**INDIAN INSTITUTE OF TECHNOLOGY KANPUR** Tel.: +91 512 259 7697/7895
**Department of Chemical Engineering** E-mail:srisiva@iitk.ac.in

**Enquiry No.:** MSP/Head/09/2013
**Enquiry Date:** October 11, 2013
**Closing Date:** October 15, 2013

Sealed quotation(s) in Indian Rupees or USD with all technical details so as to reach latest by 3:00 PM on October 15, 2013 are invited for the supply of following items.

**Note: Price Bid and Technical bid should be provided separately with same date.**

## SPECIFICATIONS FOR MICROWAVE SYNTHESIS SYSTEM

1. System Specifications:-
   Magnetron Frequency: 2450 MHz
   Pressure: Monitor 0-35 Bar, control 0-20 Bar
   Temperature: ambient. To 300 Deg. C control range & must be upgradable for sub ambient temp (-80 to + 40 Deg)

1. Support synthesis of compounds in a sealed vial for volumes of upto 10ml and under **atmospheric conditions in round bottom flasks more than 100 ml with reflux facility**.
2. Single mode Focussed microwave applicator design which provides a uniform field with a high power output of 300 watts.
3. Power delivery system that automatically adjusts during the synthesis procedure for changes in the polar and/ or ionic properties of the reaction mixture.
4. In-Situ stirring system to affect the stirring of the reaction.
5. Non-invasive IR sensor for Temperature Measurement.
6. Allow the user to change all operating procedures in the midst of the run.
7. Ability for pressure measurement and feedback control. It must use a vent and re-seal technology that allows for safe venting for excessive pressure. The vial sealing system should provide a high pressure seal [>20 Bar (300psi)]
8. Automatic and safe relief of residual pressure, ability to normalize the reaction vial immediately after the reaction procedure concludes.
9. Removable, protective liner to handle spills in the cavity.
10. System Should be able to scale up to 80 ML Reaction Vial under Pressure
11. System must be able to perform hydrogenation reaction in the same system & accessory for the same to be offered optionally
12. System must be able to perform solid phase peptide synthesis , accessory to be offered optionally
13. Vials & Caps

a) For Pressurize reactions 10 ml : 100 nos 80 ml : 02 nos
b) Round bottom flask or more volume : 3 nos *

**Terms & Conditions:**

i. Price Bid and Technical bid should be provided separately with same date.
ii. Prices (FOB/ High Sea Sales) should include delivery upto nearest airport.
iii. Clearly state the CIF charges to IIT Kanpur and other taxes as applicable.
iv. Warranty should at least be for 1-3 years after installation.
v. Validity of quotation should be at least for 90 days.
vi. The delivery time should be clearly mentioned. Shorter delivery time may be given a preference.
vii. Technical specifications along with the extent of compliance should be in a separate envelope with proper labels on the envelopes.
viii. The delivery period should be specifically stated.

Kindly mention the enquiry number on the sealed envelope carrying the quotation.

The quotation/s may be submitted as per the attached format. Kindly send the sealed quotation(s) to the following address:

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