood.
- Set of 2mm Patch cords for interconnections
- The input angular displacement displayed on anodized dial.
- The output angular displacement displayed on anodized dial.
- Two rotor terminals (R1 & R2) three stator terminals (S1, S2 and S3) are brought out on the front panel.
- Synchro transmitter-receiver pair with calibrated dials provided in Metal Sea through enclosure.
- Locking system for receiver rotor
- Receiver use as control transformer



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Compensation Design System  
Kit

- Built-in balanced demodulator circuit  
Panel meter for ac/dc voltages
- User manual shall be provided
- Interconnections
  - All interconnections are made using 2mm banana Patch cords.
  - Test points are provided to analyze signals at various points.
  - All ICS are mounted on IC Sockets.
  - Bare board Tested Glass Epoxy SMOBC PCB is used.
  - In-Built Power Supply with Power ON indication
  - Attractive Wooden enclosures of Light weight Australian Pine Wood.
- Set of 2mm Patch cords for interconnections
- Simulated 'uncompensated' system having adjustable damping. Peak percent overshoot  $M_p$ , variable from 20% to 50%, and steady state error variable from 50% to 0.5%.
- Compensation network implementation through built-in variable gain amplifier. Gain is adjustable from 1 to 11.
- Built-in square and sine wave generators for transient and frequency response studies. Frequency adjustable from 25Hz 800Hz (approx).
- User manual shall be provided
- Interconnections
  - All interconnections are made using 2mm banana Patch cords.
  - Test points are provided to analyze signals at various points.
  - All ICS are mounted on IC Sockets.
  - Bare board Tested Glass Epoxy SMOBC PCB is used.
  - In-Built Power Supply with Power ON indication
  - Attractive Wooden enclosures of Light weight Australian Pine Wood.
- Set of 2mm Patch cords for Interconnections

**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)
<b>Total Cost</b>							

We agree to supply the above goods in accordance with the technical specifications for a total contract price of Rs. \_\_\_\_\_ (Rupees \_\_\_\_\_ amount in words) within the period specified in the Invitation for Quotations. Gross Total Cost (A+B): Rs. \_\_\_\_\_ (Amount in figures)

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. \_\_\_\_\_