

ASSAM AGRICULTURAL UNIVERSITY

Jorhat-785013

BIDDING DOCUMENT

(Terms and conditions)



2-1 (41.3) /2009-10 /DRA (A)/10624-32

Dtd: 04.09.2018

**DIRECTORATE OF RESEARCH
ASSAM AGRICULTURAL UNIVERSITY
JORHAT-785013**

Terms and Conditions

1. The quotation fees of Rs.200/- (Rupees Two hundred only) in favour of Director of Research (Agri.), AAU, Jorhat is not refundable. Those who will submit the quotation by down loading the tender documents, they must have to submit the quotation fee in the form of DD along with the quotation without which quotation will be rejected
2. The bidder shall enclose EMD 2% of the quoted price in the shape of DD drawn in favour of the Director of Research (Agri.) AAU, Jorhat The bids that are not accompanied by the aforesaid bid security will not be accepted. The details of bid security must be provided. The bid security of the unsuccessful bidders will be released after issuing supply to the successful bidder and the bid security of the successful bidder will be released after execution of the order.
3. The quotation shall be sealed and super scribed at the top of sealed cover “Quotation for Lab equipments/Farm Implements invited vide memo no. No. 2-1(41.3)/2009-10/DRA(A)/10624-32 Dtd: **04.09.2018**
4. Quoted price: To facilitate format evaluation, the bidder shall quote the price of items separately along with relevant papers for supporting the quoted price such as catalogue, dealership certificate and Co’s printed price list, user list etc. failing which the bid shall be treated as non-responsive at the discretion of the purchaser.
5. The bid submitted to the bidder shall remain valid for a period of 90(ninety) days. Bid not conforming to this provision shall be treated as non-responsive.
6. To facilitate prompt evaluation, the bidder shall provide Technical Compliance Report (TCR) and price data for each item separately.
7. Quotation must also be submitted in a soft copy in CD (to support in Microsoft words only) in the following format failing which the bid treated as non-responsive, at the discretions of the purchaser. In case of any optional items, pictures should be shown separately. Any discrepancies in the soft copy will be the responsibility of the quotationers.

Format

Name of Item	Brief Specification	Unit Price	GST/Freight Charge if any (FOR Jorhat)/	Total
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8. The rate shall be quoted for all duties, taxes and other levies payable by the bidder shall be included in the item rate. GST should be quoted separately (TIN No/GST No. must be furnished)

9. There should not be any overwriting. Corrections, if any, should be made with dated initial of bidder. Bidder shall submit quotation separately in each item.

10. Rates should be quoted clearly both in words and figures separately for each item without which the quotation shall stand rejected.

11. The price quoted shall be fixed and not subject to adjustment/variation during the performance of the contract.

12. The warranty of the items shall be as per the prevailing warranty policy/certificate of manufacturer (where necessary) for the items and warranty period shall not be less than months from the date of commissioning of items at site.

13. The bidder shall furnish the warranty for all the items at the time of delivery and commissioning. The purchaser shall reject the items not enclosed by warranty certificate from their manufacturer. The warranty certificate should be duly signed and sealed.

14. Bidders must supply the items at their own cost. All machineries/equipments are to be supplied FOR destination. Delivery of goods shall have to be completed within 30 (thirty) days from the date of issuing supply order.

15. Installation and commissioning charges, if any, inclusive of expenses of foundation work etc. are to be mentioned separately against each machine. In case of no mention, the same will be considered as inclusive of installation cost whenever applicable.

16. The machineries are to be supplied ready to operate, complete with motor, starter and any necessary gadgets including catalogues, trouble shooting manual etc. without which the same will be considered as incomplete supply.

17. List of spare parts with current price to be required during operation of the machines and addresses of the source of spare parts availability including contact no., e-mail etc. are to be provided in a separate sheet.

18. Price of one set of critical wearable spares that would hamper the working of the machineries/equipments should be mentioned separately against each machine.

19. The supplier shall provide free maintenance services during the period of warranty. Any repair and maintenance including providing of spare parts (covered by manufacturer's warranty certificate) during the warranty period shall be bidder's responsibility.

20. Detailed specification with make, model, size, and code no., catalogue, and name of manufacturer should be furnished. ISO certificate must be furnished for the offer make where applicable.

21. Copies of S.S.I registration or such documents may be produced with quotation.

22. Attested copies of dealership certificate and Co's printed price list must be enclosed with the quotation.

23. Up-to-date sale Tax clearance certificate and Income Tax return of last two years duly attested must be submitted along with the quotation. PAN No. must be furnished.

24. All payment shall be made preferably in Indian Rupees only.

25. Where ever the laws and regulations require, deduction of taxes at source of payment, the purchaser shall effect such deduction from the payment due the supplier, the remittance of amounts so deducted and insurance certificate for such deduction shall be made by the purchaser as per the laws and regulation in force.

26. The quotation will be opened on the day of last date of submission i.e on 25.09.2018 at 1.30 p.m. in the office of the undersigned, AAU, Jorhat-13. The bidder or his authorized representative may attend the bid opening. Except price, no other details will be announced during the opening.

27. Every page of the bidding documents purchased from the purchaser are to be signed by the bidder including their acceptance of terms and conditions and returned with their quotation.

28. The undersigned reserves the right to accept or reject any quotation and to cancel the instant bidding process and reject all quotation at any time prior to award of contract, without thereby incurring any obligation to the affected bidders of grounds for the purchaser action.

ANNEXURE –I
Format for EMD Details

Sl.No	Sl. No of the item (as per bid document)	Name of the item quoted	Basic price of the item (excluding taxes and transportation charges)	Price in Indian rupee (for imported items at the prevailing rate of exchange)	Amount of EMD (2% of basic price)	Details of EMD submitted including amount and validity

ANNEXURE – II
Format for Technical Compliance Report & Price Data

1. Sl. No of the item (as per bid document)
2. Name of the item:
3. Name of scheme:

Sl.No	Specification asked for (strictly as mentioned in bid document)	Specification offered (Corresponding to specification in bid document)	Technical compliance (Yes / No)	Variation if any	Technical literature supporting the technical compliance (Suitably tagged)

FORMAT FOR QUOTATION
(Separate Quotation for individual items to be submitted)

Sl. No	Name of the item (s)	Brief Specification	Unit price	% of GST / Freight charge if any (FOR Jorhat)	Total amount

We agree to supply the above items in accordance with the technical specification mentioned. We also confirm that normal commercial warranty / guarantee ofmonths shall apply to the offered goods.

Quotationers Name :

Signature

Date:

Seal

Sl. No	Name of the Project	Name of Equipments	Specification
1.	Management of low temperature and soil moisture deficit stress in banana grown in North Eastern India, Dept. of Crop Physiology, AAU, Jorhat	PC based double beam UV-Vis spectrophotometer	<p>PC based double beam UV-Vis spectro photometer with the following minimum configuration (better and advanced versions are preferable)</p> <p>WAVELENGTH :_Range : 200 to 1100nm; Accuracy : \pm 0.5nm or better.; Repeatability : \pm0.1nm or better.; Resolution : 0.1nm (200 to 1100nm).; Bandwidth : 2.0nm.</p> <p>Source: Xenon flash lamp or better with typical lifetime of 7-10 years</p> <p>PHOTOMETRIC : Range : -2.5 to 2.5 Abs (+ 4.0 Abs) .; Accuracy : + 0.005 Abs or better.; Repeatability : + 0.002 Abs at 1.0 Abs, photometric noise</p> <p>0.0001 Abs or better .</p> <p>Automatic Baseline correction using Advanced Digital Single Processing (DSP) techniques.; Within + 0.003 Abs from 200 to 1100nm (excluding noises) after baseline calibration.</p> <p>Single wavelength; Multi Wavelength (Max.15 wavelength); Scan (with multi-scan facility); Time/Kinetic Scan (With Derivative facility).</p> <p>Absorbance; % Transmittance; Concentration (K factor, multi standard); Multi-Component Analysis (max.10 components).</p> <p>Baseline calibration; Source optimization.; Cell optimization; Wavelength calibration; Electronics calibration; Self –diagnosis.; Display of graphic and tabular data on computer Monitor, Permanent data storage on hard disk , hard copy of graphic and tabular data on printer.</p> <p>Computer: Model : HP/ Apple: P62110IL; Platform: 2nd Gen Core i5; Processor: Intel Core; Clock Speed:3.0GHZ; O.S: Windows 8.1; RAM: 2GBDDR3; HDD: 500GBHD; DVD R/W; Key Board , Mouse & lane: Wired; Graphics: Integrated; With 20 LED Monitor, 800VA UPS, HP laserjet Printer.</p> <p>Delivery, demonstration and installation at AAU, Jorhat</p>
2.	Management of low temperature and soil moisture deficit stress in banana grown in North Eastern India, Dept. of Crop Physiology, AAU, Jorhat	Portable photosynthetic system	<p>Portable Photosynthesis System with following minimum Specifications (better and advanced versions are preferable):</p> <p>CO₂ – Detector Range :0-2000 μmol / m² / sec or ppm; Sensitivity: 1 μmol / mol / m² /sec / or ppm; Type of CO₂ Detector: Differential in time IRGA System design , auto zero, automatic atmospheric pressure and temperature compensation; CO₂ Detector Response Time: Fast Response time ; Auto-zero cycling should be reduced to significantly improve system response without any loss in analyzer stability. ; H₂O /RH detector Range: 0-75 mb or Higher; Enable to work in a high humidity fluctuation environment for dilution correction.; Leaf Chamber : 6.0 cm² leaf chamber or higher. A tripod for the leaf chamber should be provided</p>

			<p>for continuous field application. Provision for analyzing the atmospheric canopy CO₂ at different elevation level ; Measuring Parameters: Photosynthesis, Transpiration, Stomatal Conductance / resistance, PAR, H₂O in air / air temp, leaf temp, Intercellular CO₂ concentration,; Photosynthetic Active Radiation Range: 0-3000 μmols m⁻² sec⁻¹ - Silicon photocell; PAR Light Source for the Broad Leaf Chamber : Up to 2,000 μmols m⁻² s⁻¹.; Leaf Chamber Temperature-Range : 5°C to 50°C Precision thermistor or thermocouple ; +/- 0.2°C accuracy or Better; Direct Leaf temperature: 5°C to 50°C Self positioning; microchip thermistor/Energy balance/manually positioned thermistor or thermocouple; Memory: On Board or Removable 1GB SD cards typically store up to 16 million sets of data and Expandable up to 4 GB.; A single in built battery - Up to 10 hours capability between charges with Battery charger with ; Universal input voltage; Direct USB connection: Function as mass storage device-Plug and read Text file directly. Data logger for in situ measurement and storage.; Plant leaf chamber: 1 kg or lesser weight.</p> <p>All Standard accessories such as conditioning chemicals, IR source lamp, Additional cable for Chamber to console, CCI measurement unit. One Additional Battery should be provided.</p> <p>Delivery, demonstration and installation at AAU, Jorhat</p>
3.	Management of low temperature and soil moisture deficit stress in banana grown in North Eastern India, Dept. of Crop Physiology, AAU, Jorhat	Analytical Balance	<p>Analytical balance with following minimum Specifications (better and advanced versions are preferable): Touch –key calibration ; Easy setting Best fit to weighing application; Comparator function; Formulation mode.; Window Direct Communication Function; Dust Cover shield & Sliding door. Capacity : Aprox. 100 gm.; Minimum Display : 0.1mg.; Repeatability (Standard Deviation) : < 0.1mg.; Linearity : ± 0.2mg.; Display : Digital ; Power Requirement : 12V, 1A. (230-240V with Adapter).; Internal Calibration facility</p> <p>Delivery, demonstration and installation at AAU, Jorhat</p>
4.	Management of low temperature and soil moisture deficit stress in banana grown in North Eastern India, Dept. of Crop Physiology, AAU, Jorhat	Water Bath	<p>Thermostatic Water bath with following minimum Specifications (better and advanced versions are preferable): double walled made of Stainless steel ; Glass windows on both opposite sides for observation.; Temperature controlled by mercury contact thermometer with a sensitivity of ±0.5⁰C. Complete with stirrer; Digital temperature indicator –cum-controller, Workable on 220V AC 50Hz single phase; Inner Chamber : Minimum 450mm × 375mm × 375mm.</p> <p>Delivery, demonstration and installation at AAU, Jorhat</p>
5.	Management of low temperature and soil moisture deficit stress in banana	Hot Air Oven	<p>Hot Air Oven with following minimum Specifications (better and advanced versions are preferable): Standard double wall fabrication , Inner chamber made of Stainless steel sheet ,Exterior fabricated out of thick milled steel sheet duly</p>

	grown in North Eastern India, Dept. of Crop Physiology, AAU, Jorhat		finished colour combinations; heating elements provided on three side to attain quick and uniform heating in range of 40 ⁰ C to 250 ⁰ C ± 2 ⁰ C , Controlled by capillary type thermostat ; thermometer is built –in type . Control panel is provided with selector switch of high or low rates of power thermostat control knob and indicators for mains & thermostat; Supplied with cord and plug; The equipment is suitable to operate on 220V AC 50Hz single phase; Capacity: 100-200 Ltrs.; No. of minimum Shelves : 2 Delivery, demonstration and installation at AAU, Jorhat
6.	Management of low temperature and soil moisture deficit stress in banana grown in North Eastern India, Dept. of Crop Physiology, AAU, Jorhat	Conductivity Meter	Conductivity Meter with following minimum Specifications (better and advanced versions are preferable): Range : 0 µS to 200.0 mS; Resolution : 0.01 / 0.1 / 1 µS ; 0.01 / 0.1 mS; Accuracy: ±1 % full scale; Cal. Points : Up to 5; Cell Constant : 0.1, 1.0, 10.0 (selectable); TDS :Range (Depending On TDS Factor) :to 100.0 ppt @ 0.5 fact (200.0 @ 1 factor); Resolution : 0.01 / 0.1 / 1 ppm ; 0.01 / 0.1 ppt; Accuracy : ± 1 % full scale; Temperature : Range (Meter) : 0.0 to 100.0 °C / 32.0 to 212.0 °F; Resolution : 0.1 °C / 0.1 °F; Accuracy : ± 0.5 °C / ± 0.9 °F; Compensation : Automatic with supplied cell or manual; Range 0.0 to 100 °C / 32.0 to 212.0 °F, 0 to 80 °C / 32.0 to 176.0 °F with supplied cell; Calibration : Offset in 0.1 ° increments; offset range: ±5.0 °C / ±9.0 °F; Power Requirements : 9 V adapter, 1.3 A (100/240 VAC, SMPS) with all accessories. Delivery, demonstration and installation at AAU, Jorhat
7.	Management of low temperature and soil moisture deficit stress in banana grown in North Eastern India, Dept. of Crop Physiology, AAU, Jorhat	Soil moisture meter	Soil Moisture Meter with following minimum Specifications (better and advanced versions are preferable): Soil moisture measurement range: Full accuracy over 0 to 1 m ³ .m ⁻³ ; Salinity range: 0 to 300 mS.m ⁻¹ ; Temperature range: - 5 to 50°C; Output: data providing permittivity, bulk conductivity and temperature, from which water content and pore water conductivity are calculated; Sample volume: ~500 ml ; Soil calibrations:Mineral ,Organic, Sand and Clay calibrations Should be supplied; Display: minimum 2 line × 16 character; Readings stored: 1,500 or Better; Control /Configuration Through: In built Key Pad; Communication options: USB; Power Requirements : 9 V adapter, 1.3 A (100/240 VAC, SMPS) with all accessories Delivery, demonstration and installation at AAU, Jorhat
8.	Management of low temperature and soil moisture deficit stress in banana grown in North Eastern India, Dept. of Crop Physiology, AAU, Jorhat	Plant stress kit (Portable Fluorescence meter)	Plant stress kit (Portable Fluorescence meter) with following minimum Specifications (better and advanced versions are preferable): Measured Parameters : Leaf Absorptance, Leaf Temperature ,Relative Humidity ,PAR,ETR , Y (NO),NPQ; FV/FM,Fv/Fo,Fo & Fm; Yield Light Supply: White LED saturation flash to 6500 µmoles or better; FV/FM Light Supply: Red LED Saturation flash array up to 5,500 µmoles or Better,; Sensor s: Pin Photodiode with a 700nm to 750nm band pass filter 2 RGB sensors leaf

			<p>reflectance, leaf transmittance, and leaf absorptance, calibrated with standard. From 0 to 100%.Relative humidity 0% to 100% +-2%; PAR sensor measures from 400nm to 700nm, cosine corrected. +- 3 µmols; Pin Photodiode with a 700 nm to 750 nm band pass filter; Display : 132 × 30 Pixel Graphic LCD Display or Better; Memory : 2 GB or More; Data Generation Out Put for : Standard USB Storage Devices : Files to be opened in Excel ; Power In Put : Lithium-ion USB battery pack with minimum 8 hour life. The unit may be used with any USB compatible battery. The instrument will also run on most mains current USB chargers and other accessories.</p> <p>Delivery, demonstration and installation at AAU, Jorhat</p>
9.	<p>Management of low temperature and soil moisture deficit stress in banana grown in North Eastern India, Dept. of Crop Physiology, AAU, Jorhat</p>	<p>5 KVA UPS</p>	<p>5 KVA UPS with following minimum Specifications (better and advanced versions are preferable): Online, 30 min back-up with SMF batteries, MCB(double pin) and accessories.</p> <p>Delivery, demonstration and installation at AAU, Jorhat</p>
10.	<p>Management of low temperature and soil moisture deficit stress in banana grown in North Eastern India, Dept. of Crop Physiology, AAU, Jorhat</p>	<p>Phenotyping facility rain out shelter</p>	<p>Area 60 meters x 10 meters(including parking area) (The facility should comprise two sheds of 15 x 10m size of each with planting area of 15X10 attached to each shed)</p> <p>Installation at AAU, Jorhat</p> <p>Side height at least five meters, centre height 6.0 meter or more. The structure should be mounted on rails to facilitate movement. Automated movement of shed on arrival of rain with motor of minimum of 10 HP, as well as manually movable(with switch).Cladding material used should be best quality, transparent (Poly carbonate sheet) and allow minimum light cut.</p> <p>The structure should have provision for ventilation from two sides. Closing has to be done along the length with polycarbonate sheet.</p> <p>Should be able to stand the highest wind load that is expected at Jorhat, Assam situation.</p> <p>The front, back and side should have role able walls.</p> <p>There should be automated micro irrigation facility within the structure.</p> <p>The system should include microclimate control facility including soil moisture control.</p> <p>Power backup with pollution free generator set.</p> <p>Electrification including installation and commissioning of transformer with three phase line .</p> <p>Safety automatic power control switches and limit switches has to be made for the structure.</p>

11.	RARS, Diphu	Projector	<p>Display System: 3-Chip Polysilicon TFT LCD Native Chip Resolution: 1280 x 800 (WXGA) Supported Resolutions: Maximum: UXGA - 1600 x 1200 Max Brightness: 3200 Lumens Aspect Ratio: 16:10 Contrast Ratio: 14000:1 Clour depth: 10-Bit (1.07 Billion Colors) Lens Focus Manual Lens: f/1.6 (f = 3.7 mm) Throw Distance: 13.701 - 23.504" / 34.8 - 59.7 cm Throw Ratio: 0.28 - 0.37:1 Projection Size: 60 - 100" / 152.40 - 254.00 cm</p> <p style="text-align: center;"><u>Features</u></p> <p>Keystone Correction Manual-Vertical: ± 3° Manual-Horizontal: ± 3° Digital Zoom: 1.35x Picture-in-Picture Speaker Power: 16 W</p>
12.	Downstream processing for utilization of Banana wastes for natural fibre extraction, fiber based products, biomass briquettes & utility compounds, Dept. of Horticulture, AAU, Jorhat	Banana fibre extracting machine	TPES-M505 Machine wt. 150 kg (approx.), RPM-1440(Min.), Motor size 1 hp(min) Power –Single phase line, Blad & Roll: SS
13.	Downstream processing for utilization of Banana wastes for natural fibre extraction, fiber based products, biomass briquettes & utility compounds, Dept. of Horticulture, AAU, Jorhat	plate making machine(using banana pseudo stem/ leaf)	Semi- automatic machine made up of good grade SS or equivalent material. Machine should be provided with different sizes (12, 10, 8, 6, 4 inches)and has the easy way to remove the dies. Display for adjusting temperature, pressure and other related paramaters
14.	Downstream processing for utilization of Banana wastes for natural fibre extraction, fiber based products,	Difital fruit pressure tester	Digital model. For testing texture of fruits/vegetables. Delivery, demonstration and installation at AAU, Jorhat

	biomass briquettes & utility compounds, Dept. of Horticulture, AAU, Jorhat																				
15.	Downstream processing for utilization of Banana wastes for natural fibre extraction, fiber based products, biomass briquettes & utility compounds, Dept. of Horticulture, AAU, Jorhat	Electronic balance	Digital balance i2(600gms,0.01gms)																		
16.	Downstream processing for utilization of Banana wastes for natural fibre extraction, fiber based products, biomass briquettes & utility compounds, Dept. of Horticulture, AAU, Jorhat	Water bath	i2(12 holes)water bath for heating(i2Stainless steel beaker), Automatic temperature control																		
17.	AICRP on Fruits, AAU, Jorhat	Sterioscopic Binocular Research Microscope	<p>Binocular Zoom Stereoscopic Microscope, Zoom ratio 1.4. long working distance : 82mm with dual light stable stand with ball bearing slides & large size knobs for smooth focusing. Dual illumination Built in illumination both for incident light (12v-20w Halogen) and transmitted light (12v-10w) on dual light stand. Binocular zoom Pod 1:4 inclined at 45⁰. Inter papillary distance 54mm-74mm. with fixed or focusable movement. Stage plate: One of 5mm thick glass, another one of moulded ABS-one side black other side white, easily replaceable, with 2 stage clips.</p> <table border="0"> <thead> <tr> <th>Eyepieces Paired</th> <th colspan="2">Objectives</th> </tr> <tr> <td><u>1x-4x Standard</u></td> <td><u>Zoom objective</u></td> <td><u>2x-8x with</u></td> </tr> <tr> <td><u>Aux.2x objective</u></td> <td></td> <td></td> </tr> </thead> <tbody> <tr> <td>With 10x WF(FN20) to 80x</td> <td>10x to 40x</td> <td>20x</td> </tr> <tr> <td>With 15x WF (FN15) to 120x</td> <td>15x to 60x</td> <td>30x</td> </tr> <tr> <td>With 20x WF (FN 13) to 160x</td> <td>20x to 80x</td> <td>40x</td> </tr> </tbody> </table> <p>Total Magnification Range 10x to 160x with optional Eyepiece & Auxillary Objective.</p>	Eyepieces Paired	Objectives		<u>1x-4x Standard</u>	<u>Zoom objective</u>	<u>2x-8x with</u>	<u>Aux.2x objective</u>			With 10x WF(FN20) to 80x	10x to 40x	20x	With 15x WF (FN15) to 120x	15x to 60x	30x	With 20x WF (FN 13) to 160x	20x to 80x	40x
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18.	AICRP on Fruits, AAU, Jorhat	Electronic Weighing Balance	Electronic Weighing Balance: Portable/Top loading Balance with 3000g capacity; 0.1g readability; ± 0.1g linearity: EA 3000(Imported)																		

19.	AICRP on Fruits, AAU, Jorhat	Autoclave	AUTOCLAVE VERTICAL type with Digital Temp. Controller cum indicator and sensor to control temperature, connected to Timer (0 to 99 minutes) for semi auto operation . Inner body is made of heavy gauge stainless steel welded; the lid & the ring are made of stainless steel plate. The lid heavily polished & is fitted with pressure gauge, safety valve & steam exhaust valve & safety valve is set to blow of 20lb./sq.inc to remove excess steam & maintain constant pressure. a molded single piece rubber gasket is fitted in the ring to ensure tight joints, outer cover made of polished stainless steel; with CI legs; fitted with immersion water heater/s & foot lifting arrangement. WORKING SIZE: 12" X 12" DIA X HT: 30 x 50 cm RATING: 2.0 KW CAP. : 30 Ltrs Appx. Inner: STEEL OUTER: MS PAINTED CAPACITY, Ltrs Approx: 178 With following features: (a) Low water level cut off Device for above Autoclaves (b) Electric Time Switch (c) Vacuum Breaker for Safety Device pressure gauge. After sale support : JORHAT, Assam
20.	AICRP on Fruits, AAU, Jorhat	Banana Fiber Extractor	1 H.P ISI motor Hard chrome blades Royal Blue Colour Type : Agri. Based Machinery
21.	AICRP on Fruits, AAU, Jorhat	Tree height Gauge	Digital height Gauge, Model no-1150-1000, Type B, Range (mm): 0-1000mm, Stainless steel, Battery SR44, LCD display.
22.	AICRP on Fruits, AAU, Jorhat	Precision Weighing Scale	Model DM 30KL, Capacity (Max) 30kg, Readability 0.001kg, nmax-30,000, Platter 220x290mm all stainless steel, Dual power source.
23.	AICRP on Fruits, AAU, Jorhat	Fertigation unit with drip system for 2ha of area in Banana plantation	Drip irrigation with Fertigation complete set for 2ha supply and installation of irrigation system. Electrical pum 2.5HP including electrical fitting. Shallow tube well boring upto 150 ft.
24.	AICRP on Fruits, AAU, Jorhat	Net house	Whole net house structure will be raised on 47mmx47mm+1mm GI square pipe "B" class (ISI). All the joint of pipe will be joined by welding/nut & bolts. Door size(LXW) 6'-3"X3m(2nos); Cladding: covering of all side and roof done by 70% UV Stabilized shade net, colour black or green. Misting unit: heavy duty 1HP motor, nozzles, filter, pipes etc., to raise RH up to 90% provided that humidity created is not expelled from the shade net. Misters: High pressure system operating at 100 bars; droplet size 5 microns, antileak; four way spacing 2x2M or as suggested, controller, other accessories such as storage tank, filters etc. Civil work: Structure will be raised on RCC pillars of 1'x1x2' size at each vertical pillar, height4m and earth filling
25.	DIC Project on Tea, Department Of T.H.T, AAU, Jorhat	Digital Balance	30 kg capacity Table type Digital. Accuracy 1-5 g
26.	DIC Project on Tea, Department Of T.H.T, AAU, Jorhat	Water pressure pump	1 HP
27.	DBT Twining Project on "Multifaceted	Atomic Absorption Spectrophotometer with	True Dual Atomizer Flame and Furnace system • Essential Furnace Vision Tool

<p>exploration of edible molluscs of North East India” Department of Entomology, AAU, Jorhat</p>	<p>accessories</p>	<p>Advanced design flame atomizer Wide range PMT (180-900nm) Accepts GFS35 or GFS35Z Graphite Furnace and Auto-sampler Modules (for future Upgradation) Graphite Furnace Television (GFTV) included for simplified method development (For future Upgradation with GF)</p> <ul style="list-style-type: none"> • Change over from flame to furnace analysis with no manual intervention • Lamp carousel to accommodate 6 lamps each with a dedicated power supply. Accepts single/ multielement and coded/uncoded lamps • Advanced Stockdale double beam optics arrangement which provides maximum signal to noise ratio. Sealed optics prevent dust and dirt from entering the optical channels whilst all mirrors are silica coated. • Auto burner height optimization and fully inert spray chamber <p>GUARANTEED Quad line background correction Background signals below 2A are corrected for with less than 2 % error. Total signal up to 3A.</p> <p>Flame System All flame systems should be supported by the enhanced Universal Finned 50 mm Titanium Burner to accommodate all flame types. An inert fluoroplastic spray chamber must contain an inert adjustable impact bead, flow spoiler, low memory Hydrophilic disc and built in over pressure relief. All flame types to be used with the standard spray chamber Configuration and burner supplied. The inert nebuliser has a Pt/Ir capillary and PTFE venturi as standard and this is optimized in the factory.</p> <p>Gas Control: Automatic binary switching fuel flow control.</p> <p>Safety:</p> <ul style="list-style-type: none"> • Automatic flame ignition. • Software controlled, automatic oxidant changeover. • Software controlled, automatic fuel gas boost on oxidant changeover. • Automatic flame shut down • Fuel line flashback arrestor. • Fuel line pressure regulator. • Fuel and oxidant line pressure sensors • Flame present sensor. • Burner type sensor. • Power failure protection. • Empty drain protection. • Spray chamber over pressure protection. <p>SOLAAR Software supplied as standard</p> <ul style="list-style-type: none"> • Appropriate PC/data station required • Compatible with Windows 2000, XP Professional and VISTA Ultimate operating systems • Choice of 9 languages • Comprehensive context sensitive help function • Full cookbook with information on instrument set up, hints on sample prep and matrix modifiers. • A complete online user help facility provides a comprehensive AA Cookbook for all techniques, context sensitive help software and method information. Also provided are comprehensive sequence control of the furnace system with advanced graphical signal and calibration displays, ash/atomize plotting and furnace auto sampling and sample preparation control. • All raw data, results and parameter sets for a method are stored in a single database for easy formatting and retrieval. All data may be easily exported into other standard applications packages such as word processors and spreadsheets. <p>The software should provide automatic 16-element analysis with full multi-element reporting, storage and editing. On-line sequence editing allows priority analysis to interrupt current run.</p>
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			<ul style="list-style-type: none"> • Password protection and an audit trail monitors all data manipulations for regulatory compliance. • A complete user Help facility provides a comprehensive AA Cookbook for all techniques, context sensitive hypertext software Help and full Diagnostics and Method information. • GFTV accessory (built in) provides high definition video images from inside the furnace graphite Cuvette. A small CCD camera produces the images, which can be viewed on the external monitor. This advanced method development tool gives essential information concerning a variety of parameters such as injection depth, sample drying and ashing conditions. <p>N2O Regulator with Pre-heater Silent Air Compressor with Filter & Moisture Trap 100mm Ti Burner Head Single Element Hollow Cathode Lamps - Coded (Thermo Scientific Hollow Cathode Lamps carry a 5000 mA/hr lifetime guarantee)</p> <ol style="list-style-type: none"> 1. Calcium Data Coded Hollow Cathode Lamp 2. Magnesium Data Coded Hollow Cathode Lamp 3. Potassium Data Coded Hollow Cathode Lamp 4. Sodium Data Coded Hollow Cathode Lamp 5. Phosphorus Data Coded Hollow Cathode Lamp 6. Zinc Data Coded Hollow Cathode Lamp 7. Iron Data Coded Hollow Cathode Lamp 8. Manganese Data Coded Hollow Cathode Lamp 9. Copper Data Coded Hollow Cathode Lamp <p>Computer system with latest version Processor Intel Core i3 4TH Generation Chipset OEM; Memory 4GB DDR3 SDRAM (Upgradable to 8GB); Hard Disk Drive 500 GB SATA HDD; Optical Drive DVD Writer Monitor HP 18.5" wide screen LED TFT Ports I/O - (6) USB 2.0 ports, (1) serial port, (1) PS/2, (1) RJ-45, (1) VGA, (1) DVI-D, (1) line in, (1) line out, (1) MIC; Slots (2) full-height PCI slot, (1) full-height PCI-e x1 slots, (1) full-height PCI-e x16 Slot; Graphics On-board; Sound On-board; LAN 1 x 10/100/1000; KBD & Mouse HP OS Win 7 Professional (64 Bit OEM) with media (License Version) LaserJet Printer Dissolved Acetylene, 98.5% purity in 41ST Carbon Steel Cylinder with Valve, Valve guard and with necessary Tubing & Connectors & Certificates. Gas Volume: 5-6 m3 per cylinder Nitrous Oxide, 99.9% purity in 47 ltrs Carbon Steel Cylinder with Valve, Valve guard and with necessary Tubing & Connectors & Certificates. Gas Volume: 17.0 m3 Double Stage Gas Regulators for Acetylene Gas Cylinder Stainless Steel Hood with Exhaust Fan including necessary fitting & Ducting Facility Emerson make 3KVA true online UPS system having 1phase input & 1phase output 12V, SMF battery with Battery rack & Intercell connector to provide 30mints backup Certified Standard Solution for AAS (1000 ppm) (Each bottle of 100ml), 9Nos./Set</p>
28.	DBT Twining Project on "Multifaceted exploration of edible molluscs of North East India" Department of Entomology, AAU, Jorhat	Double beam UV-Vis Spectrophotometer	<p>Specifications: Double-beam with sample and reference cuvette positions; Application Focused Beam Geometry; Czerny-Turner Monochromator Spectral Bandwidth(s): 1.0nm</p> <p>Light Source: Xenon Flash Lamp, Detector: Dual Silicon Photodiodes Scan Ordinate Modes: Absorbance, % Transmittance, % Reflectance, Kubelka-Munk, log (1/R), log (Abs), Abs*Factor, Intensity</p> <p>Wavelength Range 190–1100 nm Accuracy ±0.2 nm (541.9, 546.1 nm mercury lines) ±0.5 nm (full range 190–1100 nm) Repeatability 0.01 nm (546.1 nm mercury line, SD of 10 measurements) Scanning Speed <1 to 6000 nm/min; variable Data Intervals 10, 5, 2, 1.0, 0.5, 0.2, 0.1 nm</p>

			<p>Photometric Range >3.5 A Display Range -0.3 to 4.0 A Accuracy – Instrument*: 1A: ±0.002 A; 2A: ±0.004 A; Measured at 440 nm using neutral density filters traceable to NIST Repeatability ±0.0002 A Noise 0A: 0.00008 A 260 nm; 1.0 nm SBW, RMS Drift (Stability) <0.0005 A/hr 500 nm, 1.0 nm SBW, 1 hour warm-up</p> <p>Stray Light KCl, 198 nm: 0.40% T; NaI, 220nm: 0.027% T; NaNO₂, 340nm: <0.025% T Baseline Flatness ±0.0006 A; 200–800 nm, 1.0 nm SBW, smoothing Operating System Microsoft® Windows® XP embedded Dimensions: 62.2 cm L × 48.6 cm W × 27.9 cm H (24” L × 19” W × 11” H) Weight: 14.4 kg (32 lb) Electrical Requirements: 100–240 V, 50–60 Hz, selected automatically 150 W maximum.</p> <p>Power Cord Indian 250v 10mm Optical path x 12.5mm Exterior Width Quartz Cuvette with Stopper Computer system Processor Intel Core i3 4TH Generation Chipset OEM • Memory 4GB DDR3 SDRAM (Upgradable to 8GB) • Hard Disk Drive 500 GB SATA HDD; Optical Drive DVD Writer • Monitor 18.5” wide screen LED TFT; Ports I/O - (6) USB 2.0 ports, (1) serial port, (1) PS/2, (1) RJ-45, (1) VGA, (1) DVI-D, (1) line in, (1) line out, (1) MIC; Slots (2) full-height PCI slot, (1) full-height PCI-e x1 slots, (1) full-height PCI-e x16 Slot; Graphics On-board; Sound On-board; LAN 1 x 10/100/1000; KBD & Mouse HP • OS Win 7 Professional (64 Bit OEM) with media (License Version)</p> <p>LaserJet Printer or Equivalent 1 KVA UPS with 30 minutes’ battery backup</p>
29.	DBT Twining Project on “Multifaceted exploration of edible molluscs of North East India” Department of Entomology, AAU, Jorhat	Semi-Automated Biochemistry Analyzer	<p>Optical Module : Static photometer with photometric range (340-670) 8 interference filters 340, 405, 450, 505, 546, 578, 600 and 670 nm Silicon photodiode detectors Photometric Range from 0 to 3.0 OD Quartz Halogen Lamp of 12V, 20W</p> <p>Measuring Module : Unique Triple Cuvette System</p> <ul style="list-style-type: none"> • 18 µl Flow cell • 10 mm Square Cuvette • 6 mm Round Glass Tube with Adaptor Peltier Temperature Control: 20°C-40°C <p>in steps of 1°C Peristaltic Pump Minimum Aspiration Volume 200 µl</p> <p>Analysis Modes : 1-point linear - Rate A non-linear 2-point linear - 1-point sample blank linear 1-point non-linear - 1-point sample blank non-linear 2-point non-linear - Absorbance Rate A linear - Coagulation</p> <p>Memory : 200 User Defined Test Programs 1000 Test Result Reagent Blank 3 Levels of QC</p> <p>Result Recall : Collated Reports by Date, ID, Date & ID Test & Date wise and Patient Demographics</p> <p>Built-in QC : Daily and Monthly monitoring for 3 Levels Levy - Jenning QC Graphs</p> <p>Display: High Resolution Graphics LCD with backlight. View Area: 120 x 92 mm</p> <p>Keyboard : 41 Multifunction Keys and 6 dynamic keys</p> <p>Printer : In Built High Resolution Graphic Thermal Printer</p> <p>Interface : USB connectivity to PC Direct printer connectivity through</p>

			USB port Port for External keyboard Power: External Universal SMPS adapter 18V DC, 70W, 100-240V, 50/60 Hz. Size(mm) : 205 (H) x 450 (W) x 300(D) Weight: Approx. 7 Kgs. Optional Accessories : External 16 Position Dry Block Incubator
30.	DBT Twining Project on “Multifaceted exploration of edible molluscs of North East India” Department of Entomology, AAU, Jorhat	Bench Top Centrifuge	Technical Specification: <ul style="list-style-type: none"> · Maximum speed/RCF: 5,000 rpm, 2,822 x g · Maximum capacity: 12 x 15 ml · Programmable microprocessor control system · Digital displays for speed, time and RCF (xg) along with pulse Key · Timer: 1-99 min. and hold position · Epoxy-polyester painted steel chamber · Brushless induction motor · Motor over heating protection · Lid lock and interlock · Pulse Key Delivered with angle rotor Adaptor for 1.5/2 ml tubes
31.	DBT Twining Project on “Multifaceted exploration of edible molluscs of North East India” Department of Entomology, AAU, Jorhat	Soxhlet apparatus	Soxhlet apparatus for 6 unit glass parts The soxhlet suitable for flask of 500 ml capacity. Unit is supplied with heating box fitted with heaters (Heating mantles) individual energy regulator neon, adjustable rod, clamps and Boss heads with 500 ml flask & 200 ml Extractor with double surface Allihn condenser with rubber tubing supplied with the soxhlet.
32.	DBT Twining Project on “Multifaceted exploration of edible molluscs of North East India” Department of Entomology, AAU, Jorhat	Magnetic stirrer with hot plate	Dimension: 18x18 cm, Material: Ceramic, Temperature range: 150-500°C, Stirring speed: 100-1000 rpm
33.	DBT Twining Project on “Multifaceted exploration of edible molluscs of North East India” Department of Entomology, AAU, Jorhat	Vortex	Vortex mixture, SPINIX TM MC-01 with speed control
34.	DBT Twining Project on “Multifaceted exploration of edible molluscs of North East India” Department of Entomology, AAU, Jorhat	Iron fitted snail rearing cage	Snail rearing cage with 45cm × 45 cm×30 cm of L×B×H
35.	DBT, Government of India project,	Tissue lyser	Field of application Size reduction, mixing, homogenization, cell disruption

	<p>entitled -“ QTL to Variety Genomics – Assisted introgression and field evaluation of Rice varieties with genes/QTLS for yielding under drought, flood and salt stress”, RARS, AAU, Titabar</p>		<p>Feed material Hard, medium hard, soft, brittle, elastic, fibres. Feed size Upto 8 mm Batch/sample volume max 24x2 ml/96 well platex2 max Typical mean grinding time 2-3 mins. Possible applications Dry grinding, wet grinding, cryogenic grinding Cell disruption with reaction vials Max. 20x2.0 ml max Digital pre selection of vibrational frequency 4-30 Hz (240-1800 minute-1) Digital pre selection of grinding time Upto 99 mins Number of grinding stations 2 no. Emission value >65dB(A) Electrical specifications Power 150VA, 200-250 V/50 Hz</p>
36.	<p>DBT, Government of India project, entitled -“ QTL to Variety Genomics – Assisted introgression and field evaluation of Rice varieties with genes/QTLS for yielding under drought, flood and salt stress”, RARS, AAU, Titabar</p>	<p>Refrigerated Centrifuge</p>	<p>Specifications:- Refrigerated multipurpose bench-top centrifuge 3 Lit capacity Centrifuge should be capable of using fixed angle and swing out rotors with adapter to use different tube formats compatible for tissue lyser. System should maintain temperature range –11°C to 40°C System should have a maximum Capacity of 4 x 750 ml bottles and 4 x 5 MTP Plates Maximum speed for fixed angle rotors should be 14,000 rpm and RCF 22,132 x g force, for swing out rotors maximum speed 5100 rpm and RCF 5,234x g force System should have user-friendly operation; key panel with provision to set speed RPM / RCF, radius correction values that can be changed during centrifugation. System should have fast temperature function for rapid cooling of centrifuge and stand-by cooling options. Should have programmable temperature function to allows automatic precooling based on pre-programmable time and date System should 5 program keys for routine programs and at least 99 storable programs The centrifuge must be equipped with automatic rotor recognition and imbalance detection for maximum</p>

			<p>operational safety</p> <p>Timer – 10 s to 99 h 59 min, with continuous run function and short spin</p> <p>System must indicate “time since centrifugation complete”</p> <p>System should have 10 acceleration and deceleration steps</p> <p>Noise level at max speed should be less than 56 dB(A) for quite operation in work place</p> <p>System should have automatic shut off function to reduce energy consumption and to extend compressor life when not in use for long hours</p> <p>All Rotors should be made of metallic and must be fully autoclavable at 121°C</p> <p>Centrifuge lid with soft-touch lid closure, and low opening height for stress-free lid locking,</p> <p>System must be ISO, European CE, IVD and IEC Certified.</p> <p>Centrifuge should be supplied with high speed swing out rotor of 4x 750 ml with round bucket to fit tube/bottle with adapters with maximum of 4,700rpm and 4,800 x g (Tubes: 200 x 1.5/2.0 mL, 92 x 13 mm blood collection tubes, 56 x 15 mL, 28 x 50 mL, 4 x 750 mL) and with plate adapter 16 x MTP or 4 x DWP.</p> <p>Centrifuge should be supplied with Fixed angle rotor 6 x 50 ml with aerosol tight lid for 50 mL conical tubes with maximum speed of 12,100rpm.and 20,130 x g. with Adapter 5.0 mL and 15 mL conical tubes</p> <p>Centrifuge should be supplied with High speed fixed angle rotor 48 x 1.5 / 2 mL centrifuge tubes with aerosol tight lid with maximum speed of 14,000 rpm and 22,132 x g</p>
37.	AICRP on Farm Implements and Machinery, DEPARTMENT OF AGRICULTURAL ENGINEERING, AAU, Jorhat	Self propelled Paddy weeder	<ol style="list-style-type: none"> 1. 2 or 3 row paddy weeder with the engine mounted on the steering handle. 2.Engine power 1.5 to 2.5 hp 3. Suitable for weeding in row to row spacing range from 15cm to 30 cm. 4. Weeding device may be rotavator type, blade type or cone type. 5. Engine may be petrol or diesel run.
38.	AICRP on Farm Implements and Machinery, DEPARTMENT OF AGRICULTURAL ENGINEERING, AAU, Jorhat	Self propelled paddy reaper cum binder	<ol style="list-style-type: none"> 1. Self propelled Reaper binder combined attachment for harvesting rice, corn(for forage) black gram, green gram etc.. 2. Cutting width 1400 – 1800mm 3. Bundle rate – more than 95% 4. Air cooled diesel engine. 5. 3-4 Forward speed and 1 reverse speed gear box. 6. Standard reaper binder with ground clearance less than 70/80cm. 7. Tying at 19 or 28cm height.
39.	GENOME AND TRANSCRIPTOME	Gel electrophoresis system	Comprised of <u>two basic unit</u> Gel electrophoresis system to run the gel size of at least 25 x 10cm, 25 x 15cm, and should

	SEQUENCING OF AROMATIC RICES FROM NORTH EASTERN REGION, Dept. of PBG, AAU, Jorhat		be supplied with 25 x 15 & 25 x 10 cm Tray along with the Gel tank, safety lid, Tape free casting module, Comb and Comb holder. The supplied gel trays should be UV proof and the trays can be directly kept on the UV transilluminator and should have a integrated fluorescent ruler in the tray. Must be supplied with two numbers of system compatible each of 26-Well Comb of 1.5 mm thick with adjustable height. Extra one number of 25 x 10 cm gel tray and one number of 25 x 15 cm gel tray. Quotation must include all the price as per requirement without showing the items as accessories. All equipment should come with 3 years on-site warranty after installation and on-site training.
40.	Precision Farming Development Centre, HORTICULTURAL RESEARCH STATION, AAU, KAHIKUCHI	Luminous Cruze 2KVA Inverter with EC 18036 Battery (2 batteries)	Inverter Dimension: 280(L) X 305(W) X 280(H) mm, Inverter Weight: 31.90 KG, Battery Dimension: 505(L) x 220(W) x 292(H) MM, Battery Dry Weight: 33 KG, Filled Weight: 57 Kg, Backup Time 500 W: 2 hrs 10 min, 400 W: 3 hrs, 300 W: 4 hrs 30 min, 200 W: 7 hrs 30 min, 100 W: 18 hrs 30 min
41.	Precision Farming Development Centre, HORTICULTURAL RESEARCH STATION, AAU, KAHIKUCHI	Soil tensiometer (2nos.)	length :30 cm, For Research and other related activities
42.	Precision Farming Development Centre, HORTICULTURAL RESEARCH STATION, AAU, KAHIKUCHI	Soil thermometer	For all trial and demonstration, For Research and other related activities
43.	Precision Farming Development Centre, HORTICULTURAL RESEARCH STATION, AAU, KAHIKUCHI	Hygrometer (4nos)	For all trial and demonstration, For Research and other related activities
44.	Precision Farming Development Centre, HORTICULTURAL RESEARCH STATION, AAU, KAHIKUCHI	Open pen Evaporimeter (5nos.)	For all trial and demonstration, For Research and other related activities
45.	Biotechnological Interventions through RNAi	Gel Doc	Hard Ware 1) Image resolution >4 mega pixels for resolving closely spaced bands on a gel or blot.

<p>approach for Management of Banana Bunchy Top Virus (BBTV) in Northeast Region of India, Dept. of Plant Pathology, AAU, Jorhat</p>		<p>2) System should have 4.6 x 4.6 µm pixel size & >3.0 orders of linear dynamic range</p> <p>3) System should be completely automatic & user does not have to zoom, focus, adjust aperture or select light source.</p> <p>4) System should be modular with different sample trays & flexible to image a wide variety of applications including nucleic acid.</p> <p>5) System should have UV, White light, & optional Blue light.</p> <p>6) System should have stain-Free capability for stain-free gels and blots.</p> <p>7) Sample trays should be customizable per user and recognized automatically.</p> <p>8) System should require only one emission filter to accommodate a large portfolio of detection methods: ethidium bromide, SYBR® Green, SYBR® Safe, SYBR® Gold, GelGreen, GelRed, Fast Blast™, SYPRO Ruby, Flamingo™, Oriole™, CY3, rhodamine, green fluorescent protein, Hoechst, Krypton, silver stain, copper stain, zinc stain, Coomassie Brilliant Blue, Coomassie Fluor Orange, and others spectrally similar stains, labels, and dyes.</p> <p>9) Should have lens flat-fielding calibration for each sample tray to deliver image data that are always optimized and reproducible without imaging artifacts, providing superior image uniformity and quantitation</p> <p>10) Instrument have CE (European/US) certified.</p> <p><u>Soft Ware</u></p> <p>1) Software should have highest level of automation in hardware calibration, image optimization, capture, and analysis.</p> <p>2) Should have automated workflow recorded in a protocol file from image capture to results thus eliminates need for training.</p> <p>3) Should allow 100% repeatability of the workflow by any user and ensures optimized image data and analysis from a gel in a single uninterrupted, fast, and completely reproducible workflow.</p> <p>4) Should have automated image capture driven by a selected gel or blot application.</p> <p>5) Should have one-button acquisition from image capture to result.</p> <p>6) Should generate the publication ready images with one click export option.</p> <p>7) Should generate customizable reports.</p>
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<p>46.</p>	<p>Development of Citrus tristeza virus (CTV) resistant elite mandarin genotypes through RNAi approach to revive citrus industry in Northeast India, Dept. of Plant Pathology, AAU, Jorhat</p>	<p>Gradient Thermal Cycler</p>	<p>Touch screen interfaced Silver block system for 96 x 0.1/0.2 mL PCR Tube or One 96-well PCR plate 2D Gradient for advanced PCR optimization, capable of testing different temperatures in 12 columns and 8-rows simultaneously across a gradient range of 1 - 30° C Gradient technology must operate on SteadySlope to ensure ramp rates are identical in both gradient and normal operation Fast temperature verification must be possible from user end Adjustable verification settings for audit is must Adjustable user management capabilities – from flexible to strict user level controls Heating of the block through should be through six peltier elements Temperature control range: from 4 °C to 99°C Temperature Control Mode: Fast, Intermediate, Standard and Safe Lid Temperature range: 37 - 110 °C Block Temperature Accuracy: ± 0.15°C Block Homogeneity: 20° C to 72° C: ≤ ±0.2° C, 95° C: ≤ ± 0.3° C Heating ramp rate: 10 °C/s Cooling ramp rate: 5 °C/s Lid descent and closing pressure should be through Flexlid technology Intuitive Graphic programming with larger display Administrator and user login with PIN or password for enhanced security Preprogrammed template for easy selection of PCR protocols Time or Temperature increment with cycles in PCR program Adjustable ramp rate for heating & cooling from 0.1° C to meet critical amplification conditions Customized programming allows a maximum of 40 steps and 99 cycles Auto Restart facility with user defined time interval when power fails and resumes Log book function for error messages and new calibration E-mail Notification Cooling vents at bottom and rear allow placing other instruments in limited bench space Option to connect up to nine different variants for ultimate throughput Option to connect up to 50 variants using computer controlled network Instrument should RoHS compliance system along with CE & ISO</p>
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			<p>Interface: Ethernet, USB Dimensions: W: 27.5 cm, D: 43 cm, H: 33 cm Weight: 11.5 kg Power supply: 110-230 V, 50-60 Hz Power consumption: 850 W</p>
47.	<p>Development of Citrus tristeza virus (CTV) resistant elite mandarin genotypes through RNAi approach to revive citrus industry in Northeast India, Dept. of Plant Pathology, AAU, Jorhat</p>	<p>Refrigerated Incubator shaker</p>	<p>Refrigerated Incubator shaker System should be microprocessor controlled incubator shaker with setting of agitation speed, running time and temperature System should have large clearly visible display with a menu function / status readouts including speed, running time, self-diagnostic indicators and temperature. System should have unicentric drive to ensure quite, vibration free with a heavy duty, cool running brushless DC motor System should have features of maintain set point during power interrupt and restart shaker when power resumes. System should have Audible and Visible Alarms Visible warning signal indicates when speed deviates more than 5 rpm, and temperature more than 1^o C from setpoints, and when timer operation has expired. System should have Unique Acceleration/Deceleration Circuit to eliminate wetting of flask closures which could interfere with oxygen transfer. Prevents sudden starts & stops. Minimizes mechanical damage for longer shaker life. System should switch off shaking when door is open System should have Timer setting from 0.1 to 99.9 hours Temperature range of 7^o C above ambient to 60^o C. Temperature accuracy of ± 0.1^o C at 37^o C, regulated by PI microprocessor feedback control with platinum RTD sensor System should have shaking range of 50 to 400 rpm System should have dimension of 56 x 76.2 x 61 cm System should have platform size of 46 x 46 cm (18 x 18 inch) System should have certificate cETLus, Meets UL, CSA and CE standards User List should be provided along with supply order should be provided. Flask clamp for 50 ml x 5, 250 ml x 3, 500 ml x 2, 1L x 1 nos should be provided along with the shaker. 2 nos of 2 ton AC with 5 stars rating should be provided along with the system. 2 nos of tissue culture racks should be provided with lighting and timer.</p>
48.	<p>Development of Citrus tristeza virus (CTV) resistant elite mandarin genotypes</p>	<p>Vortex Shaker</p>	<p>Vortex Shaker with Compact Design, suitable for short-time operation Speed range: 0-2500rpm/min, stepless speed regulation of motor</p>

	<p>through RNAi approach to revive citrus industry in Northeast India, Dept. of Plant Pathology, AAU, Jorhat</p>		<p>Different applications and multi-inters (e.g. Eppendorf tubes, microtiter plates, Erlenmeyer flasks 250ml etc.) Adapters securely clicks onto application in any position. Sturdy cast casing Special designed silicon on feet absorb vibration at high speeds (steel with ultra high vibration damping) Eccentric with coiless ball bearings Voltage (VAC) : 220-230 Frequency (Hz) : 50-60 Power (W) : Orbital Shaking Movement : 4 Orbital diameter (mm) : Shaded-Pole Motor Motor type : 58 Motor rating input (W) : 10 Motor rating output(W) : 100% Permissible ON time : 0-2500 (adjustable) Speed range (rpm) : Scale Speed display : Continuous / Touch operation Run type : 127 x 130 x 160 Dimensions (mm) : 3.5 Weight (kg) : 5-40 Permitted relative humidity : 80% Protection class acc. to DIN 60529 : IP21</p>
<p>49.</p>	<p>Development of Citrus tristeza virus (CTV) resistant elite mandarin genotypes through RNAi approach to revive citrus industry in Northeast India, Dept. of Plant Pathology, AAU, Jorhat</p>	<p>Digital Magnetic Stirrer</p>	<p>Magnetic stirrer with heating and stirring technology for fast, accurate, temperature control, suitable for unsupervised operation With constant stirring and intermittent stirring functions, circulation period and interruption time-period can be set Heating plate with stainless steel surface (Another type porcelain enamel surface with excellent chemical resistance) Automatic judgment stirring bar displacement and capture automatically 2 adjustable safety circuits Single temperature sensors, protection temperature can be set 1 sensor for medium (PT100) or 2 separate temperature sensors for heat transfer fluid and medium (PT1000) available Warning display indicating presence of any residual heat when the unit is switched off Bushing according to DIN 12878 for the use contact thermometers Easy-to-read backlit LCD display Fuzzy control and microprocessor technology guarantee maximum control accuracy 4 models of operation, stirring and heating functions can be secured against inadvertent changes of set parameters PC control via RS232 interface, software is available to</p>

			control & document all measuring values via PC, parameter can be set to carry out safety monitoring
50.	Development of Citrus tristeza virus (CTV) resistant elite mandarin genotypes through RNAi approach to revive citrus industry in Northeast India, Dept. of Plant Pathology, AAU, Jorhat	Digital water bath	Digital 10 litre water bath Volume: 10 L Temperature range: up to 80 deg C Digital PID temperature controller +/-0.1 deg C Inside: stainless steel Corrosion-resistant stainless steel chamber Includes hood Heater 300w Weight:6.5 Kg Inside dimensions (mm): W295xD235xH150 Outside dimensions (mm): W420xD280xH185
51.	Development of Citrus tristeza virus (CTV) resistant elite mandarin genotypes through RNAi approach to revive citrus industry in Northeast India, Dept. of Plant Pathology, AAU, Jorhat	UV Trans illuminator	UV Transilluminator, should have Long life, pure UV quartz filter to view DNA, RNA and protein gels, Should have 6 high intensity UV tubes, Should have highly polished reflectors for uniform illumination. Accessories: UV protecting shield and UV protecting eye glass
52.	Development of Citrus tristeza virus (CTV) resistant elite mandarin genotypes through RNAi approach to revive citrus industry in Northeast India, Dept. of Plant Pathology, AAU, Jorhat	Tab Spin Microcentrifuge	Mini table top for short spin High speed with low noise Timer controlled 20 seconds – 99 minutes 12 x 0.2/0.5/1.5/2.0 ml tubes (with 0.2 and 0.5 ml tube adapter) 500 to 14500 rpm Weight : less than 5 kg
53.	Development of Citrus tristeza virus (CTV) resistant elite mandarin genotypes through RNAi approach to revive citrus industry in Northeast India, Dept. of Plant Pathology, AAU, Jorhat	Dry bath (chilling/heating)	The 0- 100 ^o C incubator compatible with 12V DC and auto plug. Modular design of blocks, mix and match tubes from 0.2mL to 50mL and accommodates 96 well plates, flat bottom plates and slides. Small footprint, can work in a hood, or lab automation systems. 12V 5A DC input, energy efficient, a car charger & rechargeable battery pack can be special ordered. Fast chilling/heating rate, precise temperature control

			<p>Clean and maintenance free.</p> <p>Cooling/heating dry baths meet all temperature requirements from 0~100°C in a Molecular Biology Lab, It plays a role of all-in-one small box combining the functions of ice box, refrigerator, incubator, water bath, circulator, heater and etc.</p>
54.	<p>Development of Citrus tristeza virus (CTV) resistant elite mandarin genotypes through RNAi approach to revive citrus industry in Northeast India, Dept. of Plant Pathology, AAU, Jorhat</p>	Micropipettes	<p>Variable Volume Single-Channel Pipettes with a sleek, rugged design</p> <p>Ideal for highly-demanding applications</p> <p>Built with tough PVDF components that stand up for harsh chemicals and the damaging effects of UV light.</p> <p>Fully autoclavable.</p> <p>Sizes ranging from</p> <p>0.2-2 µL Micropipettes with 0.002 µL increment</p> <p>1 -10µL Micropipettes with 0.02 µL increment</p> <p>2-20 µL Micropipettes with 0.02 µL increment</p> <p>20-200 µL Micropipettes with 0.2 µL increment</p> <p>100-1000 µL Micropipettes with 1.0 µL increment</p>
55.	<p>“Engineering of CRISPR/CAS 9-mediated potato virus Y (PVY)...in Bhut Jolokia, ABT, AAU, Jorhat</p>	Table top Refrigerated Centrifuge	<p>Instrument should have a maximum speed of 30,000 x g or better (17000rpm or better)</p> <p>Brushless maintenance free drive</p> <p>Should be possible to set the speeds in rpm/rcf, radius correction values must be user changeable</p> <p>Time should be 30 s to 9.59 h with continuous run function</p> <p>Temperature range from -11°C to 40°C or better</p> <p>Noise level should be less than 54 dBA</p> <p>Acceleration time to max. rpm - 15 s or better</p> <p>Braking time from max. rpm - 16 s or better</p> <p>Should have programming facility to save up to 50 user defined program</p> <p>There should be a separate short spin key for brief spin</p> <p>Rotors and lid should be autoclavable at 121°C for 20 mins</p> <p>Rotor should have automatic rotor recognition should be available</p> <p>System should have features for shut-off of compressor after 8 hours of non usage - reducing energy consumption</p> <p>System should have function for programmable pre cooling according to day and time</p> <p>Water drainage facility to eliminate water accumulation during running of cycles.</p> <p>Instrument should possess an automatic imbalance detection for safety</p> <p>Instrument should be CE certified.</p> <p>Instrument should be supplied with 30 X 1.5 ml/2 ml rotor with speed more than 20,000 x g .</p> <p>Instrument should be supplied with Rotor for 6 x 15/50 ml with speed more than 7,000 x g.</p> <p>Instrument should be supplied with swing out bucket plate</p>

			rotor for 2 nos of MTP, PCR and deepwell plate with max speed of more than 2,000xg Instrument should have option for 16 X 5 ml rotor with speed more than 20000 x g
56.	“Engineering of CRISPR/CAS 9-mediated potato virus Y (PVY)...in Bhut Jolokia, ABT, AAU, Jorhat	Variable Volume Micropipettes	Adjustable volume of Micropipette with fully autoclavable Micropipette should be Spring Loaded Tip Cone for connecting tips very tightly Should have adjustment opening for adjusting pipettes to a specific liquid and volume. Should have control Button with very low operating force, Color indication for pipette volume. Tip ejector with very low operating force, positioned for perfect ergonomics. Volume Display: 4 Digits with magnifier. To provide thermal, mechanical and chemical stability piston should manufactured from Fortron material Very easy removable lower part for cleaning pipette Volume should be supplied of 0.1-2.5 µl x 1 no., 0.5-10 µl x 2 nos., 10-100 µl x1 no, 100-1000 µl x 1 no along with appropriate tip box
57.	DBT U-Excel project on “Development of tea-polyphenol rapeseed protein microencapsulate for delicery of bioactive.....in-vivo study, Dept. of Horticulture, AAU, Jorhat	UPS (with Inbuilt Isolation Transformer) with batteries and accessories	TECHNICAL SPECIFICATION FOR Configuration 10 KVA ONLINE isolation transformer based UPS (For 2 Hrs Battery Back Up) Rating KVA (KW) 10 KVA (8 KW). Technology Online, double-conversion topology switching PWM using IGBT rectifier and IGBT inverter. INPUT Voltage Range 165V-270V AC Nominal Frequency (Hz) 45-55Hz Number of Phases 1Ph Generator Compatibilty/Capacity Present (Recommended Generator capacity 2.5 times ups capacity) OUTPUT Voltage 230V AC ±1% Frequency Range 50Hz ±0.5% Overload 125% for 02 minutes Short Circuit Protection Instant Waveform Pure Sine Wave Inverter/Overall Efficiency 85% to 92% BATTERY Type Sealed Maintenance Free Back-up Time & Battery Bank Details 120 minutes) using 12V, VRLA Amaron Quanta make Sealed lead acid Maintenance Free batteries which shall be placed in suitable

			<p>battery rack with connectors</p> <p>OTHER FEATURES</p> <p>LCD Display indicating (Input & Output Voltage, Input & Output Frequency, Load Capacity, Battery Voltage)</p> <p>LED Indication: Mains AC Mode, DC Mode, Low Battery, Over Load Alarm, Battery Low Voltage, Abnormal Power Supply, Short Circuit & Over Load.</p> <p>ACCESSORIES:</p> <p>1050VA HUPS with Tall Tubular Battery</p> <p>12V, 150Ah Tall Tubular Battery with Trolley</p> <p>Protection and after-sales support facilities should be provided.</p> <p>Protection for Battery Low, Over Load, Short Circuit and Over Temperature.</p>
58.	<p>Molecular dissection of defense against Sigatoka infection in Banana Exploitation of Musa germplasm of North East for development of Sigatoka-resistant hybrid, Dept. of Agricultural Biotechnology, AAU, Jorhat</p>	<p>Table-top Refrigerated High Speed Centrifuge</p>	<p>System should have maximum RCF of 30,000 x g and better; and maximum RPM of 17,000 RPM or better</p> <p>Acceleration time should not be more than 14s; Deceleration time should not be more than 15s</p> <p>Should have wide temperature range from -11°C to + 40°C, which should be modifiable during operation</p> <p>System should have function for adjustable rotor acceleration and slow braking</p> <p>System should have Timer of 30s – 99:59 h with continuous run function</p> <p>Noise level should be less than 54 dB or better</p> <p>Should be able to store at least 50 routine procedures with programmable buttons</p> <p>Should have Short Spin facility</p> <p>Should have facility for starting of time count after reaching the set rpm</p> <p>Should be able to start a temperature control run directly; and to start a temperature control run with defined start time</p> <p>Should have built-in condensation drain to eliminate water condensation</p> <p>Should have automatic imbalance detection</p> <p>Should have technology for quick opening and closing of the rotor lid</p> <p>System should have PTFE-coated Rotor incl. rotor lid, for 30 x 1.5/2.0 ml tubes with speed upto 20,000 g and 14000 rpm or better</p> <p>System should be supplied with Fixed Angled rotor incl. rotor lid, for 6 x 15/50 ml tube rotor, with adapters for 15 and 50 ml Falcon tubes; maximum speed 7000 x g or better</p> <p>Power supply: 230 V / 50-60 Hz</p> <p>System should have options for 2-place swing-bucket rotor for MTP, PCR and deepwell plates and 5 ml tube rotor. 5 ml rotor and swing bucket rotor for MTP can be optional</p>

<p>59.</p>	<p>Molecular dissection of defense against Sigatoka infection in Banana Exploitation of Musa germplasm of North East for development of Sigatoka-resistant hybrid, Dept. of Agricultural Biotechnology, AAU, Jorhat</p>	<p>Pathogen infection chamber (Walk-in chamber with facility for pathogen infection in plants under high humidity conditions)</p>	<p>System should be flexible and programmable for optimal growth of a wide range of plant systems (from dicots to monocots) and suitable for artificial plant infection by fungi, bacteria etc. Single Board Controller to control Light, Temperature, RH and store programs in multi-step/ Day-night and easy to use program option. Higher RH and Precise Temperature control are Must for our research work.</p> <p><u>Dimensions:</u> Must have two separate compartments (similar dimensions) with separate precise control for two sets of separate experiments. Minimum 10ft x 12ft x 14 ft (HxWxD) or more; one chamber must be dedicated to grow plants especially for microbial inoculation and study of infection under high humidity conditions with precise temperature and light controls as per international standards.</p> <p><u>Temperature range:</u> 5-50 °C (± 0.2°C); must ensure precise temperature control with lights on and off; 10-45 °C (lights on) and 5-45 °C (lights off)</p> <p><u>Humidity controls:</u> 40-95 % (±2%) RH; should have condensing ultrasonic humidifiers to maintain humidity levels of 40-95% RH (lights off) and 40-90% (lights on), between 15° and 30°C; must ensure precise RH control with lights on and off; optional-dehumidifier. Low energy ultrasonic humidity generator and advanced humidity sensors with an alarm are required to control moisture within the chamber. The refrigeration system should ensure uniform temperature and relative humidity across the shelves within the chamber through proper air circulation.</p> <p><u>Lighting system:</u> Light Intensity should be programmable from 100 to 1000 µmoles/m²/s or more with constant light irradiance throughout the chamber's temperature range; with balanced spectrum for optimum plant growth using fluorescent and incandescent lamps; 24 hours photo-period</p> <p><u>Refrigeration system:</u> CFC free self-contained water-cooled continuous running condensing unit with hot gas bypass system for continuous compressor operation</p> <p><u>Safety devices:</u> high quality and advanced temperature and RH sensor; independent thermostats for high and low temperature cut off, high humidity cut off device; audible alarms, and visual indicators must be provided for deviations. The system monitor should be able to store the temperature, humidity and day / night cycle data for at least one week.</p> <p><u>Back-up device:</u> Must have a reliable and efficient power back-up system (with integrated UPS) to withstand power cut offs; system should be able to withstand voltage fluctuations.</p> <p><u>Sufficient shelving with adjustable shelves:</u> shelves should be adjustable as per plant height; Growing heights in each shelf should at least 25 cm or higher.</p>
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60.	<p>DBT funded project “Harnessing the potential of endophytes against root knot nematode, <i>Meloidogyne incognita</i> in banana”</p>	<p>TRINOCULAR PHASE CONTRAST MICROSCOPE (IMPORTED) WITH DIGITAL IMAGING AND DOCUMENTATION SYSTEM</p>	<p>Ergonomically designed rugged stand for longtime comfortable usage. Carrying handle should be built-into the stand.</p> <p>Microscope should be with infinity optics with anti-fungus treatment.</p> <p>Back tilted minimum Quadruple revolving nosepiece with precision click stops confirming paracentric field of view for all objectives.</p> <p>ABB condenser with numerical aperture 1. 25 with built-in aperture diaphragm.</p> <p>Mechanical Stage should have ball bearing specimen holder and should have right handed coaxial X and Y movement. The travelling range of the stage should be minimum 75 × 30mm with vernier marking.</p> <p>The stage focus movement range should be 15mm or more with coaxial coarse and fine focus knobs on either side of the stand. Focus stop mechanism to protect slide damage should be available.</p> <p>Inclined Trinocular tube with 30 deg swiveling eyepiece tube suitable for eyepieces up to field of view 20 mm and adjustable viewing height of at least 40mm (Siedentopf tube). Interpupillary distance should be variable between 50 mm to 75mm or better. Observation tube should be fully made of metallic and should not have any plastic covers.</p> <p>Paired Eyepieces with 10x magnification, field of view 20mm and should be suitable for spectacle wearers. Both eyepieces should be with front focusable eye lenses with ±5 dioptr adjustment.</p> <p>High contrast Fully Plan Achromatic Objectives, 10x/0.25,/20x Ph2 40x/0.65 Ph2 and 100x/1.25 oil. 40x and</p>

			<p>100x front optics are spring loaded. All the objectives should be of par focal corrected for easy specimen focusing in various magnifications.</p> <p>Microscope should be upgradable for incident light LED fluorescence techniques, Simple Polarization.</p> <p>Microscope should include <u>Set of colour filters containing blue, green and yellow for contrasting daylight and green filters</u>, immersion oil and dust cover.</p> <p>Optics shall be with antifungal treatment & certificate in this regard to be attached.</p> <p>Microscope shall be in conforming to International Certification like CS, EC Declaration etc. and certificates this regard will have to be furnished.</p> <p>Scientific Digital Color Camera, 5 megapixels having driver software, USB 3.0 PCI x1 interface, USB 3.0 m, SATA power cable and Molex power cable Basic resolution: 2560 (H) x 1920 (V) = 5.0 Megapixel</p> <p>Pixel size: 2.2 μm x 2.2 μm</p> <p>Readout of Sensor Sub-regions ("ROI"): Adjustable</p> <p>Digitization: 3x8 Bit/Pixel</p> <p>Integration Time: 100μs up to 2 s</p> <p>Interface (Camera): USB 3.0 Micro-B</p> <p>Interface (PC / Board): USB 3.0 Standard A</p> <p>Spectral range: Approx. 400 nm – 650 nm, IR filter</p> <p>Post processing function and measurement capability, including size, angle, area, perimeter, circle radius, Annotation etc. Supports Windows 7/10</p> <p>Branded computer and Deskjet printer to be provided.</p> <p>Vendor to mention details of their sales support available with name and designation.</p> <p>Direct presence of Manufacturer in India is preferable.</p> <p>Vendor to submit point to point compliance statement</p>
61.	<p>DBT funded project “Harnessing the potential of endophytes against root knot nematode, <i>Meloidogyne incognita</i> in banana”</p>	<p>BOD SHAKING INCUBATORS</p>	<p>Brushless Induction Motor with variable frequency drive suitable for continuous operation</p> <p>Counter balanced mechanism for high stability in uneven load of different sized flasks</p> <p>Universal Shaking platform to accommodate different sized assorted flasks</p> <p>Powerful fan motor for forced Air-Circulation to maintain uniform conditions inside chamber</p> <p>Unique design of thermal barrier for better energy efficiency</p> <p>Additional Tray to store samples</p> <p>Hermetically sealed Compressor with CFC free refrigerant</p> <p>Microprocessor controller with 4 inch LCD display for display of shaking speed & temperature</p> <p>9 programs memory</p> <p>High temperature safety cut off & alarm for high / low set temperature</p>

			<p>Memory for storage of up to 1000 records Intelligent Control helps maintain temperature in case of sensor failure Better backup for temperature controller. Auto Tuning of controller Self Diagnostic Error Histogram format of 24 hrs temperature recording Universal shaking platform to accommodate Temperature Range: 5°c to 60°, ± 0.5°C 5°C Internal volume (liters):215 Platform Size:580mm x 600mm Maximum Shaking Capacity: 250ml and 33 nos Temperature Control: Microprocessor with PT-100 sensor Internal Dimension W x D x H (mm):660 x 765 x 650 External Dimension:800 x 1150 x 1300 Noise Level: Less Than 65 db (A) Internal Body Material : Stainless Steel – 304 grade (Standard Models), Stainless Steel- 316 grade (GMP Models) External Body Material : Powder Coated CRCA Steel (Standard Models), Stainless Steel – 304 grade (GMP Models) ILLUMINATION : 8 Watts Fluorescent Recommended Voltage Stabilizer Temperature Variation Alarm :± 2°C, Audio Visual Alarm Supply 220- 240 volts, 50 Hz single phase</p>
62.	DBT funded project “ Harnessing the potential of endophytes against root knot nematode, <i>Meloidogyne incognita</i> in banana ”	Pipette set	<p>Ranges (in µL) - 0.5-10, 2-20, 10-100, 100-1000. Calibrate pipette to specific liquid and volume and spring loaded tip cone. Quantity:1 each</p>
63.	DBT funded project “ Harnessing the potential of endophytes against root knot nematode, <i>Meloidogyne incognita</i> in banana ”	HAEMOCYTOMETER	<p>* The Haemocytometer should consist of a heavy glass slide with two counting chambers, each of which is divided into nine large 1mm squares, on an etched and silvered surface separated by trough. * A coverslip should sit on top of the raised supports of the 'H' shaped troughs enclosing both chambers. There should be a 'V' or notch at either end where the cell suspension is loaded into the Haemocytometer. * The engraved grid on the surface of the counting chamber should ensure that the number of particles in a defined volume of liquid is counted. * The Haemocytometer is placed on the microscope stage and the cell suspension is counted.</p>

64.	DBT funded project “ Harnessing the potential of endophytes against root knot nematode, <i>Meloidogyne incognita</i> in banana ”	Poly House	Area – 100 m ² (Size of the house: 12.5m x 8m= 100m ²) Shape of the house – Saw Toothed Structure should be raised on GI pipe size 50mm, 40mm, 32mm, 25mm. Door size 6’x 3’ (1 no.). Cladding covering of all sides by 50 meshes insect proof Net. Roof by 200 micron UV stabilized poly film. Civil work structure to be raised on RCC pillars of 1’x 1’x 2’ size at each vertical pillar and side wall to be of 1’ height.
65.	“Study of diversity of rice in Karbi Anlong district of Assam: Implementation for biodiversity conservation under changed climate condition”	Chlorophyll Meter	Measurement Area: 2mm×3mm Measurement method : Optical Density Difference at 2 wavelengths Battery life : 40 Hours of logging Software Requirement: Windows 3.1 or Higher Field Scout Software
66.	NMPB Project “Post-harvest Loss Assesment..... Assam	Electronic Balance for field use	Table Top Digital/ Capacity : 30 Kg
67.	AICRP on Fruits, CRS, Tinsukia	Drip irrigation/fertigation system- Maintenance and Installation of new system	Automated Fertigation System Nutrifit Dosage To facilitate irrigation in all the orchards
68.	AICRP on Fruits, CRS, Tinsukia	pH meter	Digital, To determine the pH of soil
69.	AICRP on Fruits, CRS, Tinsukia	Tractor mounted J. Gim	35Hp Tractor drawn For maintenance of the orchard
70.	AICRP on Fruits, CRS, Tinsukia	Distillation Apparatus	Water distillation plant To get ultra pure water for molecular biology work & other laboratory work
71.	AICRP on Fruits, CRS, Tinsukia	Light Quantum Sensor	To measure the amount of light plants grown under protected cultivation
72.	AICRP on Fruits, CRS, Tinsukia	Water bath	Constant Temperature Water Bath Temp. 33-100degree C Motor Power 1-20 HP
73.	AICRP on Fruits, CRS, Tinsukia	Spectrophotometer (UV VIS) with UPS	UV-Visible Double beam spectrophotometer Wave length range: 190-1100nm, Spectral Bandwidth: 2nm(5nm,4nm.1nm, 0.5nm optional), Wavelength accuracy: ±0.3nm, Wavelength

			reproductibility:=0.15nm, working mode:T,A,C,E Baseline flatness:±0.002A, Stability:=0.001A(at 500nm, after warming up)
74.	AICRP on Fruits, CRS, Tinsukia	Leaf Area Meter	Resolution 1mm ² Internal Memory -2.1 MB, Accuracy ± 2%
75.	AICRP on Fruits, CRS, Tinsukia	Glass chamber for growing plants for root studies	For idealized studies of seedling root growth dynamics, root tropisms etc
76.	AICRP on Fruits, CRS, Tinsukia	Pruner with pruning saw and fibre gland extendable handle	To prune trees of the farm including experimental plots
77.	AICRP on Fruits, CRS, Tinsukia	Farm implements and sprayers	Grafting Knife, pruning Knife, Plucker, Girdling Knife, Hedge Trimmer with double Blade etc. For Sprayer: Mist Blower/Sprayer61.3CC, Tank capacity 16 litre, liquid delivery rate 0.67-5-50 lit/min.
78.	Identification of genetics associated with resistant starch content in rice.....benefits, Dept. of PBG, AAU, Jorhat	AMD EPYC HPCC	MasterNode: Processors 2 x AMD EPYC 7301 (2.2 GHz/16C/64MB Cache each) Chipset Latest OEM chipset supporting an optimized for the above processor Memory 256 GB or highest upgradable to 1.5TB DDR-4 ECC RDIMM RAM Hard Disk Drives 2X 1 TBSAS for OS /Application & 6 x 8TB NLSAS/SATA for Data HDD bays HDD bays supporting SAS, SATA, SSD drives (Minimum HDD Support : 24 x 2.5”HDD or 12 x 3.5” HDD) I/O slots Minimum 6 x PCIe 3.0 slots RAID levels Integrated RAID Controller, 1GB Cache, Support for RAID 0,1 ; support for RAID 5,6 Network Interface 1 x On-Board LOM 1GBE (Quad Port for Racks);1 x 10G Ethernet Interface Card Graphic Processor 1 x NVIDIA GTX GeForce 1080ti (Cuda Cores - 3584 each) Server Mgmt. OEM embedded controller and Server Management Tool from same OEM Ports Min 5 USB 3.0 ports(2 each on rear and front, 1 internal) Power supplies Redundant Power Supply to sustain above configuration. Power Supply with 80+ Gold certified for better utilization. Cooling

			<p>Hot plug and redundant fans Industry standard support User-selectable power cap (subsystems throttle to maintain the specified power cap), ACPI 3.0 Compliant, PCI 2.3 compliant, PXE and WOL Support, IPv4 and IPv6 support</p> <p>The quoted server models should have the following Certifications : Microsoft Windows Server 2008 R2, Microsoft® Windows® HPC Server 2008, Novell SUSE Linux Enterprise Server, Red Hat Enterprise Linux, Sun Solaris, Microsoft® Windows Server® 2008 Hyper-V, VMware® ESXi Version 4.1, Citrix® XenServer 5, FCC, UL, ROHS</p> <p>Form factor Rack with sliding rails to fit into Server Rack</p> <p>Warranty 3 years onsite warranty by OEM</p> <p>Console 18.5 inch Monitor as console</p> <p>Console (hd monitor 24 inch or above), mouse and keyboard</p> <p>GPU/computeNode: Processors 2 x AMD EPYC 7401 (2.0 GHz/24C/64MB Cache each) Chipset Latest OEM chipset supporting an optimized for the above processor Memory 256 GB or highest upgradable to 1.5TB DDR-4 ECC RDIMM RAM Hard Disk Drives 2 x 1TB NLSAS Hard Drive for Data HDD bays HDD bays supporting SAS, SATA, SSD drives (Minimum HDD Support : up to 8 x 2.5-inch, 10 x 2.5-inch or 4 x 3.5-inch) I/O slots Minimum 6 x PCIe 3.0 slots RAID levels Integrated RAID Controller, Support for RAID 0,1 Network Interface 1 x On-Board LOM 1GBE (Quad Port for Racks); 1 x 10G Ethernet Interface Card Graphic Processor 2 x NVIDIA GTX GeForce 1080ti (Cuda Cores - 3584 each) Total with HB-SLI Server Mgmt.</p>
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			<p>OEM embedded controller with IPMI 2.0 compliance and Server Management Tool from same OEM</p> <p>Ports Min 5 USB 3.0 ports(2 each on rear and front, 1 internal)</p> <p>Power supplies Redundant efficient Power Supply to sustain above configuration.</p> <p>Cooling Hot plug and redundant fans</p> <p>Industry standard support User-selectable power cap (subsystems throttle to maintain the specified power cap), ACPI 3.0 Compliant, PCI 2.3 compliant, PXE and WOL Support, IPv4 and IPv6 support</p> <p>The quoted server models should have the following Certifications : Microsoft Windows Server2008 R2, Microsoft® Windows® HPC Server 2008, Novell SUSE Linux Enterprise Server, Red Hat Enterprise Linux, Sun Solaris, Microsoft® Windows Server® 2008 Hyper-V, VMware® ESXi Version 4.1, Citrix® XenServer 5,FCC, UL, ROHS</p> <p>Form factor Rack with sliding rails to fit into industry standard Server Rack</p> <p>Warranty 3 years onsite warranty by OEM</p> <p><u>Switches, Rack & Software</u></p> <p>8 Port 10GSwitch</p> <p>Interfaces 8 Dedicated 10GBase-T ports supporting 10G/1G/100M speeds 2 Shared combo copper/sfp+ Fiber 10G ports</p> <p>Network Protocol and Standards Compatibility IEEE 802.3 Ethernet IEEE 802.3u 100BASE-T IEEE 802.3ab 1000BASE-T IEEE 802.3an 10GBASE-T 10Gbps Ethernet Over Copper Twisted Pair Cable IEEE 802.3ae 10-Gigabit Ethernet Over Fiber (10GBASE-LRM) -</p> <p>Other Specifications Auto-voice VLAN ,SNMP v1, v2c, v3 Jumbo Frame Support (up to 9 KB) IEEE 802.1Q Tag VLAN 256 Static VLANs IEEE 802.1p (Class of Service) DHCP client function</p>
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			<p>Broadcast storm control Port mirroring (many-to-one) IGMP snooping v1/v2 Performance Specifications Packet buffer memory (Dynamically shared across only used ports) 2MB Forwarding modes Store-and-forward Bandwidth 160Gbps Priority queues 8 MAC address database size 16K Multicast groups 512 Number of routed VLANs 256 Network Security IEEE 802.1x Guest VLAN RADIUS-based VLAN assignment via .1x MAC-based .1x RADIUS accounting Access Control Lists (ACLs) L2 / L3 / L4 IP-based ACLs (IPv4 and IPv6) MAC-based ACLs TCP/UDP-based ACLs MAC lockdown MAC lockdown by the number of MACs Control MAC # Dynamic learned entries 600 Control MAC # static entries. 20 IEEE 802.1x RADIUS port access authentication Port-based security by locked MAC addresses Broadcast, multicast, unknown unicast storm control DoS attacks prevention Dynamic ARP inspection Management Password management Configurable management VLAN Admin access control via RADIUS and TACACS+ IPv6 management SNTP client over UDP port 123 SNMP v1/v2c SNMP v3 with multiple IP addresses RMON group 1,2,3,9 Port mirroring Many-to-one port mirroring – 16 Web-based graphical user interface (GUI) Environmental Specification Operating temperature : -5° to 55°C (23° to 131°F) Humidity (relative) : 90% maximum relative humidity (RH), Safety Certifications CB mark, commercial</p>
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			<p>CSA certified UL listed 24 Port Gigabit Switch: Switch 24-port Gigabit Switch Qty -1 Installation Installation&configurationof Hardware ,OS (Open source Linux) , Cluster Management Software .Qty -1 36URack 36U Rack 19” Rack: 36Ux 600mmwidth x 1000mm depth, Alloy Aluminum extruded frame fully Allen bolted construction all x,y,z axis, metal top vented all along the width and depth , 4 fan provision and cable entry provision covered with cover plate edge protected rubber grommet provide/bottom cover cable entry provision covered with cover plate edge protected rubber grommet provide , 3 pairs of support channel and castor provision at bottom side. Powder coated finish Texture Matt – 60 to 80uM Side panels are detachable with slam latches ventilation slot on side panels, full vented top cover & bottom cover with the cable entry provision Front glass single door with cam lock & key Rear mesh Single door with cam lock & key 230V A/C 90 CFM fan mounted on top cover - 4 Nos Power Distribution Unit - 06/16 Amp Indian-Standard Britzy Sockets - 12 Socket - Single Pole / Screw Mountable / 32 Amp MCB / Alternating Current - Power Cable 6 sq.mm 3 meter Length - Black Fine Tex. – 1 No. External Cooling 1 X split inverter Air Conditioner 1.5 ton with minimum 5 Energy star rating. Or Split Air Conditioner 2 ton with minimum 3+ Energy star rating. 20 KVA online UPS with Batteries for UPS Atleast4 hours backup for above configuration Installation & configuration of Hardware; Installation of OS(open Source), Drivers, GROMACS, open Source NGS tools; Maintenance for 3 Years</p>
79.	Establishment of Agrochemical residue.....analysis laboratory under RKVY, Dept. of Soil Science, AAU, Jorhat	Inductively Coupled Plasma – OES/AES (ICP-OES/AES)	<p>AES INSTRUMENT: 1. The instrument must be an atomic emission spectrometer capable of simultaneous measurement of sample and background using a solid-state CCD detector. 2. Benchtop design model, Easy access to gas connections, cooling water, power etc for maintenance and servicing</p>

			<p>3. Instrument must monitor gas pressure, water flows, plasma stability, air pressure and external air flow</p> <p>RF Generator: Solid state Free Running RF Generator should be with 27/40 MHz frequency and have a power output range of 700-1500 watts or more.</p> <p>OPTICS:</p> <ol style="list-style-type: none"> 1. Maximum gas consumption liter/min per sample should be mentioned 2. Plasma power, Peristaltic pump speed and radial view height shall be optimized using ICP software 3. The 4 channel Peristaltic Pump should be computer controlled 4. The flow rate should be between 0.5 - 5.0 ml/min or better and will have flexibility to add internal standard online 5. Spray Chamber to take care of various acids like HF, HCl, HNO₃, HClO₄ etc. 6. Ignition and shut down of the atomization source must be computer controlled and totally automated. 7. The atomization source must operate without requiring a continuous supply of expensive, combustible or oxidizing gases such as Argon, Acetylene and Nitrous Oxide. 8. The atomization source must be capable of running using ONLY a supply of air from an external air compressor. <p>SPECTROPHOTOMETER</p> <ol style="list-style-type: none"> 1. Must determine all desired elements in one analytical reading 2. The instrument should be able to simultaneously perform determinations across the entire spectrum, both UV and visible on a single measurement on a single detector 3. Continuous Wavelength Range: 160 nm - 800 nm to take care of complete range 4. Should have Echelle based polychromator and Optical Resolution of 0.007 nm or better at 200 nm or better 5. The system shall measure elements simultaneously within wavelength range and shall have simultaneous background correction system with Echelle grating optics <p>GAS FLOW CONTROL:</p> <ol style="list-style-type: none"> 1. Gas flows for the atomization source must be computer enabled with fixed flow settings for optimum ease of use. 2. The nebulizer gas flow controlled by using a precision
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pressure control system.

SAMPLE INTRODUCTION SYSTEM:

1. The system must use a three channel, variable speed, computer controlled peristaltic pump for sample introduction.
2. There should be facility to analyze common elements and hydride forming elements like As, Hg, Se etc. in a single measurement run.

SOFTWARE:

1. The instrument controlling software must be 64-bit running under the Microsoft Windows 7 operating system. The software must provide capability for the user to create a new worksheet incorporating all method conditions and background correction points using an existing worksheet.
2. Display of all calibration curves for all elements analysed simultaneously
3. Wavelength provided should have more than 50,000 emission lines. The background corrections should be dynamically optimized for other elements determination and should be performed in real time mode
4. The software shall be multi-tasking and multi-user and shall have the capability to report, cross tab report, analytical results, spectra on CRT and perform other functions.
5. The software must continuously monitor gas pressures, safety interlocks, temperatures inside the atomization source and operation of the atomization source.

ACCESSORIES:

1. Single element standards for at least 20 elements must be provided
2. Standard solution for calibration / validation
3. The equipment must be supplied with three (3) additional argon gas cylinders with regulator and gas panels.
1. The equipment must be supplied with branded PC, printer, air compressor with filter and fume extraction duct.
2. The equipment must be supplied with one (1) 1.5 ton 2 star air conditioner including the installation accessories
3. The equipment must be supplied with branded UPS (10 to 15 KVA) with a back up time for 30 mins to 1 hour and the bidding should include the installation cost (including electrical accessories)
4. The bidding price should be inclusive of installation

			<p>cost including required electrical works (extension of existing line 10 m approx) for the equipment, AC and UPS</p> <p>5. The equipment must be supplied with the required table for mounting the machine and accessories, and necessary arrangement for holding the gas cylinders</p>
80.	<p>DBT U-Excel Project on “Development of tea polyphenol-rapeseed protein microencapsulate for delivery of bioactive ingredients in functional foods: <i>in vitro</i> & <i>in vivo</i> study”</p>	<p>SONICATOR (ULTRASONIC PROCESSOR) with Standard Probe 1/2” (13mm) for a processing volume of 50ml to 250ml/batch</p>	<p>Power supply : 500 Watts with 20kHz frequency Dimension (HxWxD) : 9¼” x 7½” x 13½” (235 x 190 x 340mm) Sealed converter : Model – CV334, Piezoelectric lead zirconate titanate crystals (PZT) Diameter – 2½” (63.5mm) Length – 7¼” (183mm) Weight – 2 lb (900g) Cable length – 6’ (1.3m)</p> <p>Chilling Unit Accessories Included:</p> <p>i) Standard probe</p> <p>: Tip dia. – ½” standard solid probe ½” (13mm) Processing capability – 50ml to 250ml Length – 5.5” (139mm) Weight – ¾” lb (340g) Titanium alloy – TI-6AL-4V Electrical requirements: 230 volts, 50Hz.</p> <p>ii) Sound Abating Enclosure, outside white laminate. Transparent door. Inside lined with white waterproof noise abating material. Support rod and converter clamp included.</p> <p>iii) Laboratory Jack Provides adjustable elevation from 2½” (64 mm) to 10” (254 mm). Top plate: 6” x 5” (152 x 127 mm).</p> <p>iv) ¼” (6mm) Tapered Micro-tip (5ml – 50ml)</p>
81.	<p>Establishment of Rice Quality Laboratory in the Department of Plant Breeding and Genetics under RKVY.</p>	<p>GL chromatography</p>	<p>Provision to install two or more columns ; Operating temp range of oven from near ambient to 450 deg C; Oven temp ramp rate of oven should be at least 120 degC; Possible to program 15 temp ramps (16 plateaus) or better; 15 EPC/PPC channels for inlets, detectors or auxiliary gases or more; Flow sensor for control & storage of split ratio; Possible to use capillary columns of 50, 100, 250, 320 microns and Above; The pressure set points should be adjustable by increments of 0.001 psi up to 100 psi Maximum temperature attainable should be 400oc or more; Head Space Sampler: Head Space Sampler with minimum 10 vials capacity with Pneumatic control. It should be transfer line based with loop system for precise quantification and it should be from same manufacturer. Transfer Line to the GC temperature range: 50 to 200 Degrees; Inlets: Two inlets should be provided. LAN based quadruple MS system with Non-coated Inert ion source conforming to International safety standards, designed and manufactured under a quality system registered to ISO 9001 with appropriate computer & printer to support the system from original manufacturer. Should include turbo molecular pump WITH 250 L/SEC</p>

			<p>CAPACITY OR MORE with EI source.</p> <ul style="list-style-type: none"> • Mass range of 2-1000 amu or better in 0.1 amu steps • Mass axis stability should be 0.10 amu/48 hrs • Scan speed up to 12,000 u/sec or better • Ion source temp - up to 350oC for better sensitivity for active compounds and it should be programmable. • Transfer line temp - 100-350 DEG C • The quadrupole should preferably be heated to upto 190C or above to keep it clean • Ionization energy range 5-220eV • Ionization current range - 1-315μ A • EI source should be inert to active compounds and should be programmable with maximum tempt of 350 deg C • EI scan sensitivity and is a must parameter to demonstrate at least: 500:1 S/N for 1 pg OFN scanning from 50-300 amu at nominal m/z 272 ion • EI SIM Instrument detection limit of 24fg or better for OFN standard at nominal 272 u ion should be demonstrated at site • The mass spectrometer shall have the capability to create a 90 SIM ion groups with up to 45 ions per group or more. • Spectral libraries: NIST LATEST VERSION WITH LICENCE. The system should have the capability of replacement of GC column without venting MS vacuum which results in elimination of GC/MS downtime <p>FID: One FID detector with the following specification or better:</p> <ul style="list-style-type: none"> • MDL: < 1.5 pg c/s OR BETTER (SPECIFY THE COMPOUND) • Dynamic range: > 10⁷ • Data acquisition rate: up to 500 Hz OR BETTER <p>All gases flow should be adjustable/controlled by software with no manual control.</p> <p>Metabolite Library: Provide a database of metabolites (more than 600 compounds). Auto sampler: Having capacity of 15 vials or more with area reproducibility of 0.3% RSD or less. N₂ Gas, H₂ Gas and Zero air Gas Cylinder with regulator. He Gas cylinder with Regulator. Gas control panel. Gas filters and tubing. On-site installation, training and adequate warranty of minimum 1 year. Requisite gas cylinders must be included in the quotations, if needed.</p>
82.	<p>“Participatory technology assessment for enhancing farming system productivity..... rural livelihood”</p>	<p>Mini Hatchery Machine (Setter cum Hatcher)</p>	<p>Setting capacity-540 eggs Hatching- 180 weekly</p>

83.	“Participatory technology assessment for enhancing farming system productivity.....rural livelihood”	Generator Set	2KVA
84.	DBT project on “Exploring diversity genomic and transcriptome profiling and phytosemiochemicals of banana pest complex in NER region: An ecological and molecular approach”.	Weighing balance	CAPACITY : 220 gm Readability : 0.1 mg Repetability (+/-) : 0.1 mg Linearity (+/-) : 0.2 mg Pan size: 90 mm dia/3.3mm dia Response time: 2-3 sec Display : Back light LCD display Calibration : Automatic external calibration Unit of measure: g, mg,ct, GN, mo, oz, dwt Tare range: Full Operating temperature: 5°C to 40°C Power supply: AC adapter 230V/115V,50/60Hz
85.	DBT project on “Exploring diversity genomic and transcriptome profiling and phytosemiochemicals of banana pest complex in NER region: An ecological and molecular approach”.	Soxhlet extraction apparatus	Consist of round bottom flask, extractor with flat flange , reduction adaptor with flat flange and socket and double surface condenser, supplied complete with rubber tubing and necessary M.S. stand for fitting the same, supplied along with heating mantle. Extractor capacity: 1000 ml Flask capacity: 3000 ml
86.	DBT project on “Exploring diversity genomic and transcriptome profiling and phytosemiochemicals of banana pest complex in NER region: An ecological and molecular approach”.	Deep Freezer	Capacity: 420 ltrs Triple walled back inside steel Grade 304 Temperature range : Up to-20°C Accuracy: +/- 10°C
87.	DBT project on “Exploring diversity	Spectrophotometer	Wavelength range : 190–1100 nm Wavelength reproducibility : ± 0.1 nm

	genomic and transcriptome profiling and phytosemiochemicals of banana pest complex in NER region: An ecological and molecular approach”.		Photometric display: ± 9.9999 Abs Data collection rate : 80 data points/second
88.	Establishment of Agrochemical residue.....analysis laboratory under RKVY, Dept. of Soil Science, AAU, Jorhat	Water purification system	Compact, wall mountable, sleek water purification system for heavy metal and pesticide residue analysis, should deliver Type I/Ultra –pure water (as per international specifications) 10-12 litre/day, preferably should start giving pure water immediately after start, should have built in RO, dual wavelength UV lamp, purification pack or DI cartridge, built-in integral tank with minimum 5-7 litre capacity.Display: TOC TEMPERATURE, conductivity, volume dispensing, alarm and tank water level indicator Accessories- UPS/Stabilizer/CVT as required for functioning of the equipment, cartridges, filters, pump or any such item which is /are essential for Installation and functioning /operating the equipment.Warranty – preferably two years guarantee plus warranty for at least three years.
89.	Development of <i>Fusarium</i> resistant elite banana cultivars of NE India, DBT, AAU, Jorhat	-20 °C freezer	Temperature range should be: -20°C to -40°C Capacity should be: 508 L; Drawers :10 Internal dimensions preferably (WXDXH): 685X610X1228mm External dimensions preferably: 895X840X1860mm Voltage(V/Hz): 220/60 Net Weight/Gross Weight (kg): 170/200 Should have high efficiency Compressor, highly efficient and reliable. German EBM condenser fan. Should have microprocessor control and LED digital display to clearly show the system status. Should have audible & visible alarm for high and low temperature, sensor malfunction and Power off. Memory function in case of power failure; Should have start-up delay protection, Power requirement: 198-238V/ 50Hz, single phase. Power(W): 430
90.	RKVY Project: Development of Next-Gen nanobioformulation(s) of <i>Trichoderma</i>	Encapsulator	Purpose: Sterile encapsulation of biological compounds Specification: -The instrument offers bio-encapsulation of cells and microbes under mild and sterile conditions in a reaction vessel. -Liquid pumping is done by the integrated syringe pump or by air pressure. -Control unit should have regulation of vibration frequency, electrostatic dispersion, syringe pump and magnetic stirrer. -Syringe pump: For 1 to 60 ml syringes, to 50 ml/min flow rate,

	for seed treatment of major crops of Assam		<p>Flow rate calibration</p> <ul style="list-style-type: none"> -Set of 8 single nozzles of stainless steel: 0.08, 0.12, 0.15, 0.2, 0.3, 0.45, 0.75 and 1.0 mm diameter, Can produce beads as well as capsules -Reaction vessel as such with the instrument: 2 liter working volume, autoclavable, GMP compliant surface treatment of stainless steel - Pressure bottles: 500 and 1000 ml glass volume with working pressure up to 1.5 bar, Magnetic stirrer for gentle stirring which fits under reaction vessel <p>Local Compressor: Local Oil and dust free compressor, Droplet size range: 0.15 to 2.0</p> <p>Vibration frequency: 40 to 6000 Hz</p> <p>Optional: GMP compliant documentation for reaction vessel validation including sealing set</p>
91.	RKVY Project: Development of Next-Gen nanobioformulation(s) of <i>Trichoderma</i> for seed treatment of major crops of Assam	Flake Ice Machine	<ul style="list-style-type: none"> * Up to 4-6 kg built-in ice storage * Electronically controlled operation, with self-diagnostic functions with external alarm lights providing operational information for early alert and fast diagnosis of operating issues * Pressure-based water level monitoring system may work with demineralised water as well as with standard water * Plug-n-play configuration right out of the box – just connect incoming water line and water discharge. 16 amps plug already installed. * External Components constructed from corrosion-resistant stainless steel crafted for optimal aesthetic appeal through superior fit and finish * Ergonomically convenient, slanted & disappearing storage bin door * Front Access for Easier Maintenance * Filter-free air cooled condenser, designed to operate without the need of air filters * Front-in, front-out airflow allows for built-in installations * CFC Free R-134 Refrigerant * 120 mm legs included, extensions available as option
92.	RKVY Project: Development of Next-Gen nanobioformulation(s) of <i>Trichoderma</i> for seed treatment of major crops of Assam	CPS-Disc Centrifuge	<p>Purpose: High accuracy measurement of particle size distribution with highly poly-dispersed particles size measurement (~3.0 nm to ~60 microns), particle measurement size: 2 nm - 80 micron, with 20000-24000 rotation per minutes maximal (for measuring particle down to 10 nm, particles of high density at 3 to 5 nm size), with High resolution, high accuracy, High sensitivity, Wide dynamic range for all samples, dispersed in water or solvents, to be used in Chemical Applications like Polymer latexes and emulsions,</p> <p>Accessories: Solvent resistant disc, Low density disc, Speed ramping disc, Automatic gradient builder, Automatic sample injector, Calibration standards. A minimum computer is 233 MHz Pentium hard disc, and a colour printer, calibration standard with narrow distribution, dispersed in water or solvents, with solids contents of 0.3% to 0.5% (PVC, Polyesterol, Polybutadien and Monocrystalline Diamond etc)</p>

<p>93.</p>	<p>RKVY Project: Development of Next-Gen nanobioformulation(s) of <i>Trichoderma</i> for seed treatment of major crops of Assam</p>	<p>Nano Tracking Analysis</p>	<p>Purpose: Qualitative characterization of nanoparticle</p> <p>Specification: Nanoparticle analysis range: typically 10 nm - 2000 nm, dependent on particle material; Temperature range 5 degrees below ambient to 50°C; Particle type: any; Solvent: aqueous samples only; Power requirement (adapter supplied): 110-220V; Laser output: 40mW at 638 nm, 60mW at 405 nm, 75mW at 532 nm; Sample volume requirements: 100µl</p> <p>Specific to use in nanoparticles dispersed in wide range of solvent, specific to use in metallic nanoparticles, liposomes, Viruses, Carbon nanotubes (multi-walled), Colloidal suspensions and polymer nanoparticles, Cosmetics and foodstuffs, Wear debris in lubricants, Nanotoxicology studies</p> <p>NTA software should have Analytical Software for Real-Time dynamic nano-particle visualization, Particle-by-particle analysis, Particle counting and sizing, Particle size distributions displayed as histograms, Data output to spreadsheet, Video clip capture</p>
<p>94.</p>	<p>DBT U-Excel Project on “Development of tea polyphenol-rapeseed protein microencapsulate for delivery of bioactive ingredients in functional foods: <i>in vitro</i> & <i>in vivo</i> study”</p>	<p>Multimode or Absorbance microplate reader for ELISA.</p>	<p>1. Absorbance (UV-Vis, including path length correction. 2. Broad wavelength range detection (150-1000nm)</p> <p>Filter based ELISA reader with halogen lamp as light source and silicon photo detectors</p> <p>wavelength range from 200 to 850nm.</p> <p>Photometric accuracy of ±2 % or better.</p> <p>Resolution of 0.001Abs.</p> <p>Variable speed plate shaking capability.</p> <p>Machine should be supplied with standard filters</p> <p>Should have automatic filter selection option and automatic calibration before each reading</p> <p>Should be able to read 96 well format within few seconds</p> <p>Capable of doing multi standard tests and controls.</p> <p>Should be capable of reading U, V and flat type wells.</p> <p>The instrument should run in stand-alone mode with Color display.</p> <p>The instrument should have option for computer & software controlled.</p> <p>System should have USB port for external printer connectivity option for the data printout and which makes easy data transfer from internal software to a PC.</p> <p>Software CD should be provided.</p>

