

MAHARSHI DAYANAND UNIVERSITY, ROHTAK
DEPARTMENT OF PHYSICS

Tender Notice

Sealed tenders are invited for purchase of Impedence Analyzer (01) Planetary Ball Mill (01) in the Department of Physics upto **12-10-2012** along with Demand Draft for prescribed Tender Fee as well as Demand Draft for the earnest money @ 2% of the quoted rates of the total amount favoring of Finance Officer, M.D. University, Rohtak. The detailed specifications, application procedure and terms and conditions visit University website www.mdurohtak.ac.in or Contact the Department office during working hours.

REGISTRAR

IMPEDANCE ANALYZER

SPECIFICATIONS:

- ❖ Test conditions :
 - a) Frequency range : 25 Hz to 115 MHz
 - b) Signal source impedance : 50 Ω nominal
 - c) AC drive level : 10 mV to 1V rms, 250 μ A to 25 mA rms
 - d) Basic accuracy : $\pm 0.05\%$
 - e) Frequency resolution : 1mHz.
 - f) DC bias : Internal DC Bias /D1 (Optional)
Voltage 0 to +35V dc Current 0 to +80 mA dc
Internal DC Bias /D2 (Optional) - 40V to + 40V.
- ❖ Measurement Parameters Ranges
 - a) C 1fF - 1F
 - b) G,Y,B 0.01nS - 2kS
 - c) D 0.0001 - 1000
 - d) R,Z,X 0.01 m Ω - 2G Ω
 - e) L 0.1nH - 2kH
 - f) Q 0.0001 - 1000
- ❖ Measurement parameters should include following:
Inductance (L), Capacitance (C), Conductance (G), Resistance (R), Reactance (X), Susceptance (B), Dissipation Factor (D), Phase Angle (\emptyset), Quality Factor (Q), Impedance (Z), Admittance (Y).
- ❖ Trace Setup :
 - a) Trace Style : Combined /Split
 - b) Trace Markers: 1 to 5
 - c) Data Curve Auto Fit facility
- ❖ Display: High contrast colour VGA TFT module with CPL back lighting, Touch screen interface.
- ❖ Mode of Operation:
 - a) Meter mode: Two user selectable component parameters should be displayed in single & repetitive mode.
 - b) Graphical Sweep / Analysis Mode: Two user selectable component parameters can be swept against frequency, AC drive level or DC Bias.
- ❖ Internal Memory: Min 15 to store setups locally for each mode separately.
- ❖ External Memory :
Should be able to save all measurement and setup data should be stored in USB flash memory.
Screenshot –Screen image (Meter/Analysis mode) .BMP format ,to USB memory with appreciate file name
- ❖ Measurement connections.
 - a) Four front panel BNC

- ❖ Equivalent circuit analysis should include various combinations of L, R, and C Accuracy of Set Frequency $\sim \pm 0.005\%$ and Frequency Step Size of ≤ 1 milli Hertz
- ❖ General requirements
 - a) Power Supply with Input voltage 100 V AC to 250 V AC (Auto ranging) and Mains frequency range 47 to 63 Hz.
 - b) Should have USB interface with minimum two Universal Serial Bus Interfaces USB 1.1 compliant, VGA interface Connector to drive an external monitor in addition to the instrument display and Ethernet controller RJ45 connector for network interface
 - c) Should have provision for Keyboard Mouse & GPIB interface
 - d) EMC should comply with EN61326 for emissions and immunity

Customary Accessories: Instruction Manual, AC Power cord and 4 terminal component fixture, Stylus / touch screen pen, Calibration conformity certificate

The accessories should include:

- 1) Solid Sample Holder - For Dielectric samples
- 2) Suitable Furnace – Room temperature -1000 °C
- 3) PID Temperature Controller – For controlling and holding temp.
- 4) PC Interfacing Hardware and Software - Parameters vs. frequency, Parameters vs temperature.
- 5) Trimming standards for HF Calibration

TERMS AND CONDITIONS OF THE TENDER FOR SUPPLY OF EQUIPMENTS

(Under DST FIST Project)

The equipment/s as per specification given overleaf /attached are to be purchased for the department under the DST FIST Project. You are requested to kindly quote your rates for the same. The following terms and condition for quoting the rate may kindly be kept in view while you do so.

1. All charges payable by University should clearly be stated.
2. Sealed quotations/ tenders should be addressed to the Head, Department of Physics, M. D. University, Rohtak and reach the office of the undersigned on or before 12.10.2012 quoting our reference and due date of opening on the envelope
3. The quotations/tenders should be submitted only if material is available in your ready stock or can be supplied within one month after the order is place. **The Tender should comprise of Technical Bid along with Demand Draft for Tender fee and earnest money in one sealed envelope and Financial Bid in other sealed envelope.**
4. The quotations/tenders will be opened in the office of the undersigned by the purchase committee on 15.10.2012 at 11:00 a.m. in the presence of the parties or their representatives whosoever like to be present. The Committee reserves the right for negotiation thereafter if considered necessary.

5. An amount of 2% of quoted amount only in the shape of bank draft in favour of Finance Office, M.D. University, Rohtak as earnest money should accompany the quotations/ tender, in absence of which the quotations/tenders will be entertained.
6. Tender received without earnest money or after due date shall not be entertained except with special approval of the Registrar. All rates should be quoted for 'FOR' Physics Department, M.D. University, Rohtak. The process of custom clearance will be the responsibility of the supplier. Charges such as transit insurance etc. should be mentioned separately, if any.
7. As far as possible, the rates should be quoted for the make and specifications of the items given. In case any alternative/equivalent item is offered its specification and leaflets may be sent with the tenders/quotations. The sample of material should accompany the tender/ quotations for records.
8. Guarantee/warranty period for equipments should be clearly specified/ mentioned. The AMC charges/ year should be quoted separately.
9. The payment can be made in foreign currency/T.T. as per rules. 100% percent payment will be made on the receipt and inspection of goods/items to ensure the specifications and their good conditions by the inspection Committee. However, this condition may be relaxed in deserving cases.
10. If your rates are approved by the DGS&D and other central or state Agency, the rates of the same must be quoted and the copy of the rate contract be attached.
11. Tender must be submitted by either manufacturer or their authorized dealer/distributors. Authorization letter in proper format must be attached with tender otherwise bids will not be considered. Authorization letter should be on Letter Head of manufacturer and should be signed and stamped. Tenders from dealers will be rejected without proper authorization letter from the manufacturers.
12. The University stands exempted from the payment of Central Excise Duty/Custom Duty. The rates be quoted keeping that fact in view, Necessary certificate will be provided by the University.
13. If a holiday occurs on the opening day, the tenders will be opened on the next working day.
14. The tenders received not in proper sealed cover shall not be considered and will be liable for rejection in a straightway.
15. In the case contractor/supplier backs out of his contract, the earnest money deposited by him shall be forfeited besides any other action as may be considered by the Vice-Chancellor.
16. Dispute if any, will be subject to Rohtak jurisdiction.
17. The University reserves the right to reject any or all quotations/tenders without assigning any reason thereof.

Head,
Department of Physics

Planetary Ball Mill

Specifications:

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|--------------------------------|--|
| 1. Type: | Planetary Ball Mill |
| 2. Purpose: | For grinding materials like Rocks, Minerals, Sand, Stem of sediment, sand soil, Iron Ore, Iron Oxide, Ferrite, Brittle alloys, Graphite etc. |
| 3. Input product size: | ~ 5 mm |
| 4. Out put product size: | Less than 1 Micron (Depending on Material to be ground). |
| 5. Number of Sample Holders: | 4 Nos. on Rotating Table. |
| 6. Number of Grinding Balls: | 100 |
| 7. Diameter of Grinding Balls: | 10 mm |
| 8. Table speed: | up 400 R.P.M. Continuously Variable. |
| 9. Table Speed Indicator: | Digital display. |
| 10. Number of Bowls: | 2 Nos. |
| 11. Size of Bowl: | (250 ml) with safety locks |
| 12. Material of Bowl with Lid: | Tungsten Carbide (TC) |
| 13. Material of Grinding Ball: | Tungsten Carbide (TC) |
| 14. Timer: | 1-999 Min. With digital display (Programmable). |
| 15. Motor & Drive: | AC motor with Variable speed AC Frequency control
Microprocessor based drive. |
| 16. Power Supply: | 230 V AC. |
| 17. Safety Features : | Door Switch for Machine, Current Over Load Safety for
Motor Protection, |
| 18. Type of mounting: | Capable of operating on a platform /Floor mountable. |
| 19. Warrantee: | 3 years |

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