30/08/2013

# INDIAN INSTITUTE OF TECHNOLOGY KANPUR IIT Post office, Kanpur 208016, U.P Department of Physics

Dr. Soumik Mukhopadhyay Department of Physics I.I.T. Kanpur Kanpur 208016, U.P.

e-mail: soumikm@iitk.ac.in

Enquiry no.: PHY/MSC LAB/2013-14/EQP/2

Enquiry date: 30.08.2013 Closing date: 12.09.2013

Sealed quotations should reach the undersigned latest by 4.00 pm on 12<sup>th</sup> September, 2013 for the following items:

S.N	pariculars	Qty. Required	Remarks
1	Electron spin resonance spectrometer	03	Details given
	complete setup		below
2	DPPH samples	03	-do-
3	Nuclear Magnetic resonance complete	02	-do-
	experimental setup		
4	NMR samples(Set of 05 different samples in	02	-do-
	NMR tubes)		

## **Technical Specification/Features:**

## **Electron spin resonance**

- •Consists of Electron spin resonance spectrometer unit.
- •Helmholtz coil having DPPH sample.
- •Digital display of Helmoltz Coil Current
- Helmholtz coils with an attachment for the ESR-HC.
- ESR Sample : DPPH.
- FET based marginal R.F. Oscillator (10MHz to 19MHz)
- •Digital display of frequency. Excellent peaks display
- •Compatible with general purpose CRO in X-Y mode
- •The instrument is basically designed for postgraduate laboratories keeping in view their requirements and limitations.
- •The observation of ESR at low magnetic fields and consequently in radio-frequency region.
- •The spectrometer should complete in all respects including a sample DPPH (except a CRO).

## Nuclear Magnetic resonance complete experimental setup consist of:

- Nuclear magnetic resonance unit with NMR probe with a facility to hold NMR tube containing samples (10MHz to 19MHz)
- NMR tubes having NMR samples
- FET based marginal R.F. Oscillator (10MHz to 19MHz).

- Electromagnet, to generate magnetic field upto 10KG.
- Power supply for electromagnet.
- Gauss meter with probe
- AC Sweep unit for oscillating field (0-7v)
- The instrument is basically designed only for postgraduate laboratories keeping in view their requirements and limitations.

## **Terms and conditions:**

- Quotations should have a validity of a minimum of 60 days.
- All the equipment should be provided with a replacement warranty of 1 year against manufacturing defects.
- All the parts should be replaced free of cost in case of any damage in transit / deviation from specifications.
- Maximum possible educational discount should be specified on the quotation since all are for teaching purposes.
- Quotations are required in a sealed envelope with enquiry number mentioned on the envelope.
- Quantity of items may vary (increase/decrease) in order.
- The delivery period should be within 60 days of placing the purchase order.
- The rate offered should be F.O.R Kanpur for firms located outside Kanpur and free delivery at the Institute premises for local firms.
- Institute is exempted from payment of E. Duty under notification no.10/97
- Institute is entitled to avail concession rate of sales tax as admissible under Sub-sec 5 of Sec 8 C.S.T Act 1956 applicable to Educational/Research institution in inter-state purchase.