

# MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR

(A Grant in aid autonomous Institute under R.G.P.V., Bhopal M.P.)  
Gola ka Mandir, Residency Road, Gwalior (M.P.)

## INVITATION FOR QUOTATION

TEQIP-II/2016/MP1G01/Shopping/package241 /693

11-06-2016

To,

**Sub: Invitation for Quotations for supply of Goods**

**Package Name : Equipment for Electrical Engg.**

**Package Number: TEQIP-II/MP/MP1G01/241**

Dear Sir,

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

Sr. No	Brief Description	Quantity	Delivery Period(In days)	Place of Delivery	Installation Requirement (if any)
1	Single Phase Dual Converter	01	45	Madhav Institute of Technology & Science, Gola Ka Mandir, Residency Road Gwalior- 474005(M.P)India	Yes
2	Four Quadrant Chopper Trainer	01			

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 30 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 and Installation and Handover - 100% of total cost**

**Satisfactory Acceptance - 0% 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 27-June.-2016 .**

12. Detailed specifications of the items are at Annexure I.

13. Training Clause: Seller has to arrange the training at MITS, Gwalior without any extra payment

14. Testing/Installation Clause: Seller has to installed the training at MITS, Gwalior without any extra payment

15. Information brochures/ Product catalogue, if any must be accompanied with the quotation clearly indicating the model quoted for.

16. Sealed quotation to be submitted/ delivered at the address mentioned below,

Director, Madhav Institute of Technology & Science,  
Gola Ka Mandir, Residency Road Gwalior-474005(M.P) India

17. We look forward to receiving your quotation and thank you for your interest in this project.

18. Please Mention the following things on the top of the envelop

- i. Package Name
- ii. Package Number
- iii. Last date of Submission

(Dr. R.K. Pandit)

Director

R.P.K.

*R.K. Pandit*  
10.6.16

**Annexure I(Package-241)**

Sr. No	Item Name	Specifications
1	Single Phase Dual Converter	<p><b>1] Instrumentation Power supply cum Multi- channel DPM panel</b></p> <p>a) +/-12 V, 500 mA (b) +5V, 300mA, c) Unregulated 17V dc/750 mA (d) line synchronizing signal.</p> <p><b>2] SCR Actuator (variable DC) cum sensor signal conditioning panel</b></p> <p>a) Full bridge SCR based 0V-195V/3 Amp cosine firing with linear characteristics.</p> <p>b) This supplies required for DC Armature.</p> <p><b>3] DC voltmeter and DC ammeter panel</b></p> <p>a) DC voltmeter (300-0-300VDC)</p> <p>b) DC Ammeter (5-0-5A) with polarity protection diode</p> <p>c) Field failure relay to control Armature supply. Both 6A/6B needed simultaneously</p> <p><b>4] 1 phase Motor, Alternator &amp; Sync. Motor Panel</b></p> <p>a) 1 phase MCBs of 4A/1.6A 2nos.</p> <p>b) 2no. 2P2W selector switches to run as 1 phase alternator then as synchronous motor.</p> <p>c) 8A pushbutton switch to simulate as centrifugal switch.</p> <p><b>5] Single Phase Dual Converter Controller Panel</b></p> <p>a) 2 No. CTs (1A/30mA)to detect current zero condition in each converter bridge</p> <p>b) Converter reference voltage generator and required output polarity signal generator.</p> <p>c) Current zero sensing circuit and pulse block signals.</p> <p><b>PMDC Motor Specifications:</b></p> <p>DC Motor 200VDC/ 200W with 1500RPM or 60W Lamp Load on EMT16 Panel. Isolation Transformer 230:230@3A, 1 Phase.</p>
2	Four Quadrant Chopper Trainer	<p><b>SALIENT FEATURES</b></p> <p>Facilitates easy &amp; safe wiring by students due to 4 mm sturdy shrouded banana patch cords and shrouded socket arrangement to try out different topologies for high voltage circuits.</p> <p>Each panel has ABS molded plastic sturdy enclosure, and colorful screw less overlays showing circuit diagram and its connection tag numbers for</p>

		<p>easy understanding, connection &amp; servicing by swapping at site.</p> <p>Sturdy of different types of chopper i.e. Type-A, Type-B, Type-C, Type-D and Type-E (first quadrant to fourth quadrant).</p> <p>Set of Instructor Guide &amp; Student Workbook.</p> <p>Inbuilt IC based PWM control with variable duty cycle &amp; variable frequency (1-20KHz).</p> <p>4 independent IGBTs with built in driver 7 2KV isolation provided for TTL level driver.Thus easy for site servicing, Optionally 2 hall current sensors one for load &amp; one for source supplied.</p> <p>[A] Aluminum profile modular flat demo panel rack (4X2) system, carrying various high voltage components housed in plastic enclosures (panel)</p> <p>Instrumentation Power supply cum Multichannel DPM panel (6 Shrouded Banana)</p> <ul style="list-style-type: none"> <li>- <math>\pm 12V/500</math> mA, <math>+5V/300mA</math>, Unregulated 17V dc/750 mA, line synchronizing signal, 13V / 3 Amp.</li> <li>-Multi channel DPM for digital display of parameters.</li> <li>-20 pin FRC power bus to supply power to neighboring panel.</li> <li>-4 IGBT/MOSFET power &amp; sensing panel (PE7A/B) (37 Shrouded Banana)</li> <li>-200V/40A IGBT with isolated (LV) TTL compatible isolated driver circuit &amp; individual heat sink 4 nos.</li> <li>-Current measurement DC (2 nos.) 0.5E/5W series resistor default or using optionally hall sensors (Max I/P up to 20A, 50/60Hz), isolation up to 2KV, O/P =0-3V for controller feedback.</li> <li>-Voltage measurement DC (1 no.) MC DC meter / ammeter default or optionally using hall sensor (Max I/P 10-500V, 50/60Hz), isolation up to 2KV, O/P =0-3V for controller feedback. IC3525 based PWM control with variable duty cycle (5%-90%) &amp; variable frequency (1-20KHz)</li> <li>-Power supplies isolated 2 nos. 24V@3A &amp; 12V@ 750mA with loading resistors provided to prevent voltage built up. 2.5mH@5A inductor as load supplied. PE7B panel consist of diode bridge (1000V/35A), capacitors (0.1 &amp; 2.5<math>\mu</math>F) &amp; resistors (0.5E/5W &amp; 5E/20W) .</li> </ul>
--	--	---

	<p>Voltmeter (300V-0-300V) &amp; Ammeter (2A-0-2A)</p> <p>I Voltmeter ( 30V- 0-30V) &amp; Ammeter (2A-0-2A)</p> <p>PMDC Motor specification</p> <p>200V/200W /200W/2000RPM Chasis mounted table top with spring balance loading arrangement [10kg]</p> <p>Lamp Load</p> <p>230V /15/40/60/100W X 3 bulbs with individual ON/OFF using 6A using toggle switch.</p> <p>Accessories (optional)-</p> <ol style="list-style-type: none"><li>1) Single IGBT module mounted on 140x40mm heat sink.</li><li>2) Single phase rectifier pack mounted on heat sink.<ul style="list-style-type: none"><li>• Mechanical Dimension (mm):960(L)x545(H)X300(W)</li></ul></li></ol> <p>Net Weight:22Kg. Gross Weight:32 Kg.</p>
--	--

Sirastava

(Dr. Laxmi Sirastava)

**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>							

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: \_\_\_\_\_