

PURCHASE ORDER

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To

M/s ADVANCE TECH INTERNATIONAL FZE  
P.O.BOX NO. 8877 SAIF ZONE Sharjah, UAE

THROUGH

M/s CANBERRA  
1 rue des Herons-78182 ST QUENTIN YVELINEX  
Cedex, France

REF: E-TENDER No.MLSU/PHYSICS/FIST/2014/ET-1 Item 3. Digital Spectrum Analyser and HPGE detector

Dear Sir,

With reference to the offer Canberra /MLSU/IND/QUO6019-6028 Dated Septemebr 26,2014 against teh above cited E-tender ,We are pleased to place an order for supply of CANBERRA MAKE Digital Spectrum Analyser and HP GE detector as per following details:

Sno	Item	Qty	Cost(CIP Cost at Delhi Airport)
1	Canberra Make Low Energy High Purity Germanium Detector (HPGE) GL 0210-DET with Flanged Horizontal Dipstick Cryostat Dewar (30 LITER C-30 RTV Collar Final assembly Cryostat Dipstick final assembly 7600-0 chamber Planar STD 20Sqm with ALU endcap beryllium Window 3.00 diam 2002CP Preaap. LEGE DETECTOR CP COLD PA ASSEMBLY 2 RCP PREAMP 10 FT Cable Set Resolution @5.9Kev-170 ev (At optimum Settings) FWHM @122Kev=520 ev (As per technical Specifications given below)	One	US\$14435.00
2	Canberra Make Digital Signal Analyser DSA-LX (As per technical Specifications given below)	One	US\$ 8775.00
3	GENIE-2000 BASIC -1 INPUT Basic Spectroscopy Software	One	Included
	TOTAL		US\$ 23210.00

## Technical Specifications of the Equipment

1. Supply, installation, performance and demonstration of Digital Spectrum Analyzer and High Purity Germanium Detector with at the Department of Physics, Mohanlal Sukhadia University, Udaipur

The equipments must have following specifications

## 1. LOW ENERGY HIGH PURITY GERMANIUM DETECTOR (HPGe)

- 1.1 Active Crystal Area: 200 mm<sup>2</sup>
- 1.2 Thickness: 10 mm
- 1.3 Be-window thickness: approx. 6 mil
- 1.4 End cap dimensions: 3 inch diameter (fixed)
- 1.5 Guaranteed Resolution (FWHM): 175 eV at 5.9 keV  
520 eV at 122 keV
- 1.6 Preamplifier with cooled FET bias signal and power cable (at least 10 ft.),
- 1.7 Flanged Horizontal Dipstick Cryostat (with detector capsule mounted horizontally at the top of dewar) with Liquid Nitrogen Dewar (Approx. 30 liter).
- 1.8 With manuals and connecting cables, etc.

## 2. SPECTRUM ANALYZER

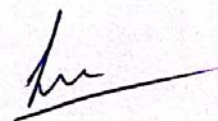
Integrated MCA based on Digital Signal Processing with following specifications:

- 2.1 16K or higher channel spectral memory
  - 2.2 Multi-range high voltage power supply for HPGe detector
  - 2.3 Amplifier Input should accept positive or negative signal from Detector Pre-amplifier
  - 2.4 Digital (spectrum) stabilizer
  - 2.5 USB and RS serial interfaces
  - 2.6 PHA and MCS modes
  - 2.7 Real time display of dead time
  - 2.8 Programmable control of Gain, MCA input Size LLD, ULD, Shaping Pole Zero,
  - 2.9 Pileup Rejection, Dwell time, High voltage settings, Signal processing
  - 2.30 Data Acquisition
  - 2.31 Manuals with connecting cables.
  - 2.32 Should be compatible with low-energy high purity Germanium detector.
  - 2.33 Gamma Spectrum Analysis SOFTWARE to control data from Spectrum Analyzer
- facilitating: Acquisition control for MCA and spectrum analysis, MCA display, peak search and calibration, etc., Batch and interactive operations, Data saving and printing option, etc., Operation manual, license, etc.

The equipment must be installed and performance including Stability, resolution/sensitivity, reproducibility of measured data must be demonstrated by making measurement of samples provided by the university.

### Terms and conditions:

1. The supply, installation and commission of the equipment must be made as per terms and conditions of the E-tender



2. A Performa Invoice must be submitted for the equipment to enable opening of Letter of credit.

3. The firm will be required to submit an agreement (available on web site [www.mlsu.ac.in](http://www.mlsu.ac.in)) on a Non-Judicial Stamp paper agreeing to supply and install the equipment and demonstrate the performance as per terms and conditions of the tender as per specifications of the equipment and also required to submit a Bank Guarantee/Demand Draft for 5% of the cost of the equipment Rs. 71,168/- on or before ~~1-12-2014~~ 8-12-2014 *lu*

4. The equipment must be supplied within a period three months from the date of opening of Letter of credit.

*Lakshmi*

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