

INTERNATIONAL CENTER FOR CHEMICAL AND BIOLOGICAL SCIENCES  
UNIVERSITY OF KARACHI  
KARACHI-75270

TENDER NOTICE NO. ICCBS/HE/PRE 3123/EQPT-291116

Sealed tenders are invited from the sales tax registered firms with Sindh Revenue Board and income tax department (where applicable) for purchase/import of "**Equipment**" on *C&F Basis* and on *Single-Stage Two-Envelope* procedure basis for the Center.

The tender documents can be collected from Purchase Office of the Center, on any working day between 9.00 a.m. to 12.30 p.m., from **03-11-2016** or from the date of publication of the advertisement in the newspapers or notification of this advertisement on the websites, on payment of Rs. 300/- (non-refundable), in shape of a pay order (Demand Draft by the out of Karachi suppliers), in favor of the Director, I.C.B.S., or downloaded from the websites [www.ices.edu](http://www.ices.edu), [www.pprasindh.gov.pk](http://www.pprasindh.gov.pk). The last date of issuing the tender documents is **21-11-2016**. Pre-bid meeting will be held on 23-11-2016 at 11.30 AM in HEJ meeting room at the ICCBS Institutions. The tenders can be submitted with 2% of the bid value as earnest money in shape of a pay order in favor of the Director, I.C.B.S., latest by 2.30 p.m. on **29-11-2016**. The tender will be opened in Meeting Room of the Center at 3.00 p.m. on the same day in presence of the bidders or their representatives. Alternate bid/option should accompany separate earnest money pay orders and bidding documents pay orders. The Procuring Agency may reject all or any bid subject to the relevant provision of SPP Rule No. 25.

For any information and detail:

**Purchase & Store Dept.**

Tel # 34819011; 111-222-292 (109, 108)

Email Add. : [store.ices@hotmail.com](mailto:store.ices@hotmail.com)

  
**DIRECTOR**

## FOLLOWING EQUIPMENTS ARE NEED IN ANALYTICAL LAB FOR TENDER

S. NO.	EQUIPMENTS	VALUE
1.	<p><b><u>WDX-X-Ray Fluorescence Analyser</u></b> Wave length dispersive x-ray fluorescence spectrometer for multi-element analysis for liquids, solids, powders &amp; pressed pellet for any kind of material. System should also be capable to analyse</p> <ul style="list-style-type: none"> <li>• Cement sample accurately</li> <li>• Sulphur and other additives in fuel oil.</li> <li>• Alloys &amp; Geological samples</li> <li>• Polymer &amp; Plastic</li> <li>• Powder Milk</li> </ul> <p>System should be capable to analyse of all elements from sodium to uranium enables screening analyses within seconds.</p> <p><b>Excitation</b></p> <ul style="list-style-type: none"> <li>• <b>Tube anode</b> Rh anode with air-cooling</li> <li>• <b>Max Tube Power:</b> 1KW</li> <li>• <b>Max. Tube Voltage:</b>50 KV</li> <li>• <b>Active Pile up</b> reduction for high background</li> </ul> <p><b>Detector</b></p> <ul style="list-style-type: none"> <li>• <b>Detector:</b> Gas flow proportional counter</li> </ul> <p><b>Auto-sampler</b></p> <ul style="list-style-type: none"> <li>• 12 or more position</li> <li>• No compress air</li> </ul> <p><b>Sample Atmosphere</b></p> <ul style="list-style-type: none"> <li>• Vacuum, Helium Purge &amp; Air modes</li> </ul> <p><b>Software</b></p> <ul style="list-style-type: none"> <li>• The XRF software should offers a clear and easy-to-use interface to the instrument.</li> <li>• The measurement can begin after selecting the method and entering the sample identification information.</li> </ul> <p><b>Spectra Viewer</b></p> <ul style="list-style-type: none"> <li>• Display of <ul style="list-style-type: none"> <li>○ overlaid spectra</li> <li>○ line markers</li> <li>○ regions of interest (ROI) with statistics</li> <li>○ pile-up and escape line markers</li> </ul> </li> <li>• Automatic line identification</li> </ul>	

- Zoom functions
- Linear, logarithmic and square-root scaling
- Export of spectra in ASCII or as images bmp or jpg format

#### **Sample Archive**

- Searchable database with all information about
  - sample data
  - sample results
  - measurement parameters
  - measured spectra
- Display / print / export analysis results
- Display of results in concentration % and PPM

#### **Applications**

The XRF System should be delivered with pre-installed application packages. The application packages should be a combination of hardware and analytical methods; installed in the factory and individually tuned.

- **Quantitative standard less method for qualitative & quantitative study of samples** includes all kind of liquid, powder, Pellets and Solid Samples
- **Fundamental Parameters Method**
- **Calibration Additives & Sulphur in Oil**

Geological and mineral major elements  
 Metal analysis with standard less  
 Cement analysis

#### **KJELDAHL DISTILLATION UNIT FOR NITROGEN/PROTEIN.**

##### **Specifications of Kjeldahl Distillation Unit for Nitrogen / Protein**

Steam distillation unit for a broad range of Kjeldahl (nitrogen/protein) applications and also non-kjeldahl applications such as sulphur dioxide, phenol, volatile acids, cyanide.

- **High performance steam generator**, with safety sensor like over pressure sensor, safety thermostat, water level sensor etc.
- **Acid resistant pump** for acid dosage, regulation & monitoring of steam for safe operation
- Storage of nine methods.
- Choice of either **plastic or glass** splash protector
- **Additional sensors** monitors the protective door to ensure tube is present before distillation
- **Safety sensor** stops unit if service door is left open.
- High quality **glass sample tube** 300 ml, diameter 48 mm with constricted condensation zone and wall thickness of atleast 2.2mm

2.

**Complete unit**, supplied with two 10 L storage tanks, 300 ml sample tube (1), connection tube, power cords & operating manual.

**Training** should be provided upon installation of unit.

Only USA, Europe, Japan origin products are acceptable.

**Kjeldahl Digestion Unit:**

Digestion System for **6 sample tubes** with:

- Adjustable **Infra-red heating**
- **Tight suction** model to prevent escape of sulphuric acid vapors during digestion
- Robust design with stand alone tube holder made from stainless steel.

**Complete and ready to use system supplied with:**

- Insulation plate (optimal design, guarantees homogenous heating of all sample tubes)
- 6 Sample tubes, 300 ml, with constricted condensation zone and glass thickness of at least 2.2mm
- Tight suction model with hose to scrubber
- Standalone rack

**FT-NIR SPECTROPHOTOMETER.**

**Technical Specifications for FT-NIR Spectrophotometer.**

Parameter.	Specification
Spectral range.	Transmission 12800-4000cm-1
Spectral resolution.	More than 20cm-1
Wavelength reproducibility.	More than 0.04cm-1
Wavelength accuracy.	Better than 0.1 cm-1
Noise ratio signals.	<15uA RMS or better.
Light source.	Long life quartz Tungsten/Halogen or suitable for NIR Range.
Detector.	InGaAs.
Accessories.	Accessories for analysis of liquid, solid samples and Smart Diamond ATR.

3.

Working temperature range.	5 C <sup>0</sup> - 35C <sup>0</sup>
Photometric accuracy.	Better then 0.1%T
Performance check.	Permanent on-line diagnostics of all accessories.
Connectivity.	Ethernet interface, 10/100Mbps.
Instrument qualification.	Software support OQ, PQ, IQ and DQ.
Software.	Branded PC with original software capable of operating in windows XP ,laser jet Printer,
Library.	Complete library for petroleum product, pharmaceuticals Active materials, pesticides, polymers, excipients, narcotics etc.

**AUTOMETIC POTENTIOMETRIC TITRATOR**

**Specification of Potentiometric titrator**

4.

Dimensions	390 x 350 x 380 mm (15.3 x 13.8 x 14.9 in)
Weight	Approximately 9 kg (20 lbs.) (with one pump, stirrer and sensors)
pH Range	-2.0 to 20.0 pH; -2.00 to 20.00 pH; -2.000 to 20.000 pH
pH Resolution	0.1; 0.01; 0.001 pH
pH Accuracy (@25°C/77°F)	±0.001 pH
mV Accuracy (@25°C/77°F)	±0.1 mV
Temperature Range	-5.0 to 105.0°C; 23.0 to 221.0°F; 268.2 to 378.2K
Temperature Resolution	0.1°C; 0.1°F; 0.1K
Temperature Accuracy (@25°C/77°F)	±0.1°C; ±0.2°F; ±0.1K, excluding probe error
Temperature	manual (MTC) or automatic (ATC)

Compensation	
Programmable Stirrer	propeller type, 100 to 2500 rpm, resolution 100 rpm
Display	Digital color LCD
Burette Sizes	5, 10, 25, and 50 mL
Burette Resolution	1/40000
Dosing Accuracy	±0.1% of full burette volume
Methods	up to 50 methods (standard and user-defined)
Burette Auto-Detection	burette size is automatically recognized when inserted into the unit
Flow Rate	selectable from 0.1 mL/min to 2 x burette volume/min
Endpoint Determination	equivalence point (1st or 2nd derivative) or fixed pH/mV value
Potentiometric Titrations	acid/base (pH or mV-mode), redox, precipitation, complex metric, non-aqueous, ion-selective, argent metric
Real-Time & Stored Graphs	mV-volume or pH-volume titration curve, 1st derivative curve or 2nd derivative curve; pH mode, mV mode or ISE mode: pH/mV/concentration versus time
USB Host (Side)	flash drive compatibility for transfer of methods and reports
Peripherals (Rear)	connections for VGA display, PC-keyboard, parallel printer, USB device input, RS232, interface for auto sampler
GLP Conformity	instrumentation data storage and printing capabilities
Languages	English, Portuguese, Spanish

Operating Environment	10 to 40°C (50 to 104°F), up to 95% RH
Storage Environment	-20 to 70°C (-4 to 158°F), up to 95% RH
Power Supply	100-240 VAC; "-01" models, US plug (type A); "-02" models, European plug (type C)

**SPECTRA MAX M2E PLATE READER FOR THE MEASUREMENT OF ABSORBANCE AND FLUORESCENCE.**

**Specifications of Plate reader for the measurement of absorbance and fluorescence**

Absorbance Photometric Performance

Wavelength range: 200–1000 nm

Wavelength selection: Monochromator, tunable in 1.0 nm increments

Wavelength bandwidth: ≤ 4.0 nm

Wavelength accuracy: ±2.0 nm

Wavelength repeatability: ±0.2 nm

Photometric range: 0–4.0 OD

Photometric resolution: 0.001 OD

Photometric accuracy (micro plate): < ±0.006 OD ±1.0%, 0–2 OD

Photometric accuracy (cuvette) : < ±0.005 OD ±1.0%, 0–2 OD

Photometric precision: < ±0.003 OD ±1.0%, 0–2 OD

Baseline flatness: < 0.001 OD

Stray light: < 0.05% @ 230 nm

Fluorescence Photometric Performance (M2)

Dual monochromators: 1 nm increments EX 250–850 nm EM 360–850 nm

Bandwidth (EX, EM): 9, 9 nm

Detection limit: 3.0 fmol/well FITC 200 µL in 96 wells (signal 3X std. dev. of baseline)

Fluorescence Photometric Performance Dual monochromators: 1 nm increments EX 250–850 nm EM 250–850 nm

Bandwidth (EX, EM): 9, 9 nm

Top-read detection limit: 3.0 fmol/well FITC 200 µL in 96 wells (signal 3X std. dev. of baseline)

Bottom-read detection limit: 5.0 fmol/well FITC 200 µL in 96 wells (signal 3X std. dev. of baseline)

Time-Resolved Fluorescence (Secondary Mode) Wavelength range: 250–850 nm Data collection: 50–1450 µsec., 200 µsec. increments

Sensitivity: 0.5 fmol/well Eu-chelate (obtained with DELFIA® reagent from Perkin Elmer by using a 384-well plate)

Luminescence (Secondary Mode) Wavelength range: 250–850 nm Detection limit: 10 amol/well alkaline phosphate 200 µL/well (obtained with Emerald II™ reagent from Applied Bios stems)

General Photometric Performance Plate formats: 6, 12, 24, 48, 96, 384 wells

Light source: Xenon flash lamp (1 joule/flash)

Detector: Photomultiplier (R-3896)

5.

Read time\* 96-well: Abs 18 sec., FI 15 sec. 384-well: Abs 49 sec., FI 45 sec.  
 Shaker time: 0 to 999 seconds  
 Temp. Control: 4°C above ambient to 45°C  
 Temp. Uniformity: < 1°C at 37°C set point  
 Temp. Accuracy: ±1°C at 37°C set point

**MUFFLE FURNACE (Ambient TO 1450 °C).**

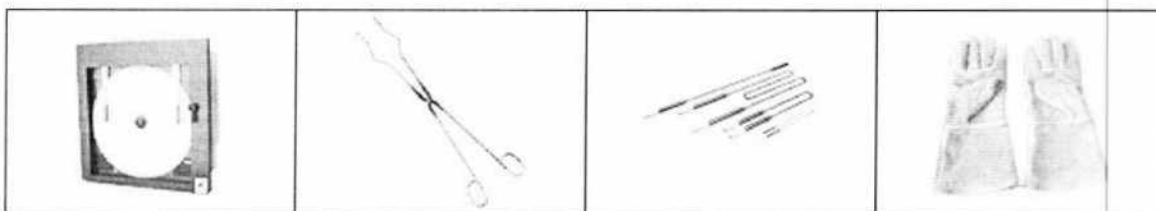
**Technical Specifications:**

Max. Temperature	1450°C		
Working Temperature	1350°C		
Heating Element	Kanthal A-1	Silicon Carbide (SiC)	Molybdenum Silicide (MoSi2)
Temperature Accuracy	+/- 1°C (+/- 1.8°F)		
Temperature Controller	PID controller		
Display	LED / LCD Display		
External Chamber Construction	MS w/ Powder Coating / 304 Grade Stainless Steel (Optional)		
Internal Chamber Construction	Ceramic Board & Grooved Refractory Chamber as per Temp. Requirement		
Insulation	Ceramic wool insulation		
Alarm	Audible & Visual type		
Power Supply	220 / 440 Volts		
Certification	ISO, CE & GMP		
Stabilizer	As standard		

**Standard Inner Chamber Sizes**

Dimension (Inches)	5 x 5 x 10
Volume (Liter)	4

**Muffle Furnace Accessories:**



**SHAKING WATER BATH.**

**Specification of Shaking Water Bath**

Temperature range:  
 Approx. 5 °C above ambient to 100 °C  
 Temperature setting and display: digital-LED



Shaking motion: r ciprocating, with on / off switch  
 Shaking frequency: from 2 - 50 rpm  
 Shaking amplitude: 22 mm  
 Working height: 80 mm  
 Sample holders, height-adjustable: 32 mm  
 Dimensions sample holders: 128 x 128 mm  
 Interior dimensions (W x D x H) per basin: 175 x 175 x 100 mm  
 Exterior dimensions (W x D x H): 625 x 556 x 270 mm  
 Electrical connection: 230 V / 50...60 Hz / 1,3 kW  
 Microprocessor-controlled temperature regulation ensures fast heating up to the individually set temperature and excellent temperature constancy:  $\pm 0.1$   C temporal Electronic monitoring of the temperature controller. In case of a fault, the cause is displayed on the LED.  
 Bath interior and shaking rack is made of stainless steel  
 Height-adjustable sample holder with rack for reaction vessels of 1.5 -2.0 ml  
 Double-walled lid with inner camber have insulating capacity and prevent dripping back of condensate into the vessels  
 Maintenance-free and durable shaking device,  
 Electronically controlled and continuously settable shaking motion, gentle start-up.  
 With the use of optional racks or directly on the sample holders, all kinds of vessels from  $\mu$ l to ml used in laboratories, micro titer plates, cyler tubes, Western Blot vessels, centrifuge tubes, ampoules and bottles can be fixed.

**STABILITY CHAMBER.**

**SPECIFICATIONS OF STABILITY CHAMBER.**

Temperature: Temperature Variation :  $\pm 0.2$  C Stability :  $\pm 0.1$  C Temperature Range : 15 C- 50 C Sensor : Thermocouple Controller : PID Temperature Display : LCD Adjustable Alarm Limit : To be provided Average heating rate : 5  C / min. Average cooling rate : 5  C / min. Resolution : 0.5 C 3.2 Humidity: Variation (RH %) :  $\pm 2$  Stability (% RH) : 0.1 Range (working) : 15-75 % RH Controller : PID Display : LCD Alarm RH : To be provided Water Refrigerator : (approx) 15L Auto de-frosting : Yes Light Control : To be provided Light Intensity : 12000 Lux (at center) : 25000 Lux (at sides) Resolution : 0.5%RH 3.3 Instrumentation & control The chamber should be provided with microprocessor /computer control and monitoring system.

8. • Continuous display of set value & actual value of temperature and humidity. • Selection of manual and automatic modes. • Should be possible to create temperature test programmers with immediate graphical check of programming. • Should print any test programmed in text format and graphical format. • Should refer to and modify any previously created test programmers and delete test programmers that are no longer needed. • Should have integrated programmer with a programmed memory.. • Programmes should easily be stored and recalled at any time and activated without the necessity of operator having prior programming knowledge. • Should have digital set point and actual display of temperature. • Should have built in capability to restart the test chamber after power failure. • Should have the capability of recording of graphic printout of set and actual value of test carried out. • System should have RS232/422/.485/IEEE 488 interfaces for communication with PC. •The display and control panel should be at the front. • 4 digital switching channels should be provided as an option. • Potential free Changeover contact at 24V, 0.5A for Malfunction signal should

be provided as an option. 3.4 Chamber Dimensions: W x D x H (mm) Exterior: 960 x 920x1840 (approx) Interior Volume: Approx 400 L Water Outlet Pressure : 2 Bar Drain/ basin : To be provided Door : 1. The door must be of lockable type with hinges 2.The exterior of the door must be made of galvanized steel sheet primèred inside and outside and painted with good quality paint outside, 3. The inner side of the door must be made of non magnetic stainless steel. 4. The door must be provided with double continuous seal rings of silicone rubber material. 5. The door is to be provided with a micro switch to have an interlock between the conditioning fan and the door opening. That is the conditioning fan should stop once the door is opened 3.5 Insulation The insulation material must be of low 'k' factor, high density and non hygroscopic nature. The insulation shall be multi- layered with double vapor barrier. Asbestos free mineral fiber insulation is preferred . 3.6 Inspection window The door is to be provided with a multilane toughened glass inspection window with built in heaters. The size of the window should be 200mm x 200mm (minimum) . 3.7 Refrigeration system The refrigeration system must be 1. Air cooled condenser. 2. Cascade system (High stage and low stage semi hermetic compressors). 3. Environment friendly refrigerants (R404A / R23) and special oil. 4. Evaporator should have copper tubes and copper fins, with anti-oxidation coating 5. The compressor should be on anti vibration mounts (acoustic isolation) for safe efficient long running 4 System Configuration Accessories, spares and consumables S I Name Technical Specs quoted by bidder Bidders Deviation if any 4.1 Spares • One set of door gaskets. • 5 kg each of refrigerant gases (R404A) & R-23 with cylinder. • 5 liters compressor oil used for the refrigeration compressors. • A set of recommended spares with a list indicating respective quantity and unit price.

**ULTRASONIC BATH.**

**Specifications and Features**

- \_ Microprocessor-controlled temperature regulation ensures fast heating up to the set temperature and an excellent temperature constancy:  $\pm 0.1$  °C, temporal
- \_ Optimum temperature distribution throughout the whole bath interior
- \_ Temperature display and setting digitally via LED display, in 0.1 °C increments. Fast and exact setting, exact reproducibility of the preset temperature
- \_ Electronic monitoring of the temperature controller. In case of a fault, the cause is displayed on the LED.
- \_ Over-temperature cut-out: electronic, 4 °C above set temperature, and electro-mechanical > 130 °C
- \_ Constant shaking frequency, independent of load, even when in

9.

continuous operation

- \_ Maintenance-free and durable shaking device, electronically controlled and continuously settable shaking motion, gentle start-up. In models 1083 and 1086, the shaking device is guided on corrosion resistant special ball bearings.
- \_ Easily removable shaking rack
- \_ Bath interior and shaking rack made of stainless steel
- \_ No dripping back of condensate into the vessels due to double-walled insulating lid with interior camber
- \_ Drain cock to empty the bath

**VISCOMETER.**

**Viscometer**

A continuous sensing capability for rapid viscosity measurement makes this economical digital viscometer a standout. Measures viscosity and temperature simultaneously (with an optional temperature probe). With its timed measurement function, data can easily be sent to a PC or printer. Optional software allows the DV-I Prime to collect, analyze and record test data.

**SPECIFICATIONS**

PC Interface for use with Software and output connection to printer  
 Direct access to time measurement function (time to torque, time to stop)  
 Temperature off-set capability to  $\pm 5^{\circ}\text{C}$

Senses and displays continuously:

- o Viscosity (cP or mPa·s)
- o Temperature ( $^{\circ}\text{C}$  or  $^{\circ}\text{F}$ )
- o % Torque
- o Speed (rpm)
- o Spindle used

Torque measurement accuracy: 1% of full scale range

Repeatability: 0.2% of full scale range

Select all functions from user-friendly keypad

Choice of 18 rotational speeds

Optional RTD temperature probe

Auto-zero function to ensure precision torque measurement

Auto-range function to define full scale range (FSR) for all spindle/speed combinations

10.

	<ul style="list-style-type: none"> <li>• Warns of under- or over-range torque measurement condition</li> <li>• Printer</li> <li>• Timed Stop to measure viscosity at precise user specified time interval</li> <li>• Time to Torque to measure the time interval for sample to reach user defined torque value</li> <li>• All accessories</li> <li>• NIST traceable viscosity standards also required</li> </ul>	
<p><b>11.</b></p>	<p><b><u>SPRAY DRYER.</u></b></p> <p><b>LABORATORY SPRAY DRYER SPECIFICATION.</b></p> <p>General Requirements ÿ With Programmable Logic Controller for PC connectivity and control as well as operation in standalone (manual) mode ÿ Suitable for aqueous solvents such as fruit juices, milk, egg, curd etc. RS 232 output for connection to a PC. PC/Laptop ÿ Software for online operation and control, printer interface with real time data collection.</p> <p>Printer ÿ Oil Free self-priming peristaltic pump ÿ Suitable Noiseless, Oil Free Air Compressor</p> <p>De humidifier with an integrated hygrometer</p> <p>Minimum 1 year warranty &amp; 2 year maintenance service</p> <p>Stabilizer 5 KW Accessories Required · SS stand to support the equipment · Inlet and outlet HEPA Filters · Aspirator · Spray cylinder · Drying Chamber ·</p> <p>Twin Cyclone Separator attachment, · Scrubber pot · Collection bottle, · Collection chamber · Two fluid nozzle &amp; co current Nozzles Technical Specifications Evaporation Capacity : 1.0 L/hr</p> <p>H2O Drying temperature input range : 50-250 o C</p> <p>Air Flow : 10-35 cu. m/hr Nozzle : Two-fluid, co-current, SS-316 L, 0.7 mm with auto-de-blocking device and option of variable nozzle apertures 0.5, 1.0, 1.5 mm with ultrasonic nozzle facility Power Rating : Up to 3000W Voltage : 220 V ± 10% Heater Capacity : 2.5-3.0KW Spray gas :</p> <p>Compressed air 200-1000 l/hr, 5-8 bar. Mean Dwell time: 1.0 - 2.0 seconds Possible particle diameter range : 1-25 µm Material of construction : Stainless steel 316L</p> <p>Heating apparatus: Borosilicate Glass Interconnection parts : Teflon, Silicon, Alkathene</p> <p>Extra Spare Parts All glass parts :</p> <p>1. One set. Drying Chamber: 1 No. Cyclone Scrubber: 1 No. Collection bottle, : 1 No.</p>	

Collection pot: 1 No.  
 2. Two sets of silicon gaskets and O-rings for glassware  
 Product feeding tube for pump: 2 meters Set of electrical panel fuses: Co current nozzles:  
 1 No each.

**UV-VIS SPECTROPHOTOMETER.**

**Specification of UV-Vis Spectrophotometer**

12.

<b>Accuracy</b>	±0.004A at 1A, ±0.004A at 2A, ±0.006A at 3AÅ
<b>Accuracy (Photometric)</b>	±0.004A at 1A, ± 0.004A at 2A, ± 0.006A at 3A
<b>Baseline Flatness</b>	±0.0015A (200-800nm), 2.0nm SBW, smoothed
<b>Beam Geometry</b>	Dual-Beam; Quartz Coated
<b>Certifications/Compliance</b>	21 CFR Part 11 and audit-proof IQ/OQ/PQ documentation. ISO 9001:2000
<b>Detector Type</b>	Dual Matched Silicon Photodiodes
<b>Electrical Requirements</b>	100/240V 50/60Hz
<b>Includes</b>	User Guide and USB Cable
<b>Item Description</b>	300 PC w/Vision Pro Software
<b>Interface</b>	Computer Control
<b>Lamp</b>	Xenon Flash Lamp
<b>Min. Data Interval</b>	0.5nm
<b>Monochromator</b>	Modified Ebert
<b>Noise</b>	Photometric: 0A: <0.00018 A 1A: <0.00022 A 2A: <0.00050 A 500 nm, 2.0 nm SBW, RMS
<b>Optical Design</b>	Modified Ebert Double beam with sample and reference cuvette/accessory positions
<b>Path length (Metric)</b>	Up to 100mm cuvette Resolution (Toluene in Hexane): Peak/Trough Ratio >2.0
<b>Pharmacopoeia Compliance Testing</b>	Photometric Accuracy (60mg/L K <sub>2</sub> Cr <sub>2</sub> O <sub>7</sub> ): <±0.01 A relative to calibrated sealed standard

		<p>Stray Light: &lt;0.13 %T at 198 nm with KCl per EP  220 nm: &lt;0.01%T NaI (behaves identically to KI for USP)</p> <p>Wavelength Accuracy: <math>\pm 0.20</math> nm (546.11 nm Hg emission line),  <math>\pm 0.30</math> nm 190–900 nm</p> <p>Wavelength Repeatability: Peak separation of repetitive scanning of Hg line source &lt;0.10 nm</p> <p>1A: <math>\pm 0.008</math> A  2A: <math>\pm 0.010</math> A  3A: <math>\pm 0.018</math> A</p> <p>Absorbance, % Transmittance, % Reflectance, Concentration</p> <p>1A: <math>\pm 0.0025</math> A</p> <p>Peak/Trough &gt;2.0 at 0.5nm SBW</p> <p>Absorbance, % Transmittance, % Reflectance, Concentration,  1st-4th Derivative</p> <p>1 to 3800nm/min</p> <p>Variable 0.5; 1.0; 1.5; 2.0; 4.0 nm</p> <p>198 nm: 2.9 A KCl  220 nm: 4.2 A NaI  340 nm: 4.3 A NaNO<sub>2</sub></p> <p>At least Windows XP</p> <p>100/240V</p> <p><math>\pm 0.20</math>nm (546.11nm Hg emission line); <math>\pm 0.3</math>nm for 190 to 900nm</p> <p>10, 5, 2, 1, 0.5, 0.2, 0.1, 0.05 nm</p> <p>190 to 1100nm</p> <p>Standard deviation of 10 measurements &lt;0.05 nm</p> <p>3800, 2400, 1200, 600, 240, 120, 60, 30, 10, 5, 1 nm/min Intelliscan</p>	
13.	<p><b><u>ANALYTICAL BALANCE.</u></b></p> <p>Technical Specification:</p> <p>Readability: 0.1 mg.</p> <p>Capacity: Approx 220gm/ 300 gm /600gm.</p>		

\* Repeatability:  $\pm 0.1$  mg.  
 Tare Range (Subtractive): Full of Capacity.  
 Response Time: =2.5 Sec.  
 Calibration: Built in calibration.  
 Application programs: Tare; Net Total: Counting; Weighing in % formulation;  
 Calculating.  
 Selectable weighing units: Gram and mg.  
 Display: LCD.  
 Provided with Weighing chamber and AC Adaptor.

Readability	0.01g
Capacity	300g
Repeatability	0.01g
Pan size	170x190mm
Power Connection	220/230 volt Ac
Calibration	Internal
Linearity	0.02g

**LASER DIFFRACTION PARTICAL SIZE ANALYZER FOR WET & DRY MEASUREMENT.**

**Specifications**

Measurement method	Laser diffraction method
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Measuring range	0.05-3000 $\mu$ m
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**14.**

Light source	Semiconductor laser (690nm wave length)	Dispersing bath	Made of polyacetal and SUS316, with about 400cm <sup>3</sup> inner volume
Photo sensor	81 elements(76 elements for forward area and 1 element for side area and 4 elements for back area)	Stirrer	Blade type, with adjustable rotation speed



	Power requirement	AC 100 to 120V 1A/AC 200 to 240V 0.5A 50/60Hz	Sonicator	42kHz frequency, 40W output power
	Dimensions and weight	95cm wide, 32cm deep, 41cm high, and 58kg weight	Liquid pump	Adjustable radial pump, with delivery speed up to 5000 cm <sup>3</sup> /min
	Material of wetted parts	Stainless steel(SUS304, SUS316)		
	Material	Made of quarts glass		
	Inner volume	12cm <sup>3</sup>	Dimensions and weight	43cm wide, 41cm deep, 40cm high, and 29kg weight
	Stirrer	Vertical movement blade type, with adjustable speed	Flow cell	Made of quarts glass
	<b>PC System Requirements</b>			
	Processor	133MHz or higher Pentium-compatible CPU	Available disk space	30megabytes(MB)
	RAM	32 megabytes(MB) of RAM recommended	CD-ROM drive	Yes
	Operating System	Microsoft Windows 95/98/NT4.0/2000/XP	Serial port	1port
	Monitor	Super VGA or higher resolution monitor		
15.	<p><b><u>TOTAL ORGANIC CARBON ANALYZER.</u></b></p> <p><b>SPECIFICATIONS FOR TOC ANALYZER</b></p> <p>The vendor shall supply an analyzer for the continuous monitoring of Total Organic Carbon (TOC) in accordance with attached specification. The Analyzer shall measure and record;</p>			



(1) TIC

(2) TOC (TOC shall include NPOC & POC & if necessary calculated as TC - TIC)

(3) POC

The system shall be site programmable to select any of the above options.

The TOC analyzer shall operate by making an infrared measurement after oxidation. The only acceptable oxidation method is the patented "2 Stage Advanced Oxidisation by hydroxyl radical" and using a manganese catalyst. The Oxidation process must provide a total measurement of all organic components present in the stream irrespective of sample matrix.

The oxidation method shall be fully self-cleaning for all reactor and wetted parts. The instrument shall operate continuously on a batch basis. Each batch cycle shall have duration of maximum of 6.5 minutes with a High Alarm predicted signal available in 3 minutes.

The batch time shall include, sample preparation, TIC removal and measurement, Full Oxidation and Measurement of organic material together with full cleaning of all wetted components, including sample tubes, selection valves/mechanisms, reactor etc. The Analyzer shall be capable of tolerating samples with organic levels of up to 20 times maximum range without any risk of damage or any requirement for specific cleaning or disassembly

The TOC Analyzer shall include an automatic programmable delay feature so that analysis frequency may be extended from "continuous" up to "one measurement per 24hrs".

The TOC Analyzer should incorporate an internal sample pump capable of transporting the sample up to 5 meters. The sample system shall include an internal liquid sample detector, which shall confirm the presence of a valid sample at the point of injection into the oxidation reactor.

All pumps including Sample, acid and base pumps shall be equipped with individual sensors to monitor and detect any deterioration in pump performance.

The sampling system shall carry out a self-cleaning of the entire sample tube during each reaction. This shall not require the supply of additional cleaning fluids.

The TOC analyzer shall not be affected by the presence of any of the following in the stream:

- Salts (Chlorides) up to 30%
- Calcium up to 12%
- Fats or Oil based materials
- Particulates up to 2mm in size

The TOC Analyzer shall be fully field-programmable and shall be suitable for ranges as detailed on the attached specification, with ranges selectable either automatically or manually. In the event of a range being exceeded the TOC analyzer shall (if programmed) automatically select the next highest range so that actual organic levels are accurately recorded up to the maximum specified range of the Analyzer. The analyzer shall have an accuracy/reliability of better than  $\pm 3\%$  of reading or 0.3mgC/l. The system shall automatically compensate for atmospheric pressure changes.

The system shall be equipped with one manual grab sample valve port. An operator shall

be allowed to present a grab sample & programme the system to measure such samples immediately or to measure the sample at a pre-selected later time. The analyzer shall be programmable to automatically resume on-line analysis after completion of grab sample analysis. The Analyzer shall be capable of tolerating grab samples with organic levels of up to 20 times maximum range without any risk of damage or any requirement for specific cleaning or disassembly

It shall be possible to configure the system as a multi-stream analyzer capable of measuring up to 6 streams by adding the appropriate additional stream hardware.

*The system shall be equipped with a sample sensor which shall confirm the presence of the sample at the point of injection during each reaction (optional).*

The TOC analyzer shall present data on 4 - 20mA outputs. Data shall be stored in historic archive, which shall include the last 5000 analysis results and 50 fault conditions. Results shall also be tagged separately for **Normal Analysis, Cleaning Cycle, Zero or Calibration Results**. The system shall also tag separately results for "Grab Samples". Where a multi-stream system is selected, archive results shall be tagged with stream number

The Toc analyzer shall incorporate an easily removable SD flash memory card

All archive data, including system configuration, historical results and diagnostic data shall be recordable for downloading on the integral SD flash card and shall be available in a standard text format for analyses by Excel or equivalent.

The TOC analyzer shall also incorporate an RS232 output

3 Field-programmable Digital outputs shall be available and be freely programmable for any one or more of the following: Low Reagent digital signal, Trouble and or Fault alarm digital signal, Power Failure digital signal; No Sample digital signal; Air Supply Fault digital signal High Alarm digital signal; High-High alarm digital signal; High Alarm predicted signal TOC analyzer shall have a range of Self-Testing Feature with comprehensive in-built diagnostics and with monitoring of all critical components, processes and reagents including;

- Component testing of: Sample pump; Reagent pumps; Sample Selection valve; correct performance of all control circuits with processor watchdog; Full diagnostics on the Co2 analyzer
- Process testing of: Reagent monitoring with prediction in days for remaining reagent; Automatic New Reagent quality testing; Carrier gas monitoring for flow and CO2 contamination; System Gas path blockage monitoring; System gas path flow monitoring; Liquid leak detector.

In order to assist with troubleshooting Smart Testing Routines shall be available in Process simulate mode (maintenance mode) and shall include:

- Sample line fill; sample injection; sample line empty; Reagent PH test for each stage of reaction cycle; System gas path pressure test; System gas path flow test; Ozone generator performance test; Co 2 analyzer test; Mass flow controller test; Sample, acid and base pump sensor test; Pumped volume test for Sample, Acid and Base pumps;

Vendors shall identify at the time of tender the Original Manufacturer of the proposed TOC analyzer and shall only propose equipment currently manufactured and from the most current TOC range of analyzers available from that manufacturer. Vendors shall not

	<p>propose equipment that is in breach of any patents issued in USA, Europe or Asia.</p> <p>All proposed TOC analyzers should be certified to OSHA standards UL/CSA 61010-1 and</p> <p>The Analyzer enclosure and user interface display should be suitable for the addition of purge protection for use in Class 1 Div. 2 areas</p>	
16.	<p><b><u>Ultra pure water system</u></b></p> <p><b>ultra pure water system Specification</b></p> <p>AN ultra waster system must be compatible to produce low value conductivity for ICP grade water. Specification are found to be as follows</p> <p>Conductivity: &lt; 0.5 <math>\mu</math>S / cm</p> <p>Resistivity: 18.2 ohm-cm</p> <p>Ultra pure water</p> <p>TOC:2 ppb</p> <p>Temperature: 1 to 35 °C</p> <p>Electric range: 230 v</p> <p>Fuse 5x20 mm TIA 250 V</p>	
17.	<p><b><u>pH meter</u></b></p> <p><b>specifications</b></p> <p>pH/mV sensor input Measuring range <math>\pm</math> 2000 mV / 0 – 14 pH</p> <p>Resolution <math>\pm</math> 0.1mV</p> <p>Temperature sensor input Measuring range 0 – 100 °C</p> <p>Resolution <math>\pm</math> 0.1 °C</p> <p>Power supply Input voltage 24 VDC / 1.25 A</p> <p>Line input voltage 100 – 240 V <math>\pm</math>10%</p> <p>Input frequency 50 / 60 Hz</p> <p>Environment Ambient temperature 5 °C – 40 °C</p> <p>Atmospheric humidity Max. 80% at 31 °C</p> <p>Titration dimensions Width x depth x height / weight 170 x 220 x 350 mm / 1.9 kg (Plus KF stand 0.8 kg)</p> <p>Control and display Touch screen 4.3 inch, 480 x 272 pixel RGB</p> <p>Communication USB-A USB full / low speed</p> <p>USB-B USB full / low speed</p> <p>Application* Repeatability 0.5% RDS</p> <p>Titration type Direct, back compensated, blank compensated</p>	

**TOTAL (PAK Rs.) : Above 1.0 Million**

## Instructions to bidders

### Preparation of Bids

- 1. Scope of Work** The, I.C.C.B.S., plans to develop / acquire a comprehensive integrated solution for all the functional needs and requirements of EQUIPMENTS, as described in later pages.
- 2. Method and procedure of Procurement** National Competitive Bidding **Single-Stage Two-Envelope Procedure** as per SPP Rules 2010 (updated 2013)  
  
The bid prepared by the Bidder, as well as all correspondence and documents relating to the bid exchanged by the Bidder and the Procuring agency , shall be written in the English language
- 2. Language of Bid**
- 3. Documents Comprising the Bid** The bid prepared by the Bidder shall comprise the following components:
  - (a) Price Schedule completed in accordance with ITB Clauses 4, 5 and 6.
  - (b) Bid security furnished in accordance with ITB Clause 9.
- 4. Bid Prices**
  - 4.1 The Bidder shall indicate on the appropriate Price Schedule the unit prices (where applicable) and total bid price of the equipment it proposes to supply under the contract.
  - 4.2 the prices shall be quoted on delivery to consignee's end inclusive of all taxes, stamps, duties, levies, fees and installation and integration charges imposed till the delivery location specified in the Schedule of Requirements. No separate payment shall be made for the incidental services.
  - 4.3 Prices quoted by the Bidder shall be fixed during the Bidder's performance of the contract and not subject to variation on any account, unless otherwise specified in the Bid Data Sheet.
  - 4.4 Prices shall be quoted in Pak Rupees unless otherwise specified in the Bid Data Sheet. The conversion of the foreign currency in Pak rupees should be mentioned in case of C&F prices.
- 5. Bid Form** The Bidder shall complete the Bid Form and the appropriate Price Schedule furnished in the bidding documents, indicating equipments to be supplied, description of the equipments and prices.
- 6. Bid Currencies** Prices Shall be quoted is fixed and in Pak rupees (*after conversion from foreign currency*) in case when the prices are being quoted on C&F basis

**7. Documents Establishing Bidder's Eligibility and Qualification**

The Bidder shall furnish, as part of its bid, documents establishing the Bidder's eligibility to bid and its qualifications to perform the contract if its bid is accepted.

- (a) that the Bidder has the financial and technical capability necessary to perform the contract;
- (b) that the Bidder meets the qualification criteria listed in the Bid Data Sheet.

**8. Documents' Eligibility and Conformity to Bidding Documents**

The documentary evidence of conformity of the equipments to the bidding documents may be in the form of cat number, part number etc., and shall consist a detailed description of the essential technical and performance characteristics of the systems.

**9. Bid Security**

9.1 The bid security is required to protect the Procuring agency against the risk of Bidder's conduct, which would warrant the security's forfeiture

The bid security shall be denominated in the currency of the bid:

- (a) at the Bidder's option, be in the form of either demand draft/call deposit or an unconditional bank guarantee from a reputable Bank ;
- (b) be submitted in its original form; copies will not be accepted;
- (c) remain valid for a period of at least 14 days beyond the original validity period of bids, or at least 14 days beyond any extended period of bid validity

9.2 bid securities shall be released to the unsuccessful bidders once the contract has been signed with the successful bidder or the validity period has expired.

9.3 The successful Bidder's bid security shall be discharged upon the Bidder signing the contract, and furnishing the performance security.

9.4 The bid security may be forfeited:

- (a) if a Bidder withdraws its bid during the period of bid validity or
- (b) in the case of a successful Bidder, if the Bidder fails:
  - (i) to sign the contract in accordance or
  - (ii) to furnish performance security

**10. Period of Validity of**

10.1 Bids shall remain valid for the period specified in the Bid Data Sheet after the date of bid submission prescribed by the Procuring agency. A bid valid for a shorter period shall be rejected by the Procuring agency

## **Bids**

as non responsive.

- 10.2 In exceptional circumstances, the Procuring agency may solicit the Bidder's consent to an extension of the period of validity. The request and the responses thereto shall be made in writing. The bid security shall also be suitably extended as per Rule-38 of SPP Rules, 2010 (updated 2013). A Bidder may refuse the request without forfeiting its bid security. A Bidder granting the request will not be required nor permitted to modify its bid.

## **11. Format and Signing of Bid**

- 11.1 The Bidder shall prepare an original and the number of copies of the bid indicated in the Bid Data Sheet, clearly marking each "ORIGINAL BID" and "COPY OF BID," as appropriate. In the event of any discrepancy between them, the original shall govern.
- 11.2 The original and the copy or copies of the bid shall be typed or written in indelible ink and shall be signed by the Bidder or a person or persons duly authorized to bind the Bidder to the contract. All pages of the bid, except for un-amended printed literature, shall be initialed by the person or persons signing the bid.
- 11.3 Any interlineations, erasures, or overwriting shall be valid only if they are initialed by the person or persons signing the bid.



## **Submission of Bids**

### **12. Sealing and Marking of Bids**

- 12.1 The Bidder shall seal the original and each copy of the bid in separate envelopes, duly marking the envelopes as "ORIGINAL BID" and ONE COPY. The envelopes shall then be sealed in an outer envelope. The inner and outer envelopes shall be addressed to the Procuring agency at the address given in the BDS, and carry statement "DO NOT OPEN BEFORE 3.00 P.M. on 29-11-2016.
- 12.2 If the outer envelope is not sealed and marked as required, the Procuring agency shall assume no responsibility for the bid's misplacement or premature opening.

### **13. Deadline for Submission of Bids**

- 13.1 Bids must be received by the Procuring agency at the address specified in BDS, not later than the time and date specified in the Bid Data Sheet.
- 13.2 The Procuring agency may, at its discretion, extend this deadline for the submission of bids by amending the bidding documents. in such case all rights and obligations of the Procuring agency and bidders previously subject to the deadline will thereafter be subject to the deadline as extended.

### **14. Late Bids**

Any bid received by the Procuring agency after the deadline for submission of bids prescribed by the Procuring agency shall be rejected and returned unopened to the Bidder.

### **15. Modification and Withdrawal of Bids**

- 15.1 The Bidder may modify or withdraw its bid after the bid's submission, provided that written notice of the modification, including substitution or withdrawal of the bids, is received by the Procuring agency prior to the deadline prescribed for submission of bids.
- 15.2 No bid may be modified after the deadline for submission of bids.
- 15.3 No bid may be withdrawn in the interval between the deadline for submission of bids and the expiry of the period of bid validity. Withdrawal of a bid during this interval may result in the Bidder's forfeiture of its bid security.

## **Opening and Evaluation of Bids**

### **16. Opening of Bids by the Procuring agency**

16.1 The Procuring agency shall open all bids in the presence of bidders' representatives who choose to attend, at the time, on the date, and at the place specified in the Bid Data Sheet. The bidders' representatives who are present shall sign a register/attendance sheet evidencing their attendance.

16.2 The bidders' names, bid modifications or withdrawals, bid prices, discounts, and the presence or absence of requisite bid security and such other details as the Procuring agency may consider appropriate, will be announced at the opening.

### **17. Clarification of Bids**

During evaluation of the bids, the Procuring agency may ask the Bidder for a clarification of its bid. The request for clarification and the response shall be in writing, and no change in the prices or substance of the bid shall be sought, offered, or permitted.

### **18. Preliminary Examination**

18.1 The Procuring agency shall examine the bids to determine whether they are complete, whether any computational errors have been made, whether required sureties have been furnished, whether the documents have been properly signed, and whether the bids are generally in order.

18.2 Arithmetical errors will be rectified on the following basis. If there is a discrepancy between the unit price and the total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail, and the total price shall be corrected. If the Supplier does not accept the correction of the errors, its bid will be rejected, and its bid security may be forfeited. If there is a discrepancy between words and figures, the amount in words will prevail.

18.3 Prior to the detailed evaluation, the Procuring agency will determine the substantial responsiveness of each bid to the bidding documents. A substantially responsive bid is one which conforms to all the terms and conditions of the bidding documents without material deviations. Procuring agency's determination of a bid's responsiveness is to be based on the contents of the bid itself.

18.4 If a bid is not substantially responsive, it will be rejected by the Procuring agency and may not subsequently be made responsive by the Bidder by correction of the nonconformity.

### **19. Evaluation and Comparison of Bids**

19.1 The Procuring agency will evaluate and compare the bids which have been determined to be substantially responsive.

19.2 The Procuring agency's evaluation of a bid will be on delivery to consignee's end inclusive of all taxes, stamps, duties, levies, fees and installation and integration charges imposed till the delivery location.



- 20. **Contacting the Procuring agency**
  - 20.1 No Bidder shall contact the Procuring agency on any matter relating to its bid, from the time of the bid opening to the time of announcement of Bid Evaluation Report. If the Bidder wishes to bring additional information to the notice of the Procuring agency, it should do so in writing.
  - 20.2 Any effort by a Bidder to influence the Procuring agency in its decisions on bid evaluation, bid comparison, or contract award may result in the rejection of the Bidder's bid.

**Award of Contract**

- 21. **Post-qualification**
  - 21.1 In the absence of prequalification, the Procuring agency may determine to its satisfaction whether that selected Bidder having submitted the lowest evaluated responsive bid is qualified to perform the contract satisfactorily.
  - 21.2 The determination will take into account the Bidder's financial and technical capabilities. It will be based upon an examination of the documentary evidence of the Bidder's qualifications submitted by the Bidder, pursuant to ITB Clause 7 as well as such other information as the Procuring agency deems necessary and appropriate.
  - 21.3 An affirmative determination will be a prerequisite for award of the contract to the Bidder. A negative determination will result in rejection of the Bidder's bid, in which event the Procuring agency will proceed to the next lowest evaluated bid to make a similar determination of that Bidder's capabilities to perform satisfactorily.

- 22. **Award Criteria**

The Procuring agency will award the contract to the successful Bidder whose bid has been determined to be substantially responsive and has been determined to be the lowest evaluated bid, provided further that the Bidder is determined to be qualified to perform the contract satisfactorily.

- 23. **Procuring agency's Right to Accept any Bid and to Reject any or All Bids**
  - 23.1 Subject to relevant provisions of SPP Rules 2010 (updated 2013), the Procuring agency reserves the right to accept or reject any bid, and to annul the bidding process and reject all bids at any time prior to contract award.
  - 23.2 Pursuant to Rule 45 of SPP Rules 2010 (updated 2013), Procuring agency shall hoist the evaluation report on Authority's web site, and intimate to all the bidders seven days prior to notify the award of contract.

24. **Notification of Award**
- 24.1 Prior to the expiration of the period of bid validity, the Procuring agency shall notify the successful Bidder in writing, that its bid has been accepted.
- 24.2 Upon the successful Bidder's furnishing of the performance security pursuant to ITB Clause 26, the Procuring agency will promptly notify each unsuccessful Bidder and will release their bid security.
25. **Signing of Contract**
- 25.1 At the same time as the Procuring agency notifies the successful Bidder that its bid has been accepted, the Procuring agency will send the Bidder the Contract Form provided in the bidding documents, incorporating all agreements between the parties.
- 25.2 Within the period specified in BDS, of receipt of the Contract Form, the successful Bidder shall sign and date the contract and return it to the Procuring agency.
26. **Performance Security**
- 26.1 Within the period specified in BDS, of the receipt of notification of award from the Procuring agency, the successful Bidder shall furnish the performance security in accordance with the Conditions of Contract, in the Performance Security Form provided in the bidding documents, or in another form acceptable to the Procuring agency.
- 26.2 Failure of the successful Bidder to comply with the requirement of ITB Clause 25 shall constitute sufficient grounds for the annulment of the award and forfeiture of the bid security, in which event the Procuring agency may make the award to the next lowest evaluated Bidder or call for new bids.
27. **Corrupt or Fraudulent Practices**
- 27.1 The Government of Sindh requires that Procuring agency's (including beneficiaries of donor agencies' loans), as well as Bidders/Suppliers/Contractors under Government-financed contracts, observe the highest standard of ethics during the procurement and execution of such contracts. In pursuance of this policy, the SPPRA, in accordance with the SPP Act, 2009 and Rules made there under:
- (a) **"Corrupt and Fraudulent Practices"** means either one or any combination of the practices given below;
- a. **"Coercive Practice"** means any impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence the actions of a party to achieve a wrongful gain or to cause a wrongful loss to another party;
- b. **"Collusive Practice"** means any arrangement between two or more parties to the procurement process or contract execution, designed to achieve with or without the knowledge of the procuring agency to establish prices at artificial, noncompetitive levels for any wrongful gain;

- c. **“Corrupt Practice”** means the offering, giving, receiving or soliciting, directly or indirectly, of anything of value to influence the acts of another party for wrongful gain;
  
- d. **“Fraudulent Practice”** means any act or omission, including a misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain a financial or other benefit or to avoid an obligation;
  
- (b) **“Obstructive Practice”** means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in a procurement process, or affect the execution of a contract or deliberately destroying, falsifying, altering or concealing of evidence material to the investigation or making false statements before investigators in order to materially impede an investigation into allegations of a corrupt, fraudulent, coercive or collusive practice; or threatening, harassing or intimidating any party to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation, or acts intended to materially impede the exercise of inspection and audit rights provided for under the Rules.

## Bid Data Sheet

The following specific data for equipments to be procured shall complement, supplement, or amend the provisions in the Instructions to Bidders (ITB). Whenever there is a conflict, the provisions herein shall prevail over those in ITB.

<b>Introduction</b>	
<b>ITB 1</b>	<b>Name and address of Procuring Agency:</b> International Center for Chemical and Biological Sciences, University of Karachi Karachi-75270.
<b>ITB 1</b>	<b>Name of Contract.</b> <i>Purchase/Import of EQUIPMENTS for the Center.</i>
<b>Bid Price and Currency</b>	
<b>ITB 4</b>	Prices quoted by the Bidder shall be <b><i>“fixed” in C&amp;F prices.</i></b> <i>(The rates shall also be quoted in Pak rupees after conversion from foreign currency).</i>
<b>Preparation and Submission of Bids</b>	
<b>ITSB 19</b>	<i>Qualification requirements:</i> 1. Complete Company profile 2. Valid Registration with tax authorities is required 3. Relevant experience at least Six (06) Months. 4. Rs. 100,000.00 Turn-over of at least last three years
<b>ITB 7</b>	<b>Amount of bid security.</b> 2 % of Bid
<b>ITB 8</b>	<b>Bid validity period.</b> 90 days
<b>ITB-9</b>	<b>Performance Guarantee</b> 5% of the P.O. Value
<b>ITB 10</b>	<b>Number of copies.</b> One original One copy

ITB 11	Pre-bid meeting. 23/11/2016 at 11:30 A.M.
ITB 19.1	Deadline for bid submission. 29-11-2016 at 2.30 p.m.
ITB 20	<b>Bid Evaluation:</b> Lowest evaluated bid
	<b>Under following conditions, Bid will be rejected:</b> <ol style="list-style-type: none"><li>1. Conditional and Telegraphic tenders/bids;</li><li>2. Bids not accompanied by bid security (Earnest Money);</li><li>3. Bids received after specified date and time;</li><li>4. Bidder submitting any false information;</li><li>5. Black Listed Firms by Sindh Government or any Entity of it</li></ol>

## Summary Sheet

TENDER NOTICE NO. ICCBS/HEJ/PRF 3123/EQPT-291116

The tender will liable to be rejected, if this form will not accompany the tender bid / quote

<b>Serial No. with Item's Name</b>	<b>Make &amp; Country of Origin</b>	<b>Model No. / CAT No.</b>	<b>Bid Value</b>	<b>Foreign Currency (If applicable)</b>	<b>Conversion Rate (If applicable)</b>	<b>Price in PKR</b>
<b><u>1. WDX-X-Ray Fluorescence Analyser</u></b>						
<b><u>2. KJELDAHL DISTILLATION UNIT FOR NITROGEN/PROTEIN</u></b>						
<b><u>3. FT-NIR SPECTROPHOTOMETER.</u></b>						
<b><u>4. AUTOMETIC POTENTIOMETRIC TITRATOR</u></b>						
<b><u>5. SPECTRA MAX M2E PLATE READER FOR THE MEASUREMENT OF ABSORBANCE AND FLUORESCENCE.</u></b>						
<b><u>6. MUFFLE FURNACE (Ambient TO 1450 °C).</u></b>						

<u>7. SHAKING WATER BATH</u>						
<u>8. STABILITY CHAMBER.</u>						
<u>9. ULTRASONIC BATH.</u>						
<u>10. VISCOMETER</u>						
<u>11. SPRAY DRYER</u>						
<u>12. UV-VIS SPECTROPHOTOMETER.</u>						
<u>13. ANALYTICAL BALANCE</u>						
<u>14. LASER DIFFERACTON PARTICAL SIZE ANALYZER FOR WET &amp; DRY MEASUREMENT.</u>						

<b><u>15. TOTAL ORGANIC CARBON ANALYZER.</u></b>							
<b><u>16. Ultra pure water system</u></b>							
<b><u>17. pH meter</u></b>							

Total Bid Value in PKR		
Earnest Money @ ____% in PKR		
Pay Order/Demand Draft No:		Date:
Signature :	Seal :	



**SCHEDULE OF REQUIREMENTS**

S. No.	Description of service / goods	Quantity	Required Delivery Schedule in Days from the Date of Contract Award	Location
1	<b>Purchase / Import of Equipment(s)</b>	As per tender document	12 weeks on C&F orders	I.C.C.B.S., Karachi
2				
3				

**Sample Forms**

Date: \_\_\_\_\_

To:

International Center for Chemical and Biological Sciences  
University of Karachi,  
Karachi-75270.

Dear Sir:

Having examined the bidding documents, the receipt of which is hereby duly acknowledged, we, the undersigned, offer to develop and deliver the required system in conformity with the said bidding documents for the sum of *[total bid amount in words and figures]* or such other sums as may be ascertained in accordance with the Schedule of Prices attached herewith and made part of this Bid.

We undertake, if our Bid is accepted, to develop the system in accordance with the delivery schedule specified in the Schedule of Requirements.

If our Bid is accepted, we will obtain the guarantee of a bank in a sum equivalent to **Five (5) percent** of the Contract Price/Pay order for the due performance of the Contract, in the form prescribed by the Purchaser.

We agree to abide by this Bid for a period of 90days from the date fixed for Bid opening under Clause 16 of the Instructions to Bidders, and it shall remain binding upon us and may be accepted at any time before the expiration of that period.

Until a formal Contract is prepared and executed, this Bid, together with your written acceptance thereof and your notification of award, shall constitute a binding Contract between us.

We understand that you are not bound to accept the lowest or any bid you may receive.

Dated this \_\_\_\_\_ day of \_\_\_\_\_ 2016/17 \_\_\_\_\_

\_\_\_\_\_  
*[signature]*

\_\_\_\_\_  
*[in the capacity of]*

Duly authorized to sign Bid for and on behalf of \_\_\_\_\_

To: *[name of Procuring agency]*

WHEREAS *[name of Supplier]* (hereinafter called "the Supplier") has undertaken, in pursuance of Contract No. *[reference number of the contract]* dated \_\_\_\_\_ 2016/17 to deploy *[description of goods and services]* (hereinafter called "the Contract").

AND WHEREAS it has been stipulated by you in the said Contract that the Supplier shall furnish you with a bank guarantee by a reputable bank for the sum specified therein as security for compliance with the Supplier's performance obligations in accordance with the Contract.

AND WHEREAS we have agreed to give the Supplier a guarantee:

THEREFORE WE hereby affirm that we are Guarantors and responsible to you, on behalf of the Supplier, up to a total of *[amount of the guarantee in words and figures]*, and we undertake to pay you, upon your first written demand declaring the Supplier to be in default under the Contract and without cavil or argument, any sum or sums within the limits of *[amount of guarantee]* as aforesaid, without your needing to prove or to show grounds or reasons for your demand or the sum specified therein.

This guarantee is valid until the \_\_\_\_ day of \_\_\_\_\_ 2016/17 \_\_\_\_\_

Signature and seal of the Guarantors

---

*[name of bank or financial institution]*

---

*[address]*

---

*[date]*

**INTERNATIONAL CENTER FOR CHEMICAL AND BIOLOGICAL SCIENCES  
UNIVERSITY OF KARACHI  
KARACHI-75270  
ANNUAL PROCUREMENT PLAN**

(WORKS, GOODS & SERVICES)

Financial Year 2016-17

S.No.	Description of procurement	Quantity (where applicable)	Estimated unit cost (where applicable)	Estimated total cost	Funds allocated	Source of funds (ADP/Non ADP)	Proposed procurement method	Timing of procurements				
								1 <sup>st</sup> Qtr	2 <sup>nd</sup> Qtr	3 <sup>rd</sup> Qtr	4 <sup>th</sup> Qtr	
1.	Purchase of Equipments and Chemicals (ICCBS-HEJ-CTP(SGP)-190716 (2 <sup>nd</sup> time)	Multiple items	Rs. 10.6 million	Rs. 10.6 million	Rs. 10.6 million	HEJ (Sindh Govtt)	Single-stage single envelope (news paper/website)	/				
2.	Purchase/import of Gel Documentation System	1 No.	Above Rs 1 million	Above Rs 1 million	Above Rs 1 million	HEJ	Single-stage single envelope (news paper/website)	/				
3.	Manufacture, supply and installation of F/F for ITPNTI-Service building	1 No.	Above Rs 1 million	Above Rs 1 million	Above Rs 1 million	HEJ	Single-stage single envelope (news paper/website)	/				
4.	Supply of Floor Washing Machine ICCBS/HEJ/PRF-	1 No.	Below Rs 1 million	Below Rs 1 million	Below Rs 1 million	HEJ	Single-stage single envelope	/				



	9106/FMW-200916 (3 <sup>rd</sup> time)																		
5.	Supply of Passenger-Bus ICCBS/HEJ/BUS-090816 (3 <sup>rd</sup> time)	1 No.	Above Rs 1 million	Above Rs 1 million	Above Rs 1 million	Above Rs 1 million	HEJ	Single-stage single envelope (news paper/website)	/										
6.	Purchase / Import of Machinery / Equipment HEJ- ICCBS-STRP-090816 (2 <sup>nd</sup> time)	2 No.	Below Rs 1 million	Below Rs 1 million	Below Rs 1 million	HEJ	Single-stage single envelope (website)	/											
7.	Supply / Installation of Solar System	1 No.	Above Rs 1 million	Above Rs 1 million	Above Rs 1 million	HEJ	Single-stage single envelope (news paper/website)	/											
8.	Purchase of Server and other Computer accessories	9 Nos.	Above Rs 1 million	Above Rs 1 million	Above Rs 1 million	HEJ	Single-stage single envelope (news paper/website)	/											
9.	Purchase of ID Card Printer Machine	1 No.	Rs. 285,000/-	Rs. 285,000/-	Rs. 285,000/-	HEJ	Single-stage single envelope (website)	/											
10.	Purchase/Import of Digital Signage Display (ICBS-TWC-DSD-200916	1 No.	Rs. 350,000/-	Rs. 350,000/-	Rs. 350,000/-	TWC	Single-stage single envelope (website)	/											

	(4 <sup>th</sup> time)									
11.	Landscaping and walkway work	1 No.	Above Rs 1 million	Above Rs 1 million	Above Rs 1 million	HEJ	Single-stage single envelope (news paper/website)	/		
12.	Supply and Installation of CCTV Security Camera System and Laying of Fiber Optic Cable	17 Nos.	5 million	5 million	5 million	HEJ	Single-stage single envelope (news paper/website)	/		
13.	Supply of Chemicals	69 Nos.	5.2 million	5.2 million	5.2 million	HEJ	Single-stage single envelope (news paper/website)	/		
14.	Purchase/import of Machinery/Equipment	3 Nos.	Above Rs 1 million	Above Rs 1 million	Above Rs 1 million	HEJ	Single-stage single envelope (news paper/website)	/		
15.	Purchase of Computer Accessories (ICCBS-HEJ/PRF-2864/CMP-200916	2 Nos.	Rs. 930,000/-	Rs. 930,000/-	Rs. 930,000/-	HEJ	Single-stage single envelope (website)	/		



16.	Purchase / Import Equipments (ICCBS/HEJ/EQPT-270916)	3 Nos.	Above one million	Above one million	Above one million	HEJ	Single-stage single envelope (news paper/website)	/		
17.	Purchase of Server and other Computer accessories (ICCBS-HEJ-ILTP-CMP-041016 (5 <sup>th</sup> time)	2 Nos.	Rs. 513,000/-	Rs. 513,000/-	Rs. 513,000/-	HEJ	Single-stage single envelope (website)	/		
18.	Supply of Furniture (ICCBS/HEJ/PRF-05828/FURNT-041016)	2 Nos.	Rs. 450,000/-	Rs. 450,000/-	Rs. 450,000/-	HEJ	Single-stage single envelope (website)	/		
19.	Supply of Furniture/Fixture (ICCBS/HEJ/PRF-05828/FURNT-041016)	2 Nos.	Rs. 450,000/-	Rs. 450,000/-	Rs. 450,000/-	HEJ	Single-stage single envelope (website)	/		
20.	Manufacture / Supply & Installation of Furniture/Fixture	23 Nos.	Rs. 6 million	Rs. 6 million	Rs. 6 million	TWC	Single-stage single envelope (website)	/		
21.	Supply and Installation of Inverter Type Split AC	20 Nos.	Above 1 million Rs.	Above 1 million Rs.	Above 1 million Rs.	TWC	Single-stage single envelope (website)	/		

21.	Purchase/Import of Equipment	17 Nos.	46.13 million	46.13 million	46.13 million	HEJ	Single-stage single envelope (news paper/website)	/		
15.										





15.08.2016

**H.E.J. RESEARCH INSTITUTE OF CHEMISTRY  
THIRD WORLD CENTER FOR CHEMICAL SCIENCES  
DR. PANJWANI CENTER FOR MOELCULAR MEDICINE AND DRUG RESEARCH  
( INTERNATIONAL CENTER FOR CHEMICAL AND BIOLOGICAL SCIENCES )  
UNIVERSITY OF KARACHI**

**NOTICE**

This is for the information of all concerned that the composition of the ICCBS "Procurement Committee" is being reconstituted due to unavailability of one of the Internal Members. Members of the reconstituted committee are as follows:

Internal (International Center for Chemical and Biological Sciences)

1. Prof. Dr. M. Shaiq Ali, Professor (Chairman)
2. Dr. Asmat Salim, Associate Professor (Member)
3. Dr. Hafizur Rehman, Assistant Professor (Member)

External

1. Syed Jehnazeab, Assistant Manager Finance (Institute of Business Administration)
2. Dr. Shaista Perveen, Associate Professor (Department of Chemistry, University of Karachi)



**PROF. DR. M. IQBAL CHOUDHARY, H.I.,S.I.,T.I.**  
*Director*

COPY TO:-

1. Prof. Dr. M. Shaiq Ali
2. Dr. Asmat Salim
3. Dr. Hafizur Rehman
4. Dr. Shakeel Ahmed (IAC)
5. Mr. Javaid Riaz
6. Accounts Section
7. Mr. Haris Qureshi
8. Mr. Umair Waqar
9. Ms. Sadia Jabeen Asim
10. Mr. Anis Ur Rab Siddiqui
11. Mr. Rizwan Ishaq
12. ICCBS Library In-charge

H.E.J. RESEARCH INSTITUTE OF CHEMISTRY  
THIRD WORLD CENTER FOR CHEMICAL SCIENCES  
DR. PANJWANI CENTER FOR MOLECULAR MEDICINE AND DRUG RESEARCH  
( INTERNATIONAL CENTER FOR CHEMICAL AND BIOLOGICAL SCIENCES )  
UNIVERSITY OF KARACHI

NOTICE

This is for the information of all concerned that the composition of the ICCBS "Procurement Committee" is being changed due to unavailability of one of the Internal Members:

Dr. Hafizur Rehman will replace Dr. Sonia Siddiqui as a member of the Procurement

Committee.



PROF. DR. M. IQBAL CHOUDHARY, *HL, SL, TL*  
*Director*

COPY TO:-

1. Prof. Dr. M. Shaig Ali
2. Prof. Dr. Farzana Shaheen
3. Dr. Hafizur Rehman
4. Dr. Shakeel Ahmed (IAC)
5. Mr. Javaid Riaz
6. Accounts Section
7. Mr. Haris Qureshi
8. Mr. Umair Waqar
9. Ms. Sadia Jabben Asim
10. Mr. Anis Ur Rab Siddiqui
11. Mr. Rizwan Ishaq
12. ICCBS Library In-charge

INTERNATIONAL CENTER FOR CHEMICAL AND BIOLOGICAL SCIENCES  
UNIVERSITY OF KARACHI

NOTIFICATION FOR COMPLAINT REDRESSAL COMMITTEE

In compliance of the Rule#31 of prevailing Sindh Public Procurement Rules 2010 (Amended 2013), the International Center for Chemical and Biological Sciences (University of Karachi) constitutes the Institutional "Complaint Redressal Committee" to address the complaints of bidders that may occur during the procurement proceedings. The composition of the said Committee is given as under:

- Sr. Prof. Dr. Khalid M. Khan (Convener)
- Representative of Accountant General Sindh (Member)
- An independent professional)(Member)
- End User (by invitation, non signatory)
- SPPRA/Audit Advisor (by invitation, non signatory)



PROF. DR. M. IQBAL CHOUDHARY  
*Director*

18/11/14  
067  
12/18

**International Center for Chemical and Biological Sciences**  
**THIRD WORLD CENTER FOR CHEMICAL SCIENCES**  
(H.E.J. Research Institute of Chemistry and Dr. Panjwani Center for Molecular  
Medicine and Drug Research)  
University of Karachi

7<sup>th</sup> August, 2014

NOTICE

SUBJECT : REQUEST FOR RE-CONSTITUTION OF PROCUREMENT  
COMMITTEE IN ICCBS INSTITUTIONS

In compliance of Rule # 7 of the Sindh Public Procurement (SPP), Rules 2010 (governing rules that are required to be followed for all procurements for entities that fall under the provincial domain of Govt. of Sindh). The ICCBS Procurement Committee is proposed to be reconstituted due to the non-availability of one of the members. The composition of the reconstituted Committee is as follows :

- (1) Prof. Dr. M. Shaiq Ali (Convenor)
- (2) Dr. Abdul Jabbar, Assistant Professor (Member)
- (3) Dr. Sonia Siddiqui, Assistant Professor (Member)
- (4) Dr. Shaista Perveen, Department of Chemistry (University of Karachi)
- (5) Mr. Syed Jehanzaib, Assistant Manager Finance-Project (IBA)

Permission may kindly be granted for the above mentioned proposed committee (ICCBS).

*Submitted for approval please :*

*M. Iqbal Choudhary*  
The Vice-Chancellor and  
Chairman, Executive Board

  
**PROF. DR. M. IQBAL CHOUDHARY**  
DIRECTOR

H.E.J.C.C.S.

DIRECTOR

H.E.J. Research Institute of Chemistry  
International Center for Chemical and Biological Sciences  
University of Karachi

H.E.J. RESEARCH INSTITUTE OF CHEMISTRY  
THIRD WORLD CENTER FOR CHEMICAL SCIENCES  
DR. PANJWANI CENTER FOR MOELCULAR MEDICINE AND DRUG RESEARCH  
( INTERNATIONAL CENTER FOR CHEMICAL AND BIOLOGICAL SCIENCES )  
UNIVERSITY OF KARACHI

Dated: 3<sup>rd</sup> Dec, 2014

NOTICE

This is for the information of all concerned that the composition of the Purchase Committee is being changed due to unavailability of two of its Internal Members:

- Dr. Rizwana S. Waraich will be signing Purchase Documents in place of Dr. Sonia Siddiqui as an Internal Member of "ICCBS Procurement Committee" during the absence of the latter.
- Dr. Farzana Shaheen will replace Dr. Abdul Jabbar as an Internal Member of "ICCBS Procurement Committee", since the latter has left the Institute.

  
PROF. DR. M. IQBAL CHOUDHARY  
*Director*

COPY TO:-

1. Prof. Dr. M. Shaiq Ali
2. Dr. Farzana Shaheen
3. Dr. Rizwana S. Waraich
4. Dr. Shakeel Ahmed (IAC)
5. Mr. Haris Qureshi
6. Mr. Umair Waqar
7. Ms. Sadia Jabeen Asim
8. Mr. Javaid Riaz
9. Mr. Anis Ur Rab
10. Mr. Rizwan Ishaq
11. All concerned