Ref. No.PUR/40/14/5818-5843 Dated: 18.03.2015

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Sub: Short term notice inviting quotation for purchase of equipment.

This Institute intends to purchase different equipment as per specifications notified in **"Annexure – A"**. Please send your quotation to the undersigned in a sealed cover duly super scribed on envelop "Quotation for supply of equipment for CHE dept." so as to reach latest by closing date i.e. 30.03.2015.

The Terms & Conditions are as under:-

1) It may be noted that quotation will be sent through registered/speed post only. The institute is located in a remote area and it takes 5 to 7 days to reach the mail, therefore, quotation be dispatched well in time to avoid any sort of delay.
2) Rate of ST/VAT if extra must be mentioned clearly.
3) The other terms & conditions for submitting the quotation are given overleaf which must be read carefully before submitting the quotation.
4) Quotation other than those addressed will not be entertained.
5) The Prices quoted must be FOR SLIET, Longowal.
6) Quotation must be sent on the letter head of the party.
7) As per instructions if purpose of quotation is not super scribed and quotation is opened by mistake then it may be rejected.

F. I/c (Purchase)

TERMS & CONDITIONS FOR QUOTATION

DELIVERY	The rate quoted must preferably be free delivery/F.O.R. Longowal after allowing the discount, if any. Where quoted extra ad-valorem rate payable should clearly be indicated. Supply should be made within the specified delivery period.
TERMS OF PAYMENT	Our normal term of payment is within 45 days after receipt of stores in good condition by means of cheque/draft/RTGS.
PERFORMANCE SECURITY	In case the quoted value is Rupees one lac and above, Performance Security @5% of order value in the shape of Acct. Payee Draft, FDR or BG valid for a period of sixty days beyond the date of completion of all contractual obligations of the supplier including warranty obligations, as per GFR-2005 rules, is also required.
TAXES	No sales tax concession against Form 'C' and 'D' is admissible to this Institute. However, '**Form E'** certificate being an educational institute can be issued if sales tax concession is admissible.
EXEMPTIONS	Excise and customs duties are exempted to the institute. The relevant exemption certificate will be issued to the successful bidder only if the excise duty/custom duty is exclusively mentioned in the Quotation. In case the offered items are to be imported, the rates should be quoted in foreign currency on FOB basis. Basic duty as applicable under notification No. 51/96 customs dated 23.07.1996 as applicable shall be borne by the institute. If the price quoted is in foreign currency then payment shall be made through letter of credit against submission of B.G. of Min. 25% value of supply order, if the order value is more than US$ 10,000 or through Telegraphic Transfer (TT) if the order value is less than US$ 10,000 though Nationalized banks. The bank charges outside India should be borne by the Beneficiary. Clearance at customs will be arranged by us but you will assist our clearance agent. In case of indigenous item the price must be quoted in Indian Rupees and 100% payment will be made only after successful installation, testing and commissioning of equipment. **No advance payment will be made.**
DIRECTOR'S RIGHTS	Director, SLIET, reserves the rights of acceptance or rejection of any or all quotations. The discretion for increasing or decreasing of the quantities also rests with him. SLIET also not bind itself to accept does the lowest price. In case of any dispute, the decision of Director SLIET will be final & binding.
VALIDITY OF QUOTATIONS	Quotations will be considered valid for 03 months from the date of receipt.
CORRESPONDENCE	No correspondence regarding acceptance/rejection of a quotation will be entertained.
SAMPLE/BRAND/ MAKE/WEIGHT	Sample where asked for, will invariably be made available and sent along with the quotations. However, Brand/Make/Weight etc. must be mentioned clearly in the quotations. Technical literature/pamphlet should also be enclosed.
REJECTION	Quotation not confirming to the set procedure as above will be rejected. Conditional, telegraphic quotation shall be rejected out rightly.
DISCOUNT/REBATES	A special discount/rebate wherever admissible keeping in view that the supplies are being made for education purpose in respect of Public Institution of national importance may please be indicated.
GENERAL TERMS	SLIET shall not be held responsible for any postal delay in sending or late receipt of quotation. Quotation should be free from corrections & erasures. **Other terms & Conditions will be applicable as per GFR-2005**. **Faculty I/c (Purchase)**

ANNEXURE-A

Sr. No	Description with complete Specification	Qty.
1.	**Vapour Pressure of Water - Marcet Boiler** This experiment unit should be used to demonstrate the relationship between the pressure and temperature of water in a straightforward manner. **Technical Specification:** **1.** There should be measuring a vapour pressure curve for saturated vapour. **2.** There should be a boiler with insulating jacket. **3.** There should be temperature limiter and safety valve protect against overpressure in the system. **4.** There should be bourdon tube pressure gauge to indicate pressure. **5.** Digital temperature display should be there. **Technical Detail:** There should be following technical details a) Bourdon tube pressure gauge : 1-24 bar b) Temperature limiter : 200^0C c) Safety valve : 20 bar d) Heater : 2 KW e) Boiler, stainless steel : 2L f) Temperature measuring range : 0 - 250 ^{0}C g) Pressure measuring range : 0 - 25 bar	01
2.	**Screening Machines:** The screening machines should be used to separate mixtures of solids into several classes of particle sizes. **Technical Specification:** **1.** There should be screening duration and vibration height adjustable. **2.** There should be 11 screens with different mesh width. **3.** There should be scales for determining the mass fraction of the separated classes. **Technical Details:** There should be following technical details **a)** Diameter of screens: 200mm each **b)** Height of screens : 50mm each **c)** Measuring ranges of the screening machine i) Screening duration : 0-60 min ii) Vibration height : 0-3 mm iii) mesh width of screens: 45µm, 63µm, 125µm, 250µm, 500µm, 710µm, 1000µm, 1250µm, 1600µm, 2000µm & 4000µm **d)** Measuring ranges of scales: i) Max. weight : 2200g ii) resolution : 10mg	01
3.	**PLC Application for Mixing Process:** The trainer for PLC applications should be used to create complex PLC control functions from the field of process engineering, particularly for processes involving metering and mixing. **Technical Specifications:** **1.** There should be clearly laid out trainer for the use of a PLC in a process control application involving mixing processes. **2.** There mixing tanks should be transparent with 3 capacitive proximity switches to monitor the level. **3.** There should be three transparent measuring tanks, each with 2 capacitive proximity switches. **4.** There should be metering from the three measuring tanks into the mixing tanks via solenoid valves. **5.** Stirring machines should be assisted for mixing in mixing tanks. **6.** Proximity switch signals should be processed by PLC via lab jack panel. **7.** Control of 8 solenoid valves, the pump and the agitator should also by PLC via lab jack panel.	01

	8. There should be capacitive proximity switches with adjustable sensitivity. **9.** There should be closed water circuit with centrifugal pump and stainless steel storage tank. **10.** Bulit-in power supply unit should be provided for power to all components and to PLC. **Technical Details:** There should be following technical details **Pump:** a) power consumption : 550W b) max. flow rate: 230L/min c) max. head : 11m **Tanks:** a) Storage tank capacity :70L b) 3 measuring tanks: each capacity 1500ml c) mixing tank: 7L Capacitive proximity switches, NO contacts 2/2-way solenoid valves DN 8 and DN 20 **Power supply unit :** 24 VDC, 8A	
4.	**pH meter (Benchtop pH 700** **Description of item:** **Benchtop pH 700:** Benchtop pH 700 should consists of Meter with double-junction pH electrode, ATC probe, and removable electrode holder. pH 700 meter also should measures pH, mV, relative mV, and temperature. **Technical Details:** **a) pH range of pH 700:** -2.00 to 16.00 **b) pH Resolution of pH 700:** 0.01 pH **c) pH Accuracy of pH 700:** ± 0.01 pH **d) pH Calibration of pH 700:** Up to 5 points with autobuffer recognition **e) mV/rel mV range of pH 700:** ± 2000 **f) mV/rel mV Resolution of pH 700:** 0.1 within ±199.9 mV, 1 beyond ±199.9 mV **g) mV/rel mV Accuracy of pH 700:** ±0.2 within ±199.9 mV, ±2 beyond 199.9 mV **h) mV Calibration of pH 700:** Up to ±150 mV offset adjustment **i) Temperature range of pH 700:** 32 to 100°F (0.0 to 100.0°C) **j) Temperature Resolution of pH 700:** 0.1°F or °C **k) Temperature Accuracy of pH 700:** ±0.9°F (±0.5°C) **l) Temperature compensation of pH 700:** Automatic or manual from 32 to 100°F (0 to 100°C) **m) Buffer recognition of pH 700:** USA or NIST buffer sets **n) Data logging of pH 700:** 100 data sets **o) Display of pH 700:** Custom 3¼" x 2 7/16" (8.3 x 6.2 cm) LCD **p) Power of pH 700:** 100/240 VAC, 50/60 Hz **q) Dimensions (L × W × H) of pH 700:** 6 1/8" x 6 7/8" x 2¾" (15.5 x 17.5 x 6.9 cm)	01
5.	**Autoclave (Vertical model)** Size (Internal basket): Width 20 inch, height 40 inch (Minimum) Working pressure: 15 psi to 30 psi or better Sterlizing Temperature: 121˚C to 134˚C or better Sterlizing timer: 0 to 99 minutes Control: Microprocessor w/ digital display Heat average <= ±1˚C Pressure Indicator: Pressure gauge Construction: Double/ triple wall construction Inner/outer chamber : 316 /316L grade stainless steel Insulation : Glass wool Waste Container: Stainless steel door/ Lid: quick door open structure, safety and interlock device Door locking: radial type Alarm audio/visual: Low water level alarm, high temperature alarm Load: maintain the temperature within half hour Safety features Lever lock with lid, safety valve (emergency pressure release), low water detector and pressure interlock, Temperature dependent door lock, excess temperature safety device, overpressure valve	01

6.	**UPS** Connected load: 5kVA Input: 200-260 V AC, 40-60 Hz (normal single phase AC) Output voltage: 220 V AC, 50 Hz, sine waveform Backup time: 30 min at full load.	01
7.	**Ultra Sonicator:** A sonicator bath is required for dispersing solids in suitable liquid for determining particle size distribution in particle size analyzer. ➢ Tank capacity: up to 5 L ➢ Digital display control panel windows ➢ Tank liquid temperature up to 70°C ➢ Stainless steel holder basket. ➢ Stainless steel lid. ➢ Able to disperse solids in suitable liquid	01
8.	Aspen Tech Software for integrated process engineering Licence Term: 04 years **Technical Specifications:** The Software should comprise of the following: 1. Steady-state and dynamic process stimulation, 2. Equipment design 3. Cost evaluation.	01
9.	ANSYS ACADEMIC TEACHING CFD Software, Version 15.0 – 512000 Nodes (Network Based, 25 Users, Perpetual) **Technical Specifications:** The Software should comprise of the following: **1.** ANSYS CFX **2.** ANSYS FLUENT **3.** ANSYS ICEM CFD **4.** ANSYS WORK-BENCH	01