

<p>मौलाना आज़ाद राष्ट्रीय प्रौद्योगिकी संस्थान भोपाल</p> <p>Maulana Azad National Institute of Technology Bhopal</p> <p>(भारत सरकार, शिक्षा मंत्रालय के अधीन राष्ट्रीय महत्व का संस्थान)</p> <p>(An Institution of National Importance under MoE, Govt. of India)</p>			
			
<p>निविदा आमंत्रण सूचना</p> <p><b>NOTICE INVITING QUOTATION</b></p>			
<p>सामग्री/वस्तु का नाम</p> <p>Name of Goods/Items</p>		<p><b>Four Quadrant Chopper Fed DC Drive</b></p>	
Website	<a href="http://www.manit.ac.in">www.manit.ac.in</a>	Fax No:	0755-2670562
Email Address:	<a href="mailto:info@manit.ac.in">info@manit.ac.in</a>	Telephone No:	0755-4051000, 0755-4052000

अनुक्रमणिका / INDEX		
क्रमांक S No	विवरण / Description	पृष्ठ क्रमांक Page No.
1	निविदा आमंत्रण सूचना Notice Inviting Quotations	03
2	एक नजर में महत्वपूर्ण जानकारी Important Information at a Glance	04
3	बोलीदाता के लिए निर्देश Instructions to Bidders	05-06
4	संलग्नक – I वस्तु की मात्रा एवं विवरण ANNEXURE-I-- Bill of Quantity and Specifications	07-08
5	संलग्नक – II मूल्य बोली का प्रारूप ANNEXURE-II-- Price Bid Form	09

मौलाना आज़ाद राष्ट्रीय प्रौद्योगिकी संस्थान, भोपाल	
Maulana Azad National Institute of Technology Bhopal	
(भारत सरकार, शिक्षा मंत्रालय के अधीन राष्ट्रीय महत्व का संस्थान)	
(An Institution of National Importance under MoE, Govt. of India)	
No. MANIT/EE/2025/018	दिनांक / Date: 13/08/2025
निविदा आमंत्रण सूचना	
NOTICE INVITING QUOTATION	
सामग्री / वस्तु का नाम Name of Goods/Items	<b>Four Quadrant Chopper Fed DC Drive</b>
<p>उपरोक्त सामग्री / वस्तु की आपूर्ति के लिए निविदाएं आमंत्रित की जाती हैं। इच्छुक निर्माता/अधिकृत भागीदार/ एंजेन्सियाँ, अपनी बोली अंकित करें। निविदा दस्तावेज़ विधिवत रूप से भरकर विभागाध्यक्ष— इलेक्ट्रिकल इंजीनियरिंग विभाग में जमा की जा सकती है।</p> <p>सम्पूर्ण निविदा मय दस्तावेज़ प्रस्तुत करने की अंतिम तिथि 03/09/2025 अपरान्ह 12.00 बजे तक है। संस्थान निदेशक, बिना कोई कारण बताए किसी या संपूर्ण निविदा को पूर्ण या आंशिक रूप से स्वीकार या अस्वीकार करने का अधिकार सुरक्षित है।</p>	
	कुलसचिव
<p>Quotations are invited for Supply of above mentioned Goods/Items in the Institute. Interested Manufacturers/Authorized Partner/Agencies may quote their price. Quotation duly completed be submitted to the Head of Department <b>Electrical Engineering</b> of the Institute.</p> <p>Last date of submission of complete quotation document is 03/09/2025 up to 12.00 hours. The Director of the Institute reserves the right to accept or reject any or the entire quotation in full or in part without assigning any reason whatsoever.</p>	
	<b>Registrar</b>

मौलाना आज़ाद राष्ट्रीय प्रौद्योगिकी संस्थान, भोपाल		
Maulana Azad National Institute of Technology Bhopal		
एक नजर में महत्वपूर्ण जानकारी		
IMPORTANT INFORMATION AT A GLANCE		
सामग्री/वस्तु का संक्षिप्त विवरण	संख्या	टिप्पणी
Brief Description of Goods/Items	Quantity	Remarks
<b>Four Quadrant Chopper Fed DC Drive</b>	<b>01 No.</b>	संलग्नक- I पर विस्तृत विवरण Detailed Specification at Annexure-I
निविदा की अनुमानित लागत Estimated cost of Quotation	<b>Rs. 2,36,000.00</b>	
आपूर्ति एवं स्थापना का स्थान Location of Supplies & Installation	Electrical Engineering at Institute	
निविदा दस्तावेज की उपलब्धता Availability of Quotation Document	<a href="http://www.manit.ac.in">www.manit.ac.in</a> <a href="http://www.eprocure.gov.in/epublish/app">www.eprocure.gov.in/epublish/app</a>	
निविदा जमा करने के अंतिम दिनांक एवं समय Last Date & Time of Submission of Quotation	<b>03/09/2025 up to 12:00 hours</b>	
निविदा खुलने की दिनांक एवं समय Date & Time of Opening of quotation	<b>03/09/2025 at 15:00 hours</b>	
निविदा वैधता की अवधि Quotation Validity period	<b>60 days</b> from the date of opening of the Technical Bid	
वितरण/आपूर्ति की अवधि Delivery/ Supply period	<b>04 to 06 weeks</b> from the date of issue of Supply Order	
शास्ति खंड Penalty Clause	0.5% of value of the order per week	
वारंटी अवधि Warranty Period	One year (s) from the date of successful SITC of equipment/ item	
बोली सुरक्षा/बयाना राशि Bid Security/ EMD	NIL	
निष्पादन सुरक्षा राशि Performance Security Amount	NIL	

बोलीदाता के लिये निर्देश/अनुदेश/ INSTRUCTIONS TO BIDDERS		
1	<b>Scope of Supplies &amp; Work:</b>	
	a	Bidders are advised to inspect and examine the site and its surroundings and satisfy themselves before submitting their quotations as to the nature of the ground and sub-soil (So far as is practicable), the form and nature of the site, the means of access to the site, the accommodation they may require and in general shall themselves obtain all necessary information as to risks, contingencies and other circumstances which may influence or affect their quotation. A bidder shall be deemed to have full knowledge of the site whether he inspects it or not and no extra charges consequent on any misunderstanding or otherwise shall be allowed
	b	It will be imperative on each bidder to fully acquaint himself with the site conditions and factors which would have any effect on the performance of the contract and / or the cost.
	c	The Goods/ Items shall be supplied as per the Bill of Quantity and Specifications mentioned in <b>ANNEXURE-I</b> . However higher specification of equipment may be considered subject to their cost economics competitiveness.
	d	Bidder should supply illustrated leaflet giving technical details of Goods/ Item and attach the same with the quotation to facilitate evaluation.
	e	Bidder should quote the price of only one best & appropriate model of Goods/Item available with them.
	f	Purchase Preference will be given to “Make in India products” as defined in Purchase Preference with Local Content (PP-LC) Policy.
	g	Purchase preference will be given to MSEs as defined in Public Procurement Policy for Micro and Small Enterprises (MSEs).
	h	Start-ups as recognized by Department for Promotion of Industry and Internal Trade (DPIIT), claiming EMD exemption and relaxation in turnover as prescribed in the certificate / Start Up scheme of DPIIT.
	i	Where ISI certification marked goods are available in market, procurement should generally be limited to goods with those or equivalent marking only. The warranty/AMC required must be specified.
	j	After the supply of Goods/ Items & Accessories as mentioned in the <b>ANNEXURE-I</b> , the bidder has to execute its installation at the designated location(s).No extra cost shall be paid for this reason.
2	<b>Delivery of Supplies &amp; Installation:</b>	
	a	The purchaser interested for complete delivery of Goods/items along with Installation, Testing and Commissioning by bidder within stipulated time limit.
	b	The material shall be inspected on receipt at site and bidder shall be responsible for any damage during the transit of Goods/Items.
3	<b>Warranty &amp; After Sales Services:</b>	
	a	The bidder shall offer on-site comprehensive warranty of equipments as mentioned at IMPORTANT INFORMATION AT GLANCE sheet at the designated location & shall cover each and every part of the equipments including parts having limited life etc. The purchaser is not liable to pay any extra charges on any account during warranty period.
	b	The bidder shall ensure to render after sales services during the warranty period to the satisfaction of purchaser.

	c	The performance security as mentioned at IMPORTANT INFORMATION AT GLANCE sheet is required in favour of Institute for the warrantee period plus sixty days extra.
4	<b>Eligibility Criteria:</b>	
	a	Bidder should have registered with appropriate Authority and having GST Number.
5	<b>Price Bid</b>	
	a	The Prices should be quoted in Indian Rupees only.
	b	Bidder shall take into account all costs including unloading at the location of purchaser, cartage etc. for giving delivery of material at site(s) before quoting the rates. In this regard no claim what so ever shall be entertained.
	c	The bidders are advised not to indicate any separate discount. Discount, if any, should be merged with the quoted unit prices.
	d	The price quoted in price bid shall be firm but subject to change in rate of applicable taxes if any.
	e	The Bidder should avoid the use of vague term such as “Extra as applicable”. Such offers shall be treated as non-responsive.
6	<b>Bid Submission:</b>	
	a	The quotation must be placed in a properly sealed envelope super-scribed <b><i>“Quotation for the Supply of Four Quadrant Chopper Fed DC Drive.”</i></b> with quotation inquiry number and its due date addressed to The Director, Maulana Azad National Institute of Technology- Bhopal- 462003 and must reach the office of <b>The HoD- Department Electrical Engineering, Maulana Azad National Institute of Technology, Bhopal 462003</b> on or before as mentioned at IMPORTANT INFORMATION AT GLANCE sheet. The sealed Envelop should be consisting of followings:
	b	Copy of Certificate of Registration of firm.
	c	<b>BOQ Annexure-I and Price Bid Annexure-II</b> duly filled and signed.
7	<b>Evaluation of Bids:</b>	
	The Institute shall evaluate all the items together or separately depending upon nature of items of circumstance and compare the quotations determined to be substantially responsive i.e. which	
	a	are properly signed;
	b	Confirm to the eligibility criteria of the vendor; and
	c	Confirm to the terms & conditions, and technical specifications.

मौलाना आज़ाद राष्ट्रीय प्रौद्योगिकी संस्थान, भोपाल  
Maulana Azad National Institute of Technology Bhopal

**सामग्री की मात्रा एवं विवरण**  
**BILL OF QUANTITY AND SPECIFICATION**

SN	Name of Product/ Items	Quantity	Remarks
1	<p><b><u>Four Quadrant Chopper Fed DC Drive with FPGA Controller</u></b></p> <p><b>This setup must consist of the following,</b></p> <p>a) <b>FPGA spartan6 controller</b></p> <p>b) <b>FOUR QUADRANT CHOPPER POWER CIRCUIT</b></p> <p>c) <b>PMDC MOTOR WITH LOAD SETUP</b></p> <p><b>a) FPGA Spartan6 controller:</b></p> <p><b>On-Board Features:</b></p> <ul style="list-style-type: none"> <li>▪ Processor speed 20 MHZ</li> <li>▪ 100 output lines / inputs lines are in 3.3/5V level</li> <li>▪ Isolated serial communication interface through USB connector</li> <li>▪ 4MB PROM for code execution memory.</li> <li>▪ External JTAG header for programming</li> <li>▪ 20x4 (or 16x2) LCD interface header.</li> <li>▪ 8 user LEDs/4 position user DIP switch</li> <li>▪ 2 up &amp; down input push switch</li> <li>▪ Up to 100 Individually Programmable GPIO Pins</li> <li>▪ ADC <ul style="list-style-type: none"> <li>• No of ADC input : 4 Channels</li> <li>• Resolution : 12 bit</li> <li>• Sampling rate : 1MSPS</li> <li>• Analog input range : <math>\pm 0-3.3V</math></li> <li>• Buffer section for voltage protection</li> </ul> </li> <li>▪ Connectors <ul style="list-style-type: none"> <li>• 5 pin header for ADC input</li> <li>• 16 pin header for PWM OUTPUT</li> <li>• External Programming header</li> </ul> </li> </ul> <p><b>b) FOUR QUADRANT CHOPPER POWER CIRCUIT</b></p> <ul style="list-style-type: none"> <li>• INPUT VOLTAGE : 1PH 230V AC OR 300V DC</li> <li>• OUTPUT VOLTAGE : 0-220V VARIABLE DC</li> <li>• O/P POWER : 1KW</li> <li>• 4 No's OF 600V/ 75A, Peak, Semikron based IGBT with driver circuit with proper heat-sink and snubber circuit to form power circuit</li> <li>• 4 no's OF TLP250 IC based PWM Amplifier &amp; 4 no's of SKYPER32 R based PWM driver circuit with Negative Turn off protection required.</li> <li>• 1200V/60A Bridge rectifier to convert AC into DC Rail</li> </ul>	<b>01 No.</b>	

	<ul style="list-style-type: none"> <li>• One No. of 2200microfarad/450v dc link capacitor.</li> <li>• Two No's of hall-effect current sensor used to sense the dc link current &amp; Armature current</li> <li>• Over Current Protection.</li> <li>• All I/P and O/P connectors to be terminated in front panel</li> <li>• PWM and Current signals are to be terminated with test points in the front panel for observing waveforms using Scope.</li> </ul> <p><b>c) PMDC MOTOR WITH SPRING BALANCE LOAD SETUP:</b></p> <ul style="list-style-type: none"> <li>• POWER : 1HP</li> <li>• VOLTAGE : 180V</li> <li>• CURRENT : 5A</li> <li>• SPEED : 1500 RPM</li> <li>• One no of Proximity sensor to sense the speed of the motor</li> <li>• One no spring balance load setup will be used</li> </ul> <p>NOTE:</p> <ul style="list-style-type: none"> <li>➤ MACHINE PARAMERTS TO BE MENTIONED</li> <li>➤ FORWARD MOTORING &amp; REVERSE MOTORING</li> <li>➤ BRAKING CAN BE DONE</li> </ul> <p>Delivery upto Power Electronics Lab, EE Dept. MANIT Bhopal</p> <p><b>Warranty</b> : Minimum two year</p>		
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NB: Drawing/ Design is enclosed herewith.



<b>ANNEXURE- II</b>							
<b>BID PRICE FORMAT</b>							
To,							
The Director							
MANIT- Bhopal- 462 003							
Sub:		<b>Enquiry Document dated 00/00/2025.</b>					
SN	Product Description with make & Model	Unit price	Qty	Qty Price	GST	Total Price	
1	2	3	4	5	6	7(5+6)	
1	<b>Four Quadrant Chopper Fed DC Drive</b>		<b>01 No.</b>				
Total offered Price							
Total ( In Words):							
Delivery Period required:							
The followings things are confirmed and undertake by us that:							
a	The price quoted above are inclusive of statutory Levies & Taxes, Duties, Transportation and other charges (Insurance, Loading/ unloading, Packing & Forwarding charges, Installation etc.) at site.						
b	Taxes are subject to change/ revision.						
c	We agree with the terms and conditions specified in “Instructions to Bidders” and if selected, the execution of supplies would be made as per bill of Quantity & Specification.						
Date:		Signature of Authorized Bidder with proper rubber stamp					
		Name:					
		Designation:					
		Mobile No:					