



উত্তরবঙ্গ কৃষি বিশ্ববিদ্যালয়

পুণ্ডিবাড়ী,কোচবিহার,পশ্চিমবঙ্গ-৭৩৬১৬৫

UTTAR BANGA KRISHI VISWAVIDYALAYA

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Registrar (Acting)

NOTICE INVITING TENDER (NIT)

Tender Ref. No. UBKV/Est. (T&P-02)/39/2018-19 Date:31/01/2019

Sealed Tenders are being invited under Two Bid System viz, **Part-I Technical Bid and Part II Financial Bid** from the intending reputed, bonafied and experienced manufacturers / authorized dealers/ eligible experienced agencies for Supplying **Best Quality High Precision** Laboratory Instruments (Preferably Imported Or Branded Indian make) which will be used in the Carrier Based and Liquid Bio-fertilizers production lab at Uttar Banga Krishi Viswavidyalaya , Pundibari, Cooch Behar as per following specification.

Technical Specification of required Instruments/ Equipment's

Sl. No	Item & Specification	Qty
Inoculation Unit		
1	<u>Continuous Duty Double Decker Rotary Shaker:</u> <ul style="list-style-type: none">Type : Variable orbital rotary motionThe shaker built on a iron-angle chassis resting on vibration absorbing rubber feet.Cabinet shall be made of M.S. sheet (18 SWG) coated with epoxy paint finish.Dynamically balanced mechanism comprising of triple eccentric –shaft drive with H.T springs on four corner for counter balancing of uniform vibration free rotation with load.Orbital shaking mechanism is built through a triple eccentric drive continuous dutyPowerful ball bearing ‘DC’-drive 2HP PMDC-Motor, belt driven rotating platform with rotor on nine ball bearing in a circular orbit for very smooth movement.Stepless and adjustable auto-speed regulator from: 50-200 r.p.m with proximity circuit for counting r.p.m shall be provided.Heavy guage Stainless sheet (304) Shaking tray fitted with S.S. (304) lotus type clamps For holding conical flasks of 1000 ml. at lower deck and 500 ml. at upper deck.Size of each tray: 60 X 60 cm (made of S.S. 304)Power requirement: Single phase 220/230 Volts, AC mains.Warranty : Minimum of 2 Years (Mandatory)[Otherwise tender will be cancelled] Preferred Make/ Model : Imported or Branded Indigenous with ISO 9001: 2008 certification (No Local Make will be entertained)	02
2	Laminar Air Flow (All Stainless Steel body) <ul style="list-style-type: none">Type : HorizontalWorking Space : 4’x2’x2’Motor :¼ HP, 1440 R.P.M, 230V (Direct driven continuous duty with sealed bearing. It is mounted on PRP Casting to reduce noise & vibration and is dynamically balanced).Material : <u>Exterior & Interior:</u> 304 grade Stainless Steel Sheet	02

	<ul style="list-style-type: none"> ▪ <u>Work table</u> - 304 Quality Stainless Steel Sheet ▪ <u>Side cover</u> - 6mm thick glass ▪ <u>Front Shutter</u>: Acrylic Sheet <ul style="list-style-type: none"> • Lights : Fluorescent & UV Tubes • HEPA Filter Area : 48"x24" • BiocleanWorkspace : 46.00-47.00" x 24.00" x 22.00-23.00" • Air cleanliness : ISO Class 5 (ISO 14644-1:1999(E)) • Air Velocities :0.45 ±0.05 mps • Supplied With : HEPA FILTER(Separation less Mini pleat Anti-microbialHEPA Filter of EU 13 grade with an efficiency of 99.999% on mono disperse, down to 0.3 Microns), PRE-FILTER (Upto 5 Microns), U.V. Tube, Tube Light, Blower motor , Gas Cock , Stainless Steel Top , Glass both side and Transparent Acrylic Front Shutter • Warranty : Minimum of 2 Years (Mandatory)[Otherwise tender will be cancelled] <p>Preferred Make/ Model :Klenzaid's KlenzFlow™ (1500C-48-24-24) or Microflow or Microfilt</p>	
3	<p>-20°C Upright Solid Door Freezer</p> <ul style="list-style-type: none"> • Capacity :344 Liters / 10 Cft • Dimensions :23-24"x23-27"x70-73" or 60 X 60 X 75 cm • Temp Range :- 17°C to -24°C • No. Of Shelves /Baskets :8 -10 • No Of Doors :1 • Power Load :140 Watt • Defrost : Manual • Warranty : Minimum of 2 Years (Mandatory)[Otherwise tender will be cancelled] <p>** Supply complete with suitable voltage stabilizer</p> <p>Preferred Make/ Model :Celfrost BFS 345S /Blue Star/ Euronova or Equivalent</p>	01
Quality Control Laboratory		
4	<p>BOD Incubator (<i>Combined Low & High Temperature</i>)</p> <ul style="list-style-type: none"> • Construction :<i>Double-walled</i> with adequate Polyurethane foam (PUF) insulation. • Inner Chamber: 24 SWG <i>Stainless Steel (316 Grade) non magnetic</i>, duly polished with different shelf positions. Provided with castor wheel (Heavy types). • Outer Walls:<i>CRC Steel Sheet</i>,18 SWG scraped and treated with anti-corrosive primer finished with powder coating. • Outer Door: The outer door shall be double walled duly insulated and provided with magnetic strip gasket with proper sealing and locking device. • Inner Door: An <i>Acrylic/ Glass</i> door is provided. • Forced Air Circulation: Provided by a <i>multi-vane blower</i> fan of aluminum having brass shaft. • Non CFC Refrigerator System: Done by a <i>hermetically</i> sealed imported make refrigerator compressor with balance condensing unit. • Heating System: Provided by a pair of replaceable type sealed air heaters made of <i>chromium resistance wire</i>. • Temperature Controller: Precisely done by a fully automatic micro-processor based <i>PID (dual setting)Digital</i> temperature indicator cum controller in conjunction with <i>100</i> sensor and heavy duty low voltage electronic delay\relay system. <p>Illumination system with timer setting facility shall be provided.</p> <ul style="list-style-type: none"> • Should be fitted with Castor wheel . • Warranty : Minimum of 2 Years (Mandatory)[Otherwise tender will be cancelled] <p>Technical Specification:- Temperature Range : <i>0°C to 60°C ± 0.5 °C</i></p>	01

	<p>Capacity : 10 cft. No. of Trays : 3/4 Numbers heavy punch type perforated S.Strays (316 grade), 22 SWG. Safety Device : A built in delay relay system is provided in the control circuit to safe guard the refrigeration compressor against abrupt starting due to power failure. Operable on : 220/230 Volts, Single phase, 50 Cycles, AC Mains. Volume capacity : 10 cft. Accessories for above: Automatic Relay Type Voltage Stabilizer, Digital Display With Low & High Voltage Auto Cut Out Device And Copper Coiled Transformer: (Instead Of Aluminum Coated Transformer): Capacity : 4 Kva Input Voltage : 160 To 270 Volts + 10% Output Voltage : 220/230 V, Ac Preferred Make/ Model : Imported(J S Research Korea/ Jeotech Korea /Equivalent) or Branded Indigenous(Rivotech/Equivalent) with ISO 9001: 2008 certification (No Local Make will be entertained)</p>	
5.	<p>BOD Incubator Shaker Combined High & Low Temperature:-</p> <p>Specifications:</p> <ul style="list-style-type: none"> • Temperature Range : 5°C to 60 °C • Temperature Accuracy : ± 0.5 • Controller: Microprocessor Based PID Programmable Digital Temperature Indicator cum Controller .Quality heaters, working at black heat to be provided to provide temperature above the ambient. • Illumination: Two Fluorescent Lamps and one UV Tube with separate switches will be provided. • Internal , external chambers and doors: Double walled constructions. • Inner chamber will be made of Stainless Steel AISI 316 Grade. • Outer wall will be with Stainless Steel AISI 304 Grade with mat finish. • Non-Hygroscopic glass fibre insulation will be provided in between two walls/PUF. • Heavily insulated door opens fully with slight pressure on chrome plated handle. • Magnetic strip gaskets to be provided to seal the door against any atmospheric infiltration • An inner glass door/plexi glass is fitted for inspection of materials kept under test. • A lamp to be provided within the working chamber for immediate indication of opening the outer chamber. • Compressor: Hermetically sealed imported refrigeration air cooling compressor CFC Free shall be Provided. • Air Circulation: Heavy duty Continuous running 'Blower motor coupled with fan shall be provided for attending uniform Temperature within the working chamber of the Shaker Incubator. • Shaking Tray: Made of Stainless Steel (3/6) Size of Tray Approximately 20"X20" to <ul style="list-style-type: none"> ▪ accommodate 16-20 Nos . of 100 ml. to 500 ml conical flask ▪ with screwed replaceable Lotus type clamps also made of Stainless Steel (316 grade). • Shaking Speed :50 to 250 RPM • Shaking Motor :DC Drive PMDC-Motor • Speed Controller : Stepless speed regulator • Shelves : 3 perforated Stainless Steel Tray, Punch type, 316 grade (22 SWG) • Control panel: LCD Display or Shall be externally mounted with all necessary switch Indicating lamps for Main, Cooling, Heating and Shaking. • LCD Console with touch key or The Digital Temperature Controller, Speed regulator, dig RPM meter also will be mounted on the panel. • An in-built delay relay system to safeguard the compressor in the control circuit against sudden start after power-cut. 	02

	<ul style="list-style-type: none"> • Electric Operation: 220/230 V,AC, Single Phase,50 Hz • Volume Capacity of the Chamber:10 cft • Should be fitted with Castor wheel . • Warranty : Minimum of 2 Years (Mandatory)[Otherwise tender will be cancelled] <p>Accessories for above:</p> <p>Automatic Relay Type Voltage Stabilizer, Digital Display With Low & High Voltage Auto C Device And Copper Coiled Transformer: (Instead Of Aluminium Coated Transformer):</p> <p>Capacity :5 Kva</p> <p>Input Voltage :160 To 270 Volts ± 10%</p> <p>Output Voltage :220/230 V, Ac</p> <p>Preferred Make/ Model : Imported(J S Research Korea/ Jeotech Korea /Equivalent) or Branded Indigenous (Rivotech/Equivalent) with ISO 9001: 2008 certification (No Local Make will be entertained)</p>	
6	<p>Fully Automatic Autoclave Steam Sterilizer-Vertical (Double Walled)</p> <p>Type : Vertical</p> <p>Size : 24” Dia X 36” Depth /175 Ltrs</p> <p>Materials : Boiling chamber: 2 mm thick Stainless Steel sheet (316 Quality) outer Body: 22 guage Stainless Steel sheet 304 quality. Lid: 12mm thick S.S. (316 grade), fly nut also made of S.S. (304 grade)</p> <p>Feature : Pressure guage, safety valve, Steam release cock, water level indicator, ISI mark industrial heater, 0 to 60 minute Timer, automatic pressure control device Digital temperature thermometer, Low water cutout system power requirement: 440 V, 3 Phase, Load: 9 KW (approx)</p> <p>Warranty :Minimum of 2 Years (Mandatory)[Otherwise tender will be cancelled]</p> <p>Preferred Make/ Model : Branded Indigenous (Sonar/Equivalent) with ISO 9001: 2008 certification (No Local Make will be entertained)</p>	01
7	<p>Imported Fully Automatic Autoclave Steam Sterilizer-Vertical (Double Walled)</p> <ul style="list-style-type: none"> • Type : Vertical • Controller : 2D Digital PID Controller with Automatic START/STOP timer Dual LED displays temperature and remaining time. • Auto-tuning function Class A Pt-100 Ω sensor Construction Vertical loading type chamber with 2 ea service baskets • SAFETY DOOR INTER-LOCKING SYSTEM lock the door during operation which integrated] with temperature, pressure in the chamber and in case electric cut-off • Stainless steel 304 (AISI 304) chamber, lid and top plate to protect from corrosion by water and steam. • Two Stainless Steel Wire Baskets. • Performance : Maximum sterilization temperature and pressure up to 123 o C and 0.13 Mpa Automatic sterilization cycle. • Validation compliance performance with accuracy within ± 0.5 o C and uniformity within ± 2.0 o C • Convenience Two steam collection bottles removes most of steam generated during operation for comfortable laboratory environment Equipped with drain valve for cleaning and changing with fresh water. • Caster for easy transport. • Safety DOOR LOCK Door interlocking system integrated with high temperature, pressure and electric cut-off TRIPLE OVER-TEMP. • CUT-OFF : Controller cut-off heater and AUDIO VISUAL ALARMS in case +2 ov C above set temperature , MAX TEMP CUT-OFF heater and AUDIO VISUAL ALARM 	01

	<p>when +1 ov C above maximum limit (123 o C Analog system cut-off heater 10% above set temp. TRIPLE OVER-PRESSURE CUT-OFF , Controller open valve to release excess pressure and AUDIO VISUAL ALARM in case +2°Cv above set temperature Controller open valve to release excess pressure and AUDIO VISUAL ALARM in case +1°Cv above maximum limit +123°C Mechanical over pressure valve automatically release excess pressure in case overv maximum pressure limit 0.15 Mpa ANALOG PRESSURE GAUGE} 0 ~ 0.3 Mpa pressure gauge indicating actual pressure MANUAL PRESSURE RELEASE VALVE for emergency OVER CURRENT CUT-OFF : Electrical Leakage Breaker</p> <ul style="list-style-type: none"> • Specifications Capacity : 175 Ltrs • Basket : Electro-polished Stainless Steel 304 wire basket No. of basket included 2 EA Temperature Range MAX. +123°C Accuracy ± 0.5°C at +121°C Uniformity ± 2.0°C at +121°C Operating Pressure Range up to 0.12 MPa Pressure Gauge Range 0 ~ 0.3 MPa Control Microprocessor PID control Auto START / STOP Timer ~ 4 Sensor Class A PT-100 Ω Sensor Safety Over-Temperature Cut-Off Over-Pressure Cut-Off Over Current Cut-Off Material Body : Epoxy Powder Coated Steel, 1.0 mm thickness Chamber, Lid, top : Stainless Steel 304 Gasket : High Density One-piece Silicone Electrical Requirement 220VAC (+/- 10%) 50/60Hz 1P Heater Capacity 4.0 kW Power Rating 18.2 amp Plug Configuration 30 Amp 3 Pin for 250 VAC Net • Warranty : Minimum of 2 Years (Mandatory)[Otherwise tender will be cancelled] <p>Preferred Make/ Model : Imported(J S Research Korea/ Jeotech Korea /Equivalent)</p>	
8	<p>Hot Air Oven With Blower(Mechanical Convection for Re-circulation of Air) –Triple Walled :</p> <ul style="list-style-type: none"> • Size :24” X 24” X 24” • Temperature Range :50° C to 250° C • Accuracy :± 0.5°C. • Temperature control :Digital Temp. Indicator Cum controller with PT-100 Sensor . • Power Requirement :230 volts, 50 Hz, Single phase supplied with 5 mtr. long 3 core connecting cable and plug top (15 Amps). • Construction :Triple walled with inner most working chamber shall be made of Stainless Steel of 24 SWG(304 grade)and the outer and middle walls of the mild steel sheet (20 SWG). The oven is finished beautifully outside with ‘EPOXY’ paint. • Insulation :Adequately insulated in between the two walls with best composition of glass fiber wool • Door :Double walled insulated door with inner wall facing the working chamber of Stainless Steel (304 grade) opens fully on hinges for unobstructed access. • The. Push pull type S.S. punch trays (capable of loading capacity 3/4 kg each tray) should be provided with the oven. • Best quality Nickel-Chromium heating elementsare placed in ribs with ceramic runn bottom&two side walls for maximum uniformity of temperature • Temperature is controlled by a sensitive MICRO PROCESSOR based PID temperature c with digital read out system and PT-100 Sensor. • 3 way Heat switch should be given in the heating system to provide high medium low as well as an additional Energy regulator shall be provided for precision control temperature. • Display : LCD/Digital Display • Warranty : Minimum of 2 Years (Mandatory)[Otherwise tender will be cancelled] <p>Preferred Make/ Model : Imported / Branded Indigenous (Sonar/Equivalent) with ISO 9001: 2008 certification (No Local Make will be entertained)</p>	02
9	<p>Fully Automatic Autoclave Horizontal Rectangular</p> <p>Type : Double door Horizontal Rectangular</p> <p>Size : 600mm x 600mm x 1200mm / 430 Ltrs</p> <p>Materials : Inner chamber jacket and boiler is made of Stainless Steel SS</p>	01

	<p>316 : 2mm</p> <p>Outer Body: 22 guage Stainless Steel sheet 304 quality. Lid: Made of Mild Steel lined with polished with SS 304 water level cut off .</p> <p>Feature : Double door System , Sterilization cycle is controlled by three way valve or multiport valve , fitted with automatic pressure control switch, safety valve Pressure gauge, Steam release cock, water level indicator, ISI mark industrial heater, Safety Alarm , Vaccum beaker valve , 0 to 60 minute Timer, automatic pressure control device Digital temperature thermometer, Low water cut out system power requirement: 440 V, 3 Phase, Load: 18 KW (approx)</p> <p>Warranty :Minimum of 2 Years (Mandatory)[Otherwise tender will be cancelled]</p> <p>Preferred Make/ Model : Branded Indigenous (Sonar/Equivalent) with ISO 9001: 2008 certification (No Local Make will be entertained)</p>	
10	<p>Stereo Zoom Binocular Microscope</p> <ul style="list-style-type: none"> • Observation Head : <ul style="list-style-type: none"> ❖ Observation head inclined at 45°Diopter adjustment ring on ocular tube ❖ Interpupillary distance from 55mm to 75mm • Eyepiece Wide Field 10x (Paired) F.O.V. 20mm • Zooming Range &Ratio :Zoom 0.7x to 4.5x with magnification ratio of 1:6.4 • Mechanical Body <ul style="list-style-type: none"> ❖ Track stand with fan type base ❖ Lateral zoom control movement ❖ Incident and transmitted light system with LED lamp. ❖ The system regulated with Transformer has separate intensity control knob. ❖ On/Off switch provides flexibility to use either both light or any of them. ❖ Clip for holding specimen. • Base size :240mm x 280mm • Magnification Range :7x to 45x • Working Distance :100mm • <p>Preferred Make/ Model :Dewinter/Olympus /Carl Zeiss /Motic or Equivalent</p>	01
11	<p>Bench top pH Meter</p> <ul style="list-style-type: none"> • pH Range : -1.99 to 16.00 • Resolution 0.01 pH • Accuracy ± 0.002 • ORP Range : ± 1999 mV • Temperature Range : 0.0 to 100.0 °C / 32.0 to 212.0 °F • Memory : Minimum 100 Data sets • Power Requirements: 9-12 V DC adapter, 3.0-3.5 A • Up to 5-point calibration with auto buffer recognition • Large, easy-to-read display • Integral electrode holder • Warranty 3 years on meter against manufacturing defect and 6 months for electrode • <p>Preferred Make/ Model :EutechCyberscan pH 700 (ECPH70042S)/ Metler Toledo FP-20/Equivalent</p>	01
12	<p>Microcontroller Based Flame Photometer with Compressor</p> <p>Flame Photometer with Na , K & Ca filters , set of 5 glass beaker, capillary tube, drain pipe, RS-232cable, Compressor.</p>	1

	<ul style="list-style-type: none"> • Range : Na: 0.1 - 100 ppm ; Up to 250 meq/L, 1:100 dil <ul style="list-style-type: none"> ▪ K: 0.1 - 100 ppm ; Up to 250 meq/L, 1:100 dil ▪ Ca: 15-100ppm; Up to 250 meq/L, 1:100 dil • Sensitivity : Na: 0.5 ppm, K: 0.5 ppm, Ca: 15 ppm • Resolution : 0.1 ppm/meq • Reproducibility : ±2% FS & ± 2 digit • Minimum Sample : 3 ml/Element • Curve fit accuracy : ± 2% FS • Averaging : 2 to 15 Sec • Display : 128 x 64 graphical LCD display • Storage : upto 700 results • Flame System : LPG and dry oil free air • Detector : Silicon photodiode • Calibration : Up to 5-point calibration with curve fitting software • Gas Control : Fully adjustable • Ignition System : Auto Ignition • Atomizer : Axial flow type • Interface : RS-232 & PC Software • Power : 230 V, 50Hz ➤ Compressor Unit : <ul style="list-style-type: none"> • Features : Fitted with Air Filter & Regulator • Air Supply : Oil free compressor unit with pressure regulator • Combustion Gas LPG: Controlled by precision regulator • Power : 230 V, 50Hz • Warranty : Minimum of 2 Years (Mandatory) [Otherwise tender will be cancelled] <p>Preferred Make/Model : Systronics 128+126 /Equivalent</p>	
13	<p>Digital Colony Counter with 3 digit LED display Range 0-9999</p> <ul style="list-style-type: none"> • Can be used by any hard tipped marker pen • Circular tube for excellent all round illumination • Powerful magnifying lens reduces operator fatigue • Fully stainless steel GMP model • LED Based illumination • x 1.7 Surface Magnification • Dish Dia: 110 mm • Count up to 0-9999 • Warranty : 2 years <p>Preferred Make/ Model : Lapiz (0671M) /Electronics India (362) / AVI Scientific (AVI-35) /Equivalent</p>	01
14	<p>Table Top Research Centrifuge with different rotors</p> <ul style="list-style-type: none"> • Max. rotor capacity: 18 -24 tubes of 1.5/ 2.0 mL • Speed : 14,000 rpm or more • Separate Short-Spin key for short centrifugation operations • Large, full-digit displays and intuitively labeled keys make • Quick Lock rotors close with only ¼ of a turn to save time and prevent repetitive stress • All rotors& lid should be metallic and fully autoclave. 	01

	<ul style="list-style-type: none"> • Rotor to be designed at 45 deg for better pelleting. • without rotor lid to benefit your work environment • The centrifuge lid should open automatically post run • The lid should close with minimum force . • The centrifuge should have brushless induction motors • Warranty : 2 years <p>Preferred Make/Model : Thermo or Sigma or Eppendrop or Harmle or Herolab</p>	
15	<p>Peristaltic Pump</p> <ul style="list-style-type: none"> • Micro Controller Based Control Circuits • Precise PWM Based Dc Stepper Motor Drive • Membrane Keypad With Menu Driven LCD • Advanced EEPROM Technology For Memory Storage • Provision For External On/Off Control • Operates On 230v, 50hz, Single Phase AC • Complied With CE Requirement • Flow Range : Continuous type 110-900 ml/min or 60ml To 65 Ltr/Hr • Tubing I.D. 3-8 MM • With 2 Mtr Of 8mm I.D. Silicon Tubing • Warranty : 2 years <p>Preferred Make/ Model : Riviera-Rivotek / RAVEL HITEKS/ Equivalent</p>	02
16	<p>Analytical Balance : 0.1mg-220gms</p> <ul style="list-style-type: none"> • Maximum Capacity :220gms • Readability :0.001 gm • Repeatability (Test Weight) :0.001 gm • Adjustment :Internal • Weighing Pan Diameter :90mm • Interfaces :RS-232 • Housing :Die-cast aluminium, plastic ABS , Glass Wind Shield • Linearity :± 0.002gm • Temperature accuracy (±) : 3 ppm/°C • Resolution :0.1 mg • Warranty : 2 years <p>Preferred Brand/Model: Metler Toledo ME204 or equivalent of Sartorius/A & D</p>	1
17	<p>Analytical Balance : 10000 gms</p> <ul style="list-style-type: none"> • Maximum Capacity :10000gms • Readability :0.01 gm • Repeatability (Test Weight) :0.01 gm • Adjustment :Internal • Weighing Pan Diameter :90-105mm • Warranty : 2 years (Mandatory) <p>Preferred Brand/Model: A & D GX 10K / Citizen / K Roy/ Equivalent</p>	1
18	<p>Distilled Water Steel (Automatic) Bransted Type With Auto Cut Device :</p> <p>For pyrogen free distilled water heavy type full body is made of 316 grade Stainless Steel fitted with safety ejection type immersions heaters. A constant water level device, Drain cock are provided. A baffle is provided to take</p>	1

	<p>steam direct to the condenser made of 316 grade S.S. A condenser made of 316 grade S.S. and the Condensing device made of several S.S. condensing tubes.</p> <p>Out put Capacity: 9-10 ltr/Hrs. (approx)</p> <p>Load: 6 KW (Approx), 440 V, 3 Phase A.C,</p> <p>Distilled steel also to be supplied with water softner and iron removal system for continuous flow of Iron Free water to the condenser</p> <p>y : 2 years (Mandatory)</p> <p>Make/ Model : Any good make with ISO 9001: 2008 certification</p>	
19	<p>UV-Visible Spectrophotometer</p> <ul style="list-style-type: none"> • Compact & Sleek in size • Type : UV-VIS Spectrophotometer • Built - In DNA /Protein Quantization Software • Resolution - 1 nm • Data operability by use of USB memory • Control by Software through PC • Wavelength range : 190 to 1100nm • Spectral bandwidth : 1 nm (190 to 1,100nm) • Wavelength display : 0.1 nm increments <ul style="list-style-type: none"> ▪ (1nm increments when setting scanning range) • Wavelength accuracy : +/- 0.1 nm at D2 peak 656.1nm <ul style="list-style-type: none"> ▪ +/- 0.3 nm for entire range • Wavelength repeatability : +/- 0.1 nm • Wavelength slew rate : About 6000 nm/min • Wavelength scanning speed : 3000 to 2 nm/min • Lamp interchangeable • Wavelength : Automatic interchangeable linked to Wavelength can be set freely in the range of 295 to 364 nm (0.1 increment) • Stray light : Less than 0.02% at 220nm (NaI) <ul style="list-style-type: none"> ○ Less than 0.02% at 340 nm (NaNO2) ○ Less than 1.0% at 198 nm (KCl) • Photometric system : Double beam optics • Photometric range : Absorbance: -4 to 4 Abs, • Transmittance : 0% to 400% • Photometric accuracy : +/- 0.002 Abs at 0.5Abs <ul style="list-style-type: none"> ▪ +/- 0.004 Abs at 1.0 Abs ▪ +/- 0.006 Abs at 2.0 Abs • Photometric repeatability: Less than +/-0.001 Abs at 0.5 Abs <ul style="list-style-type: none"> • Less than +/- 0.001 Abs at 1 Abs • Less than +/- 0.003 Abs at 2 Abs • Baseline Stability : Less than 0.0003 Abs/Hr • Baseline flatness : Less than +/-0.0006 Abs • Noise level : Less than 0.00005 Abs (700 nm) • Light source : 20-W halogen lamp and D2 lamp built-in source auto position adjustment • Monochromator : Blazed holographic grating Czerny-Turner mounting • Detector : Silicone Photodiode • Distance between light beams :100mm • Environmental requirements : Temperature : 15 deg.C to 35 deg.C, <ul style="list-style-type: none"> • Humidity : 30% to 80% 	1

	<ul style="list-style-type: none"> • Output device : USB memory (optional) Data files saved in text format • Supplied with 2 Pairs of 10 mm rect. quartz Cell & PC-Printer-UPS as optional Preferred Make/ Model : Shimadzu UV 1800 / Perkin Elmer Lambda 365 / Thermo Fisher or equivalent	
20	Carrier Mass Mixture Capacity :25-30Kgs (Solid 70% & Liquid 30%) Type :Horizontal Material :Contact SS316 &Non Contact SS304(14 SWG) Features : Carrier Mass Mixture with Steam Sterisable ,Ribbon/Paddle Type, Top Cover with Food Grade EPDM/Silicon , Tongue Groove Sealing, Safety Interlock , Ease of Material Layout , Semi Thick Slurry, Bottom Flush Ball Valve, Shaft Seal-PTFE , Hand lifting system, with oil filled reduction Gear Box ratio of 1:40 coupled with 2 H.P CROMPTON motor. Power Requirement : 220/230 Volts or 440 Volt 3 phase, 4 wire directly. warranty : 2 years (Mandatory) Preferred Make/ Model : Any good make with ISO 9001: 2008 certification	01
Other Basic required amenities		
21	RO Plant -250 Ltrs Per Hour with 2000 ltrs PVC storage tank & piping A. Hydro Ion (1" dia) (Magnetic Water Softniong system). B. Ultra filtering system (for, Boring or, Ground water and Municipal supply water). With bypassing system. Step1: Tulu pump 1.0 hp (to maintain a proper pressure in filtration zone) Step2: 3 Nos. Vessels (size: 10" X 54") with it's multiple valves (capacity size head: 13" x 54") and filtering Components, like- i) MnO2 (to absorb high iron particles from particles). ii) Carbon (to snatch the soluble chemicals and odours from water-produce cry water). iii) Carbon (to snatch the soluble chemicals and odours from water-produce cry water). iv) Resin (to collect the hardness of water and convert it soft water) multiport types. Multiport valve: 2 types a) 2 nos. head for supply, backwash facility. b) 1 no. head for supply, backwash and rinse facilities. Step 3: 20" Jumbo PP5 Micron Cartridge (for, collecting the particles of Water). C. RO main unit: a) Tulu pump 0.5 hp (to maintain the pressure in RO module). b) PP 1 Micron Jumbo Cartridge 20" (for final filtration before RO Membrane) c) Pressure pump (for, RO membrane water supply) (220 Volt, AC) d) RO membrane (capacity: 40-40)	01

	<p>e) Panel board (controlling unit for automatic supply).</p> <p>d. Production:</p> <p>a) Normal delivery for Bio fertilizer plant through 2000 ltr. Storage tank. b) Drinking water delivery through Mineral Cartridge (to produce the treated water as water). c) UV treatment optional for drinking purpose.</p> <p>e. Pipe line: Food gradable standard quality in total unit.</p> <ul style="list-style-type: none"> • <u>Production Quality Notification:</u> <p>As per RO technology (without using chemical- dosing unit) the TDS count will come after treatment Less or, equal 10% of raw water TDS count.</p> <p>f. Warranty : 3 years (Mandatory)</p> <p>Preferred Make/ Model : Zeolite / Niagra / Apex / Wishing Well or Any good make with ISO 9001: 2008 certification</p>	
22	<p>2.0 Tr & 1.5 Tr Split Air conditioners with Installation and suitable Voltage Stabilizer</p> <p>Please refer ANNEXURE A for detailed specification & quantity</p> <p>Preferred Make/ Model : Blue Star/Carrier/Equivalent</p>	12-15nos
	<p>a. Installation & Commissioning of 1.5 Tr Hot & Cold Inverter Air Conditioner with Suitable Voltage Stabilizer</p> <p>Capacity : 1.5 Tons</p> <p>BEE Star Rating :3 Star</p> <p>AC Type :Split</p> <p>Refrigerant : R 410A</p> <p>Compressor : Rotary Inverter</p> <p>Filter : 3 Advance Filter</p> <p>Cleaning : Blow Cleaning</p> <p>Display : Hidden Display</p> <p>Condenser Coil :Copper condenser IDU,ODU and Installation kit</p> <p>Noise Level Indoor : ≤ 65 DB</p> <p>Features : ECO Mode, Copper pipe , Anti Dust, Auto Restart, Auto Swing, Easily Removable Panel, Energy Saver, Fresh Air Ventilation, Inner Groove , Memory Function, Remote, Self Dia, Sleep Mode, Timer, Turbo Mode</p> <p>Remote Control : Yes</p>	2 nos

	<p>Warranty : 10 Years on compressor & 4 Years comprehensive warranty</p> <p>Installation : Standard Installation</p> <p>Supply complete with suitable voltage stabilizer(130V-300V, upto 12amp load capacity, Metal Cabinet & 3 years warranty)</p> <p><u>N.B : Nearest Service Center need to be in Coochbehar / Siliguri with 24 Hrs response time</u></p> <p>Preferred Make /Model : Blue Star BS-3HNHW18RBFU with V Guard VWR 400/ Equivalent of Carrier or Daikin or Mitshubushi</p>	
	<p>b. Installation & Commissioning of 1.5 Tr Inverter Air Conditioner with Suitable Voltage Stabilizer</p> <p>Capacity : 1.5 Tons</p> <p>BEE Start Rating :3 Star</p> <p>AC Type :Split</p> <p>Refrigerant : R 410A</p> <p>Compressor : Dual Rotar Inverter</p> <p>Filter : 7 Advance Filter</p> <p>Cleaning : Blow Cleaning</p> <p>Display : Hidden Display</p> <p>Condenser Coil :Copper condenser IDU,ODU and Installation kit</p> <p>Noise Level Indoor : ≤ 65 DB</p> <p>Features : 5 Sensors, Copper pipe , Anti Dust, Auto Restart, Auto Swing, Easily Removable Panel, Energy Saver, Fresh Air Ventilation, Inner Groove , Memory Function, Remote, Self Dia, Sleep Mode, Timer, Turbo Mode</p> <p>Remote Control : Yes</p> <p>Warranty : 10 Years on compressor & 4 Years comprehensive warranty</p> <p>Installation : Standard Installation</p> <p>Supply complete with suitable voltage stabilizer(130V-300V, upto 12amp Load Capacity, Metal Cabinet, Advanced Time Delay Function & 3 years warranty)</p> <p><u>N.B : Nearest Service Center need to be in Coochbehar/Siliguri with 24 Hrs response time</u></p> <p>Preferred Make /Model : Blue Star BS-3CNHW18RBFU with V Guard VWR 400 / Equivalent of Carrier or Daikin or Mitshubushi</p>	8-10nos
	<p>c. Installation & Commissioning of 2.0 Tr Inverter Air Conditioner with Suitable Voltage Stabilizer</p> <p>Capacity : 2.0 Tons</p> <p>BEE Start Rating :3 Star</p> <p>AC Type :Split</p> <p>Refrigerant : R 410A</p>	3-4nos

	<p>Compressor : Dual Rotar Inverter</p> <p>Filter : 7 Advance Filter</p> <p>Cleaning : Blow Cleaning</p> <p>Display : Hidden Display</p> <p>Condenser Coil :Copper condenser IDU,ODU and Installation kit</p> <p>Noise Level Indoor : ≤ 65 DB</p> <p>Features : 5 Sensors, Copper pipe , Anti Dust, Auto Restart, Auto Swing, Easily Removable Panel, Energy Saver, Fresh Air Ventilation, Inner Groove , Memory Function, Remote, Self Dia, Sleep Mode, Timer, Turbo Mode</p> <p>Remote Control : Yes</p> <p>Warranty : 10 Years on compressor & 4 Years comprehensive warranty</p> <p>Installation : Standard Installation</p> <p>Supply complete with suitable voltage stabilizer(130V-300V, upto 15amp Load Capacity, Metal Cabinet , Advanced Time Delay Function & 3 years warranty)</p> <p><u>N.B : Nearest Service Center need to be in Coochbehar/Siliguri with 24 Hrs response time</u></p> <p>Preferred Make /Model : Blue Star BS-3CNHW24RBFU with V Guard VWR 500 / Equivalent of Carrier or Daikin or Mitshubishi</p>	
23	<p>Eye Sprinkler</p> <p>Preferred Make/ Model: Any good make with ISO 9001: 2008 certification</p>	1
24	<p>CO2 Type Fire Extinguishers – 4 KG</p> <p>Preferred Make/ Model: Cease Fire or Equivalent</p>	5-6 nos
25	<p>Smoke Detection System & Fire Alarm</p> <p>(Interested bidders are requested to kindly visit the site before submission of quotation for necessary requirement)</p> <p>Preferred Make/ Model: Any good make with ISO 9001: 2008 certification</p>	As per requirement

➤ **Tender Schedule:**

•	Date of Publication	:	31.01.2019
•	Time, Date of Pre-Bid Meeting & Place	:	07.02.2019 from 2.30 PM Onwards at RRS Meeting Room, Director of Research Building, Pundibari, Cooch Behar
•	Date for displaying on www.ubkv.ac.in for final& frozen technical specifications/any modification and amendment to the tender document by UBKV after Pre-bid conference	:	08.02.2019 after 3.00 PM
•	Last date of quotation submission	:	22.02.2019 up to 5.00PM
•	Opening date of Technical bids	:	25.02.2019 up to 12.30PM
•	Tender fee	:	Nil
•	EMD	:	@2.5% of quoted value by means of demand draft from any nationalized Bank in favour of <i>Uttar Banga Krishi Viswavidyalaya</i>
•	Details available in the websites	:	www.ubkv.ac.in

1. **Submission of bids:**

Both Technical bid and Financial Bid are to be submitted concurrently duly signed by the Authorized Company personnel. All papers must be submitted in English language.

2. **Time Schedules for the Tender:**

The Time Schedule for obtaining the Bid Documents, Pre-Bid meetings, submission of bids and other documents etc. as per the attached list.

3. **Eligibility for Quoting:**

- Original Equipment Manufacturers (OEM) or Dealers/Distributors/Agents duly authorized by the manufacturers who are able to supply the assured quantities as per requirement & have requisite qualification for meeting the requirements as per this tender are only eligible for quoting.
- Further, vendors who were declared black listed and/or insolvent by any Govt. Concern/any Institutions in the Country for particular item or items are not eligible to participate in the current tender for that item or items.
- Interested bidders must be present in the Pre-bid Meeting on the mentioned date & time.
- Any type of requests from bidders for modification in Technical Specifications/ Eligibility Criteria/Terms and Condition will not be entertained by the University Authority who will not be present in the Pre-bid Meeting.
- The University reserves the right not to accept the rate even from the lowest bidder/supplier.
- The University reserves the right to accept or reject any or all tenders without giving any reason whatsoever.

4. **Annual Turnover Requirements:**

Vender having average annual Turn Over for last three financial years is more than Rs.30 Lakh in India for the year 2015-16, 2016-17 & 2017-18 are eligible to participate in the Tender.

5. **Submission of Tenders**

5.1 **General process of submission**

All the documents including addendum/ Corrigendum related to the tender uploaded by the Tender Inviting Authority form an integral part of the contract. Tenderers are required to upload all the tender documents along with the other documents, as asked in the tender, through the above website within the stipulated date and time as given in the Tender. Tenders are to be submitted in two envelopes at a time, one is Technical Bid and the other is Financial Bid. The tenderer shall carefully go through the documents and prepare the required documents.

6.1 **Technical details:** (Bidders must submit Technical specification along with Catalogue of the item quoted in “**Technical Details**” Envelope.

6.2 Audited Annual Accounts for last three years **2015-16, 2016-17 & 2017-18** or during the period since formation of the Firm, if it was set up in less than such 3- year period. Bidders whose accounts are not audited must submit 26AS for the above years as available in the official website of the Income Tax Department, Government of India with other documents stated bellow:

Sl. No.	Category	Sub-Category	Sub-Category Description
1	Certificates	Certificates	PAN Card of the Bidder
			GST Registration Certificate
			P -Tax Registration Certificate with a copy of last return
2	Company Details	Company Details 1	Trade License/Enlistment Certificate
			Registration with Registrar of Companies

			Memorandum of Articles for Limited Companies.
3	Credential	Credential 1	Copy of the purchase order for supplying Similar nature of items at least for last 2 years in an Institute of Higher Education Brief User List preferably for users in West Bengal in an Institute of Higher Education
4	Financial Information	Payment Certificate 1	Income Tax Returns submitted for the Assessment year 2015-16
			Income Tax Returns submitted for the Assessment year 2016-17
			Income Tax Returns submitted for the Assessment year 2017-18
			GST Return for last 3 months in 2018-19
5	Product Catalogue (Coloured)		
6	Compliance Statement		

6.3 Financial Bid

Financial Bid should contain the unit price of items on FOR destination and CIF including applicable taxes. Rate of GST also be quoted. (** All the required/ essential / optional accessories or incidental services should be clarified during pre-bid meeting or should be mentioned in the hard copy of Financial Bid)

7 TERMS & CONDITIONS:

7.1 Bid Information:

- a) The rate quoted by the bidder shall be fixed for the duration of the contract and shall not be subject to adjustment on any account.
- b) **Partial Quotation/Incomplete Quotation both for Technical and Commercial aspects may subject to cancellation of tender. However, University Authority will define the Partial Quotation/Incomplete Quotation based on the tender evaluation status.**

7.2 Evaluation of Quotation: Firstly, Technical Bid will be evaluated and thereafter Price Bids of technically qualified bidders will be evaluated for selection of vender.

7.3 Award of Contract: The purchaser will award the contract to the bidder whose quotation has been determined to be substantially responsive both technically and commercially.

7.4 The vendor should quote and be capable to supply all the necessary items as per Tender. However, the University has the right to procure a part or a whole of the tendered items.

7.5 University enjoys the discretion to select vendor either in full or in part (item wise) for the betterment for pursuing of tender objectives.

7.6

Warra nty: The manufacturer should give guarantee/warrantee for a period as specified in the Item details. If the equipment installed at one location is subsequently shifted to another location, the

warranty services shall continue to be provided at new location without any additional financial implications. During warranty period, if any defect in the supplied equipment is noticed by the Purchaser, the supplier or his representative shall rectify the defect or replace the defective item free of cost at the Purchaser's site at the earliest possible, latest within a period of 30 days of notification.

7.7

Adequ

ate support service facility: The bidder/manufacturer should have adequate service support Centre in Kolkata/ Siliguri for any emergency breakdown/fault offering facility within 48 hours and should be agreeable to provide AMC facility after the warranty period.

7.8

Bidder

must provide Technical Compliance Sheet duly certified by OEM as per the Tender Specification. Any non-compliance will lead to rejection of tender.

7.9 Credentials: Documents of supplying similar items in last two previous years in an Institute of Higher Education must be submitted along with the tender.

7.10 DSIR Certification: University possesses the privilege for availing the facility of procuring items at Concessional Customs Duty and without incurring any excise duty as per DSIR certification.

7.11 GST Exemption Certification: University possesses the privilege for availing the facility of procuring items at Concessional GST (5%) as per the decisions taken by GST Council.

7.12 Statutory deduction for GST and other Government taxes in the hand of the payee will be made as per the law in force.

7.13 Make & Model: Bidder must mention Make and Model in the Information Sheet as given vide Annexure-I and must send the product details/catalogue/brochure in the "**Technical Details**" folder along with Technical Compliance Sheet for each item component.

7.14 Time Schedule: The supply work must be completed within 30-45 days from the date of receipt of the supply order.

7.15 Validity of offer: A bidder should spell out in the tender that it shall remain valid for a minimum period of 180 days from the date of opening of the tender and during this period, the bidder shall not be entitled to revoke or cancel its offer.

7.16 After Sales and Service:

- i. The name and complete address of the company in India authorized by the manufacturer, to provide after sales service for the equipment should be mentioned. The appointed authorized service provider should be holding a valid certificate from the manufacturer to this effect.
- ii. The manufacturer should give an undertaking that after the warranty period, they shall provide spares and after sale service of the equipment in India for the normal life time of the equipment.

7.17 University reserves the discretion to issue work/ supply order either in full or phase wise depending upon the requirement and selected vendor will not charge any extra amount for such supply and delivery.

7.18 Place of delivery: Germplasm Research Infrastructure Project under RKVY, UBKV, Pundibari, Cooch Behar, 736165 and should be quoted on FOR Destination Basis (i.e. Charge of Delivery from International Airport to Destination will be added in the basic quoted price or on CIF /CIP Price)

7.19 Payment Schedule: 100% Payment be made after delivery and successful installation of the item.

7.20 Performance Security:

Successful bidder should deposit Performance Security money equivalent to the 10% of the order value in the form of DD from any nationalized bank in favour of UBKV payable at Cooch Behar or suitable negotiable instruments as to be decided by the University immediately after issuing purchase order from the University. Such security will be refunded after completion of the warranty period in normal case without any accrued interest. University may forfeit the Security Money (EMD) and performance security money in the event of the following circumstances:

- i. Selecte
d bidder withdraws the bid before expiry of its validity and after receipt of the Purchase Order.
- ii. Selecte
d bidder does not accept the order after issuing the same or fails to enter into a contract within validity period of offer.
- iii. Selecte
d bidder fails to supply the items within the scheduled time as specified in the Purchase Order.
- iv. If
before expiry of the warranty period, the supplied items break down or do not function satisfactorily due to the cause related with the item itself or for its installation and not for any reason caused by the University Authority and the supplier denies to take the responsibility to make the supplied items in order.
- v. In case
of any false submission /statement by the bidder
- vi. In case
of any refusal to abide by terms and conditions or refusal to enter into a written agreement as per prefixed terms and conditions.

7.21 Quantity Changeability: Quantity as stated in the tender document may subject to change at the time of issuing purchase order due to the fund crunch or for other valid reasons.

7.22 Disposal of Disputes: In case of any dispute, the University's decision will be treated as the final and conclusive. All legal actions are subject to Cooch Behar jurisdiction only.

7.23 Conditional bid may be liable for rejection.

7.24 Discretion of the University:

University may take decision about non-purchase of the said item even after selection of vendor due to its fund constraints.

University reserves the right to relax any clause as stated hereinabove for selection of responsive vendor.

The Tender Selection Committee reserves the right to cancel the N.I.T. due to any unavoidable Circumstances and no claim in this respect will be entertained.

Sd/-
Registrar (Actg.)