

# UNIVERSITY OF AGRICULTURAL SCIENCES, BENGALURU

Central Stores, Hebbal, Bengaluru-560024, Telefax: 23411524,

**No. SPO/e-Proc/05/11/12**

**Date: 31-1-12**

## **(e-Procurement Platform only )**

The University of Agricultural Sciences, Bengaluru has invited Tender as per the Standard tender document KG-1 and KG-2 from the reputed firms for the procurement of the following equipments. The details of the KG-1 and KG-2, Tender Notification, schedule, specifications, EMD amount are available in the website [www.eproc.karnataka.gov.in](http://www.eproc.karnataka.gov.in)

Sl. No	Name of the Equipments	Qty	Total EMD (Rs.)
1	Acer Intel Core i7 Model Desktop Computers	40 Nos.	20,000-00
2	Nodes (Thin Client)	35 Nos.	14,000-00
3	Server	3 Nos.	3,750-00
4	20 KVA UPS	1 No.	2,250-00
5	Laptop ( Mac Book Pro) (GPB, GKVK )	1 No.	1,400-00
6	Compound Binocular light Microscopes	6 Nos.	4,080-00
7	Accessories (Plant Pathology, GKVK)	1 No.	250-00
8	Stereo Zoom Microscopes & accessories (Plant Pathology, GKVK)	6 Nos.	7,200-00
9	Growth chamber with controlled temperature & humidity (CP, GKVK)	1 No.	5,750-00
10	Blood Analyser (Dispensary GKVK )	1No.	3,000-00
11	Automatic Nitrogen Protein Estimation System (ZARS, Navile, Shimoga)	1 No.	4,500-00
12	Horizontal Autoclave (ZARS, Navile, Shimoga)	1 No.	1,450-00
13	Time Domain Reflectometer (ZARS, VCF, Mandya)	1 No.	3,900-00
14	Microprocessor Based Double Beam UV Vis Spectrophotometer (ZARS, VCF, Mandya)	1 No.	1,903-00
15	Gel Documentation System (Seed Science Technology, GKVK)	1 No.	3,000-00
16	Cloth Bags – 2 Kgs (NSP, GKVK )	50000 Nos.	4,000-00
17	Cloth Bags-5 Kgs (NSP, GKVK )	50000 Nos.	6,000-00
18	Gunny Bags- 25 Kgs (NSP, GKVK )	20000 Nos.	6,000-00
19	Refrigerated Multipurpose Centrifuge (Bio Chemistry, Agri. College, Hassan)	1 No.	5,500-00
20	N-Analyzer Infrared Digestion Distillation System with Accessories (SS&AC, Agri.College, VCF, Mandya)	1 No.	5,000-00
21	PCR Machine & Accessories ( Agri. Biochemistry, Hassan)	1 No.	3,500-00
22	Atomic Absorption Spectrometer (Small Milltes, GKVK)	1 No.	10,600-00
23	62.5 KVA DG Set (SFS, ZARS, VCF, Mandya)	1 No.	5,580-00
24	500 KVA DG Set ( E.O, GKVK)	1 No.	43,000-00
25	Dry Air Dehumidifier (CP, GKVK )	1 No.	2,000-00

The reputed firms are required to scan & upload the following documents through e-procurement portal only.

1) Firm Registration/Incorporation Certificate

2) TIN/VAT/CST/PAN/Import Export Code Certificate (IEC).

For SI No. 1,2,3,4 & 5 only the state Govt. of Karnataka approved empanelled vendors/Authorized Dealers are eligible to participate in the tender

The KG-1 and KG-2 document may be downloaded from the website: [www.eproc.karnataka.gov.in](http://www.eproc.karnataka.gov.in) and the tenderers are required to fill in the tender rates in the price schedule and upload the same before the last date.

The tender form fees, is as per the e-procurement portal NORMS.

The EMD & Tender processing fee shall be paid through e-procurement portal only using any one of the modes prescribed by e-procurement.

#### **SCHEDULE OF EVENTS**

1	Last date for uploading the Tender documents up to 4.00 P.M	28-2-12
2	Opening date of tender at 10.00 A.M at Estate Office, GKVK, Bengaluru-65	2-3-12

The University reserves the right to accept or reject any or all the tenders without assigning any reasons. Further, details can be had from undersigned during office hours and also refer UAS Website: [www.uasbangalore.edu.in](http://www.uasbangalore.edu.in) or [www.eproc.karnataka.gov.in](http://www.eproc.karnataka.gov.in) The Tenderers need to register with e-procurement portal and to obtain user ID and Password for participating in e-procurement. For more details please contact e-procurement helpdesk Ph: 080-25501216 / 25501227 from 9.00 a.m. to 9.00 p.m. on all working days and the Stores Purchase Officer, Central Stores, Opp: Hebbal Police Station, Hebbal, Bengaluru-560024, and Phone No. 080-23411524.

**ESTATE OFFICER**

## SPECIFICATIONS

**e-procurement Notification No. SPO/e-proc/05/2011-12, Dt: 31-1-2012**

Sl. No	Name of the Equipments/ Furniture	Qty	Specifications	Total EMD (Rs.)	Rates quoted by the Firm																	
					In Fig	In words																
1	Desktop computers	40	<p>Supplying, Installation and Demonstration of <b>Acer Veriton Intel Core i7desktop computer</b> with following configuration.</p> <p>Acer Veriton Desktop Specifications                      Intel Core i7 - 2600 Processor or better                      Intel H 61 Chipset Mother Board                      500 GB SATA HDD 7200 rpm,                      2 GB DDR3 1066 MHz RAM                      PS2 Key Board                      PS2 Optical Mouse                      16x SATA DVD Writer                      3 Years Mc Afee Antivirus Subscription                      18.5" TFT Monitor                      Windows 7 Professional Operating System                      Mini Tower Cabinet                      3 Years Warranty</p>	20,000-00																		
2	Nodes (Thin Client)	35	<p>Supplying, Installation and Demonstration of <b>NODES (Thin Client)</b> with following Specification</p> <p style="text-align: center;"><b>SAMSUNG Thin Client TC 180</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="background-color: #ffffcc;">Special Features</td> <td>                     CPU : AMD 210U (1.5G Hz)                      - OS : Windows Embedded Standard                      - Extra video memory(64MB)                      - DDR2 2G - Flash 4G                      - Windows XP Service Pack 3                      - Internet Explorer 7.0                      - Microsoft RDP 6.1                      - Citrix Xen App                      - 2X software                      - Altiris Deployment Software                      [Connectivity] - Serial Port-                      Parallel Port                      - Headphone/Line out port,                      Microphone in port - USB2.0                      * 4                      - 1 Giga Ethernet                      - VGA in(for PC monitor),                      VGA out(for Dual Video)                 </td> </tr> <tr> <td colspan="2" style="text-align: center;"><b>Display</b></td> </tr> <tr> <td>Screen size</td> <td>18.5"</td> </tr> <tr> <td>Brightness(Typical)</td> <td>250 cd/m<sup>2</sup></td> </tr> <tr> <td>Contrast Ratio(Typical)</td> <td>1,000:1</td> </tr> <tr> <td>Resolution</td> <td>1280 x 1024</td> </tr> <tr> <td>Response Time(Typical)</td> <td>5</td> </tr> <tr> <td>Viewing Angle(Horizontal/Vertical)</td> <td>170°/160° (CR≥10)</td> </tr> </table>	Special Features	CPU : AMD 210U (1.5G Hz) - OS : Windows Embedded Standard - Extra video memory(64MB) - DDR2 2G - Flash 4G - Windows XP Service Pack 3 - Internet Explorer 7.0 - Microsoft RDP 6.1 - Citrix Xen App - 2X software - Altiris Deployment Software [Connectivity] - Serial Port- Parallel Port - Headphone/Line out port, Microphone in port - USB2.0 * 4 - 1 Giga Ethernet - VGA in(for PC monitor), VGA out(for Dual Video)	<b>Display</b>		Screen size	18.5"	Brightness(Typical)	250 cd/m <sup>2</sup>	Contrast Ratio(Typical)	1,000:1	Resolution	1280 x 1024	Response Time(Typical)	5	Viewing Angle(Horizontal/Vertical)	170°/160° (CR≥10)	14,000-00		
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3	Server	3	<p>Supplying, Installation and Demonstration of <b>Dell Servers</b> with following configuration.</p> <p>Dell Power edge Server Model T110- II Server or better</p> <ul style="list-style-type: none"> <li>• Intel Xeon (R) Processor E3-1230,3.2 GHz, 8 MB Cache</li> <li>• PSU and TPM Mother Board Ti 10- II</li> <li>• 16 GB Memory 1033 MHz dual ranked UDIMM for 1 Processor</li> <li>• 250 GB 7.2K RPM SATA 2 HDD - Non hot Plug - 2 Nos</li> <li>• H200 Adopter RAID Controller, cable for RAID Controller</li> <li>• DVD ROM Drive 16X</li> <li>• 17" Flat panel LCD Monitor (Analog) or better</li> <li>• Key Board</li> <li>• Mouse</li> <li>• Microsoft Windows Server 2008 Standard Edition</li> <li>• 3 years onsite warranty — next business day</li> </ul>	3,750-00																																		
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5	Laptop (GPB, MAS Lab, GKVK )	1	<p>Supplying, installing and demonstrating the <b>Laptop</b> with the following specification.</p> <p>MacBook Pro/equivalent, Precision aluminum unibody/15 inch LED-backlit glossy widescreen display/2.4GHz quad-core</p>	1,400-00																																																														

			Intel i7/4GB /750GB Serial ATA/8x SuperDrive (DVD±R DL/DVD±RW/CD-RW)/ Intel HD Graphics and AMD Radeon HD with automatic graphics switching/ 1GB Graphics/ Mac Osx Lion/ Apple Care protections			
6	Compound Binocular light Microscopes (Plant Pathology, GKVK)	6	Supplying, installing and demonstrating the <b>Compound Binocular light Microscopes &amp; Accessories</b> with the following specification.  <b>A)</b> Compound binocular light microscopes: Episcopic stand with quadruple nose-piece, built-in double plate mechanical stage right handle; halogen illuminator base, quadruple nosepieces, built-in double-plate mechanical stage right handle; halogen illuminator base, 6W-20W halogen lamp; abbe condenser with objective position, spare halogen lamp; blue filter; 4x,10x,40x,100x oil immersion objectives; immersion oil and power cord	4,080-00		
7	Accessories (Plant Pathology, GKVK)	1	<b>B) Accessories:</b> Phase contrast attachment including condenser, centering telescope; sliders; filter and objective lenses and spare halogen lamp.	250-00		
8	Stereo Zoom Microscopes (Plant Pathology, GKVK)	6	Supplying, installing and demonstrating the <b>Stereo Zoom Microscopes</b> with the following specification.  Up to 50x magnification; Zoom -ratio 7.5:1 or greater; Zooming range 0.67x to 5x; 1x objective; parallel optics(supported by catalogue description); Plain focusing stand with opal and black plate; 10x eyepiece with diopter adjustment; Flouroscent ring illuminator set with 8W ring lamp; with transformer and cord or suitable built-in incident light.	7,200-00		
9	Growth chamber with controlled temperature & humidity (CP, GKVK)	1	Supplying, installing and demonstrating the <b>Growth chamber with controlled temperature &amp; humidity</b> with the following specification.  Capacity: 350 litres (Multiple timer programme with PC control) Chamber uniformity:±1.0°C Calibration capability: Actual & set values Alarm: Audible & visible during (a) temperature overshoot (b) refill of vapour generator Illumination Controller: PLC based HMI (Human Machine Interface) Standard visibility lighting : Fluorescent lamp Material of construction: SS 304 interior MS Powder coated Exterior, Swinging, solid, polyurethane insulated door(s) Display: with touch screen	5,750-00		

		<p>Temperature range : 20°-60°C for RH application, 5°-60°C temperature for BOD application</p> <p>No of racks: Three SS racks &amp; 5 position slots</p> <p>Humidity Range : 40-80 RH in 20-60°C</p> <p>This system to use Hot gas bypass to ensure defrosting of evaporator coil as well as Humidity control.</p> <p>Humidity induction through vapour generator (vap gen) system with built in level sensor for water level.</p> <p>Operating power Supply: 230V,50Hz</p> <p>Temperature Indication: Digital</p> <p>Microprocessor Controller</p> <p>PID controller</p> <p>System to incorporate unique Vapour generation (vep - gen) system to introduce water vapour into the chamber for control of humidity.</p> <p>Vapour generation system to incorporate level sensor to 'Auto feed water" upon depletion</p> <p>Audible alarm for water depletion.</p> <p>To minimize water consumption, Fed-Batch system to reuse the water from system to avoid frequent refilling.</p> <p><b>Multiple Timer Program for cyclic operation of Temperature &amp; Humidity.</b></p> <p>Auto Tuning electronic thermo regulation</p> <p>The refrigeration system is hermetically sealed compressor and CFC free</p> <p>The unit should be insulated with Polyurethane foam to reduce energy consumption.</p> <p>Safety: Vapour generator heater cutoff during refill.</p>			
10	Blood Analyser (Dispensary, GKVK )	<p>Supplying, installing and demonstrating the <b>Blood analyzer (semi Automated bio chemistry analyser)</b> with the following specification.</p> <p><b>Methodology</b></p> <ul style="list-style-type: none"> <li>• Absorbance • Endpoint</li> <li>• Kinetics • Fixed time</li> </ul> <p><b>Calibration:</b></p> <p>Single standard/multi-point linear/ multi-point non linear</p> <p><b>Programmable Channels:</b> 112</p> <p><b>Memory:</b> 3200 results</p> <p><b>Quality control:</b> Comprehensive QC software with L-J graph</p> <p><b>Light Source:</b></p> <p>Quartz- Halogen lamp 12V/20W</p> <p><b>Photometric range:</b></p> <p>0.0000 to 3.0000 Abs</p> <p>Resolution: 0.0001 Abs: Drift: 0.002 Abs/ hour</p> <p><b>Wavelength range:</b></p>	3,000-00		

			<p>7 standard filters: 340, 405, 492, 510, 546, 578, 630 nm &amp; 1 free optional position: Half bandwidth &lt; 8nm: Stray light : &lt; 1.0 % at 340 nm</p> <p><b>Flow cell:</b> Stainless steel body with quartz window: Optical path 10 mm</p> <p><b>Measuring volume:</b> 32 ul</p> <p><b>Programmable aspiration volume:</b> 500-2000 ul</p> <p><b>Temperature control:</b> Peltier elements : 25°C, 30°C &amp; 37°C + 0.1°C</p> <p><b>Input:</b> Ergonomic LCD touch screen display</p> <p><b>Printer:</b> Built in high speed thermal printer</p> <p><b>Interface:</b> RS- 232 serial port</p> <p><b>Dimension/weight:</b> 450x 360x 140xmm/ 11.5 kgs</p> <p><b>Operating environment:</b> Temperature: 15-30°C, Humidity: 20-80%</p> <p><b>Power requirement:</b> AC 110-220V + 10 %, 50/60 Hz.</p> <p><b>Incubator</b></p> <p><b>Other features</b></p> <ol style="list-style-type: none"> <li>1) Improved ergonomic touch screen display</li> <li>2) Anti vibration &amp; Anti disturbance optical system</li> <li>3) Multi standard option with one point Calibration, Multi point calibration</li> <li>4) Lamp saving feature</li> <li>5) Comprehensive status check of 340 filter</li> <li>6) Self check operation of all filters</li> <li>7) Visual &amp; Audible alarm</li> <li>8) Sample blanking option</li> <li>9) Photometric range upto 3.0000 abs</li> <li>10) Any other special features.</li> </ol> <p><b>Terms &amp; conditions</b></p> <ol style="list-style-type: none"> <li>1. Equipment must have atleast 2 years warranty &amp; guarantee.</li> <li>2. Buyback guarantee for the old equipment.</li> <li>3. Compulsory service every month free of cost.</li> <li>4. During emergency, when called must arrive within 1 to 2 hours.</li> <li>5. Having best rank in Bio Rad control test on Indian machines.</li> <li>6. Must provide dry bath incubator</li> </ol>			
11	Automatic Nitrogen/Protein Estimation System (ZARS, Navile, Shimoga)	1	<p>Supplying, installing and demonstrating the <b>Automatic Nitrogen/Protein Estimation System</b> with the following specification.</p> <p><b>(A) Automatic Macro Block Digestion System</b></p> <p>12 L R: Superior Auto sequencing Twelve Place PC compatible Macro Block Digestion System <b>(Suitable for plants, soils, water, food and feed, fertilizers and pesticides samples)</b> Automatic 12 place Microprocessor</p>	4,500-00		

		<p>based digestion system with Aluminium Block of 250 ml capacity with Digital Temperature Controller, Range : 50-45°C casted aluminium alloy heaters, with SS Rack, Digestion Tubes (12 Nos.) Exhaust manifold, easy autofix spring clamps, Kel Flow Assembly Suction filter pump for fume removal, Inbuilt digital integrated timer, PC controlled Auto Sequencing features, Microprocessor Allows 4 intelligent memory steps of time, 6 desirable sequence steps of time / temp. domain, 24 memory segments, Auto alarm for user's attention, Auto power off mode on completion of digestion, Bright Digital Two line LCD Display, Direct USB port for PC / Laptop connectivity with software, ISO 9001:2008 certified. Electrical requirement 220 V/50Hz Ac mains.</p> <p><b>(B) Four Stage Acid Neutralizer Scrubber with micro intelligent micro processor with digital display)</b></p> <p>Stage-1: Fume trap condensation.  Stage-2 : Neutralization in water,  Stage-3: Neutralization in Alkali,  Stage-4: Dissolution of air free as of acid fumes in raw water, FRP Tank capacity — 10 lit. Anti corrosive centrifugal suction pump for water recirculation, Outer cover: MS Powder Coated, Inbuilt self priming pump, Micro brilliant auto waste disposal system with auto water refilling mechanism feather touch membrane keys of operation.  Electrical Requirement : 230 V, 50 Hz.  Inbuilt safety features of</p> <p><b>(C) Automatic Distillation System Superior Value Added fully auto run completely programmable auto sequencing microprocessor based distillation system with in-built software with 100 predefinable user storage auto sequence programmes 11 programmable steps.</b></p> <p>Fully automatic sequencing with auto intelligent run of 11 programmable steps which include automatic boric acid addition, automatic dilution, dilution delay, automatic KNMO4 addition for available Nitrogen, Reaction delay time, Automatic Alkali Addition, Automatic Reaction Delay time for Neutralization, Automatic stem processing, Automatic Residue Delay time and Automatic Residue Removal, Two line alpha numeric digital LCD display, Automatic Titration Connectivity Function. Value Added Features:</p> <p>Auto door open warning indication. Auto</p>			
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			<p>tube insert error indication. Auto deactivation of system in error diagnosis, adjustable stem power. 10-100% Auto online water saving mechanism. Auto reagent Level Sensor with Indication and Alarm for Reagent (Boric Acid, Alkali and KMNO4), <b>Reagent Tank for Standard RS 232 connectivity kit with USB port. Standard Auto Titrator connectivity kit standard operating software feature, 100 predefinable user storage auto sequence programmes with large bright luminescence LCD display screen, automatic distillate control with adjustable sensor.</b></p> <p>Auto Aspiration of receiver residue, Microbrilliant auto start and stop mechanism, Data Processing system, Distillation capacity : 15-20 samples/ hr, Nitrogen Recovery &gt; 99.5%, High grade stainless steel non corrosive stem generator, fully automatic water level monitoring with centrifugal refilling pump and peristaltic pump for reagents addition. Stainless steel additional safety spill tray, standby manual operation of all parameters, software compatible for calculation and reporting or results with builtion formulae.</p> <p>Interconnectivity cable to operate system through PC or Lap top, Data processing System (Laptop) version of configuration <b>Includes Dell Data Processing system of following configuration : Dual processor, 2 GB RAM, 250 GB HDD, DVD Writer, Wifi etc.,)</b></p>			
12	Horizontal Autoclave (ZARS, Navile, Shimoga)	1	<p>Supplying, installing and demonstrating the <b>Horizontal Autoclave</b> with the following specification.</p> <p>Type: Direct steam type  Door: One side door with radial locking system  Dimensions (Inner):900 x 900 x 1500 mm  Design pressure:50 PSI  Design temperature:150°C</p> <p><b>(i) Material of construction</b>  (a)- Inner chamber thickness S.S304  Thickness: 6mm  (b) Outer jacket: SS 304  Thickness: 6mm</p> <p><b>(ii) Nozzless (SS 304)</b>  (a) Operating valve-1 No  (b) Safety Valves: 2 Nos  (c) Inlet of steam: 1 No  (d) Chamber drain: 1 No  (e) Steam inlet to chamber: 1 No  (f) Vacuum drier: 1 No</p> <p><b>(iii) Fitting (S.S)</b></p>	1,450-00		

			<p>a) Operating valve: 1 No  b) Safety valve: 2 Nos  c) Vacuum beaker bottle: 1 No  d) Chamber drain valve: 1 No  e) Temp. gauge: 1 No  f) Pr. Gauges: --  h) Multiport valve with controls for sterilization, exhaust &amp; fast exhaust  6) Insulation &amp; polishing: All the outer surfaces except the door shall be insulated with mineral wool &amp; SS cladding. All the exposed parts should be polished.  7) Hydro Static test: Shell- 75 Psig  Jacket: 75 Psig  8) Door: is fabricated from 12mm polished SS 304 plate and radial locking system for an automatic locking during operation as a safety measure.  9) Trolley: is made of MS angle pipes  10) Loading carriage: is of SS 304  11) Mounting: the autoclave is mounted on MS tubular stand structure.</p>			
13	Time Domain Reflectometer (ZARS, VCF, Mandya)	1	<p>Supplying, installing and demonstrating the <b>Time Domain Reflectometer</b> with the following specification.  Datalogger (Table Based with 512 RAM Memory (128,000 datas) with external data logging facility), Soil Moisture Sensors (Water Content Reflectometer: 8 Nos.); Power Supply (Power Supply Charger/Regulator 12 VDC: 1, Solar Panel 10 Watt 12 Volt with Mount (10 Ft Lead): 1, 12V. 7 AH SMF Battery: 1; Mounting Hardware/ (Small Tripod: 1, Enclosure: 1, Kit for tower and tripod mounting: 1)</p>	3,900-00		
14	Microprocessor based Double Beam UV Vis Spectrophotometer (ZARS, VCF, Mandya)	1	<p>Supplying, installing and demonstrating the <b>Microprocessor based Double Beam UV Vis Spectrophotometer</b> with the following specification.  a) Microprocessor based with soft touch keypad &amp; LCD Display:  b) Standalone unit with data processing features for scanning, Discrete; wavelength, Concentration measurement by standard &amp; e-factor method, Time Scan with minimum interval of 1.0 sec.;  c) PC compatible through USB Port with software 21 CFR Part 11 Compliant with password protection, cGLP compliance etc.  <u>Technical Specifications:</u>  a) Spectral Range : 190 to 1100 nm:  b) Bandwidth 1.8 nm; c) Accuracy 0.5 nm:  d) Photometric Range 3.000 ABS: e) Stray Light &lt;0.05% T; f) Monochromator Concave Holographic Grating; g) Light Source D2 Lamp &amp; Tungsten/Halogene Lamp;  h) Detector Photodiode; i) Data Presentation</p>	1,900-00		

			Display: LCD module		
15	Gel Documentation Unit (Seed Science Technology, GKVK)	1	<p>Supplying, installing and demonstrating the <b>Gel Documentation Unit</b> with the following specification.</p> <ol style="list-style-type: none"> <li>1. TRUE I6-bit Cooled CCD camera which reduces noise in extended exposures</li> <li>2. Resolution: Scientific grade CCD 2.0 Mega pixels TRUE resolution</li> <li>3. Pixel depth: TRUE 16—bit,1628 x 1236 True Resolution</li> <li>4. Chip Quality: Grade 0, zero defects, Progressive scan- Low dark current, <ol style="list-style-type: none"> <li>a. HAD (Whole accumulation diode) sensor, Continuous variable —speed shutter, USB 2.0 interface</li> </ol> </li> <li>5. ZOOM: Scientific grade motorized zoom lens with auto focus</li> <li>6. Motorized Zoom lens with f/1 .2, 8-48 mm lens: Close up lens: +2 dioptre Close-up lens and adapter for 8-48mm Zoom lens</li> <li>7. Automatic capabilities with Application driven, user selected or recalled by a protocol</li> <li>8. Pre-calibrated focus for any zoom settings and sample height</li> <li>9. Capture &amp; Analyze images like; Gels stained with Ethidiurn Bromide, silver stain Comassie Blue,</li> <li>10. ETBR, SYBER Green, Sypro Orange, Texas Red, Protein, all fluorescent and chemi fluorescent visible applications, TLC plates, GFP plate, AutoRads, 2-D Spot blots, View tissues, slides and films Capture and count Colonies (with colored colonies)</li> <li>11. Auto UV shut off after capturing</li> <li>12. UV (Mid Pass) Filter: This yellow/orange filter has a wavelength range of 565 to 635 nm and for visualization of stains like:</li> <li>13. Universal Dark room</li> <li>14. Transilluminator: Wavelength-312nm</li> <li>15. UV Filter size: 25 x 30 cm sample area</li> <li>16. Pullout out type</li> <li>17. UV Security switch, Fully variable intensity between 50-100%</li> <li>18. UV-to-White light converter <ol style="list-style-type: none"> <li>a. UV-to-visible light converter screen - area 30.5 x 33cm for viewing protein gels and for other white hg applications</li> </ol> </li> <li>19. Overhead White Light/DUAL EP1- LED White Light illumination</li> <li>20, Dual Epi- LED White Lights</li> <li>21. Application driven software compatible to Win7 and XP platforms.</li> <li>22. Advanced Gel Analysis Software with (Free Life Time Up gradation)</li> <li>23. Track Database Software for Multiple Gels (Free Life Time Upgradation)</li> <li>24. Amenable For Differential display tbr</li> </ol>	3,000-00	

			gene expression studies designed for large scale Genomic fingerprinting studies 25. Suitable branded computer (Intel Core i5 processor) with printer for analysis.			
16	Cloth Bags-2 Kgs (NSP, GKVK)	50000 Nos	Supplying the <b>Cloth Bags-2 Kgs of Size: 16"x12"</b> . The sample must be obtained from Special Officer, NSP, GKVK before quoting the rates.	4,000-00		
17	Cloth Bags-5 Kgs (NSP, GKVK)	50000 Nos	Supplying the <b>Cloth Bags-5 Kgs of Size: 19"x12"</b> . The sample must be obtained from Special Officer, NSP, GKVK before quoting the rates.	6,000-00		
18	Gunny Bags-25 Kgs (NSP, GKVK)	20000 Kgs	Supplying the <b>Cloth Bags-25 Kgs of Size: 19"x35"</b> . The sample must be obtained from Special Officer, NSP, GKVK before quoting the rates.	6,000-00		
19	Refrigerated Multipurpose Centrifuge (Bio Chemistry, Hassan)	1	<p>Supplying, installing and demonstrating the <b>Refrigerated Multipurpose Centrifuge</b> with the following specification.</p> <p>Multipurpose Centrifuge should accommodate 0.2ml to 2.0ltr with suitable adapter and should have option to spin 96 well plates. Temperature range from -9 to +40 °C Spin up to 14,000 rpm, or 20,800 x g. Choice of rotors should be compatible Fixed angle rotor: 6 x 85ml rotor (12000 rpm, 18500 x g), 4 x 500ml swing Bucket rotor (4000 rpm, 3,500 x g) and 30 x 1.5/2.0ml rotor (14000 rpm, 20800 x g), 6x50ml rotor (12100 rpm, 20,130xg) (Rotors, buckets , caps and adapters should be autoclavable at 121°C for 20 min) Should accommodate up to 4 x 4 micro plates, 4 x 2 culture plates or 2 Filtration plate kits 4 deep well plates. Functions like Stand-by refrigeration, Fast-temp function and "at set rpm" available. Should have ECO shut –off after 8 hours of non use to reduce energy consumptions and extend compressor life. <b>Should have Built-in condensation drain to eliminate water accumulation and prevent corrosion.</b> Speed can be set from 200 rpm to maximum speed in increments of 10 rpm . <b>Should have Selectable program memory for up to 35 individual user programs</b> Short-spin key with selectable rotational speed <b>Should have 10 acceleration and 10 braking ramps for sensitive sample material</b> Dimension (W x D x H): 70 x 61 x 35 Power requirement 1350 W.</p> <p><b>Rotors to be included in main quote :</b></p>	5,500-00		

			<p><b>Fixed Angle 6 x 50ml Aerosol-tight rotor with QuickLock rotor lid with 45° borehole angle for compact pellets at the bottom of the tube</b></p> <p>Rotor should be Light-weight design (less than 3,2 kg incl. rotor lid) for easy handling. Adapter for 15ml/50ml falcon tubes. 30 x 1.5/2.0ml rotor (14000 rpm, 20800 x g).</p>			
20	<p>N-Analyser Infrared Digestion Distillation System with accessories (SS&amp;AC, VCF, Mandya)</p>	1	<p>Supplying, installing and demonstrating the <b>N-Analyser Infrared Digestion Distillation System along with accessories</b> with the following specification.</p> <p><b>A. Digestion System:</b> Microprocessor Based PC Compatible Twelve Place Macro Infrared Rapid Digestion System with Graphical Display. 12 desirable sequence steps of time /temp. Digestion Tubes : Macro (250ml)-12 Nos, Nos. Temperature Controller Range : 40 to 600°C. Infra Red radiation thermal tabular heating element. Insulation with Mineral wool and Cynthania. Live Schematic process flow feature, Graphical representation of time and temperature gradient.</p> <p>Direct USB Port for PC/Laptop compatibility, Temperature Indication: Bright Digital Two line LCD Display of time and temperature, KEL FLOW Assembly with 2 Nos. Giant water jet Pumps, SS Insert Rack, Cooling Support rack, Exhaust Manifold System with stand, Additional one set tubes and rack. Viton fume hose for diacid and triacid digestion.</p> <p><b>B. Scrubber System:</b> Fully Automatic Four Stage Acid Neutralizer Scrubber with micro intelligent micro processor based with digital display of time Stage: 1 - Fume trap condensation, Stage: 2 - Neutralization in water, Stage: 3 - Neutralization in Alkali, Stage: 4 - Dissolution of air free of acid fumes in raw tank water, Digital display of set time and actual time. (Range- 0-99 .59 hrs.), Microprocessor based brilliant auto waste disposal with auto drain of tank water after every three consecutive operations with alarm,</p> <p><b>C. Automatic Distillation System:</b> Fully Auto Run completely Programmable Autosequencing Microprocessor based PC Compatible Distillation System with in-built software with 11 Programmable steps and 100 Predefinable User Storage Auto Sequence Programmes Auto sequencing of 11 intelligent programmable steps (Boric acid, Dilution,</p>	5,000-00		

		<p>Dilution Delay, <math>\text{KmnO}_4</math> Addition, reaction delay time, alkali addition, reaction delay time for neutralization, steam injection, residue delay time. residue removal, Auto titrator connectivity with delay time feature), calculation and reporting of results with built in formulae. Interconnectivity cable to operate system through PC or Laptop, Provision for direct calculation of results in LCD with user programmable formulae for direct reading of protein/Nitrogen/ Available Nitrogen etc</p> <p><b>D. Acid Dispenser :</b> * To handle Sulphuric acid/Hydrochloric acid, 2.5-25ml. Variable addition, digital display, 1 ml resolution</p> <p><b>E. Digital Burette:</b> Compact Titration System Accurate 2nd decimal digital display at equivalence point. Volume ml - 50ml, subdivision ml - 0.02, Accuracy - + 0.2 %. PTFE Piston. Titration recirculating valve telescoping filling tube with Inspection Window.</p>			
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21	PCR Machine with Accessories (Bio Chemistry, Hassan)	1	<p>Supplying, installing and demonstrating the <b>PCR Machine along with accessories</b> with the following specification.</p> <p>Efficient versatile PCR System  Block for 96 x 0.2 ml, 70 or more of 0.5 ml tubes  Licensed and authorized system for PCR applications  Temperature control range -4 to 99 deg C  Regulation accuracy per well - 0.2 deg C  Ramp speed = 3 deg C/s heating and 2 deg C/s cooling  Adjustable heated lid for different tubes  External card for easy transfer of data between different cyclers  Programs stored = 100 on device  Ability store methods on external card for safety and multiple user capability  System should be CE and ISO certified  Validation and calibration facility should be available in the system  Software based in-situ adapter quoted as option  Auto restart option in event of Power failures  RS 232 and printer interface  Two years warranty  Lower Power Consumption ~ 500 W  Pipettes with the following volume and specification should be quoted -0.5µl - 2.5µl, 10 µl-100µl, 100µl-1000µl  Should be fully auto clavable.  Should have adjustable display to adjust the pipette to specific liquid and volume.  Spring loaded tip cone for tight fit to the tip.  Should have TÜV award: ergonomic. User-friendly and user-tested  Should have IVD conformity  Three-year warranty</p>	3,500-00		
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22	Atomic Absorption Spectrometer	1	<p>Supplying, installing and demonstrating the <b>Atomic Absorption Spectrometer</b> with the following specification.</p> <ul style="list-style-type: none"> <li>• True Double Beam Atomic Absorption Spectrometer covering wavelength range from 190 nm not to 860 nm.</li> <li>• The first generation Spectrometer with Echelle( optical system &amp; Solid State Detector</li> <li>• Controlled through AA Winlab 32 Software, (Reprocessing of method parameters is now possible)</li> <li>• Highest Resolution Optics: 0.12 nm</li> <li>• Compatibility with Coded Hollow Cathode Lamps/earlier lamps.</li> <li>• Built-in 4 lamp fixed holder configuration and one Lamp EDL Power Supply. Hallow cathode lamps for Fe, Zn, Ca, Mg</li> </ul> <ul style="list-style-type: none"> <li>• Built-in various safety interlocks for gas flow, pressure burner heads, nebulizer, spray chamber release drain, drain full etc.</li> <li>• Spray Chamber made up of C-filled PPS resistant to all acids &amp; organic solvent,</li> <li>• Quick connect-disconnect Burner Head system for easy removal from sample compartment.</li> <li>• No disconnection of cables/hoses.</li> <li>• Built-In high sensitivity Nebulizer includes flow spoiler and impact bead, which is resistant to all acids/solvents</li> <li>• Customized service concept (e-box) first time being introduced for user to replace electronic boards.</li> </ul> <p>*Sealed as well as purged optics for demanding corrosive Laboratory environment.</p> <p>*Programmable Gas/ Flame controls.</p> <p>*Installation/Trouble Shooting CD for self-cheek</p> <p>*Ethernet card for networking, down loading of software, upgrade of Eprom/Software.</p> <p>*Support 8 different languages- GUI (Graphical User Interface).</p> <p>*Service diagnostic tool for trouble shooting with message display.</p> <p>*Dramatic reduction in cost of ownership</p> <p>*Upgradable to Graphite Furnace, hydride Generator etc. in future.</p> <p><u>Local Accessories:</u></p> <ol style="list-style-type: none"> <li>1. Required Branded PC and Printer</li> <li>2. Fume Exhaust System</li> <li>3. Air Compressor,</li> <li>4. Acetylene Gas Cylinder with regular</li> <li>5. Calibration standards</li> </ol>	10,600-00		
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23	62.5 KVA DG Set (SFS, ZARS, VCF, Mandya)	1	<p>Supply, Erection &amp; commissioning of <b>62.5 KVA DG Set</b> with following Specification.</p> <p>Mahindra /Cummins/Kirloskar 4 Stroke, multi cylinder water cooled diesel engine, 12V electric start type, developing minimum 87bhp @ 1500 RPM complete with radiator, thermostat, pusher type fan, water pump, Air Filter Assembly, fuel filters, lube oil filters, battery charging alternator, electric starter motor, flexible exhaust bellow, Engine panel with gauges for engine rpm &amp; Hour meter, lube oil pressure, Battery volt meter, starter switch, safeties for Low Lube Oil Pressure (LLOP), High Water temperature ( HWT ) Engine over speed and low coolant level and with A-1 (class Mechanical Speed Governing System/ coupled to 62.5 KVA Alternator of make Crompton Greaves /Trident/Leroysomer/Stamford brushless Type, Self excited, Self Regulated,4 wire system, suitable for coupling with engine with class, F/H insulation with voltage regulation of +/- 1.5% suitably rated to give a power output of 415 volts, 3 phase, 50Hz at 1500 RPM &amp; 0.8Pf confirming to IS 13364. Engine &amp; alternator coupled together on fabricated channel iron base-frame with in-built fabricated tank of suitable capacity for minimum 8 Hrs of operation with level indicator, air -vent, drain plug, fuel inlet and outlet, etc, fitted with CPCB compliant Acoustic Enclosure (Approval Certificate to this effect should be furnished), with Sheet Steel Cubicle type, Powder coated with suitable rated MCCB, Indicating lamps, fuses, Genset Safety Unit etc, with AMF control panel</p> <table border="1" data-bbox="545 1136 1143 1822"> <thead> <tr> <th colspan="3">Installation specification</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>2.5 X 8 core control cable</td> <td>25 Mtrs</td> </tr> <tr> <td>2</td> <td>Supply of cable glands and aluminium lugs/sockets for end termination, single compression type</td> <td>4 sets</td> </tr> <tr> <td>3</td> <td>40mm dia GI pipe, salt, charcoal for earth station as per IS3043</td> <td>4 Nos</td> </tr> <tr> <td>4</td> <td>25mm x 3mm GI strip for DG set body earthing</td> <td>15 Mtrs</td> </tr> <tr> <td>5</td> <td>25mx3mm GI strip for DG set neutral earthing</td> <td>15 Mtrs</td> </tr> <tr> <td>6</td> <td>Supply &amp; providing 3" rigid exhaust pipe with collar, flange, fire play packing, fastners.</td> <td>5 Mtrs</td> </tr> <tr> <td>7</td> <td>Thermal insulation/Aluminium cladding for exhaust pipe-3"</td> <td>5 Mtrs</td> </tr> <tr> <td>8</td> <td>Misc. Hardware such as fire play packing, hardware paint, washer, bolts, nuts, clamps, etc</td> <td>Lumpsu m</td> </tr> <tr> <td>9</td> <td>Frieght &amp; unloading charges</td> <td>1 Job</td> </tr> <tr> <td>10</td> <td>Labour charges towards installation &amp; Commissioning</td> <td>1 Job</td> </tr> <tr> <td>11</td> <td>Electrical Inspectorate approval</td> <td>1 job</td> </tr> <tr> <td></td> <td>The Agency should give Testing &amp; Demonstration to the enduser. The rate should be inclusive of all items.</td> <td></td> </tr> </tbody> </table>	Installation specification			1	2.5 X 8 core control cable	25 Mtrs	2	Supply of cable glands and aluminium lugs/sockets for end termination, single compression type	4 sets	3	40mm dia GI pipe, salt, charcoal for earth station as per IS3043	4 Nos	4	25mm x 3mm GI strip for DG set body earthing	15 Mtrs	5	25mx3mm GI strip for DG set neutral earthing	15 Mtrs	6	Supply & providing 3" rigid exhaust pipe with collar, flange, fire play packing, fastners.	5 Mtrs	7	Thermal insulation/Aluminium cladding for exhaust pipe-3"	5 Mtrs	8	Misc. Hardware such as fire play packing, hardware paint, washer, bolts, nuts, clamps, etc	Lumpsu m	9	Frieght & unloading charges	1 Job	10	Labour charges towards installation & Commissioning	1 Job	11	Electrical Inspectorate approval	1 job		The Agency should give Testing & Demonstration to the enduser. The rate should be inclusive of all items.		5,580-00		
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24	Installation of <b>500 KVA DG set</b> at <b>Electrical Substation, GKVK</b>	1	<p><b>1</b></p> <p><b>500 KVA DG set</b></p> <p>400 KW/ 500 KVA silent diesel generating set with. CPCB approved acoustic enclosure comprising of Radiator cooled, diesel engine developing 600 BHP at 1500 RPM complete with standard accessories, compled to “Stamford” Alternator rated at 400 KW/500 KVA at 415 volts mounted on channel iron base frame complete with fuel tank of 700 Ltrs, Capacity with standard manual control panel and batteries.</p> <p><b><u>500 KVA / 400 KW Diesel generating Set: Technical specification</u></b>  19 G9 rated 600 BHP at 1500 RPM confirming to BS 5514/ISO 3046 Engine is turbo charged. After cooled, four stroke, six cylinder, bore 159mm stroke of 159mm compression ratio 13.9:1. The 10%, over load is available for 1 hour in every 12 hours of operation.  <b><u>The supply should include</u></b>  - Radiator (On hear exchanges as an options)  - Cummins PT fuel pump electrical step timing control (ESTC) injector  - Turbo charges, pulse tuned exhaust manifold  - Stainless steel exhaust flexible connection.  - Residential silences  - Plate type tube oil cooler  - Spin on type filter for fuel cube oil and bypass.  - Dry type replaceable paper element air cleaner with restriction indicator.  - Fly wheel housing and fly wheel to suit single bearing alternator.  - Electric starting motor - battery charging alternator  - First till tube oil and coolant inhibitor.  - Power corn genset controller  <b><u>Alternator</u></b>  Stamford alternator from Cummins generator Technologies 500 KVA at 1500 RPM, 415 V-0.8 pf (lag) 50 Hz 3 phase, 4 wire system confirming to BS 5000/IS 4722. The alternator is brushless type, screen protected, revolving field, self excited, self regulated with AVR and has the following features.  - voltage regulation - + 1.0% in steady condition.  - IP: 23 Enclosure  - Single bearing.  - Class A Insulation  <b><u>Control panel (Manually operated and located within acoustic)</u></b>  Powder coated control panel manufactured with 14/16 gauge CRCA sheet is provided with  - MCCB of 800 Amps 4 pole with overload and short circuit protection  - Combined meters for Ampers –volts- frequently and for KW-KVA-PF  - Electronic KWh meter (Display by 6 digit steppers motor counted)  - Correct transformers  - Aluminium bus bars of rated capacity with incoming and outgoing terminations.  - Indicating lamps for ‘DG ON’ and “LOAD</p>		43,000-00		
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			<p>ON”</p> <ul style="list-style-type: none"> <li>- Instrument fuses / MCB duly wired and ferruled.</li> </ul> <p><b>Power comfeatures</b></p> <ul style="list-style-type: none"> <li>- Engine electronic governing.</li> <li>- Gen set metering parameters like lube oil, pressure, coolant temperature, engine speed (rpm), run hours, D.C. voltage, intake manifold, temperature (wherever applicable) 3 phase volts and 3 phase amperes, frequency, KW, KA power factor.</li> <li>- Engine protection for low lube oil pressure, high coolant temp. (alarm and shut down) alternator protection parameters like under voltage, over voltage, over frequency, over current, under frequency (alarm and shut down)</li> <li>- Relay drivers for remote annunciations</li> <li>- Cyclic cranking</li> <li>- Auto / manual start/stop</li> <li>-Alternator trim adjustment from the front keypad.</li> <li>Model specific calibration from the front key pad.</li> <li>Speed bias or raise / lower in puts are provided for paralleling</li> <li>- Remote monitoring capability through separate interface models.</li> <li>- 6 configurable discrete outputs,</li> <li>-2 configurable discrete inputs.</li> <li>-Smooth start algorithm</li> <li>- Housed in a NEMA 3R/IP 53 non metallic enclosure.</li> <li>- Operates within a wide temperature range (0-60°C)&amp; humidity upto 95%</li> </ul> <p><b>Mounting arrangement of D.G. Set</b></p> <p>Engine and alternator are mounted on common MS fabricated base frame with AVM Pads.</p> <p><b>Fuel tank:</b> Sub base tank of 700 litres capacity.</p> <p><b>Battery:</b> 2 Nos. uncharged 12 volts. D.C.</p> <p><b>Acoustic Enclosure:</b> The acoustic enclosure is made of 1.6 mm thick CRCA sheets and structural /sheet metal base frame painted in munsell green shade. The well of the enclosure arc insulated with fire retardant rock wool.</p> <p><b>The enclosure should have the following features.</b></p> <ul style="list-style-type: none"> <li>- Specially designed to meet MOEF Ministry of Environmental and Forest/CP CP control pollution control board norm of 75 dBA at 1 meter under free field conditions ac per TSO 8528 part-10.</li> <li>- Single point lifting for easy handling at customer site.</li> <li>- Designed to have optimum serviceability.</li> <li>- Air inlet louvers specially designed to operate at rated load.</li> <li>- Made on special purpose CNC machines for consistency in quality and work manship.</li> <li>- With UV resistant powder coating with stands extreme environments.</li> <li>- Use of special hard ware for longer life.</li> <li>- Installation material meets exacting IS 8183 specifications for better sound attenuation.</li> <li>- Flush styling -no projections.</li> <li>- Fluid drains for lube oil and fuel.</li> <li>- Fuel filling point.</li> </ul>	1 Unit			
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			<p>Typical dimension details and weight of D.G. Set with acoustic enclosure. LxWxHt. Overall size with silencer 6500 x2000x3050mm Overall size without silencer 6500x2000x2300mm Overall size of foundation 7000x2600xdepth as per site condition (150mm above ground level). Weight on 7800.00 Kgs. (Cummins make or equivalent) (Rate including with all taxes)</p>			
		<b>2</b>	<p><b><u>AMF panel in lieu of standard control panel for 500 KVA DG set</u></b> Cubicle type, base/floor mounting control panel with hinged doors undrilled bottom gland plate, AL, Bus bar and accommodating the following. <b><u>Switch Gears</u></b> 800A, 3 pole ACB, EDO type with 140.A, 3P neutral contactor for alternator. (L &amp; T make) 800A 3 pole ACB EDO type with 140 A 3P neutral contractor for mains (L&amp;Tmake) <b><u>Micro processor based AMF module incorporating functions:</u></b> Supply failure timer, Restoration timer, 3 Impulse automatic engine start /stop logic mains/ generator voltage frequency sensing <b><u>Additional features</u></b> <b><u>Metering</u></b> Combined meter for voltage /Ampers/ Frequency combined meter for KW/ power factor / KVA electronic KWH meter (counter display) current transformers <b><u>Relay</u></b> Earth fault relay (Electronic type) <b><u>Indications (LED)</u></b> DG ON, Load on DG, Mains ON, load on mains, battery charges ON <b><u>Push Buttons</u></b> (AMF module by pass mode) Engine Start / Stop, Generator breaker CLOSE /TRIP, Mains Breaker CLOSE/TRIP (If provided) Fault ACCEPT/ RESET</p>			
			<p><b><u>Battery Charger:</u></b> SMPS based unit with inbuilt Auto/Manual and Flout/Boost facility D.C. Voltmeter and Ammeter (Separate) (Rate including with all taxes)</p>	1	unit	
		<b>3</b>	<p><b><u>Supply charges</u></b> Exhaust system of MS ERW B class pipe with alluminium cladding.</p>	20	Mtrs	
			<p>(i) 8" dia B' class MS pipe</p>			
			<p>(ii) Insulation and 24 guage aluminium cladding for above exhaust pipe.</p>	25	Mtrs	
		<b>b)</b>	<p>(iii) Insulation and 24 guage aluminium cladding for silencer. <b><u>Exhaust Pipe support</u></b> i) Supply of MS support for exhaust pipe and turbo charges with one coat of red oxide and enamel paint.</p>	1	Nos	
		<b>c)</b>	<p><b><u>Earthing</u></b> i) Pipe earth electrode as per IS 3043 complete with 38mm dia GI pipe, GI watering funnel (Excluding civil work like excavation, chamber and chamber covers)</p>	4	Nos	
			<p>ii) 25 x 6mm GI strip for neutral and body earthing (2 runs)</p>	50	Rmt	
			<p>iii) 8 SWG CU wire</p>	30		

				Mtrs			
<b>d)</b>	<b>Cabling</b> (i) Supply 3.5c x 300 Sqmm aluminium armoured power cable from generator to panel for DG set (3R)			75 Rmt			
	(ii) End termination for the above with suitable aluminum glands and lugs (Single compression).			6 Sets			
<b>e)</b>	<b>Control cabling</b> <b>Copper armoured multistrand cables.</b>  (i) 12Cx2.5 Sqmm			20 mtrs			
	(ii) End termination for the above with suitable glands and lugs (Single compression)			2 Nos			
	(iii) 2C x 4 Sqmm			20 Mtrs			
	(iv) End termination for the above with suitable glands and legs (Single compression)			2 Nos			
	(v) Adoptor box with bus bar			1 No			
<b>f)</b>	<b>Safety items</b> i) DCP type fire extinguisher of 2 Kgs, Rubber mat, Fire bucket of 2 Nos. with stand.			1 Set			
<b>4</b>	<b>Labour charges:</b> <b>(a) Installation charges for exhaust system</b> (i) 8" dia B class MS pipe			20 Mtrs			
	(ii) Insulation and 24 guage aluminium cladding for above exhaust pipe			25 mtrs			
	(iii) Insulation and 24 guage aluminium cladding for silencer			1 No			
<b>(b)</b>	<b>Exhaust pipe support</b> i) Supply and installation of MS support for exhaust pipe and turbo charges.			400 Kgs			
<b>c)</b>	<b>Earthing</b> i) Pipe earth electrode as per IS 3043 complete with 38mm dia GI pipe, GI watering funnel			4 Nos			
	ii) 25 x 6mm GI strip for neutral and body earthing (2 runs)			50 Rmt			
	iii) 8 SWG CU wire			30 Mtrs			
<b>d)</b>	<b>Cabling</b> i) For 3.5c x 300 Sqmm aluminum armoured power cable from generator to panel for DG set (3R)			75 Rmt			
	ii) End termination for the above with suitable aluminum glands and lugs (Single compression)			6 Sets			
<b>e)</b>	<b>Control cabling</b> <b>Copper armoured multistrand cables.</b> i) 12Cx 2.5 Sqmm			20 Mtrs			
	ii) End termination for the above with suitable glands and lugs (Single compression)			2 Nos			
	iii) 2C x 4 Sqmm			20 Mtrs			
	iv) End termination for the above with suitable glands and legs (Single compression)			2 Nos			
	v) Adopter box with bus bar			1 No			
<b>f)</b>	<b>Safety items</b> i) DCP type fire extinguisher of 2 Kgs. Rubber mat, Fire bucket of 2 Nos. with stand.			1 Set			
<b>5</b>	Initial charging of DG batteries for one DG set			1 set			
<b>6</b>	Battery Stand one set			1 Set			

			<table border="1"> <tr> <td>7</td> <td>Unloading, shifting and positioning of DG set one set.'</td> <td>1 Set</td> </tr> <tr> <td>8</td> <td>Liaison charges for obtaining BESCO clearance for installation of DG Set (Statutory fees to be paid by client)</td> <td>LS</td> </tr> <tr> <td>9</td> <td>Liaison charges for obtaining pollution control board for D.G. set (Applicable only if consent for establishment is available) (Statutory fees to be paid by client)</td> <td>LS</td> </tr> <tr> <td>10</td> <td>Miscellaneous and unforeseen</td> <td>LS</td> </tr> <tr> <td></td> <td>The Agency should give Testing &amp; Demonstration to the enduser. The rate should be inclusive of all items.</td> <td></td> </tr> </table>	7	Unloading, shifting and positioning of DG set one set.'	1 Set	8	Liaison charges for obtaining BESCO clearance for installation of DG Set (Statutory fees to be paid by client)	LS	9	Liaison charges for obtaining pollution control board for D.G. set (Applicable only if consent for establishment is available) (Statutory fees to be paid by client)	LS	10	Miscellaneous and unforeseen	LS		The Agency should give Testing & Demonstration to the enduser. The rate should be inclusive of all items.				
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	The Agency should give Testing & Demonstration to the enduser. The rate should be inclusive of all items.																				
25	Dry Air Humidifier (Crop physiology, GKVK)	1	<p>Supplying, installing and demonstrating the <b>Dry Air Humidifier</b> with the following specification.</p> <p><b>For High efficiency</b></p> <ul style="list-style-type: none"> <li>• Should be CE Certified as per standard ENISO12100-1 :2003, EN ISO 12100-2: 2003, EN602041:1997</li> <li>• A totally self contained unit</li> <li>• CNC fabricated unit(s) with powder coated finish</li> <li>• Rotor media should have high performance metal silicates synthesized in Situ.</li> <li>• Rotor should incorporate robust internal structure with stainless steel perimeter flange for industrial quality, durability and easy serviceability.</li> <li>• Rotor perimeter flange should be present</li> <li>• Should be of Edge hard face coating on rotor to ensure long life and good sealing for media and seals.</li> <li>• Rotor should be non-flammable with organics &lt; 2%.</li> <li>• Process and reactivation air flow sectors should be insulated</li> <li>• Humidity control through humidistat on/off</li> <li>• Stainless steel construction</li> </ul> <p><b>Necessary control and safeties</b></p> <ul style="list-style-type: none"> <li>• Differential air pressure switch for providing react air flow.</li> <li>• High temperature safety thermostat cutout.</li> <li>• Reactivation cool down safety device.</li> <li>• Electrical interlocking of fan motors, heaters and rotor drive.</li> <li>• Unique PTFE bonded bulb seal design to minimized air leakage</li> </ul> <p><b>For Easy Operation</b></p> <ul style="list-style-type: none"> <li>• Should be suitable for continuous operation</li> <li>• Auto/manual selector switch should be present</li> <li>• Power on, heater on and fault status indications should be present</li> <li>• Independent blower and motor for each</li> </ul>	2,000-00																	

			<p>airflow (Process &amp; Reactivation) should be present</p> <ul style="list-style-type: none"><li>• Volume control damper should be available for both (Process &amp; Reactivation) air flow should be present</li></ul> <p><b>For Easy installation</b></p> <ul style="list-style-type: none"><li>• Should have Several mounting and installation options</li><li>• Small footprints; low volume/weight per CMH.</li></ul> <p>For easy maintainence</p> <ul style="list-style-type: none"><li>-Quick &amp; easy to service</li><li>-Rotor is water washable</li></ul>			
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**FORMAT FOR CONTRACT FORM  
(TO BE FURNISHED ON A STAMP PAPER OF Rs. 200.00)**

**SECTION X: CONTRACT FORM**

THIS AGREEMENT made the .....day of....., 20... Between the Estate Officer, UAS, GKVK, Bengaluru-65 (Name of purchaser) of Bengaluru, India (Country of Purchaser) (hereinafter called "the Purchaser") of the one part and ..... (Name of Supplier) of ..... (City and Country of Supplier) (hereinafter called "the Supplier") of the other part :

WHEREAS the Purchaser is desirous that certain Goods and ancillary services viz., ..... (Brief Description of Goods and Services) and has accepted a tender by the Supplier for the supply of those goods and services in the sum of ..... (Contract Price in Words and Figures) (hereinafter called "the Contract Price").

NOW THIS AGREEMENT WITNESSETH AS FOLLOWS:

1. In this Agreement words and expressions shall have the same meanings as are respectively assigned to them in the Conditions of Contract referred to.
2. The following documents shall be deemed to form and be read and construed as part of this Agreement, viz.:
  - (a) the Tender Form and the Price Schedule submitted by the Tenderer;
  - (b) the Schedule of Requirements;
  - (c) the Technical Specifications;
  - (d) the General Conditions of Contract;
  - (e) the Special Conditions of Contract; and
  - (f) the Purchaser's Notification of Award.
3. In consideration of the payments to be made by the Purchaser to the Supplier as hereinafter mentioned, the Supplier hereby covenants with the Purchaser to provide the goods and services and to remedy defects therein in conformity in all respects with the provisions of the Contract.
4. The Purchaser hereby covenants to pay the Supplier in consideration of the provision of the goods and services and the remedying of defects therein, the Contract Price or such other sum as may become payable under the provisions of the Contract at the times and in the manner prescribed by the Contract.

Brief particulars of the goods and services which shall be supplied/provided by the Supplier are as under:

SL. NO.	BRIEF DESCRIPTION OF GOODS & SERVICES	QUANTITY TO BE SUPPLIED	UNIT PRICE	TOTAL PRICE	DELIVERY TERMS

TOTAL VALUE:

DELIVERY SCHEDULE:

IN WITNESS whereof the parties hereto have caused this Agreement to be executed in accordance with their respective laws the day and year first above written.

Signed, Sealed and Delivered by the said .....  
(For the Purchaser) in the presence of:.....

Signed, Sealed and Delivered by the  
said ..... (For the Supplier) in the presence  
of:.....

NOTE: This Contract Form should be filled in complete Form and should be submitted with in 10 days from the receipt of the Purchase Order along with Bank Guarantee.

SECTION XI

FORMAT OF PERFORMANCE SECURITY FORM (BANK GUARANTEE)

To:

The Comptroller,  
UAS, GKVK, Bengaluru-65.

WHEREAS ..... (Name of Supplier) herein after called "the Supplier" has undertaken , in pursuance of Contract No..... dated,..... 20..... to supply.....(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 recognized 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 limit 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.....20.....

Signature and Seal of Guarantors

.....  
.....  
.....

Date.....20....

Address:.....

.....  
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