NATIONAL CENTER FOR COMBUSTION RESEARCH AND DEVELOPMENT (NCCRD)
INDIAN INSTITUTE OF TECHNOLOGY MADRAS
CHENNAI – 600036, INDIA

Ref. No. ICS/11-12/013/DSTX/TSUN **Date: 27 April 2016**

Due date: 18 May 2016

Item name: HOIST FOR MICROGRAVITY LABORATORY (1 no.)

1. Quotations are invited in duplicate for the items shown overleaf (in Annexure I). The quotations duly sealed and superscribed on the envelope with reference no. and due date, should be addressed to the undersigned so as to reach on or before the due date mentioned above.
2. The quotations should be valid for sixty days from the due date and the period of delivery required should also be clearly indicated.
3. The total cost of the equipment in terms of CIP Chennai should be clearly mentioned.
4. Terms of warranty and guarantee should be explicitly mentioned.
5. Packing and delivery charges, customs and clearance duty should be clearly stated.
6. Goods shall not be supplied without an official supply order.
7. Local firms : Quotations should be for free delivery to this institute. If quotations for ex-godown delivery charges should be indicated separately.
8. Firms outside Chennai: Quotations should be for F.O.R. Chennai. If F.O.R. consignor station, freight charges by passenger train / lorry transport must be indicated. If ex-godown, packing, forwarding and freight charges must be indicated.
9. The rate of sales / general taxes and the percentage of such other taxes legally leviable and intended to be claimed should be distinctly shown along with the price quoted. Where this is not done, no claim for sales / general taxes will be admitted at any stage and on any ground whatsoever. The taxes leviable should take into consideration that we are entitled to have Concessional Sales Tax (CST) applicable to non-government educational institutions run with no profit motive for which a concession sales tax certificate will be issued at the time of final settlement of the bill.
10. Payment : Specify the mode of payment and if advanced payment has to be made. Every attempt will be made to make payment within 30 days from the date of receipt of bill / acceptance of goods, whichever is later.
11. IIT Madras is exempt from payment of excise duty and is eligible for concessional rate of customs duty. Necessary certificate will be issued on demand.
12. IIT Madras has the right to accept the whole or any part of the tender or portion of the quantity offered or reject it in full without assigning any reason.
13. The sealed quotation may be sent to

    Prof. S. R. Chakravarthy
    NCCRD Office
    No. 201, Rarefied Gas Dynamics Lab
    (Behind Aerospace Engineering Dept.)
    Chennai – 600036
    Ph. (O) +91-44-22575025

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Annexure I

Ref. No. ICS/11-12/013/DSTX/TSUN **Date: 27 April 2016**
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TECHNICAL SPECIFICATION FOR HOIST FOR MICROGRAVITY LABORATORY

Microgravity Laboratory Hoist (Quantity: 1 No)

An electric hoist required for material handling, assembling disassembling of drop capsule in microgravity laboratory over an area of 3 m by 2.5 m. The hoist should meet the following specifications. Diagrams attached belowgive more details.

Type of Hoist	Chain Hoist – 1 fall
Loading Capacity	1 ton
Lifting Speed	Dual speed: i) 4.0 mpm ii) 1.3mpm or lesser
Lift distance	1800 mm or more
X axis workspace(Net Hook Travel distance)	2500 mm
Y axis workspace(Net Hook Travel distance)	3000 mm
Railing System	Should be ground supported(Min floor depth 150mm)
Warranty	2 years minimum
Optional items (The cost to be quoted separately from total cost. This cost will not be included in comparing commercial bids. The user may opt to add one or more of these items in the final order)	Annual Maintenance Cost beyond warranty period Spares required

The diagram below shows the plan of microgravity laboratory drawn to scale. The area of operation for the hoist is clearly shown with the diagram. **The dimensions shown are the desired workspace after the installation of the hoist facility. The workspace in Z direction should not be less than 1.8 m under any circumstances.**

Floor to roof height is approximately 2.76 m.

Roof Thickness/Floor Thickness – 150 mm

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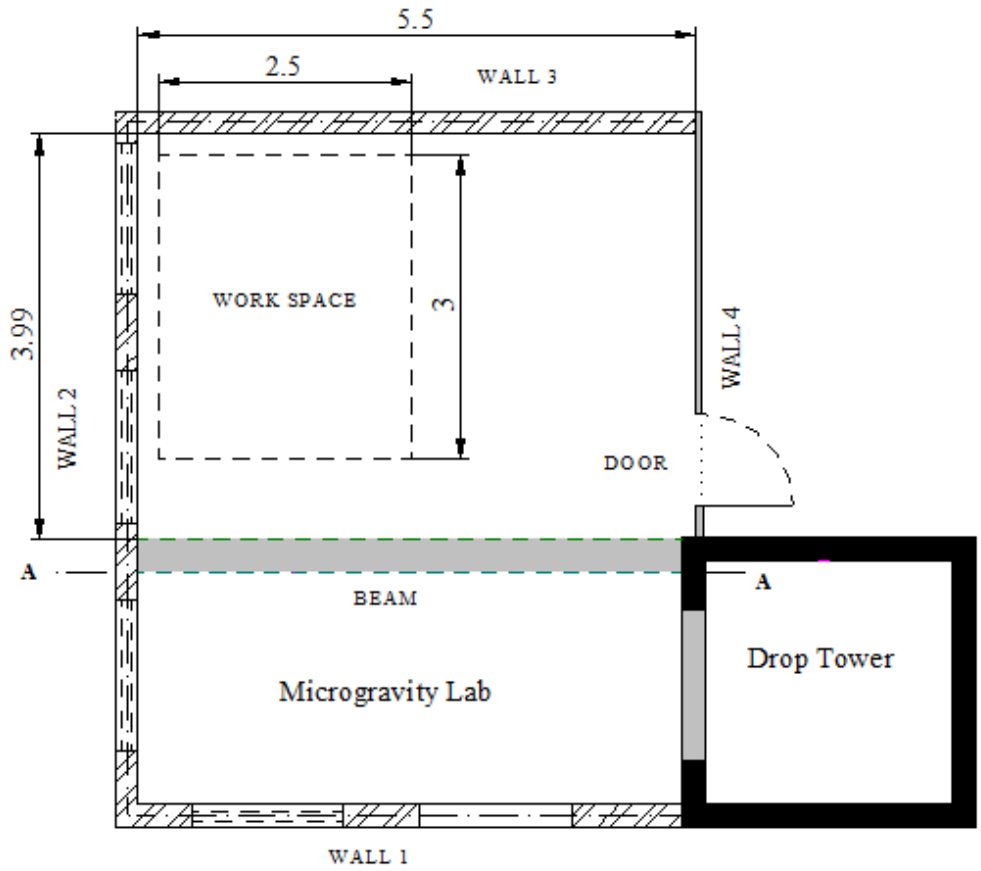
Further Details:

1. The materials/profiles, hooks and load chain used should be corrosion resistant.
2. The headroom measured with the load hook in the highest position with full load should be within 95 cm.
3. The load hook shall be so designed that it shall be free to swivel in loaded condition without twisting the load chain.
4. Suitable provision shall be made for safe holding of the load in the event of stoppage of motor or failure of power.

   Note: please contact Mr. Nikhil for any technical clarification.

   Mr. NIKHIL V V
   Phone: 9447320498
   e-mail:nikhilzerog@gmail.com



PLAN

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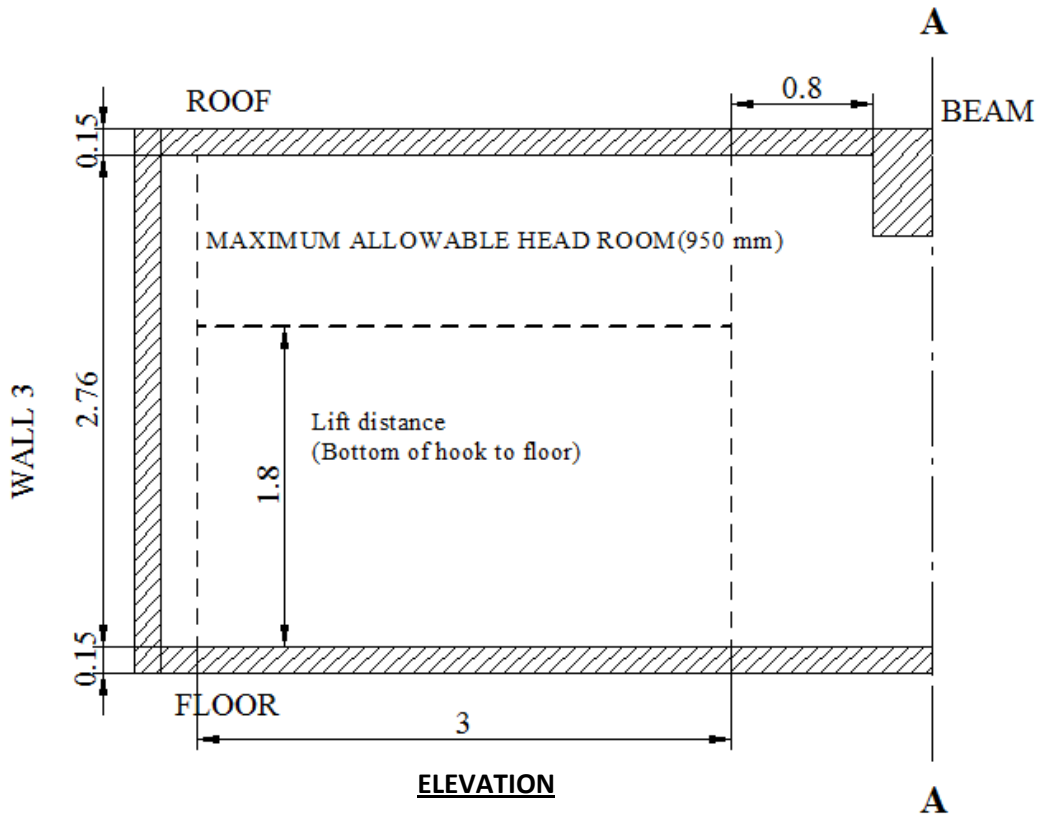

ELEVATION