**DEPARTMENT OF METALLURGICAL AND MATERIALS ENGINEERING**

**INDIAN INSTITUTE OF TECHNOLOGY MADRAS**

**CHENNAI 600 036**

October 30, 2012

**Prof. M. Kamaraj**

**Professor and Head**

**DUE DATE: November 15, 2012**

**4.00 pm**

To:

**Ref: MET/UDAY/2012/001 /SPL/MF**

Dear Sir/Madam,

Please provide your best quote for finite element method based software for metal forming simulation.

1. Last date for receipt of the complete technical and financial bids is **November 15, 2012**.
2. Technical and financial bids are to be submitted in separate sealed envelopes. The envelopes should be clearly marked as “Technical bid” and “Financial bid” respectively. Both the "Technical Bid" and "Financial Bid" should be put together in a larger sealed envelope and mailed to Head, Department of Metallurgical and Materials Engineering, IIT Madras, Chennai 600 036 by the due date. The words "Quotation for Metal Forming Simulation Software" should be written clearly on the front of the envelope.
3. Brochure detailing technical specifications and performance, list of industrial and educational establishments where such software have been supplied must be provided.
4. All quotations must be valid for a minimum of 60 days from the due date.
5. Compliancy certificate is to be provided indicating conformity to the technical specifications.
6. Cost of the product and applicable taxes are to be shown separately.
7. Excise duty % to be indicated, if any.
8. VAT % to be indicated, if any.
9. Warranty period must be clearly indicated; a minimum of 1 year warranty required.
10. Details of post warranty service/ annual maintenance contract is also to be indicated.

Thank you.

Yours sincerely,

Prof. M. Kamaraj

**DEPARTMENT OF METALLURGICAL AND MATERIALS ENGINEERING**

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**CHENNAI 600 036**

**Finite Element Method Based Software for Metal Forming Simulation**

**DUE DATE: November 15, 2012**

**4.00 pm**

**Technical Specifications**

**Ref: MET/UDAY/2012/001 /SPL/MF**

October 30, 2012

1. Metal-forming simulation software containing hexahedral and tetrahedral meshing technology
2. Should have both finite element and finite volume solver technology
3. Should be able to simulate a wide variety of processes like hot forging, cold forming, rolling, ring-rolling, cogging, spinning, extrusion, sheet-forming and joining
4. Should have coupled and de-coupled elastis-plastic analysis function for work piece and tools
5. Should be able to simulate a large number of tools
6. Should have an integrated 2D and 3D solution capability
7. Material damage/crack prediction using *Lemaitre, Cockroft*-*Latham and Gurson methods*
8. Should be able to handle multi-body deformable contact situation and self- material contact
9. Should have ready made examples which could be used for student learning
10. Should have both implicit and explicit solvers capable of being used simultaneously
11. Should be capable of handling large number of tool kinematics (preferentially unlimited)
12. Capable of performing rigid body movement
13. Minimum of 20 solvers
14. Pepetual license and 3 year AMC (preferable)