



DEPARTMENT OF ENGINEERING DESIGN
INDIAN INSTITUTE OF TECHNOLOGY MADRAS
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Reference No: ED/007/2013-14/SPI dated 20.12.2013

Due Date: 20.01.2014

Dear Sirs,

We are interested in the import of the items shown/overleaf/as per list enclosed. Kindly arrange to send your quotation, in duplicate indicating **CIF (Chennai)** value of supply of the below mentioned items by Air Parcel/Air Freight/Ocean Freight, together with the illustrated literature of the items offered.

As per the current Exchange Control Regulations, the agency commission, is payable only in Rupees. You are, therefore, requested to clearly indicate the amount of agency commission, included in the price, to enable us to deduct any pay the same to your Agents in Rupees on receipt of equipment in good condition. Also please indicate the validity period (normally for three months) and the **warranty terms**. It may please be noted that the letter of credit will be opened for Nett. CIF value only, after deducting the commission.

The quotation (Hard Copy with Signature) should be reached to the following address on or before the due date 20th January 2014 (04.00pm)

Contact Address:

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(Dr. T. ASOKAN)

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Specifications for Industrial Manipulator

Department of Engineering Design, IIT Madras is planning to procure an industrial manipulator (serial configuration) for teaching and research purposes. Following are the tentative list of experiments to be performed for teaching purpose:

- Forward and Inverse Kinematics
- Path Planning
- Trajectory tracking
- Singularity analysis
- Robot Programming

Additional experiments may be performed as and when necessary. Apart from this, research experiments may also be performed as needed by the faculty.

IIT Madras invites sealed tenders from reputed manufacturers of industrial robots for supply of the robot and accessories. The technical specification of the robot is as follows:

1. Number of degrees of freedom:	6 (3 positioning and 3 orientation axes)
2. Pay load capacity	5 Kg. or more
3. Gripper	Electrically actuated, jaw type
4. Mounting	Floor mounted
5. Reach	1.3m and above
6. Repeatability	$\leq 0.05\text{mm}$
7. Type of actuation	AC servo motors
8. Controller frequency	100Hz Minimum
10. Joint resolution	$\pm 0.05\text{deg.}$
11. Operator interface	Graphical interface, Teach pendant, joystick
12 Software	Perpetual licenses with APIs
13. Port	USB or Serial
14. Programming/control Functions	Cartesian control Joint control Data access Diagnostic tools
15. Safety features	As per industry standard
16. Installation and Training	Onsite
17. Warranty	3 years



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