

I.K. Gujral Punjab Technical University, Kapurthala
CORRIGENDUM

The Pre-bid Meeting regarding tender **IKGPTU/MC/2018-2019/010** for **Supply, Installation, Commissioning & Maintenance of Laboratory Instruments for Department of Chemical Sciences, I.K. Gujral Punjab Technical University Main Campus, Kapurthala (Punjab)** was held on 12.02.2019 at 11.00 AM in O/o HOD, Chemical Sciences.

The suggestions given by bidders were examined by the committee and after due deliberations, the committee has recommended as follows:

1. Technical specifications (Page 22 of Tender) have been revised and attached. Updated specifications will supersede the previously published specifications. Bids with previously published specifications will not be entertained.
2. Point 22 (Page 16 of tender) regarding Warranty and Maintenance has now been changed to:

22 Warranty and Maintenance:

- a) Comprehensive Warranty should be for a minimum period of **three (03) years** from date of successful installation of Goods at the I.K. Gujral Punjab Technical University Main Campus. The Supplier should, in addition, comply with the performance and/or consumption guarantees specified under the contract. If for reasons attributable to the Supplier, these guarantees are not attained in whole or in part, the Supplier should at its discretion make such changes, modifications, and/or additions to the Goods or any part thereof as shall be necessary in order to attain the contractual guarantees specified in the Contract at its own cost and expense and to carry out further performance tests. The warranty should be comprehensive on site/I.K. Gujral Punjab Technical University Main Campus. Supplier should give a written information (about the Engineers/technical representative name and cell numbers) before handing over of the Goods to the Consignee and to the end client's nominated representative/s to attend the issues related to the warranty of the goods supplied under the contract.
- b) The Consignee/Purchaser should promptly notify the Supplier in writing of any claims arising under this warranty. Upon receipt of such notice, the supplier should within **02 weeks** arrange to repair or replace the defective goods or parts thereof free of cost at the ultimate destination. The Supplier should take over the replaced parts/goods at the time of their replacement. No claim whatsoever should lie on the Consignee for the replaced parts/goods thereafter. The period for correction of defects in the warranty period is **02 weeks**. If the supplier having been notified fails to remedy the defects within **02 weeks**, the consignee/purchaser should proceed to take such remedial action as should be necessary, at the supplier's risk and expenses and without prejudice to any other rights, which the consignee should have against the supplier under the contract.
- c) Point removed.

Rest of the tender document will stand as it is. All bidders are required to apply as per the updated specifications as per the Corrigendum.

CHAPTER VI

TECHNICAL SPECIFICATION/COMPLIANCE SHEET

PHYSICAL LABORATORY

Sr. No.	Name of Equipment	Technical Specification(required) Equipment/Item with specifications	Quantity	Specifications (offered)	Whether comply (Yes/No)
1.	ELECTROCHEMICAL WORKSTATION	<ol style="list-style-type: none"> 1. No. of Channels: 2 independent potentiostat channels should be provided in 5 or more number of chassis platform. Price for each should be quoted separately 2. EIS Capability: Minimum 2 channels should be equipped with simultaneous impedance measurement facility, EIS frequency range should be from 10 μHz to 1 MHz, Sweeping should be possible in both the potentiostat as well as Galvano mode. With accuracy: 1%, 1° or better. Amplitude of 1 mVpp to 1 Vpp and 10μA to 100mA. Measurements: Cyclic Voltammetry, Sampled DC Voltammetry. Tafel Plots, Differential Pulse Voltammetry, Square Wave Voltammetry. Electrochemical methods like Chrono-Amperometry, Chrono-Coulometry & Chrono-Potentiometry Data presentation: Nyquist, Bode, Admittance, Dielectric, Mott-Schottky, Data analysis: Fit and Simulation, Find circle, Element subtraction 3. Electrode Connections: 2, 3 and 4 or 5 connection terminals. 4. Current/ Voltage: Compliance voltage: \pm 10 V or better at \pm 400 mA or more; Maximum Output Current: \pm 400 mA or better at \pm 12 V or more; Output Voltage Range: \pm 10 V or more ; Current Ranges: smallest current range: \pm 10 nA or \pm 20 nA to current range 100 mA in multiple ranges or more; Current and voltage accuracy: 0.1%; Interface: USB interface for connection with PC. 5. External Instrument/ Signal Recording and Control: Facility to be provided to control external signal like pH, Temp., Pressure sensor etc. Minimum one analog signal input recording with \pm 10V range with 16Bit, synchronized with main channel signal. 6. Hardware: Bipotentiostat hardware (for possibility of future work on RRDE). 7. Electrochemical Cell Kit: It should consist of the following: 	1		

		<p>a) Glass cell (2)</p> <p>b) 2mm diameter Pt, Au & GC disc working electrode (2 each)</p> <p>c) Pt wire Counter electrode 1 mm dia 40 mm length (2)</p> <p>d) Ag/AgCl double junction reference electrode (2) for Aqueous and Non Aqueous sample (1)</p> <p>e) Suitable Lid for the cell and purge tube with valve</p> <p>f) Polishing kit for working electrode (3)</p> <p>8. Compatible branded PC with latest configuration and 2 KVA Online UPS with one hour back up should be quoted.</p> <p>9. UV-vis spectroelectrochemical set up along with spectrophotometer, electrodes, cuvette sample holder and all cables.</p> <p>10. Screen printed modifiable electrodes (C, Pt and Au) Each mentioned electrode should be in pack of 20 or more electrodes and necessary cable or adaptor for attachment with the instrument should be quoted.</p> <p>11. Software: Software should have facility to record additional signal viz EQCM, bi-potentiostat etc. Import/export ASCII. Ready-to-use Vis & Generic interface for Net applications should be included. It should have facility to display up to 4 plots simultaneously. The software should support following basic electrochemical measurements: Cyclic Voltammetry, Sampled DC Voltammetry. Taffel Plots, Differential Pulse Voltammetry, Square Wave Voltammetry. Electrochemical methods like Chrono-Amperometry, Chrono-Coulometry & Chrono-Potentiometry. The software upgradation should be free of cost.</p> <p>12. Others: The system should be upgradable in future with accessories 10 A current booster, Electrochemical Quartz Crystal Microbalance, Rotating Ring disc electrode etc.</p> <p>NOTE: The quoted system or equivalent category system should have atleast 20 numbers of installations in India in last 5 years by the vendor. List of such 5 users with contact numbers of faculty incharge and copy of their installation report should be enclosed.</p>			
2.	POLARIMETER	1. Measuring Mode : Optical Rotation,	1		

		<p>Specific Rotation, Specific Rotation plus Concentrations, user Defined Scale, Sugar Degrees° Z(ISS)</p> <ol style="list-style-type: none"> 2. Measuring Scale : Degrees Arc Optical Rotation 3. Resolution : 0.001°Arc Optical Rotation 0.001% Concentration 0.001 Specific Rotation 4. Wavelength Accuracy: ±0.002° Arc Optical Rotation for the entire measuring range or better. 5. AP Resolution Option: Selectable Resolution: 0.01, 0.001, 0.0001° Arc 6. Reproducibility : 0.002° Arc Optical Rotation 7. Measuring Range : ±89° Arc Optical Rotation, ±999.99° Specific Rotation, 8. Concentration : 0-99.9% 9. Prism: Glan Thompson Calcite-Life Quarantee / Glan Taylor Polariser. 10. Optical Wavelengths: 589nm. 11. Wavelengths Selection: Touchscreen Selectable: 1, 2 and 6 12. Temp. Probe Range: Inbuilt temperature probe 10° to 60° C 13. Temp. Probe Accuracy: ±0.1° C 14. Measurement Time : 4° /sec slewing rate & 5 sec nominal settling time 15. Light Source : Sodium/Tungsten-Halogen/ LED 16. Sample cell: 2ml volume-2no., 4ml volume-2no., 6ml volume-2no Accepts sample tubes up to 200mm Sample Chamber 17. Data Storage: 8 GB Non-removable Compact Flash Communication Interface, 3 – USB Ports, 2 – RS232 Ports, Ethernet Port for Network Connection 18. Calibration: Automatic Calibration via touch screen 19. Operating System: Windows 7 Embedded 			
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3	MECHANICAL SHAKER	<p>1. Speed Range: 20 - 500 rpm</p> <p>2. Timer: 0 - 99 min or continuous</p> <p>3. Motion/orbit size : Circular, 19 mm</p> <p>4. Ambient operating range: +4° to 65°C</p> <p>5. Dimensions (W x D x H): 15.3 x 16.8 x 6.2 in/38.9 x 42.7 x 15.8 cm.</p>	1		
4	THERMOSTAT	<p>1. Temperature Range: -40°C to 200°C</p> <p>2. Volume:1.5 L (filling volume min.)</p> <p>3. Type: Dynamic Temperature Control System</p> <p>4. Temperature Control: Air-cooled or water-cooled</p> <p>5. Accuracy: +/- 0.01 °C.</p>	1		

NOTE: The vender should specify all the components required for running the machine. The institute will provide only space and the electric points to run the machine. If any component is left in the quote, it will be vender's responsibility to complete it.

I have also enclosed all relevant documents in support of my claims, (as above) in the following pages.

Signature of Bidder
Organization

Designation: _____
Contact No.: _____