

## Tender Document

**Doctor Hari Singh Gour Vishwavidyalaya**  
(A Central University)  
Sagar-470003, M.P., India

### SCHEDULE OF TERMS & CONDITIONS

No.DHSGV/Purchase/Chemistry/DST/SR/NM-1105/2012/2014

Dated: 15/12/2014

**Subject:** Supply of sophisticated equipments as per the technical details and specifications as given below:-

--- 0 ---

### Schedule of Requirements

Sealed bids are invited in a 'Two-Bid-System' (Techno Commercial Un-Priced & Priced Bids) for supply of sophisticated equipments to the University as per the technical details and specifications given below:

#### A. List of Equipments

S. No.	Name of the Equipments	
1	Freeze Dryer	
2	Electrochemical Work station/Potentiostat Galvanostat	
3	BET Surface Area Analyzer	

## 1. Freeze dryer 4.5 Litres capacity with condenser temperature of - 84°C.

The instrument should be used for different purposes including pharmaceutical, biochemistry, microbiology, nanotechnology and biotechnological applications (for concentration and long term preservation of samples or to increase the shelf life of the products like injectibles, vaccines), food industry (to preserve food products), bioseparations (for late stage purification), microbiology (for preserving the strains) and preservation and storage of biological and thermo labile samples.

It should have a upright stainless steel condenser chamber with collector coil to trap the moisture of the sample with Holding capacity 4.5 Liters of ice before defrosting. Apart from aqueous sample, the machine works efficiently for low Eutectic point compounds.

### Specifications

1. 12 port stainless steel drying chamber for connecting upto 12 flasks or vials/ampules for freeze drying purpose.
2. Rotary vane Vacuum pump with displacement capacity of 98L/min.
3. Upright stainless steel collector coil capable of removing over 4 liters of water in 24 hours and holding 4.5 liters of ice before defrosting.
4. Dual 1/3 hp HCFC/CFC-free refrigeration system to cool collector to -84°C ( - 119° F).
5. **12-port stainless steel drying chamber included.**
6. Compact benchtop design with a small footprint.
7. Brushed stainless steel and glacier white, epoxy-coated Steel exterior with blue accents.
8. LCD that displays system operating parameters, set Up parameters and alarm messages. **It may be user Configured to display vacuum in mBar, Pa or Torr & Temperature in ° F or ° C.**

### Alarm system ( Audible and visual ) for :-

1. **Improper line voltage supply**
2. **Collector temperature rise above -40° C**
3. **Service vacuum pump (after 1000 hours of vacuum use).**
4. **Automatic signal for pump servicing (after 1000 hours of working of Pump).**
5. **Moisture in collector.**
6. **Power failure**

**Vacuum break valve** that bleeds air into the system when power to the freeze dryer or vacuum pump is shut off. (If a power outage less than approximately 5 minutes occurs, the freeze dryer will restart and the refrigeration and vacuum system will resume operation)

once power is restored. If the power failure is more than approximately 5 minutes and the collector warms above safe limits, the freeze dryer will not automatically restart.)

***Protects the system from oil back-streaming during power outage. Very useful, where power back-up is provided by generator or UPS, so the user don't have to attend the machine whole night to switch on the machine manually. Pressing the menu Switch displays the alarm message.***

**. Vacuum control to maintain set point vacuum level.**

System should have the vacuum control and can set the vacuum as per the EUTECTIC point of the solvent to be freeze dried and which finally *helps in achieving much faster freeze drying rate depending upon the eutectic point of a particular sample .*

**Moisture sensor to prevent refrigeration or vacuum start up when moisture is detected in the collector chamber area.**

**Separate graphical and wave display**

*LED "waves" illuminate amber when vacuum and temperature levels are out of range for adding samples. Green LED lights indicate that conditions are right to add samples.*

**Rear-mounted RS-232 port** to transmit data to a user-supplied computer. Transmission intervals may be user configured for 10, 30, 60, 300 or 600 seconds.

Automatic start-up switch for collector cool down and vacuum pull down with manual override switches.

Side-mounted, retractable, 9" collector drain line.

Clear acrylic lid, 3 /4" thick, with 3" diameter port for connection of drying chamber.

Side-mounted power switch and rear-mounted electrical receptacle (for vacuum pump connection ).

Automatic start-up switch for collector cool down and vacuum pull down with manual override switches.

Side-mounted, retractable, 9" collector drain line.

Clear acrylic lid, 3 /4" thick, with 3" diameter port for connection of drying chamber.

Side-mounted power switch and rear-mounted electrical receptacle ( for vacuum pump connection ).

**12 Port Drying Chamber**

Allows connection of flasks as well as vials/ ampules to the freeze drying system & also has the option to use 3 tier shelves inside the chamber to accommodate bulk samples on petri plates/ trays.

## Rotary Vane Vacuum Pump

- \_ **Displacement capacity – 98 L/ minute**
- \_ **Ultimate vacuum (partial pressure)**  
**2 x 10<sup>-3</sup> mbar (1.5 micron)**
- \_ On/ off switch
- \_ Two inlet adapters (1/2" and 3/4" OD)
- \_ Mode selector with two positions: High vacuum and high throughput
- \_ Gas ballast with three position : Closed,  
Low Flow and High flow.
- \_ Single phase direct drive motor, totally enclosed and Fan cooled. Should the motor overheat, the thermal Overload device switches off the pump. When the pump Cools down, the motor automatically restarts.
- \_ Isolation valve seals the inlet to prevent oil and air Contamination of the system in the event of power failure.
- \_ Cast aluminum casting and rubber feet.
- \_ Retractable lifting handles.
- \_ Includes four each one liter bottles of vacuum pump oil and one exhaust filter with oil mist and odor filter elements. **Ten litres oil to be supplied with pump.**

The should system come with

**300 ml, 600 ml wide mouth ,flat bottom flasks with adapters Flasks ( 6 number each) with straight adapter steel and other important accessories required.**

**Battery/UPS:** 5 KVA with 30min Back up. Maintenance free Battery Life span of battery will be 5 years

**Installation and Training:** FREE OF CHARGE

with furniture/Tables/electric wiring

## 2. Electrochemical work station/Potentiostat Galvanostat

### Specifications:

#### The machine/system should have

Maximum Compliance Voltage:  $\pm 30$ Volts or better at  $\pm 2$ A

Maximum Output Voltage:  $\pm 10$  Volts

Measured Voltage Resolution:  $30\mu\text{V}$

Maximum output current:  $\pm 2$ A

Measured current resolution at  $10\text{nA}$  range:  $30\text{ fA}$

Potentiostat bandwidth (at  $1\text{ k}\Omega$ ,  $1\text{ mA}$ ):  $1\text{ MHz}$

Potentiostat rise/fall time ( $1\text{ V}$  step, 10-90%):  $< 250\text{ ns}$

Input impedance of electrometer:  $> 1\text{ T}\Omega$  //  $8\text{ pF}$

Input bias current @ $25^\circ\text{C}$ :  $< 1\text{ pA}$

Bandwidth of electrometer:  $> 4\text{ MHz}$

iR - Compensation: iR compensation using current interrupt, and positive feed back is standard feature

A/D converter: 16 bit gains of 1, 10 & 100; D/A converter: 16 bit 4 ch.

External input signals: 2; Digital I/O lines: 48

#### **Software:**

The System should have the software with powerful graphic engine. It has useful features such as individual axis scaling, overlays, multiple Y axes, plot addition, zooming and rotation. It is possible to save each plot as an image file so as to use directly in paper or presentation. It has sound database structure geared with powerful data analysis tool. It is supplied with inbuilt electrochemical spread sheet. User can generate new data set based on his own formulae to create new plots.

The system should have to run all the following electrochemical techniques

#### **Voltammetry:**

- Cyclic & Linear Sweep Voltammetry, Impedance spectroscopy, Supercapacitors,
- Sampled DC - Voltammetry, Normal pulse, differential pulse and Differential normal pulse Voltammetry, Square wave voltammetry, AC - Voltammetry with the possibility to measure the second harmonic.
- Staircase potentiostatic and galvanostatic voltammetry

#### **Chrono Methods:**

- Chrono - amperometry chronocoulometry and chrono potentiometry
- Measurements rates up to  $50\text{ kHz}$  with the standard instrument.
- Measurements at or with respect to the open circuit potential

#### **Other Electrochemical Techniques:**

- DC and differential pulse amperometry
- Potentiometric Stripping
- Current and Potential Noise measurements, at open circuit
- A sequence of up to 10 potential steps and linear sweeps can be combined to program complex wave forms.

### **Software Data Analysis:**

The list below gives a short overview of available data analysis options.

- Automatic or interactive peak search
- linear exponential and polynomial baseline correction
- Linear Regression
- Smoothing : FFT and weighted moving average
- Convolution and deconvolution
- Fitting and simulation of voltammograms
- Kinetic and wavelog analysis for s - shaped voltammograms
- Automatic corrosion rate and polarization resistance determination using Tafel Plots
- Fourier transformation and many more

### **FRA module and software for EIS measurements 1 10,190.00 10,190.00**

Electrochemical impedance spectroscopy (EIS) is a powerful technique for the characterization of electrochemical systems. It has widespread use in a large number of applications. The Autolab users can perform EIS measurements with the FRA32M module in potentiostatic and galvanostatic control, over a wide frequency range of 10  $\mu$ Hz to 1 MHz. In addition to the classical EIS, the NOVA software also allows the users to modulate other outside signals such as rotation speed of a rotating disk electrode or the intensity of a light source to perform Electrohydrodynamic or Photomodulated impedance spectroscopy. The FRA32M module comes with a powerful fit and simulation software for the analysis of impedance data.

Application areas: Analytical electrochemistry, Battery, fuel cells and super-capacitor, Biotechnology, Chemical Mechanical Polishing (CMP), Coatings research (organic and inorganic), Conducting polymers and membranes, Corrosion prevention/control, Dielectric materials, Electrocatalysis, Electrodeposition, Materials analysis and testing, Nanotechnology, Semiconductor, Sensor development

### **Frequency range 10 $\mu$ Hz - 32 MHz, Frequency range in 10 $\mu$ Hz - 1 MHz combination with PGSTAT**

Frequency resolution 0.003%, Input range  $\pm$  10 V, Signal types 1 sine, 5 sine, 15 sine, Input channels E and I from the potentiostat/galvanostat or X and Y external signals, AC amplitude 0.2 mV to 0.35 V rms in potentiostatic mode, 2 mV to 3.5 V rms (optional) 0.0002 - 0.35 times current range in galvanostatic mode.

**Data presentation:** Nyquist, Bode, Admittance, Dielectric, Mott- Schottky,

**Data analysis:** Fit and Simulation, Find circle, Element subtraction, Kramers-Kronig. Graphical equivalent circuit in software.

## **Impedence analysis**

The module should be with a powerful fit and simulation softwares for the analysis of impedance data.

**Basic Electrochemical Cell Setup**, Normal glass cell, Base plate with stand rod, Cell vessel(20-90ml), Cell vessel lid with sleeve, Mounting ring, stopper, Ag/AgCl Ref. Electrode with double junction, Calomal reference electrode, Pt wire counter electrode, 2,3,&5 mm diameter, 3.0 mm Au electrode tip, 3.0 Ag electrode tip, gas inlet & overflow glass tube ( all one each), Glassy carbon(GC) electrode 2,3,& 5 mm diameter/tip(two each), Glassy carbon rod(two), Policing set (0.3  $\mu$  grain size) Al<sub>2</sub>O<sub>3</sub> (two).

And other accessories needed if budget permits

Latest computer i-5, 4<sup>th</sup> Generation, 4 GB RAM, 1000GBHDD, 1GB Graphics, Latest Window software with Laser printer 1536DNF should be supplied.

Air Conditioner: 1.5 Tone of split AC with accessories and fitting

**Installation and Training: FREE OF CHARGE**

With furniture/Tables/electric wiring etc.

### 3. BET Surface Area Analyzer

#### Specifications for Surface area analysis instrument (Pysisorption) with Chemisorption and TPD/TPR/TPO Capabilities :

	<b>Parameter</b>	<b>Specifications:</b> Equipment should have all features with Microprocessor controlled automated Gas Sorption analyzer with all accessories (with Data collection and application and Instrument operation software and other softwares. )
<b>1</b>	<b>PHYSISORPTION</b>	
a)	<b>Surface Area</b>	The unit should have the capability of carrying out physisorption of various gases and should have features to measure the adsorption / desorption isotherms, surface area (langmuir, BET), pore size, pore volume and micro pore distribution. It should have atleast two sample simultaneous measurement. The system should be capable of measuring surface area in the range of 0.01 m <sup>2</sup> /g to no known upper limit (nitrogen ) and 0.0005 m <sup>2</sup> /g to no known upper limit (krypton)
b)	<b>Pore Diameter</b>	The system should be capable of measuring pore diameter in the range of 3.5-5000 A and micropore volume detectable within the range of 0.0001 cc/g or lesser.
c)	<b>Analysis Station</b>	The system should have minimum two or more analysis station with micropore pore facility
d)	<b>Adsorbates</b>	The system should be designed to use gases like, CH <sub>4</sub> N <sub>2</sub> CO <sub>2</sub> H <sub>2</sub> , CO, NH <sub>3</sub> etc. the quoted systems should have at least Five gas inlet ports or more.
e)	<b>Vapour adsorption</b>	The system manifold should be temperature monitored and designed with corrosive resistant material and should have option to do vapour adsorption atleast at one port or more.
f)	<b>Pressure Transducers</b>	The system should be equipped with pressure transducers in different ranges like 1000 mmHg, 10 mm Hg and 0.1 mmHg. The system should enable full range adsorption measurement, including micropore measurement. The pressure transducers should have high resolution and accuracy with high stability. The

		offer should provide the resolution and accuracy data of these transducers. It should have dedicated Po transducer.
g)	<b>Analysis Capability</b>	The system should have facility for, <b>Isotherms:</b> Up to 1000 data points (per station), adsorption and/or desorption.Hysteresis scanning. <b>Surface Area:</b> BET, Langmuir, STSA, DFT, BJH <b>Micropores:</b> NLDFT, QSDFT, Monte-Carlo, t-plot, alpha-s method, MP method, DR & DA methods. <b>Mesopores:</b> NLDFT, BJH, DH also it should have Total pore volume and average pore size.Automatic BET point selector for microporous materials.
h)	<b>Degassing facility</b>	At least two or more vacuum degassing stations, each consisting of sample port, heating mantle with over-temperature protection, PC programmable ramp / hold / test protocols. Degas ports should be served by the dry turbo vacuum system, and a dedicated cold trap.Temperature range ambient to 450° C. Temperature accuracy $\pm 1\%$ of set point at thermocouple
i)	<b>Other facility</b>	The system should have features for automated real time free space measurement. The design of unit should ensure isothermal conditions during the sample analysis. It should have Liquid Nitrogen level sensor. Dewar flask for liquid nitrogen should be provided with the offer. Certified reference standards to be supplied for while making adsorption studies. The system should have provisions for at least 5 gas inlets or more.
<b>2</b>	<b>CHEMISORPTION</b>	
a)	<b>Analysis Station</b>	The system should have One pretreatment / analysis station consisting of a sample port, a high-temperature furnace, furnace controller, automatic isolation / vent valve
b)	<b>Treatment and Method</b>	System should allows uninterrupted, single or repeated cycles of same or different treatments and analyses with user selectable program variables such as: method type, method order, temperature ramp rate, temperature set point, time, out-gassing rate, and gas switching.
c)	<b>Furnace Temperature Range</b>	Ambient +10°C to 1100°C

d)	<b>Temperature Ramp Rates</b>	1°C - 50°C / minute
e)	<b>Furnace Cooling</b>	Active cooling using built-in fan
f)	<b>Sample Tube</b>	Flow through sample tubes of appropriate design and associated accessories like quartz wool etc for handling powders and extralites should be provided
g)	<b>Gases</b>	The system should be designed to use gases like N <sub>2</sub> CO <sub>2</sub> H <sub>2</sub> , CO, NH <sub>3</sub> etc
a)	<b>Facility</b>	System should have built-in thermal conductivity detector with cold trap to expand chemisorption measurement from static volumetric to flow-based methods including  TPR: Temp Programmed Reduction TPD: Temp Programmed Desorption TPO: Temp Programmed Oxidation & metal surface area measurements through pulse titration
b)	<b>Mass Spectrometer</b>	The system should have facility to upgrade for Mass Spectrometer
c)	<b>PC interface, Data analysis and software features</b>	The system should controlled through LATEST windows based software. Calibration routines to be controlled by the software. Features for creation of methods for measuring the adsorption/desorption isotherms. The software should have built in features for automatic start up and shut down procedures, real time display of the sample analysis progress. The software should have all the data handling features like user defined report generation, data/figures export to spreadsheets, offline data processing etc.
d)	<b>Standards</b>	Suitable performance evaluation standard for Surface area and chemisorptions should be included in the offer.
e)	<b>Gas Cylinder &amp; regulators</b>	Gas cylinders must be 99.999% ultra high purity with two stage gas regulators. Nitrogen, Helium, Hydrogen, CO <sub>2</sub> and Argon should be supplied.
f)	<b>Liquid Nitrogen</b>	30 Liters of liquid Nitrogen container with N <sub>2</sub> gas should be supplied.
g)	<b>Computer</b>	Latest computer i-5, 4 <sup>th</sup> Generation, 4 GB RAM, 1000GBHDD, 1GB Graphics, with latest window based software and antivirus with Laser printer 1536DNF should be supplied.
h)	<b>Warranty &amp; training</b>	As per rule.

i	<b>Split Air Conditioner 2 Ton capacity(3 /5 star) with installation/filling</b>	Warranty, as per rule
j	<b>10 KV on line UPS with transformer for single phase AC input and output Along with batteries, back up time;2hrs with fillting/electric wiring &amp; installation</b>	Warranty, as per rule
k	<b>Air Curtain, Size 4.5 feets, Air Velocity: 18-20 Mtr per second with sensor for auto on/off, Including installation + power points and wiring.</b>	Warranty as per rule
l	<b>Installation &amp;Training with furniture/electric wiring</b>	Free of Charge

1. Built-in TCD, Cold Trap & Injection Loop: For automatic TPR, TPO, TPD studies, and automatic pulse titration. Features ammonia and oxidation resistant filaments, cold trap tube and dewar with by pass valve, automatic injection valve and loops.
2. Second XR (Physisorption) Analysis Station: Sample cell port served by its own dosing manifold with 0.1 torr, 10 torr and 1000 torr transducers
3. Vapor Option: factory installed full vapor capability includes vapor source, pump ballast solenoid valve, and heated manifold (50°C).
4. Recirculating Dewar Kit: includes double-wall dewar, holder and water level sensor. Recommended for use with vapor option and for CO<sub>2</sub>/0°C applications
5. Thermoelectric Chiller. Provides user selection and thermo statting of analysis temperature -5 to 65degC Range

### **Details of the softwares used:**

(The **system** has a built-in microprocessor capable of performing all programmed instrument functions during analysis. A PC running software is only required for initialization and transfer of data from the instrument to the PC at the end of analysis.

The PC can be turned off or used for other tasks during an analysis. If the PC is left connected with software running, it will allow constant instrument monitoring, transfer

and review of data during analysis, and automation report generation at conclusion of BET range or entire analysis. It should

- Operates under Windows® 2000, XP, VISTA and Windows 7 or Windows 8.
- Installable on multiple PCs (“Site license”)
- Communicates via Ethernet (direct connection or via LAN)
- Log feature stores record of instrument actions, pressure values and time, to file.
- Customizable plot colors, scales, markers etc.
- Context sensitive menus.
- Manual mode )

**Accessories (Each one in number)**

1. 50 Litres Liquid Nitrogen Container filled with liquid N<sub>2</sub>
2. Liquid N<sub>2</sub> cylinder of capacity of 10 L & 20 L filled with liquid N<sub>2</sub>.
3. N<sub>2</sub> Gas Cylinder with Two stage cylinder regulator with N<sub>2</sub> gas
4. He Gas Cylinder with Two stage cylinder regulator with He gas
5. CO<sub>2</sub> Gas Cylinder with Two stage cylinder regulator with CO<sub>2</sub> gas.
6. H<sub>2</sub> Gas Cylinder with Two stage cylinder regulator.

## **I. Terms, Conditions and General Information:**

1. Last date and time of receipt of Tenders: **Monday, 05/01/2015 (3.00PM)**
2. Date & Time of opening of Tender: **Tuesday, 06/01/2015 (3.00PM)**
3. **Tender Document Fee: Rs. 2500/- and Processing Fee: Rs 5000/- (Non refundable)**

### **Earnest**

**Money Deposit: 2% of the price quoted** by the bidder for each equipment in favour of Registrar, Dr. Hari Singh Gour University, Sagar (M.P.)

4. **Purchase of Tender Document:** Tender document may be downloaded from the University website [www.dhgsu.ac.in](http://www.dhgsu.ac.in) or can be purchased before 05/01/2015 **(3.00pm)** from the Office of Dean, Research & Development, Admn. Building, Dr. H S Gour University, Sagar on payment of fee as specified above. Tender document downloaded from the website should be accompanied with the tender document fee, in the form of Demand Draft, failing which bid will be rejected.

5. 'Two-Bid-Systems' have to be strictly followed. (One for Technical Bid and another for Commercial

Bid *in separate covers*).

6. The University shall not be responsible for any delay/loss or non-receipt of tenders by post / courier service.

7. No unsolicited correspondence shall be entertained after submission of the offer.

8. **Bidder must sign and stamp all the pages of tender document and supporting documents towards acceptance of the terms and conditions of the tender.**

9. Tender Document Fee, Processing Fee and EMD, as specified, be remitted **separately for each equipment**, failing which bid will be rejected.

10. Tender Document Fee and Processing Fee must be enclosed with the Technical Bid and **EMD with the Commercial Bid**. Bids without EMD will summarily be rejected

11. **Quoting merely the lowest price does not confirm any right to any bidder for award of supply order. The University's Purchase Committee, reserves the right to select the equipment from any bid, ever after opening the financial bid, under the grounds of specification compliance, technologically advanced quality, proven performance track record, brand reputation, service backup support, additional warranty, offer of additional/special features, compatibility with existing system, training, etc.**

12. Tender is not transferable.

13. Tenders received through Fax/e-mail will **not** be accepted.

14. Separate Bids for each equipment, complete in all respects superscribing the envelope

'Tender for .....' Item No.....must reach the Head, Department of Chemistry, **DST(Nanomission)Project, Dr. Harisingh Gour University, Sagar-470003(M.P.)** on or before **05/01/2015 (3.00pm)**. Bids received late shall not be entertained.

15. **Price Schedule:** Price should include the Delivery, installation, commissioning, training charges (if any), etc. at the University. The prices quoted shall remain final until equipment is supplied to the University.

16. **Quoting the Core price & Tax, Duties, Discount etc.;** Taxes / duties /discounts, if applicable, are to be explicitly and separately shown in the bid.

17. **Eligibility:** The OEM or their authorized dealer must have requisite domain expertise with regard to supply, installation and post-sale service of the equipment. The OEM or their authorized dealer should have been in existence for at least six years as on the date of this tender and must have executed at least three orders for this kind of equipment during the last three years.

18. **Warranty:** Equipment covered under this tender, when purchased and installed, shall be warranted for the quality, workmanship, trouble free operation and performance for a period of at least **36 (Three years) months from the date of putting the system into operation at the University**, or at least 42 months from the date of receipt of the last lot of the consignment in India. If any item warranty fails, the same shall be replaced free of cost including all the applicable charges including shipping cost both ways. (A signed Bidder's Warranty as per **ANNEXURE-IV** has to be submitted along with the Bid Document). However, it shall be obligatory on the part of the OEM/Bidder to extend the support for atleast next five years after the warranty period.

19. The information pertaining to infra-structural, power and any other requirement for satisfactory installation and commissioning of the whole system must be provided by the bidder, at least 120 days in advance of the installation to be commenced if purchase order is issued. All drawings for electrical connections, electrical safety items piping work etc. must be provided in detail.

20. Complete technical specifications and literature, including process flow, to be included with the quotation. Manufacturers of various major parts/equipment must be mentioned explicitly.

21. A clear statement regarding availability of after-sales service and availability of spare parts for next 5 to 10 years should be included.

22. A recent customer list (within last five years) with contact details including email address is to be submitted with technical bid.

23. If the bidder is an authorized representative in India, they are required to inform their technical ability to take care of the problems in the system, if developed later within the

warranty and outside the warranty period. **The responsibility of the Indian agent must be clearly specified.**

24. Bidder from abroad shall obtain, if required, export permission from the appropriate authorities in his country or the country of origin for items to be shipped to India in case of items to be imported. The University shall provide necessary information if required for this purpose.

25. Equipment must operate at 230V/50 Hz single phase and / or equivalent three phase electrical power.

26. The validity of the quotation should be at least 180 days from the closing date of bid.

27. If an order is placed with the firm, the purchase shall be governed by an agreement as per the University rules in force at the time.

28. To safe guard the interests of the University, additional terms & conditions will be incorporated in the purchase order, if needed.

29. **Dispute:** In case of any dispute in respect of the tender, all legal matters shall be instituted within the jurisdiction of the place where the purchaser ordinarily resides.

30. **Power to reject the offer:** The University reserves the right to accept /reject any offer in full or in part or accept any offer other than the lowest offer at any stage without assigning any reason thereof. Any offer containing incorrect and incomplete information shall be liable for rejection.

31. **Liquidated damages:** Timely supply of the ordered items, installation, commissioning (wherever is applicable) and training etc. is the essence of the contract. In case of failure to supply within the time specified in the Purchase order, a penalty/LD of 0.5% of the total value per week or a part thereof shall be levied subject to a max. of 7.5% in respect of items which are not supplied. The decision of the University shall be final in this regard.

32. **Training:** Training shall be provided by the supplying companies on the specimen and operation of the equipments for a minimum period of two weeks from the date of installation with an expert team.

33. **Deadline:** Bids received after the deadline will be rejected or returned unopened. However, the university may extend deadline by amending the Tender Document, duly notified on the University website.

34. **Clarification:** For any clarification with respect to technical specifications, please contact the Dean, Research & Development.

### **III. Specific Condition for Imported equipments:**

1. The bid must contain genuine **tender specific Authorization Certificate from the OEM** failing which bid will be rejected, inter alia stating that all needed support shall be provided by the OEM/their authorized partner for the period specified in the tender.

2. **Payment of EMD:** Tender must be accompanied with EMD (**Two per cent** by way of Demand Draft) **in sealed envelope** in favour of Registrar, Dr. Harisingh Gour University, Sagar, 470003 payable at **Sagar** separately. EMD shall be returned after placing the order on the successful bidder. No interest shall be payable.

3. **Payments Terms:** On receipt of acceptance letter and proforma invoice from supplier, a Letter of Credit of 100% value of PO shall be opened on a nationalized bank. However, 90% payment shall be made after shipment and balance 10% on installation and submission of Performance Bank Guarantee issued from a nationalized bank valid for 3 (three) year from the date of installation or 36 months whichever is later. No interest shall be payable on PBG. Bank charges in India shall be borne by the University and outside India shall be borne by the Supplier.

4. The offer must be in English. The rates should be indicated both in figures and words against item specified in the given table. The price be quoted in **Indian Rupees** also (in case it is in US Dollars/major foreign currency, taking the exchange rate on the date of bidding).

5. The total cost should be quoted for FCA as well as CIP Indian airport – Dr H. S. Gaur University, Sagar.

6. However, the price quoted under FOB should also include the following cost if they are required during the initial stage:

- a. Local freight/insurance to the University laboratory, at Sagar;
- b. Installation cost, if any; and
- c. Cost of consumables which are required for the equipment for initial operation up to a reasonable time.

7. The fee of local agent should be paid by the bidder in INR.

8. The bidder from within India shall obtain the requisite approval for Imports etc., if required.

#### **IV. Specific Condition for Indigenous Equipments:**

1. **Price Schedule:** The **FOR** price quotes on Indian Rupees should also include the expected installation cost in the University and also cost of consumables which are required for the main equipment for initial operation up to a reasonable period.

2. **Time Limit for supply:** The Successful bidder should supply the item within one month after receipt of the purchase order.

3. **Payments terms:** Out of total contract/purchase price, 90% amount will be paid on satisfactory installations and balance 10% shall be retained as Security Deposit, towards satisfactory performance of the equipment, and shall be released on furnishing the performance Bank Guarantee(format enclosed in ANNEXURE -III) (obtained from any Nationalized Bank in India) valid for the Warranty period.

**V. Specific Conditions for supply of software:** (Single Vendor/Multiple Software Distributor)

1. The Bidder(s) must be authorized business partners of Global/National service providers of the respective Software Packages.
2. The Bidder(s) must enclose authorization letter from the respective global/ national service providers of the above said Software particularly mentioning an undertaking that in case of default by the Bidder, they (Global Service Provider) shall take over all the responsibilities of the Bidder.
3. The Bidder(s) should not be involved in any Bankruptcy filing for protection from it.
4. The necessary service support should be provided by Bidder(s) during the agreement period.

**-Sd-**

**Head, Department of Chemistry**

*Note: This is a computer generated document and does not require signature.*

**The Tender Document Contains:**

1. Schedule of Requirement;
2. Specifications & Allied technical Details
3. General Information;
4. Common Conditions Import or Indigenous items
5. Specific Condition for Imported equipments;
6. Specific Condition for Indigenous Equipments
7. Specific Conditions for the supply of software;
8. Tender Form (Techno Commercial Unpriced Bid)

**ANNEXURE-I**

9. Tender Form (Priced Bid) **ANNEXURE-II**;
10. Format of the Bank Guarantee (BG) Form.
11. Bank Guarantee **ANNEXURE-III**;
12. Bidders Guarantee **ANNEXURE-IV**

**TENDER FORM**

**(Techno Commercial Unpriced Bid)**

(On the letter head of the firm submitting the bid)

Tender No.....

To,

The Head

Department of Chemistry

Dr. Harisingh Gour Vishwavidyalaya,

Sagar, 470003, MP

Dear Sir,

1. I/We hereby offer to supply the \_\_\_\_\_ (name of equipment) as per specifications given in this tender. I/we shall be bound by a communication of acceptance issued by you.

2. I/We have understood the Instruction to bidders and Conditions of Contract in the form as enclosed with the invitation to the tender and have thoroughly examined the specifications quoted in the Schedule hereto and am/are fully aware of the nature of the goods required and my/our offer is to supply the goods strictly in accordance with the specifications and requirements.

3. A crossed Demand Draft in favour of Registrar, Dr. Harisingh Gour Vishwavidyalaya, Sagar (M.P.), payable at Sagar for Rs..... (Rupees..... only) as Earnest Money is enclosed. The Draft is drawn on .....Bank payable at Sagar.

4. The following have been added to form part of this tender.

(a) Schedule of requirements, quoting the make only duly signed and stamped.(without indicating price)

(b) Income Tax clearance certificate.

(c) Copy of last audited balance sheet.

(d) Copy of Valid Central/State sales tax registration certificate.

(e) Copies of relevant major purchase orders executed during last two years for Govt. Depts.,

PSUs & Central Autonomous bodies.

(f) Proof of manufacturing Unit, dealership certificate/general order suppliers.

(g) Statement of deviations from financial terms & conditions, if any.

(h) Any other enclosure. (Please give details)

We undertake to execute all orders which have been placed to meet emergent requirements on priority basis.

Certified that the bidder is:

A sole proprietorship firm and the person signing the bid document is the sole proprietor/  
constituted attorney of the sole proprietor,

Or

A partnership firm, and the person signing the bid document is a partner of the firm and he  
has authority to refer to arbitration disputes concerning the business of the partnership by  
virtue of the partnership agreement/by virtue of general power of attorney.

Or

A company and the person signing the document is the constituted attorney.

DHSGU/PUR./DORD/2012-13/01

**Page 14 of 20**

(NOTE: Delete whatever is not applicable. All corrections/deletions should invariable be duly  
attested by the person authorized to sign the bid document).

We do hereby undertake, that, until a formal notification of award, this bid, together with your  
written acceptance thereof shall constitute a binding contract between us.

Yours faithfully,  
(Signature of bidder)

Dated this day of \_\_\_\_\_

Address:.....

.....

.....

Telephone:\_\_\_\_\_

FAX\_\_\_\_\_

E-mail\_\_\_\_\_

Company Seal

**ANNEXURE-II**

**Tender Form**

(Priced Bid)

(On the letter head of the firm submitting the bid document)

To

The Head

Department of Chemistry

Dr. Hari Singh Gour Vishwavidyalaya,

Sagar, 470003, MP

Ref: Tender No ..... Dated-----

Sir,

1. Having examined the bidding document and having submitted the techno commercial unpriced bid for the same, we, the undersigned, hereby submit the priced bid for supply of goods and services as per the requirements and in conformity with the said bidding document.

2. We hereby offer to supply the Goods/Services at the prices and rates mentioned in the enclosed schedule of requirement.

3. We do hereby undertake, that, in the event of acceptance of our bid, the supply of Goods/Services shall be made as stipulated in the schedule of requirement and that we shall perform all the incidental services.

4. The prices quoted are inclusive of all charges net F.O.R University. We enclose herewith the complete Financial Bid as required by you. This includes:

5. Price Schedule as per requirement of the tender.

6. Statement of deviations from financial terms and conditions.

7. We agree to abide by our offer for a period of 90 days from the date fixed for opening of the bid documents and that we shall remain bound by a communication of acceptance within that time.

8. We have carefully read and understood the terms and conditions of the bid document and we do hereby undertake to supply as per these terms and conditions. The Financial Deviations are only those mentioned in the statement of deviations from financial terms and conditions.

9. Certified that the bidder is:

A sole proprietorship firm and the person signing the bid document is the sole proprietor/ constituted attorney of sole proprietor,

Or

A partnership firm, and the person signing the bid document is a partner of the firm and he has authority to refer to arbitration disputes concerning the business of the partnership by virtue of the partnership agreement/ by virtue of general power of attorney,

Or

A company and the person signing the bid document is the constituted attorney.

(NOTE: Delete whatever is not applicable. All corrections/deletions should invariably be duly attested by the person authorised to sign the bid document.)

10. We do hereby undertake, that, until a formal notification of award, this bid, together with your written acceptance thereof, shall constitute a binding contract between us.

Dated this day of \_\_\_\_\_

Signature of Bidder  
Details of enclosures  
Full Address:  
Telephone No.  
Fax No. E-mail:  
Company Seal

### **Format of the Bank Guarantee (BG) Form**

1. This Performance Bank Guarantee (PBG) should be furnished from a Nationalized Bank.
2. The PBG should be furnished on the stamp paper of Rs. 100/-
3. The stamp-paper would be purchased in the name of the bank Executing the Guarantee.
4. In case of foreign bidder the PBG shall be furnished by an international reputed bank acceptable to the PURCHASER countersigned by any Nationalized Bank.

**ANNEXURE-III**

**BANK GUARANTEE**

To  
The Head  
Department of Chemistry  
Dr. Hari Singh Gour Vishwavidyalaya,  
Sagar, 470003, MP

1. This guarantee made this-----day of-----20\_ by-----  
-----Bank having its Registered Office at-----and one of its-----  
branches at----- (hereinafter referred to as  
"the Guarantor" which expression shall, unless it be repugnant to the subject, meaning or  
context thereof, be deemed to mean and include its successors and assigns) in favour of the  
Dr. Harisingh Gour Vishwavidyalaya 470003 represented by its Registrar, having his office at  
the University hereinafter referred to as the "University" which expression shall include his  
successors in office for an amount not exceeding Rs.------(Rupees -----  
----- only) at the request of M/s.----- (more fully described  
hereunder)
2. Whereas the University has placed Work Order No: *PU*/----- dated for-----  
-----  
----- with M/s.-----having its office at -----  
-----and hereinafter referred to as the "Contractor" which expression shall include  
their successors and assigns.
3. And whereas the Contractor has accepted and agreed to execute the work as per the  
work order as per undertaking / agreement dated -----within the time stipulated and  
in the----- manner specified therein.
4. And whereas the University has called upon the Contractor to furnish Bank Guarantee  
for the sum of Rs.------(Rupees-----only) for fulfillment of the  
said work as specified in the work order and as agreed to by the Contractor.
5. And whereas the Contractor has requested the Guarantor herein to furnish an irrevocable  
and unconditional Bank Guarantee in favour of the University for an amount of Rs.-----  
as guarantee towards execution of the work as agreed to by the contractor to the University.
6. Now, therefore, we -----Bank, the Guarantor herein, do hereby-----  
- irrevocably and unconditionally Guarantee the payment to the University the sum not  
exceeding Rs. ----- (Rupees -----only) in the event of any  
breach, failure, neglect or inability on the part of the Contractor in the execution of the said

work, on demand without reference of the matter to the Contractor and without any prior consent of the Contractor, at all times throughout the period of execution of the work, without demur, cavil or argument or delay.

7. The Guarantor agrees and undertakes that the decision of the University as to whether the contractor has committed any breach of the obligation with respect to the work to be executed, and the quantum of amount therefore payable by the Contractor to the University in that regard, shall be final, binding and conclusive as against the Guarantor and the Guarantor shall make payment accordingly, on demand by the University.

8. The Guarantor further agrees and undertakes to pay to the University the amount demanded by the University irrespective of and notwithstanding any dispute raised by the Contractor in any suit or proceeding before any judicial forum relating to the Contracted work and the Guarantor's liability under this Guarantee shall be absolute and unequivocal.

9. This Guarantee is issued subject to the condition that the liability of this Guarantor under this guarantee is limited to the maximum of Rs----- (Rupees----- only) and the guarantee shall remain in full force up to----- and----- cannot be invoked otherwise than by a written demand or claim by the University for the payment of the said amount by the Guarantor on or before ----- or any extended date as decided by the University.

10. This University shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the contracted work or to extend time for performance of the work by the Contractor\_ Any change to the contracted work shall not in any way release the Bank (Guarantor) from liability under this Guarantee and we waive notice of any such change. The University shall have full liberty to forbear or enforce any of the terms and conditions of the contracted work.

11. This Guarantee shall not be affected by any legal limitation, disability or other circumstances relating to the Contractor or the Guarantor.

12. This Guarantee shall be valid for the period up to ----- and shall extend further and Beyond ----- for such period as determined by the University.

13. The Guarantor undertakes not to revoke this guarantee except with the previous consent of the University in writing.

14. Notwithstanding anything contained herein:

ı Our liability under this guarantee shall be limited to Rs. ----- (Rupees only)

ı This guarantee shall be valid up to and for such further period as determined by the University for fulfillment of the contract.

ı We are liable to pay the guaranteed amount or any part thereof under this Bank Guarantee only and only if you serve upon us a written claim or demand on or before -----or such extended period/date. In witness whereof, this Guarantee has been executed by -----

----- for an on behalf of the Bank (Guarantor) on the day, month and year first above written.

SIGNATURE AND SEAL  
NAME OF THE BANK (GUARANTOR)  
ADDRESS:

## ANNEXURE -IV

### BIDDER'S WARRANTY

The Registrar/Head, Chemistry, Dr. Hari Singh Gour Vishwavidyalaya, Sagar invited Bid Document for supply and installation of the equipment(s) namely,-----  
----- at-----, Dr. Harisingh Gour University, Sagar  
AND

M/s.-----

Thereinafter referred to as "The Bidder" having carefully studied all the bid documents, Specifications, etc. accompanying the tender for supply of the above mentioned Equipment and desirous to submit the bids as per the Tender Document advertised vide Notification No.:DHSGV/Purchase/Chemistry/DST/SR/NM-1105/2012/2014 Dated 15/12/2014.

#### **DO HEREBY WARRANTY THAT**

1. The bidder is familiar with all the requirements of the bid documents.
2. The bidder has investigated the site and satisfied, he regarding the character and scope of the work and local conditions that may affect the supply or its Performance.
3. The bidder is satisfied that the supply can be performed and completed as required in the contract.
4. The bidder accepts all risk directly or indirectly connected with the performance of the contract.
5. The bidder has had no collusion with other contractors, with any of the men of the University, Sagar or with any other person in preparation of the bid.
6. The bidder has not been influenced by any statement or promise of the Officials of the University but only by the bid documents.
7. The bidder is financially solvent.
8. The bidder is experienced and competent to perform the contract to the satisfaction of the Dean, Research and Development of the University.
9. The statements submitted with the bid are true.

10. The contractor is familiar with all general and special laws, acts, ordinances, rules and regulations of the Municipal, District, State and Central Government that may affect the work, its performance or personnel employed therein.

11. All the terms & conditions of the Supply Order will bind the bidder once his quote is accepted and supply order issued.

**Signature of the Bidder**