



BIDHAN CHANDRA KRISHI VISWAVIDYALAYA

Department of Agricultural Chemistry & Soil Science)

BCKV, Mohanpur, Nadia, West Bengal

"Use of fly ash in agriculture for sustainable crop production and environmental protection."

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Date: 14/07/2022

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NOTICE INVITING e-TENDER

The Principal Investigator, NTPC LTD. funded project "Use of fly ash in agriculture for sustainable crop production and environmental protection.", BCKV, Mohanpur, Nadia, is inviting e-tenders from reputed, competent and *bonafide* manufacturers/ distributors/ dealers/ agents/ vendors/ parties having registration of GST for supply of the following items at said department, Mohanpur, Nadia **within 14 days 6.00 pm from the date of notification** as per specifications appended below:-

Sl.	Name of the Item/ Equipment	Detailed Specification	Qty.
1	Deep Freezer:	-20°C: Capacity: At least 400L, Double door, direct cool, global standard condenser (PTC/SKIN) with fan, Castor wheel mounted with locking system, CFC/HCFC free, At least 6 shelves + drawer, Defrost; manual or automatic [preferred], analogous or digital temperature settings, refrigerant R-134a, inner cabinet with anodized stucco aluminium/ GP steel. Warranty: Should provide three years full Comprehensive warranty	1 No.
2	BOD Incubator:	a. Capacity- 10 Cft b. Construction: The cabinet should be double walled with the interior made of 304 Quality Stainless Steel and the exterior of mild steel finished in Powder Coating paint. The walls should be insulated with a thick layer of glass wool on all sides including the door frame. A full length inner Plexi Glass door with a latch permits viewing of the chamber without	1 No.

Signature
14/07/22

		<p>disturbing the test conditions inside the chamber. The outer insulated metal door should be fitted with a magnetic gasket and lock. Blowers should be located on the Back wall of the Inner Chamber, which ensures uniformity of Temperature. The entire Unit should be mounted on Castor Wheels for easy mobility.</p> <p>c. Control: All controls and indicators should be conveniently located on a panel at the top and it should not be necessary to open the chamber for adjustments. Microprocessor based PID Temperature Indicator Cum Controller and Indicating Lamps for all switches and a safety fuse device.</p> <p>d. Cooling & Heating: A hermetically sealed compressor coupled with an evaporation coil and fan cooled condenser, assembled in an easily tray at the bottom provides the cooling for below ambient temperatures. Refrigeration Coil should be conveniently placed between the two walls of the inner & outer chamber extending from the top to the back of the working chamber. These coils should be covered by an inner wall. The heating must be provided through long lasting sealed heaters for temperatures above ambient, conveniently placed inside the working chamber completely shielded for protection against sample spills.</p> <p>e. No of trays provided 4 nos.</p> <p>f. Temperature Range : 5°C to 60°C ± 0.5 °C</p> <p>Three year full replacement warranty</p>	
3	Dryer:	<p>-Inner dimensions : 36" x 36" x 24", double door, tray size: 16" X 22" X 1", LOAD : 8 KW</p> <p>No of trays-24 Trays</p> <p>-Construction : The drier should be double walled in construction. The Inner chamber should be made of Mild Steel Sheet and the outer is made of C.R.C steel sheet, with hummerton grey paint. Fabricated rigid iron frame. The joints of the inner chamber should be electrically welded.</p> <p>-INSULATION : The space between the two walls should be adequately insulated with best quality fiber glass wool to promote efficiency as well as to minimize heat loss during the operation of the Drier.</p> <p>-Door :</p>	1 No.

		<p>The Door of the Drier should also be double walled in construction and insulated as well with fiber glass wool. The inner and outer side of the door should be made of M.S Sheet, finished internally with high resistance alluminium paint and externally with hummerton grey paint.</p> <p>-Heating element & temperature control : 'A' grade, 'U' shaped tubular heaters, to attain high temperature should be fixed on the two sides of the working chamber. The Temperature shall range from 50 C plus ambient to 250° C \pm 5° C. The functioning of the thermostatic control should be indicated by a lamp.</p> <p>-Air circulation : The Drier should be fixed with 1 Nos. of 1 H.P. Motor pulley driven Blowers to produce a rapid movement of a large volume of air over the heating elements, which pass through the air ducts of the inner chamber and should be re-circulated uniformly all over the chamber, maintaining uniform temperature within the working area.</p> <p>-Control unit A separate Control Unit should be provided on the right side of the Drier, which houses an Air - Break Contactor & a DOL starter for the motor Blower, Mains and Load Indicating Lamps, thermostat, a Fine Control Knob, H.R.P Safety Fuse and an 'ON' - 'OFF' Switch for the Heating Elements .</p> <p>Warranty: Three year full replacement warranty</p>	
4	Weighing Balance:	<p>Analytical Specifications :</p> <ul style="list-style-type: none"> - Maximum Capacity : 220 g - Readability : 0.1 mg - Minimum Weight (USP), Typical : 160 mg - Repeatability : 0.08 mg - Weighing Pan Diameter : 90 mm - Adjustment : Internal - Interaces : RS 232 - Dimensions (DxHxW) : 344 mm x 344 mm x 210 mm - Housing : Die-cast aluminum, plastic ABS - Linearity : 0.2 mg - Linearity : 0.1 mg - Legal for Trade : No. - Readability (Certified) : 0.1 mg - Hygenic Design : Yes, Warranty: Three year full replacement 	1 No.

5	Digital pH meter:	<p>pH Instruments include Operating Manual Power Adapter, also with LE 410 pH electrode, electrode arm, 2 x pH 4.01 and 2 x pH 7.00 buffer sachets.</p> <p>SPECIFICATION:</p> <ul style="list-style-type: none"> ● Measuring Range:-2.00...16.00 pH, -2000...2000mv,-5°C...105°C ● Resolution: 0.01pH/0.1pH, 1mv, 0.1°C ● Error Limits: ±0.01 pH, ±1 mv, 0.3°C ● Calibration: 5 points/ 4 predefined buffer groups. ● Power Supply: 100-240 V / 50-60 Hz, 12V DC ● Size: 227 x 147 x 70 mm/0.63 kg ● Display: 4.3" Segmented Liquid Crystal ● Temperature Compensation: ATC & MTC ● Input: BNC, CINCH, NTC 30k Ω ● Data Storage: 200 Measurements, Current calibration. ● Connectors: RS232 & USB – Interface <p>Warranty: Three years full comprehensive warranty from date of installation</p>	1 No.
6	Centrifuge:	<ul style="list-style-type: none"> - Control : Microprocessor with Variable Frequency Drive - Max. Speed : 20000 RPM - Max. RCF : 37000 x g - Choice of Tube Size : 0.2 ml to 100 ml - Max. Capacity : 400 ml - Motor : Brushless Induction Motor - Display : Digital LCD - Program Features : User defined RPM / RCF, Acceleration, Deceleration & Timer with 25 Programs. - Acceleration / Deceleration : 12 - 510 Secs - Timer : 1 - 120 Min - Brake : Dynamic Brake - Safety : Sturdy Cabinet, Lid Lock & Imbalance Protection, Gas Spring - Power Supply: 230 V, 50 Hz. - with 8 x 50ml angle rotor with lid, polypropylene tubes <p>Warranty: Three years full comprehensive warranty from date of installation</p>	1 No.

7	Mechanical Rotary Shaker:	<p>Type- Double Decker mechanical rotary shaker</p> <p>The Rotary Shaker must be designed for continuous, Heavy Duty, smooth and Noiseless operation.</p> <ul style="list-style-type: none"> -Housed atop made of mild steel duly powder coated. -It is designed to accommodate flasks 100, 250 & 500 mm capacities. -Provided with Speed Regulator for continuously variable speed 60 to 180 RPM -Driven by 1/8 Hp DC Motor. -Electrically operated on 220 / 230 volt AC Main.). -Flask Capacity : 250 ml x 36 Nos. in lower deck and 500 x 25 Nos. in upper deck Tray size : 650mm x 650mm. With rpm meter 	1 No.
8	Muffle furnace:	<p>a. Inside Chamber Size: at least 6" x 6"x 12", 3.6 L approx</p> <p>b. Construction:</p> <p>The Casing or the outer body should be made of thick Mild Steel Sheet. Hinge type side wise Door and Peep hole should be provided. The casing should be finished in Heat & Rust Proof attractive Silver Ash Hammertone spray painting/Heat Resistant Aluminium Paint.</p> <p>c. Heating:</p> <p>Heating Chamber (Muffle) consists of grooved refractories having grooved outer surface on which Kanthal A-1, element in Coil Form should be placed in between the Mild Steel Sheet casing and the Heating Chamber. Hot and Cold faced insulating bricks (Kyanite Base) should be suitably cemented forming a Refractory Lining to keep the shell Temperature within 80°C. (Ceramic Blanket & Ceramic Board can be provided at extra cost).</p> <p>d. Temperature:</p> <p>Maximum temperature range shall be upto 1100°C. This temperature should be reached within 1½ hours provided constant voltage of 220 V supply is ensured. Continuous working Temperature 1000°C ± 10° C temperature uniformity in the chamber should be maintained.</p> <p>e. Controls:</p> <p>Microprocessor based Digital PID Indicator cum Temperature Controller Thermocouple and suitable compensating Cable controls and indicates the temperature.</p> <p>Panel Box:</p> <p>An electrical control panel box consisting of Digital</p>	1 No.

		<p>Temperature indicator cum controller, indicating neon lamps for main and load indication, relay, energy regulator, ON/OFF toggle switch & main cord for direct connection to laboratory mains should be provided.</p> <p>f. Power: 220 Volts AC single phase, 50 Hz.</p> <p>Load : 4 KW</p> <p>Warranty: Three years full comprehensive warranty from date of installation</p>	
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Terms & Conditions:

- i) Preparation of bids: the tender should be submitted under two bid system (i.e. technical and financial bid) with validity for a period of 6 (six) months.
- ii) Technical bids will be evaluated by the Technical Committee and the financial bids will be opened of those bidders who qualified in technical bids. Manufacturer certificate must be submitted with technical bid; otherwise, the technical bid will be treated as cancelled.
- iii) **In case of Foreign company's make items** - The prices of all the equipment and items, including imported ones, should be quoted in net per unit (including all taxes and duties, etc.) and in Indian Rupees only, even if the main equipment is quoted in foreign currency (we only accept Indian currency in our BOQ (Price format) for purchasing the instruments (However, University will provide valid **DSIR** and authorization certificate to the clearing agent, if required). Quotation must include essential accessories of the system, otherwise it will be considered as incomplete tender. Quoted rates must be F.O.R. DESTINATION (including packing, insurance and delivery charges up to the laboratory with their own cost to Dr. Sidhu Murmu, PI at Department of Agril. Chemistry & Soil Science, BCKV, Mohanpur, Nadia). The bidders must stipulate the delivery period of the same.
- iv) Reduced rate of GST (5% or as Govt. approved GST of the specific instrument) is applicable to the University.
- v) Payment will be made after satisfactory installation certificate (must be provided) , demonstration and working performance of the items.
- vi) EMD: Rs. 10,000 (Rupees ten thousand only) in the form of Bank Draft in favour of 'Bidhan Chandra Krishi Viswavidyalaya' payable at Kalyani (IFSC: SBIN0001082). Scannedcopy of the demand draft must be uploaded as supporting document during submission of e- tender. Without EMD, quotations /bids will not be considered for technical and financial comparison. EMD exemption certificate must be attached, if any.
- vii) The vendor should have some experience for supplying of different items to any Government / Semi Government organization.

viii) Important safety standards

The instrument must confirm to International EMC and Safety standards.

ix) Warranty

Warranty period minimum 3 years or more from the date of installation. Manufacturer may have their own dedicated Service Centre available in India, preferably in Kolkata/Kalyani or Mohanpur and details of Service Centre may be provided while submitting their Quotations

x) General

Quotations should be submitted either by an OEM or their Authorized Distributors only. Valid Authorization Certificate from OEM is required in case of Quotations are submitted by Distributors.

xi) Supporting documents (as applicable):

- a) Bid papers should accompany authorization certificate from original manufacturer and/or Manufacturer certificate, GST registration, Latest IT return, PAN and other statutory documents, if any.
- b) Scanned copy (self attested) of the original supporting document in favour of the specification –claim for each items must have to be uploaded separately
- c) User list along with certificate from reputed users also need to be uploaded.
- e) Price bid of the vendors will be compared only if technical specifications are fulfilled.
- f) The Viswavidyalaya reserves the right to accept or reject any tender without showing reason.

Sidhu Munu

Principal Investigator
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"Use of fly ash.....
environmental protection"
Project Code No.- SCH-30545
BCKV, Mohanpur-741252, Nadia