Notice Inviting Quotation

Sealed technical and commercial quotations are invited for purchase of **5 Axis CNC Motion Controller with Servo Motors and Drives (Hardware & Software)** as per the below mentioned specifications.

<table>
<thead>
<tr>
<th>S.No</th>
<th>Item</th>
<th>Description (Features)</th>
<th>Qty</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>CNC User Interface</td>
<td>Industrial Built in Panel PC with 12-inch display 800 x 600, alphanumeric keyboard, touch screen, 3½-inch motherboard, processor 2nd generation core i3 2330E 2.2Ghz with one mini PCI slot card, 4 GB DDR3 RAM, 1 DVI-D port and 1 DVI-I connector, on-board dual Ethernet adapter with 2 x 10/100/1000/BASE- T connector, on-board SATA RAID 1 controller, 2.5” hard disk 80 GB, 1 serial port RS232 and 4 USB 2.0 ports, 24 V DC power supply with integrated UPS and DIN Rail mounted Battery pack (3.4Ah, Operating Temp: 0-50°C) for UPS, Microsoft Windows 7 Professional 32 bit, English</td>
<td>1 No.</td>
</tr>
</tbody>
</table>
| 2.   | CNC Control Software| PC Based Control Software with possibility to realize an interpolation with up to 32 simultaneous interpolating axes, Programmable according to DIN 66025. The axes and channels must be configured in the CNC control software with following specifications:

- Should support electric servo axes, stepper motor drives subroutine and jump technology, programmable loops, zero point shifts, tool corrections, G and M Codes, mathematical functions, programming of parameters/variables, user macros, spindle and auxiliary functions, zero point shifts, tool functions, axis functions, coupling and gantry axis function, override, axis error and sag compensation, operation with automatic mode, manual mode (jog, inch), single block mode, Referencing, block advance, hand wheel mode (movement/overlay) convenient debugging with online monitoring of all states.

- Transformation functionality (5-axis functionality), kinematics selection from the kinematics library, RTCP function, TLC (Tool Length Compensation)                                                                                                             | 1 No. |
<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Specification</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.</td>
<td>Digital Input Module</td>
<td>HD EtherCAT16-channel digital input terminal 24 V DC, filter 3.0 ms.</td>
<td>1 No.</td>
</tr>
<tr>
<td>4.</td>
<td>Digital Output Module</td>
<td>HD EtherCAT 16-channel digital output terminal 24 V DC, 0.5 A, 1-wire system</td>
<td>1 No.</td>
</tr>
<tr>
<td>5.</td>
<td>Analog Input Module</td>
<td>4-channel analog input EtherCAT terminal 0-10 V, single-ended, 16 bit, 4 x 2-wire system, Conversion time ~ 100 µs</td>
<td>2 Nos.</td>
</tr>
<tr>
<td>6.</td>
<td>Analog Output Module</td>
<td>4-channel analog output EtherCAT terminal 0-10 V, 16 bit, Conversion time ~ 290 µs</td>
<td>2 Nos.</td>
</tr>
<tr>
<td>7.</td>
<td>Servo Drive 2 Axes</td>
<td>Digital Compact Servo Drive, 2-axis module, 100-480 V AC, rated output current 2 x 3 A. EtherCAT interface, Compatible with servo-Motors in item no: 8,9</td>
<td>3 Nos.</td>
</tr>
<tr>
<td>8.</td>
<td>Servomotors with brake</td>
<td>Servomotor, Mo= 2.37 Nm, Io= 2.95 A, 6000 RPM, with holding brake; Smooth shaft; One Cable Technology for power and feedback: feedback transmission via motor cable, no feedback cable necessary, electronic identification plate, single-turn. With Motor cable having yTec/iTec plug, assembled at both ends.</td>
<td>2 Nos.</td>
</tr>
<tr>
<td>9.</td>
<td>Servomotors without brake</td>
<td>Servomotor, Mo= 2.37 Nm, Io= 2.95 A, 6000 RPM; Smooth shaft; One Cable Technology for power and feedback: feedback transmission via motor cable, no feedback cable necessary, electronic identification plate, single-turn</td>
<td>4 Nos.</td>
</tr>
<tr>
<td>10.</td>
<td>Accessories</td>
<td>Ether CAT Coupler for E-bus terminals, Bus End Cap, Industrial Ethernet patch cables, CAT5, PUR.</td>
<td>1 Set</td>
</tr>
</tbody>
</table>

Terms and Conditions:

1. IIT Delhi is exempted from paying custom duty under notification No.51/96 (partially or fully) and necessary “Custom Duty Exemption Certificate” can be issued after providing following information.
   a. Shipping details i.e. Master Airway Bill No. and House Airway No. (if exists)
   b. Forwarder details i.e. Name, Contact No., etc.

   Custom Duty Exemption Certificate will be issued to the shipment in the name of the Institute and Bills of Entry should be submitted to IIT Delhi later on.

2. Either the Indian agent on behalf of the Principal/OEM or Principal/OEM itself can bid but both cannot bid simultaneously for the same item/product in the same tender. If an agent submits bid on behalf of the Principal/OEM, the same agent shall not submit a bid on behalf of another Principal/OEM in the same tender for the same item/product.

3. If the bidder is an authorized dealer of any manufacturer, the authorized Indian dealership certificate from the principles should be enclosed. Similarly, proprietary certificate for proprietary items should be provided.
4. IIT Delhi is exempted from paying Excise Duty and necessary Excise Duty Exemption Certificate will be provided for which following information are required.
   a. Quotation with details of Basic Price, Rate & Amount on which ED is applicable.

5. Please quote prices of imported items at FOB (Freight on Board) IIT Delhi inclusive of all taxes, freight, delivery, installation and onsite training charges. The quotation should provide the total price of the system including all taxes and transportation charges.

6. In case IIT Delhi is imposed with demurrage charge due to import on CIF, the entire demurrage charge has to be borne by the Indian Agent of foreign supplier.

7. Payment Terms (any one is acceptable):
   i. Letter of Credit: 90% payment against shipping documents & balance 10% after satisfactory installation.
   ii. Sight Draft: Payment against documents through bank.
   iii. Against Delivery: Payment by wire transfer after receipt of material.
   iv. Advance payment: pre-payment by wire transfer (for orders less than Rs. 5 lakh)

8. Technical compliance chart should be strictly attached with the bid.

9. All quoted hardware should be of same make and compatible with each other.

10. Bid has to be submitted for supply of all items. No partial quotation or supply will be acceptable.

11. Installation & commissioning at IIT Delhi.
   Demonstration of 5-axes movements and auto cycle execution. (Motion program as per DIN 66025)
   Training on the system for 2 participants from IIT Delhi.
   After installation telephone & mail support for 1 year shall be Free of Cost.
   Warranty should be 2 years.
   All supplies should be completed within 6-8 weeks.
   Quotations not sent in separate covers for technical and commercial bids are bound to be rejected.
   Quotation validity should be minimum 90 days.
   The products will be used for educational purposes. Any applicable academic institution discounts should be offered and stated clearly.
   Authority of IIT Delhi reserves the right to reject any or all quotations without assigning any reasons.

Please submit technical and commercial bid in separate sealed envelopes. The quotations may reach the following on or before **11th Oct 2013 up to 5.00 PM**

Dr. Sunil Jha  
Associate Professor  
Department of Mechanical engineering  
Room No. 156, Block III  
IIT Delhi, Hauz Khas,  
New Delhi 110016