

To,

**Chairman, Central Rate Contract Committee
Office of the Director of Instruction & Dean (F/A)
VNMKV, Parbhani**

**Sub: Tender for Supply of equipments / instruments / repairs
and AMC of E&I**

Sir,

I am submitting herewith Tender form duly filled in for the Supply of equipments / instruments / repairs and AMC of E&I to Director of Instruction & Dean (F/A) VNMKV, Parbhani. I am enclosing herewith the following documents with the tender form.

Envelop A

- EMD for Rs._____in shape of TDR/CDR/FDR of Nationalized Bank /Schedule Bank only drawn in favour of **Comptroller, VNMKV, Parbhani as prescribed.**
- EMD exemption will be given if the valid certificate is enclosed.
- Copy of valid VAT / LBT certificate.
- Copy of firm registration certificate
- Copy of Partnership deed if any along with the general power of attorney.
- Copy of PAN No.
- Authority letter of manufacture ,certificate of sole manufacture

Envelop B

Envelop B containing

- Rates of the new equipment / Instruments, repair and AMC quoted on the tender form
- Undertaking in the prescribed form for supply of instruments/equipments.

I have gone through the terms and conditions for the Supply of equipments / instruments / repairs and AMC of E&I etc and I fully agree with Terms and Conditions enclosed with the tender form.

Yours faithfully,

Contact No.:
Mobile:

**Name and Signature of the
Manufacturer / Dealer/ Supplier with Rubber stamp**

TENDER FORM

Sr. No.	Name of the items and specification	Rates	
		In Figure	In words

Signature & Name of Supplier

**VASANTRAO NAIK MARATHWADA KRISHI VIDYAPEETH
PARBHANI-43402 (M.S.)**

No. GGK/

Dt: 01.01.2014

Tender form No.	
FDR/CDR/TDR	
Amount	Rs. 3000/-

To

M/s -----

Sub: Blank Tender Form

Ref: Your letter No.

Dt:

Sir,

This office is in receipt of Rs.-----by Demand Draft/Banker's cheque towards the blank tender form for the required new equipment / Instruments, repair and AMC for various faculties of VNMKV, Parbhani. I am enclosing herewith the set of tender form as desired by you.

The earnest money deposit prescribed for the above mentioned quotations is @1% of the value of the quoted by the tender.

You are requested to go through the terms and conditions of the tender before filling the tender form. The following points may be noted while submitting the tender form.

The EMD as prescribed above should be submitted in the shape of TDR/CDR/FDR of Nationalized Bank Schedule Bank drawn in favour of Comptroller, VNMKV, Parbhani and should be enclosed with the tender form.

The tender form should be submitted in the two **envelops A and B** both the envelopes should be super scribed as Envelop A and B.

Envelop A

- EMD for Rs._____in shape of TDR/CDR/FDR of Nationalized Bank /Schedule Bank only drawn in favour of **Comptroller, VNMKV, Parbhani as prescribed.**
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- Copy of PAN No.
- Authority letter of manufacture ,certificate of sole manufacture

Envelop B

Envelop B containing

- Rates of the new equipment / Instruments, repair and AMC quoted on the tender form
- Undertaking in the prescribed form for supply of instruments/equipments.

Both the envelopes are to be enclosed in a large envelope addressed to the **Director of Instruction and Dean, Vasant Rao Naik Marathwada Krishi Vidyapeeth, Parbhani** and submitted on or before **27.01.2013 up to 16.45 hrs.**

**Chairman,
Center Rate contract Committee &
Director of Instruction & Dean
Faculty of Agriculture**

UNDERTAKING

I/We agree and accept the terms and conditions of the tender No. _____ dated _____ and also it is binding on me/our part to fulfill the supply of the

etc. I will give the delivery of the material at the sites suggested in the work order. Installation, trial or demonstration will be carried on under the suggestion of the concerned officer/Scientist and as required.

I also agree to provide support for Maintenance/Service after the period of guarantee/warranty.

Signature with seal

Name of the Firm with full address:

Reg. No.

Income Tax No.(PAN):

VAT No:

CST/BST/LBT Reg. No.:

Service Tax No:

Sale Tax Reg. No.:

Place:

Date:

Signature with seal

**Vasantnao Naik Marathwada Krishi Vidyapeeth
Parbhani – 431 402 [Maharashtra State] India**

TENDER NOTICE

Vasantnao Naik Marathwada Krishi Vidyapeeth, Parbhani intends to purchase new equipment / Instruments, repair and AMC of existing E&I under ICAR, grants 2013-14 for different faculties in the university. The details for purchase of new equipment / Instruments repair and AMC of existing E&I along with specifications, terms and conditions of purchase are available in the Tender form. The Blank Tender will be available from 02.01.2014 in the office of the Director of Instruction and Dean, F/A, VNMKV, Parbhani during office hours by paying Rs. 3000.00 in the form of D.D. (only Nationalized bank/Schedule bank) drawn in favour of Comptroller, VNMKV, Parbhani. Tender forms are also available on University website, <http://mkv2.mah.nic.in> or <http://www.mkv.ac.in>. The last date of submission of filled tender form is **27/01/2014 up to 16.45 hrs.**

The tenders will be opened on **29.01.2014 at 11.00 hrs.**

TERMS AND CONDITIONS

1. Sealed tenders are invited from manufacturers/authorized dealers of manufacturers/authorized suppliers/dealers of overseas who are willing to undertake supply of equipment /machinery as per the specifications mentioned in the tender on working days during **9.00 to 4.45 hrs (last date is 27.01.14)**. **Tenders received late in person/by post will not be considered.**
2. The tender should be accompanied with the **EMD** at the rate of 1 % for the value of the item quoted by the tender. The EMD will have to be deposited in the form of TDR/CDR./FDR for one year of **Nationalized Bank's/Schedule bank only** cheque drawn in favour of **Comptroller, VNMKV, Parbhani**. If the EMD is not enclosed, the tender will be rejected. The Earnest Money deposited by a firm or a person whose tender is accepted will be returned after the decision is taken on the said tenders after six months of successful demonstration of equipment from the date of demonstration.
3. All the articles will have to be supplied **FOR VNMKV Parbhani University jurisdiction,(Faculties, Colleges, Departments, Research Stations)**
4. The material should be of the approved quality **ISI mark** or as per the sample called for in a specific case or the specifications given by this office in the tender. The article which do not conform to approved specification(s) and consequently rejected will have to be replaced at the cost of the firm or supplier. In the absence or unsatisfactory supply, the articles will be rejected and corresponding cost will be deducted from the supplier's bill.
5. The details with all specifications make of ICT's equipment's and also authorized dealer / manufacturer certificate from company should be accompanied with tender.
6. It is discretion of the Director of Instruction and Dean (F/A), VNMKV, Parbhani to increase or decrease the quantity of equipment's/items and/or to relax the conditions in exceptional circumstances.
7. The articles should be supplied within a period of 90 days time limit from the date of issue of the orders for supply. In case of failure the University shall have the right to purchase the article from the open market and to make good loss from the firm or supplier from his EMD or to impose a penalty @ Rs 100/- per item per day for the period for delay in supply. The decision of the matter will be final.
8. It is open to accept even higher rates or to reject or to recall the tender without assigning any reason. Discretionary power of University Chairman to reject/accept tender without scrutiny and any prior reason is with Director of Instruction and Dean (F/A), VNMKV, Parbhani
9. The rates of each item be stated separately. The rates should be quoted in the space provided in the tender form or separately. Each paper should be signed by the Tender.
10. The rates should be quoted as per tender specifications only, rates without the specifications will not be considered.
11. The tender should indicate the rates in metric system of weights and measures thereof showing conversion rate, it should be allotted in the unit shown in the tender form only.
12. The purchasing officer will not pay LBT,VAT Octrai, taxes or dammahage of the Municipal Corporation/Council. The supplier will be responsible for this payment

13. The supplier should note that the rates should be inclusive of all admissible taxes. VAT,LBT, Octroi packaging, loading and unloading, forwarding, transportation, installation, insurance etc. In this context the rate will be presumed to include all these charges.
14. Installation and demonstration commissioning of equipment's with satisfactory performance should be given before the payment is made to the supplier. Payment will be made after satisfactory report is received from the concerned Intender /Scientists/Officer In charge.
15. The tender cover must bear the word "**Tender for supply of, new equipment / Instruments, repair and AMC etc** " should be submitted to Chairman Central Rate Contract cum Director of Instruction and Dean (F/A), VNMKV, Parbhani - 431 402 (M.S.)
16. The goods should be dispatched at suppliers risk; however, the supplier will be responsible until the entire items are supplied in good condition at the destination.
17. The material should have guarantee/warranty of one year from the date of installation / demonstration. The material should be replaced within 15 days at the cost of supplier, if necessary.
18. The prescribed tender forms will be available in office of **Director of Instruction & Dean (F/A), VNMKV, Parbhani** and can be purchased on payment of **Rs.3000/-** in the form of **DD/Banker's cheque (Nationalized bank/Schedule bank only)** payable in the name of **Comptroller, VNMKV, Parbhani** from **02-01-2014** on the website of **University** is <http://www.mkv.ac.in> / <http://www.mkv2.mah.nic.in>

Information in the ENVELOPE A

- i) If the firm is under partnership, in that case attested copies of partnership deed certificate and power of attorney should be attached in the **Envelope A**.
 - ii) The Tender must be registered under CST and MST, LBT etc. Attested copy of such certificate must be enclosed in Envelope 'A' of the tender
 - iii) Copy of latest Income Tax Clearance Certificate and PAN Card should also be enclosed.
 - iv) The registration number of the bidder along with the CST Number & CST Number & TIN Number allotted by the Sales Tax Authorities must be given in the tender bid (Enclose necessary documents).
 - v) Clients/Users list of item(s) of company/ Dealer and total experience in this field.
(Important: Above i-v documents if not enclosed, the envelope B will not be opened)
19. Failure to observe any of the conditions mentioned above will result in the cancellation of the tender.
 20. The **security deposit @ 3%** of the total cost of the item quoted be deposited in the form of **TDR/CDR/FDR of Nationalized Bank/ Scheduled Bank only in favour of Comptroller, VNMKV, Parbhani**. The said amount will be returned after 6 months of successful demonstration with EMD.
 21. The rates approved should be valid up **31.12.2014** .

22. The supplier should give assurance of maintenance support for further period of five year after guarantee period. In such case University will enter into AMC contract if required.
23. Tenders will be opened on **29-01-2014 at 11.00 hrs** in the chamber of **Director of Instruction & Dean (F/A), VNMKV, Parbhani** in the presence of Tenderer or their representatives.
24. Unloading of item unskilled labour which may be required at the time of installation of the items should be borne by the vendor free of cost.
25. The warranty period shall be effective from the date having successful Installation integration, implementation, & training on the system at the university Director of Instruction & Dean (F/A), VNMKV, Parbhani premises..
26. If committee demands, the items shown in tender should be kept ready for Physical verification.
27. The intending supplier shall also have to mention, the detail specifications , name of the manufactures/ make , model of the article and has to enclosed the only original catalogue, pamphlets / pictures of the appliances offered, for which the rates are quoted. The photocopies / Xerox/ fax of these documents will not be considered. In absence of the above original documents, the items offered will not be considered.
28. The tenders must encoded adequate documents to prove their authorization claims and if not university reserves right to accept or reject tender of these agencies. The decision of the university regarding this will be final and shall be binding on the renderer.
29. Undersigned will have to reserve full right to open / consider the second envelope, if and only if university is satisfied with information contents in envelope A. Comparison will be preferably made with same brand and same specifications with at least three tenders. However right to compare one brand with another one with same specifications and event to consider only one tender will be reserved with the undersigned and bind on the tenders. The decision of the university regarding this will be final and shall be binding on the renderers.
30. The quantity of equipments/ instruments in this tender is subject to variation according to the actual requirement of Departments/College /Research Station of this University. The quantity may vary in case of competitive market rates. The right to enhance or reduce the quantity of any tendered item(s) and right to accept/reject whole or part of the tender, without assigning any reason, whatsoever, is reserved by the undersigned the decision of the undersigned shall be final and binding on the renderers’.
31. The respective head of the office also reserves the right to accept or reject the supplies in full which do not strictly stick up to the specifications.
32. The undersigned reserves the right to accept or rejects higher version of equipments/ Machinery or any other items under the same terms and conditions and the same price quoted by the renderer.
33. The bill should be presented in triplicate in the on acceptance of these terms and conditions by the users tender’s name of the respective authority as quoted in final supply order. For any delay in payment (interest or any kind of compensations) the university will not make any extra payments. This contract will be given as per the terms and conditions mentioned above, agreement made and the provisions content in MAU account code 1991. Delay in supply within the prescribed time limit or the extended time limit making of supplies not up to the standard specifications and performance or non observance or non acceptance of these terms and conditions by the tenders shall

constitute breach of contract and the security deposit of the renderers shall be forfeited by the university decides other action or reduction bills of supplies and other legal action and finally the decision of the university shall be binding on the renderers.

34. The committee will finalized the rates only for items. The supply order and payment of bill will be rest with intender/ concerned users/ college concerned depending upon the availability of funds with them
35. The right to accept/reject whole or part of the tender or all the tender without assigning any reason thereof is reserved by the University.

Chairman,
Central Rate Contract & Purchase Committee,
Director of Instruction & Dean (F/A),
VNMKV, Parbhani

APPENDIX-I

**Vasantryao Naik Marathwada Krishi Vidyapeeth, Parbhani
List for equipments/instruments to be purchased under floating tender-2013-14**

Sr. No.	Name of the instrument / equipment	Specification
1.	Nitrogen generator for MAP system	Continuous utility and efficiency development requires constant of nitrogen. Cylinder facility creates barrier for continuous running of instrument
2.	Digital resistivity meter	Receiving: Voltage: $\pm 6\text{ V}$, $\pm 1\%$ $\pm 1\text{LSB}$ Measurement accuracy: If $V_p \geq 10\text{mV}$, $\pm 5\%$ $\pm 1\text{LSB}$; if $V_p < 10\text{mV}$, $\pm 1\%$ $\pm 1\text{LSB}$; If $V_p \geq 10\text{mV}$, $\pm 5\%$ $\pm 1\text{LSB}$; if $V_p < 10\text{mV}$, $\pm 1\%$ $\pm 1\text{LSB}$; Input impedance: $\geq 50\text{M}\Omega$ Measurement precision of apparent polarizability: $\pm 1\%$ $\pm 1\text{LSB}$ SP compensation range: $\pm 10\text{V}$ Current: 6 A , $\pm 1\%$ $\pm 1\text{LSB}$ Measurement accuracy: if $IP \geq 10\text{mA}$, $\pm 5\%$ $\pm 1\text{LSB}$; if $IP < 10\text{mA}$, $\pm 1\%$ $\pm 1\text{LSB}$ Suppression: over 90Db for 50Hz industrial frequency (common mode interference or differential mode interference)
3.	Digital Water level indicator	For measuring water level fluctuations in well/bore up to 100 m Resistant to solar radiation and other weather effects, Graduated in cms with sensitive buzzer.
4.	Double ring Infiltrometer with metal hammer	Ring diameter: 75 cm & 50 cm with iron hammer with graduate scale .
5.	Consistency Limit Apparatus	Standard dimensions for determination of consistency limits of soil.
6.	Core Cutter apparatus	Standard dimensions for determination of field (in-situ) bulk density of soil.
7.	Point gauge	Water level Measurement channel/ furrow
8.	Top Pan Balance	Capacity : 500 gm, Accuracy 0.01 gm / Capacity : 5000 gm Accuracy 0.1 gm / Capacity : 20 Kg Accuracy 0.1 gm
9.	Moisture boxes	(Aluminium)
10.	Measuring tape (Metric) Metallic	30 m length, 50 m length Measuring tape (Metric) steel 5m/15m length

Sr. No.	Name of the instrument / equipment	Specification
11.	Electronic Runoff Measuring unit	For measurement of 30 cm stage.
12	Water Bath Rectangular (Double Walled) Thermostatic Model	Internal Dimensions (LXWXD) : 300x250x100mm No.of Holes: 6 Holes of 75 mm Dia Capacity :8 ltrs, Heating Load: 1.0 KW Temp. Controller: hydraulic type capillary Thermostat Temp. Range : From ambient to 100°C+_ 0.5°C Stirring Device : Available with stirring arrangement with the help of FHP stirrer. Temp.Display : Thru L- shaped prismatic thermometer Diffuser Shelf : Heater protective cover made of stainless steel.
13	pH- Meter Microprocessor Based	With 16x2 line alphanumeric LCD Display with automatic Temp. compensation, Temp. indication auto & manual points ph calibration 4.00, 7.00, 9.2 & 12.45. Supplied complete with combined ph electrode, temp. probe, electrode stand, buffer solution, dust cover and manual.
14	Television all make	Full HD with Edge LED Ex 430 series Size : KLV-40 (102 cm), wall mount, height definition panel (1920 x 1080) Bravia Engine 02, 3000 : 1 on screen contrast, min 33000 : 1, Dynamic contrast
15	Digital lux meter	Range : 0-50,000 Lux, Sampling time: 0.4 second, Display: 13mm (0.5") LCD, Sensor probe: 82 x 55x 7 mm, Power supply: DC 9v battery, Operating humidity: < 80% RH, Operating temperature: 0 to 50 C, Dimension: 108 x 73x 23 mm, weight: 160g
16	Digital Anemometer	Displays, Controls, Alarms, Data Loggers, E-mail Alerts, Text message Alerts, Available at 916.5 and 868.35 MHz
17	Techo Meter	Digital Handheld Tachometer (Contact and non- Contact Type) with Laser Range: 10 to 99,999 R.P.M (Non- Contact Type) 0.5 to 19,999 R.P.M (Contact Type)
18	Techo Meter	Digital Handheld Tachometer (Contact and non- Contact Type) with Laser Range: 10 to 99,999 R.P.M (Non- Contact Type) 0.5 to 19,999 R.P.M (Contact Type)

Sr. No.	Name of the instrument / equipment	Specification
19	Precision Force and Torque measurement Instrument	<p>(A) Force Measurement Principle of operation : Wheat-stone Bridge Safe Over Load: 125% of Rated Capacity Maximum Over Load : 150% of Rated Capacity Fatigue Rating : 10 E6 Full Cycles Excitation Maximum: 10 VDC Sensitivity: 2 mV/V Temperature Range: +10 Deg. C. to +50 Deg. C. Range: 3000 Kgf 3 ½ LED Displays OR LCD Display Single Channel Set Points & Outputs Voltage & Current Outputs Peak hold RS 232 / Centronics Outputs Remote Inputs etc. Operating temperature : +10 Deg.C. to +45 Deg.C. Power Supply: 230 Volts AC, 50 Hz., Single Phase Operated</p> <p>(B) Torque Measurement Principle of operation : Strain Gauge Wheat-stone Bridge Principle Safe Over Load: 125% of Rated Capacity Maximum Over Load : 150% of Rated Capacity Fatigue Rating : 10 E6 Full Cycles Excitation Maximum: 10 VDC Sensitivity: 2 mV/V Temperature Range: +10 Deg. C. to +50 Deg. C. Range: From 1 Kg-m to Kg-m in various Ranges & Models 3 ½ LED Displays OR LCD Display Single Channel Set Points & Outputs Voltage & Current Outputs Peak hold RS 232 / Centronics Outputs Remote Inputs etc. Operating temperature : +10 Deg.C. to +45 Deg.C. Power Supply: 230 Volts AC, 50 Hz., Single Phase Operated</p>

Sr. No.	Name of the instrument / equipment	Specification
20	Digital Rockwell hardness tester	<p>Digital ROCKWELL Hardness Tester Confirm to IS: 3804-1988 BS:891 parts 1&2, ASTM: E 18 for Rockwell Test Technical Specification : Load kgf : 60, 100 & 150 Initial load Initial load kgf: 10 kgf Max. test heigh : 230mm Depth of throat, : 200mm Max. depth of elevating: 240mm Size of base : 171 x 423 mm machine Height 635mm Drive motor HP 0.33 -415 v/p Standard Accessories : Testing table 200mm : 1 pc Tegting table V groove 70mm : 1pc, Ball holder 1/ 16mm : 1pc Test block HRB : 1pc Test Block HRC : 1 pc Allen spanner – 4 piece,</p>
21	Bulk Density Apparatus	<p>Bulk Density apparatus (Ring-Blade Type)</p> <p>Key Features</p> <ul style="list-style-type: none"> • Non-corrosive air tight container • Bulk density bottles • Sturdy and strong valve • Chassis • Durable Stainless Steel structure • Provide reliable data for experiment • Sand Funnel of high capacitance <p>Technical Specification</p> <ul style="list-style-type: none"> • Size of Funnel: 135mm • Capacity of Sand Bottles:4L • Electronic Balance Calibration:± 5g

Sr. No.	Name of the instrument / equipment	Specification
22	Grain Moisture Meter	<p>Compact Universal Digital Data Logging Moisture Meter</p> <p>Commodity calibration: Food Grains, Pulses, Oil Seeds, & Vegetables Seeds etc. Range : 3.5 to 40% Consistency: ± 0.2 %</p> <p>Principle of measurement: Resistance</p> <p>Temperature Compensation : Automatic with PT-100 temperature sensor. Error Conditions: Under Range, Over Range etc.</p> <p>Display : 2 x16 character alphanumeric LCD display.</p> <p>Low Battery Indication : Displayed on LCD display, No display of Moisture percentage in case of low battery.</p> <p>RS 232 Port: It has the facility to print Moisture %age, Temperature, Commodity name, date and Time through printer. Recorded data can be transferred to PC through RS 232 port.</p> <p>Calibration check & Error Correction : Provision to check the calibration as and when desired as per 5.3 clause of IS: 8824-1978 Part-1. Correction of deviation from factory reading against Standard reference & Temperature calibration can be done in a very user friendly way.</p> <p>Auto Calibration: Automatic on LCD using a simple key operation. (Without opening the equipment or using a screw driver). When reading in a moisture meter gets disturbed with a passage of time there is a provision of checking this and correcting this to factory settings. Provision for recalibration. With standard calibrator is also given.</p> <p>Hot keys : Hot Keys for three crops which are programmable</p> <p>Keypad : Membrane type keypad</p> <p>Averaging: Customer can have averaging of number of readings of moisture Percentage through a key. Recall Facility : Last reading Recall facility. Curve Programming : Curve programming for all commodities</p> <p>New Commodity Calibration : It has facility to calibrate new commodity.</p> <p>Data Logging: It has facility to record data, which includes Moisture percentage, Temp. Commodity Name, Commodity Code along with Date & Time. Data storage capacity : It has memory of 200 readings. Power : 9V DC Adaptor for AC mains or 6 (R-20 type) dry cells. Size (LxBxH in cm) : 32.5cm x 18cm x 25.9cm Weight : 12.2 Kg. (Approx)</p>

Sr. No.	Name of the instrument / equipment	Specification
23	Mechanical Dynamometer	250 mm Dial Size 0 to 50 kg (2.5 Kg graduation) 0 to 250 Kg (10 Kg graduation)
24	Digital Load Cell with Indicator	0-5Ton Load Cell (Pan Cake Tension) Load cell with 3m long cable , Tension base & Hooks Dimensions as per 9400795 , 9400456 & 9400457 Model : SI-4100 Digital Load Indicator (Hand Held type) 3½ digit display, Resolution 1Kg ,Peak Hold for Tension Load with reset facility ,Inbuilt 12VDC battery operated ; (One Hr Battery backup – Light weight if possible) Mains 230 operated battery charger ,
25	Digital Vernier Calliper	Digital Vernier Calliper: 300mm , LCD display, 1.5 m/s measuring speed
26	Digital Micrometer	0-25 mm and 25-50 mm with absolute and incremental mode inch/mm swithable
27	Digital Fuel Consumption Meter	Fuel consumption meter (Digital) The Digital Flow Meter provides the following measurement data: instantaneous flow, integrated flow, interval averaged flow (over a set time interval), and, using an engine rpm signal, it is possible to measure fuel consumed for stroke of the engine. A remote box is provided for test start & stop. Additionally, the instrument is equipped with BCD (binary coded decimal) output and a GPIB interface is available as an option. Features & Functions: <ul style="list-style-type: none"> • Excellent accuracy up to $\pm 0.2\%$, $\pm 0.01\%$ full scale

Sr. No.	Name of the instrument / equipment	Specification
28	Spray Pattern meter	<p>Spray Patternator as per BIS Test codes M.S. stand for Nozzle & Pipe assembly with scale for distance measurement between two sprayer</p> <ul style="list-style-type: none"> • Patternator tray • Nozzle spray – 2 nos. • Filter • HTP pump • A.C. 3 phase 1500 rpm 1 HP Motor • Pressure gauge – 1 no. • Pressure Regulator • Measuring Cylinders (Plastic)/ Glass tubes (40 Nos.) • Starter • Main switch • Tray stand • Sparyer Assembly. • Sump tank for recirculating • Hand valves, Tank FRP coating in side • V angel Test pieces of SS material of Size : 1950 x 1200mm
29	Digital Sound level meter	<p>Sound Level Meter Digital Three decibel ranges for greater precision: low Range : 30-130 dB alkaline battery and carrying case</p>
30	Sound level calibrator	<p>Sound pressure level : 94 dB +/- 0.75 dB And 114 dB +/- 0.9 dB</p>

Sr. No.	Name of the instrument / equipment	Specification
31	Emission Gas Analyzer	CO,CO2, O2 and Oxides of N2 and HC Non dispersive infrared for CO, CO2, and HC , Sensors for O2 and NO Range : CO: 0 to 15%, HC 0 to 30000 ppm as hexane O2 : 0 to 25% co2: 0 to 20%, NO0 to 5000 ppm Resolution: CO: 0.001%, O2,CO2: 0.01% , HC and NO: 1 ppm Display: 20 x 4 backlit LCD display Additional 8 mm multi colour LED for each gas for distance view Membrane keypad 16 keys Start up time : 1 min from power ON, Full Accuracy after 5 minutes Zero time: Less than 30 seconds Intrinisci Response time : <15 Seconds Gas Flow rate: 1 ltr/min Selection of fuel type Automatic fresh air intake during Auto zero RS232 interface for computer Line leak check facility Lamba for petrol and CNG Engines
32	Digital Manometer	10,000 to +10,000 Pa -2,000 to +2,000 mbar -1,000 to +12,000 mmH ₂ O CO : 0 to 500 ppm Special Gas network sealing
33	Digital Relative Humidity Meter	4-95 % measurement range
34	Temperature Sensor with Digital Indicator	Digital Temperature indicator cum controller Resolution : 0.1 degree C Range: 0 to 200 degree C Sensor : PT -100 Fitted in M.S cabinet with output socket of 15 ampere complete with cord and plug-pin

Sr. No.	Name of the instrument / equipment	Specification
35	Air Flow Meter	Digital Anemometer AM-4201 with data holder Range : 0.4 to 30 m/s 1.4-108 km/hr 80-5910 ft/min 0.8-58.3 knots/hr
36	Eye Flicker Meter	It should input voltmeter, weighing filters to take into account light-eye-brain chain and a in-built statistical processing system.
37	Anthropometer	<p>Skin fold Callipers: (Fat Callipers) Aluminum casting body with very accurate specially calibrated dial gauge. Least count better than 0.1 m.m. Maximum opening 50 mm. Specially designed tension spring ensures constant pressure for any angle of opening. Supplied with detailed manual giving procedure of measurement & required tables for calculations.</p> <p>Electronic Body Fat Monitor: For measurement of percentage of body fat. Very easy to use, gives digital display of body fat percentage within seconds</p> <p>Shoulder breadth (Sliding) callipers. Range upto 75 cms.</p> <p>Chest depth (Spreading) Callipers. Range upto 30 cms</p> <p>Stadiometer (for height) range 2 meters.</p> <p>Compact Indicating Callipers. It is used for inside and outside linear measurements upto 15 cms. Useful for knee, Ankle and wrist Diameters.</p> <p>Anthropometric Rod. - It has 4 easily detachable parts with a slider. Can be used in desired length as calipers with the help of a special end piece. It can also be used for measuring height. Maximum range 2 meters</p>
38	Deep Freezer	Quick Freezer Horizontal model / Vertical model (Temp. upto-20°C) 265/365 liter capacity inner chamber of stainless steel with built in Digital temperature indicator cum controller having audio visual alarm.
39	Ethylene Analyzer	Range- 0-100 ppm Ethylene Resolution: 0.1ppm Temp. range 0-35 deg c. Pump Flow: Typically 0.7 l/min with three years AMC
40	Head Space Oxygen & Carbon Dioxide Gas Analyser	Built-in rechargeable battery includes module for O ₂ /CO ₂ Analysis with Data logging facility and rubber septums.
41	Soil moisture meter	Dimension :meter body:172 X 40 X40 mm. probe body : 220mm X Dia. 10 mm total length (meter+ probe): 392 mm, LCD size: 28 mm X19 mm range 0% to 500% moisture

Sr. No.	Name of the instrument / equipment	Specification
42	Digital lux meter	Spectral radiation, photometric accuracy, light intensity etc.
43	Digital barometer with altimeter	Resolution 1 meter / 1 feet Barometer : 1 HP/mbar, Humidity : 1% RH Dimension : 177 (H) x 98 (W) x 39 (D) mm etc.
44	Spectrophotometer digital	Spectral bandwidth 1nm, wave length resolution 1 nm, Display 3 ½ LED, operating temp. range 5 to 45°C, Dimensions 490 x 300 x 165 mm etc.
45	pH System	pH range: 0-14, Display : 8 digits, 7-segment,.LED - 3 for temp and 5 for pH, Auto polarity, decimal point. Power supply ; 230 V AC Accessories : 0/14 pH special glass/reference electrode, temp probe, electrode stand and manual (2)
46	Conductivity- TDS Meter	Microcontroller based, Conductivity range 0.1 uS to 100 mS and TDS range 0.1 ppm to 100 ppt Cell constant acceptable from 0.1 to 5.0 , auto temperature compensation 0°C to 100°C with PT sensor, Display 7 digits, 7segments LEDs with automatic decimal point selection st assesaries : Conductivity cell, Temp probe (PT-100), stand and clamp.
47	Flame Photometer with compressor	For determination of four elements with range (K(10-100ppm),Na(10-100), Ca(100-300) and Li(2-50 ppm), Filters : Na (589 nm) , K(768 nm), Li (671 nm) Ca(622) Power supply : 230 V, Fuel gas : LPG Specifications for compressor : Pressure : 0.0 to 1.0 kg/cm ² Dia : 255(w)x205(H)x 210(D)mm Accessories: Ignition lighter, atomizer, Burner grid, Air tube fitted with coupling, Gas tube, drain pipe, Computer system (LCD monitor, Key board, CPU, mouse and cords)

Sr. No.	Name of the instrument / equipment	Specification
48	Double glass distillery	Double distillation unit, double stage, with quartz boiler, quartz condenser and built-in quartz heater, vertical panel mounted output 2 lit per hour, quto cut facility.
49	Rotary shaker (Horizontal)	Bench model unit, Heavy Platform fitted with stainless steel holder to hold Conical flasks 50 to 250 ml capacity, Platform mounted on ball bearing cranks shafts, Diameter of orbit – 2” approx, Assembly mounted on rental casing , motor coupled by means of V belt with pitch pulley, 8 spring holds the platform
50	Hot Air Oven	Outer wall CRC sheet painted white stoving enamel ANODISED ALUMINIUM or POLISHED STAINLESS STEEL with ribs on walls, 75 mm thick high grade glass wool insulation, Nichrome heating element distributed equally all round for uniform temp inside the chamber, double walled with inner wall of aluminum, ventilation provided on both sides and at top with adjustable opening,, solid state electronic digital temperature indicator com controller, , 50 centigrade to 250 degree centigrade temperature range, thermostatic controlled knob, main switch.
51	Digital Hand refractometer	Measurement range-0 to 85 brix
52	Reverse Osmosis System	15, 25, 500 liter / hr capacity Ro systems with tank (lab),
53	Xerox machines	<ul style="list-style-type: none"> a) Digital copier with printer (size A-3) minimum copying speed (cpm):15/15,per size (original/image) A3/A3,Ram(MB): 16Byepass:sheet, zome:50TO200%, category: Duplex, networking feature :yes. b) Digital multifunctional copier with printer (size A-3)minimum copying speed (cpm):25/25,per size (original/image)A3/A3,Ram hard disk (MB):128 with 20GB HDD, Bye pass:50 sheet, Zoom category: Duplex c) Minimum copying speed (cpm):15/15,paper size (original/image) A3/A3, Ram(MB):16 Bypass:50 sheet,zome:50TO200%, category: Duplex, networking feature :yes. d) Minimum copying speed (cpm): 25,paper size (Original/image) A3/A3,RAM (MB) :64 Bye pass
54	Portable leaf Area Meter Leaf Av + window based Leaf Sw	Portable leaf Area Meter with tablet pc with high resolution camera, Leaf holder, advanced window based leaf analysis software

Sr. No.	Name of the instrument / equipment	Specification
55	Green House	Size 10 mtr. x 24 mtr. Structure made of GI sq. pipe 44 mm. x 44 mm. and 38 mm. x 38 mm. and 32 mm. x 32 mm. covering with UV Stab. Rigidex film 120 GSM. Cooling system consist of cellulose celdex pad 100 mm. thick with G.I. sheet frame and FRP Distributor (as per specification)
56	Shade Net House	Size. 10 mtr. X 24 mtr. Structure made of 40 mm., 32mm., 25 mm., GI pipe duly bended in required shape. Structure would be grouted up to 85 cm. Depth in c.c. covering with UV stab. Agro shedding Net 50 % or 70 %
57	Peristaltic Pump Model PP-201 VT (Variable Speed) With programmable timer for above with auto / manual switch on / off time	Pump type: Dual Rollers Tube size: 1 mm to 8 mm Bore size, 6 mm Wall Thickness RPM: 1 to 200 RPM Flow Rate: 0.8 ml to 1600 ml per min (78 Lit / per hr.) Display: 3 digits LED Display Accuracy: +/-1% Direction: Reverse flow capability Stop: Instant Stop No. of Motors: One motor Discharge Pressure: 2 Bar. Max. Head: 30 Feet
58	Mechanical shaker	Platform size 65x65 cm 0.5 H.P. Flask holding capacity 25
59	Gel Documentation	Super cooled CCD; image resolution 4 megapixels; Maximum image area- 25 x 26 cm; Emission filters- 6 positions (5 for filters, 1 without filter for chemiluminescence)

Sr. No.	Name of the instrument / equipment	Specification
60	International pipette	20 ml Glass international pipette with wooden stand
61	Dispersion cup(For separation of sand, Silt and clay)	Stainless steel Cup Capacity 1 lit.
62	Steel water distillery	4 Lit./hr capacity
63	Glass Distillery (single)	4 Lit./hr capacity
64	Brass sieves	0.56 um 6”diameter and 0.02 mm 6”diameter, 2.00 mm 6”dia meter
65	Suction Pump	Suction of saturation pest extract
66	Thin Clients	Windows based Thin Clients latest configuration, with latest browser , open office preloaded with monitor, kb, mouse etc. 3 years on site warranty. Pre Configured for Linux XDMCP Connection. Rates quoted with buyback value (including VDU, Thin client base any make) . Brand : VXL or HP
67	100 users unified threat management system	Should support get way level antivirus, antispam , vpn, ips etc.and load balance including three years 24/7 support and subscription charges after warranty period
68	Visual studio (for education purpose)	Ultimate , Premium,and Professional 2013
69	Printer laser jet	Black and white higher resolution A4 size
70	Printer laser jet, ink jet	Colour printer A4 size
71	Laser printer toner (Black & White and colour)	For all models of laser printers
72	MS office academic	latest version , 5,10,15 user license
73	Operating system	Windows 7 , windows 8, professional version (academic) , Red hat enterprise latest version
74	Battery for 10 KVA online UPS	a)12V 100 Ah Maintenance Free Battery with 2/3/5/ yrs warranty with buy back value of old batteries b) 12V 100 Ah lead acid battery with 2/3/5/ yrs warranty with buy back value of old batteries and AMC for warranty period
75	Smart UPS / Online UPS	SRC/Surt SRC 2000XLI-CC/Online Smart UPS 2.0 /5/10 KVA with backup time two hours Pure sine Wave Output, with complete unit dry/wet Batteries, 2 years onsite warranty,
76	Inverter with batteries	875 VA (12 V), 1550 VA (24 V) 1KVA , 3 KVA (48 V)

Sr. No.	Name of the instrument / equipment	Specification
77	Battery for inverter	Laid acid battery 150 AH(12 V) , 180 AH(12 V).
78	Scanner with software	<p>Type : Color Flatbed, Method : Single-pass, color, Light Source : Cold Cathode Lamp, Hardware Resolution : 700 dpi x 1400 dpi, Maximum Interpolated Resolution : 9600 dpi x 9600 dpi, Maximum Scan Size : 11.4" x 17"</p> <p>Speed : Color: 14.7 ms/line, Scan Modes : 24/36-bit color 8/12-bit gray scale 1-bit line art, Scaling : 1% to 1400%, Contrast / Brightness : +/-100%, Data Output : Selectable 36-bit or 24-bit, Hardware Interface : SCSI-2, Operating Temperature : 50° F to 104° F, Humidity : 25% to 85%, Power Consumption : 60 Watts Voltage : 100-240VAC, Frequency : 50-60 Hz, Dimensions : 28.7" x 20.8" x 7.8", Net Weight : 53 lbs,.</p> <p>System Support : Windows 95/98/98SE/ NT/ME/2000.</p>
79	Projectors	LED Based multimedia projectors Resolution:1024X 768 XGA,ANSI Lumen: 2000-2300 zoom and focus audio amplifiers, speakers, double sealed mechanism, low fan noise with ceiling mount and carry bag.
80	Interactive Board	82" diagonal interactive board wall mountable alongwith software & USB powered wired board true multitouch (allow two user writing simultasouly) no driver install for 32 bit / 64 bit window 7 Vista XP, linux mac. Low gloss surface that is optimized for projection. Surface compatible for dry erase marker & easy clean no hot spot keeps the eyes of student & teacher safe trio make size 4x4x6x4 diagonal size 1700mm with board with USB and printer.
81	All in one Desktop	<p>Desk top computer (all in one Desktop) Operating system Windows 8 64 Processor family AMD Dual-Core E Series processor Processor AMD Dual-Core E1-2500 APU (1.4 GHz, 1 MB cache) , Memory 4 GB 1600 MHz DDR3 (1 x 4 GB), Memory slots 2 SODIMM ,Internal drive 500 GB 7200 rpm SATA Optical drive R/W Slim Tray SuperMulti DVD Burner , Display 20" diagonal 16:9 WLED Non-Glare Touch LCD (1600 x 900), Graphics AMD Integrated Graphic Ports : 2 USB 3.0 , 4 USB 2.0. Memory card device: 6-in-1 memory card reader Webcam : Fixed 720p HD low-light Webcam with 2 Microphone Array Audio features: DTS Sound+ Audio (SRS) Keyboard: Wireless Keyboard and Mouse Kit , additional Wired key board & Mouse Network interface : On-board 10/100/1000Mbps (Gigabit) Ethernet Support , Wireless LAN 802.11b/g/n with Integrated Bluetooth 4.0 65W external power supply , Energy efficiency ENERGY STAR® qualified Warranty : 3 years onsite warranty. ANTIVIRUS 3YRS Quick Heal TOTAL SECURITY , CD Media for anti virus & OS</p>

Sr. No.	Name of the instrument / equipment	Specification		
82	Desk top computer	Sr. NO	ITEM	SPECIFICATIONS
		1	Processor:	CORE I3 3220 / i5 /i7
		2	Motherboard	Intel H 61 chipset based OEM motherboard with support for PCI Express x16 graphics port. Motherboard should be ROHS compliant.
		3	BIOS	With support for: Flash, Plug and Play, DMI 2.0, ACPI
		4	Memory:	4 GB DDRIII RAM Memory @ 1333/1600 MHz or better with 2 DIMM slots Expandable upto 16 GB
		5	Hard Disk Drive:	500 GB 7200 rpm SATAII (3Gb/s) Drive with pre-failure alert with 8MB Cache Buffer
		6	Hard Disk Controller:	Integrated On-Board Hard Disk Controller supporting Serial ATA Interfaces
		7	Monitor	19.5" Wide TFT TCO 06 monitor. Monitor resolution to be 1600*900. Aspect ratio of 16:9, response time: 5 ms, contrast ratio: 10mn:1
		8	Key Board	114 Keys or more Multimedia Keyboard Rupee ready isolated keyboard
		9	Mouse	USB/PS2 Optical Scroll Mouse
		10	Network Card	Integrated on board Ethernet Controller 10/100/1000 with PXE support and Remote wake up
		11	Interfaces	1Serial, 1 parallel, Minimum 6 USB Ver. 2.0. (with 2 in front) & Audio Ports
		12	Expansion-Graphics Slots	4 PCI series slots including minimum 1 PCI E X16 slot
		13	Cabinet	MATX Cabinet with atleast 4 bays (2x5.25" External, 1x3.5" External, 1x3.5" Internal)
		14	Audio	Integrated on board ALC 892 or higher Audio Controller
		15	Power Supply	200 W SMPS
		16	Certifications AND Compliance's	ISO 9001: 2000 for OEM Manufacturing, Windows OS Certification, Microsoft certificate of authenticity – COA to have OEM's name, Direct Named OEM and Partner certificate from Intel
		17	Other S/W Tools/Licenses	Single utility software for: Application and data recovery

			Secure data removal (permanent and irreversable)	
			Asset health and tracking software	
			A web based management console that provides a single interface to manage all the systems in a site	
	18	AV	MCAFEE WITH 3 YEARS SUBSCRIPTION	
	19	Operating System:	OEM Windows 7/8 Prof. with recovery media to be preloaded. Vendor must furnish a list of serial numbers of all CoA along with the corresponding list of PC system serial numbers for Operating system licenses which are pre-loaded	
	20	Appliacation Software	MS Office 2010 H & B PRELOADED IN DESKTOP	
	21	CERTIFICATIONS AND OTHER QUALITY DOCUMENTS	GREEN PEACE RATING OF 5.0 AND ABOVE	
			SHOULD HAVE SHIPPED MORE THAN 4 LAKHS OF DESKTOP DURING CALENDER YEAR 2012	
			UL AND FCC CERTIFICATES	

Sr. No.	Name of the instrument / equipment	Specification	
83	LAPTOP	Windows 8, Intel Core i3-3110M Processor, 4 GB RAM / 1 TB , SCREEN/ 15.6", TFT /14" TFT (mention rates for both separately) Warranty : 3 years onsite warranty. ANTIVIRUS 3YRS Quick Heal TOTAL SECURITY , CD Media for anti virus & OS	
84	LAPTOP	Processor	Fourth Gen Intel® Core™ i5-4200U processor (3 MB L3 cache, 1.60 GHz with Turbo Boost up to 2.60 GHz, DDR3 1600 MHz, 15 W) / Intel® Core™ i3-4010U processor (3 MB L3 cache, 1.70 GHz, DDR3 1600 MHz, 15 W)
		Graphics	Intel® HD Graphics 4400 with 64 MB of dedicated system memory
		HDD	500GB 5400 RPM
		Menory	4Gb Up to 8 GB of DDR3L system memory
		Display	14" HD 1366 x 768 resolution
		Ports Required:	1USB 3.0 and 2 USB 2.0
		Network interface	Wifi b/g/n, BT 4.0
		Camera	Built in webcam 1280 x 720 resolution
		Weight	2.1KG or less
		Battery Backup	6 hours battery backup
		System compliance	EPEAT GOLD Registered, Energy Star

Sr. No	Name of the instrument / equipment	Specification
85	LAN Work	<ul style="list-style-type: none"> i) Wireless access point 100/1000 mbps indoor ii) Wireless Access point 100/1000 mbps outdoor with all required accessories commissioning installation charges & 1+3 yrs onsite amc, mention rates for uni directional & omni direction antenna separately iii) UTP cable LAN Work <ul style="list-style-type: none"> 1. UTP cable laying , Casing , Capping & Crimping including D-Link CAT 6 Cable charges Unit per meter 2. Information Outlet – Dlink along with fixing & all other charges Unit : Nos 3. UTP cable laying outdoor including D-Link CAT 6 Cable charges , civil work , Conduit HDP pipe, digging depth 2 feet , Unit per meter

Sr. No	Name of the instrument / equipment	Specification	
86	Tower Server Latest Configuration	Parameter	Specifications
		Processor	Server should be configured with two four core E5-2407 2.2Ghz or higher Processor
		L3 Cache	10 MB
		Chipset	Intel C600 series chipset
		Memory	Server should be configured with 16 GB of ECC DDR3 Memory using 2 numbers of 8GB 1333 MHz RDIMMs and scalable up to 192GB memory
		DIMM Slots	Server should support 12 DIMM Slots memory configurations
		Memory Property	Server Memory should support ECC,Chipkill, memory mirroring and memory sparing.
		Hard Disk Drives	Server should be configured with 2 * 300GB 10K SAS 6Gbps 2.5in Hot Swap HDD scalable up to 8 Hot Swap 2.5 inch drives. Server should support intermix of SAS & SATA.
		RAID Controller	Server should be configured with Raid controller with 512 MB cache and should be capable of performing RAID 5.
		Optical Drive	Server should be configured with single DVD-ROM drive
		Graphics Controller	16MB Memory
		Gigabit Ethernet Ports	Server should be configured with 2 Gigabit Ethernet ports
		PCI Slots	Server should support minimum 6 PCIe slots with dual processor configuration.
		Ports	Server should support 6 Number of external USB 2.0 ports as well as two Internal USB ports for installation of Hypervisor key and internal tape support, also should support two Video ports and an Ethernet Management port
		Power Supply	Server should be configured with One 550W power supplies with 80 PLUS Platinum certification
		Redundant Cooling Fans	Server should be configured with minimum of three simple-swap redundant cooling fans. Fans should have N+1 redundancy so that failure of a fan should not impact the cooling inside the server chassis and provide availability for business-critical applications
		Failure Alerting Mechanism	The server should be able to alert impending failures on server component to administrator in order to avoid any downtime on the server due to actual failure
		Management Functionality	Should support integrated management , Server should be supplied with OEM Server Management software
		Form Factor	4U or Less
		OS Support	Latest version of Microsoft windows, Redhat, Suse Linux, Vmware 5.x
		Warranty	3 Years Comprehensive Onsite Warranty

Sr. No.	Name of the instrument / equipment	Specification
87	Assmann's Psychrometer Thermometers – Two mercury thermometers Measuring range : from 0-50 ⁰ C	Equipment for the accurate measuring in a few minutes of the environmental temperature and relative humidity (RH%) Weight -1.5 kg, Dimensions-452 x 80 x 110 mm, Power supply, Battery 3 V DC
88	Aneroid barometer	Dial size 100 mm Walnut frame size 150 mm, Weight – 450 gm, Classic design, German make
89	Fortins barometer	Nominal bore of mercury column 8 mm, Normal range 870/1100 mb and mm, Weights Instruments 7.00 Kgs
90	Barograph – material	a) For base and cover – Light and durable like aluminium or glass reinforced polyester b) For remaining parts – Brass, aluminium cabinet measures 7-3/4" W x 5"D x 5-3/4" H, Polished brass platform, battery powered, 7- day chart drum and four chromed aneroid cells, a felt pen
91	Sling / Whirling Thermometer	Size : 240 mm x 50 mm approx, weight : 150 gms approx, Range : 5 to 50 ⁰ C
92	Measuring cylinder	20cm 2 for measuring rainfall
93	Tipping bucket type rain gauge-3.2	Collector area : 324 sq.cm, Rim diameter : 203.2 mm ± 0.2 mm, Sensing : Reed switch, Resolution : 0.5 mm or 1 mm, Accuracy : ± 3% Level : Bull's eye spirit level fitted on mechanism
94	Thermo hygrograph base and cover shall be either a light or durable metal, e.g. aluminium or glass reinforced polyster,	Accuracy ± 1 ⁰ C throughout its working range of -20 ⁰ C to + 60 ⁰
95	Spray nozzles	Hollow cone, full cone flat fan
96	Dielectric acquameter for soil moisture monitoring	Range 0 to saturation, volumetric water content, Measurement time – 10 ms, Accuracy ± 3% typical, Resolution -0.02 m ³ /m ³ , Brand : Dacagon Devices, P.S.P. Soil search equipment (P) Ltd 62/J/1, Maharaja Tagore Road, Kolkatta

Sr. No.	Name of the instrument / equipment	Specification
97	Hot air oven	Outer epoxycoated, inner body of stainless steel with 3 Shelves with air circulating fan and digital temp. control temp. range ambient room temp. to 250 ⁰ C size 24x24x36 inches
98	Muffle furnace	Outer epoxycoated, Temp. range ambient room temp. to 350 ⁰ C size 18x18x18 inches
99	BOD machine	Outer epoxycoated, inner body of stainless steel with 3 Shelves. Acrylic door, door locking system Temp. range 5 ⁰ C to 55 ⁰ C size 24x24x36 inches
100	Gel Documentation system	System should be able to image fluorescent DNA, RNA, Protein, etc* High Resolution HD camera 5 or above megapixel resolution*Data acquisition: 12 bit*Motorized control for zoom *Software controlled view of DNA gel using SYBR Green stain *UV and White light Source *Fire wire connectivity *Software for imagine and analyzing 1-D electrophoretic gels 8 Rapid molecular weight determination, VNTR and Phylogenetic tree formation *Comparative dendrogram creation *Branded laptop 2GB RAM, 500 GB HDD, DVD Drive with 23" LED, windows 8 compatible for running the 1-D software.
101	Water Purification system (For PCR analysis)	*Nuclease free water for PCR analysis *Type 1 water should accept feed water pressure from 0-5 bar *Should have 2 in 1 pre treatment cartridge *Should have RO technology with recovery rate of 20 lit/hr*de-ionization cartridge followed by conductivity measurement *100 lit PE tank Vent filter with CO2 UV submersible lamp *Backlit graphical LED display *Flow 20 lit/hr (Minimum 3 stages)
102	Mixer Grinder	4 jar 600W, , with Blender Jar
103	SOXHELET Extraction Unit	(6 test unit with glass parts and clamps
104	Kjeldal distillation & digestion combined unit	Mantle type fitting systems, (Two sets of Mantle type one for digestion and one for distillation, Complete with condenser rack, fumeduct, Capacity 6 taste MST bullet stand
105	High Speed Refrigerated Centrifuge	Max. Speed: 22,000rpm Max. RCF: 52,490Xg Max. Capacity: 4,000mL
106	Milking Machine	cluster assembly type
107	Bomb Calorimeter	Bomb capacity 300ml with high pressure valve With bomb support water jacket and combing lead for colorimeter vessels with pressure gauge bomb with gelatine capsule
108	BOD Incubator	Micro processor controller with automatic voltage stabilizer Size 405X405X405 mm Volume 2.4 cuft. Capacity 65 lit

Sr. No.	Name of the instrument / equipment	Specification
109	Refrigerator	165 lit , 235and 320 lit (capacity) double door type
110	Automatic Scrubber Driers	Mains Operated or battery driven automatic scrubber driver. This machines are handy mains operated or battery operated driven, scrubber-drivers for quick economical & effective cleaning of all hard floors. The extremely compact & robustly constructed machine guarantees electric brush charge straight squeegee as well as easy access to the machines ensure low running cost optimum cleanness & ease maintenance.
111	Root multiclean machine	<ol style="list-style-type: none"> 1. Hakofilper for swipping : working width : 460 mm, Height : 900 mm 2. Roots scruber and dryer : working width : 350 mm working speed : 04 km/hr. Brush diameter : 100 mm, tank volume : 10 lit 3. Wet and dry mops with trolleys : For dry swiping, wet mopping, compact handy and efficient with trolleys.
112	Xerox machine tonner	For all models of Xerox machine (Black & White) printing.

APPENDIX-II

Vasantrao Naik Marathwada Krishi Vidyapeeth, Parbhani
List for repair & AMC of equipments/instruments for 2013-14

Sr. No.	Name of the instrument / equipment	Specification
1	Protein Estimation Unit	Make : Pelican, digestion distillation and Auto titration unit
2	B+fermenter,	Make : Biostat
3	RO system	Make : Sartorius
4	HPLC	Make : Perkin Elemier
5	Double beam spectrophotometer	Make : Systronics
6	Gel documentation system	Make: Alpha Innotech (protein simple) Specification : for imaging and saving of gel pictures for further analysis
7	Master cycler (gradient)	Make: Eppendorf Specification : 96 well with gradient temp.
8	Ep gradient S	Make: Eppendorf Specification : 96 well without gradient temp.
9	Centrifuge 5415R	Make: Eppendorf Specification : Refrigerated centrifuge , with rotor for 0.5,1.5 ml tubes
10	Eppendorf centrifuge 5810R	Make: Eppendorf Specification : Refrigerated centrifuge 45ml tubes
11	Mastercycler personal	Make: Eppendorf
12	Centrifuge 5415R	Make: Eppendorf Specification : Refrigerated centrifuge , with rotor for 0.5,1.5 ml tubes
13	Centrifuge 5415R	Make: Eppendorf Specification : Refrigerated centrifuge , with rotor for 0.5,1.5 ml tubes

Sr. No.	Name of the instrument / equipment	Specification
14	Table top centrifuge 5810R	Make: Eppendorf Specification : Refrigerated centrifuge 45ml tubes
15	BioRad gel document	Make: Biorad Specification :sensitive camera for picturing sharp gel photos
16	BioRad mycycler	Make: Biorad Specification : Gradient PCR, ramping temp. sensitive
17	Biometra (T- Gradient)	Make: Biorad Specification : gold plated thermo block for amplification of DNA
18	Centrifuge	Make: Hitachi Specification : Centrifuge solutions at 80,000 rpm
19	Glassware washer	Make: smeg Specification : Use to wash glasswares with pressure
20	centifuge	Make: sorval rc 5c plus Specification : Centrifuge solutions at 14000 rpm
21	Ult freezer (4 ⁰ c)	Make : Heal Force Specification : Storages of Mol. Bio. reagents
22	Incubator	Make: poojalab Specification : for incubation of cultures related to micro organisms
23	Milique water (Mineral free water)	Make: sartorius Specification : to provide mineral free water for tissue culture and Mol. Bio. Experiments.

Sr. No.	Name of the instrument / equipment	Specification
24	Distillation unit	Make: riviera Specification : to provide distill water for tissue culture and Mol. Bio. Experiments.
25	Ice Flaker	Make: Poojalab Specification : Use for making ice from tap water
26	Shaker	Make: Riviera glass pvt. ltd Specification : It revolves at 150 to 200 rpm, help in maintaining colonies
27	Orbital Shaker Incubator	Make: Remi industries Specification :It revolves at 150 to 200 rpm, temperature control
28	Jouan freezer -70 ⁰ c	Make: Jouan Specification : Storages of Mol. Bio. Reagents
29	Digital flame photometer	Burner unit121 Sr.no-4730 FPM compressor unit122 Sr.no-7431
30	Color Flex EZ Color Flex EZ 45°	Spectrophotometer (110V & 220V) Color Flex Sample Cup set (45/0 only) Branded colour Printer
31	Cooling Centrifuge	Make : Remi Stable speed output, High speed, wide variety of rotors & reduction adapotors, precise temperature control up to 20°C, pre-cooling feature, Fast spin feature, calibration window on lid for speed (rpm)
32	Ethylene Analyzer	(Bioconservation, Spain) Range- 0-100 ppm Ethylene Resolution: 0.1ppm Temp. range 0-35 deg c. Pump Flow: Typically 0.7 l/min with three years AMC

Sr. No.	Name of the instrument / equipment	Specification
33	Deep Freezer	Make Remi : Quick Freezer Horizontal modal (Temp. upto-20°C) Model RQF-265,265 liter capacity inner chamber of stainless steel with built in Digital temperature indicator cum controller having audio visual alarm.
34	Head Space Oxygen & Carbon Dioxide Gas Analyser (Bioconservation, Spain)	Built-in rechargeable battery includes module for O2/CO2 Analysis with Data logging facility and rubber septums.PBI Dansensor, Denmark
35	UV Visible spectrophotometer	Make : Systronics PC Based Scanning UV-VIS. Spectrophotometer (200- 1000 nm) (Bandwidth- 2 nm)TYPE-119 (including operating software. But without PC & Printer with colour monitor) with instruction manual
36	Mini Tray Drying Oven MSW-214	MAC Model No. MTD-224 (SAD), Internal size- 605x605x605 Tray capacity- 9 As per specification
37	Water Analyser Kit	Systronic Make Model No. 371
38	Spectrophotometer	Make Chemito source Thermofisher tech
39	LAN Work	AMC for OFC maintenance At University campus underground OFC cable of Approximate 2.8 KM distances, terminated at 4 points is available. Trouble shooting charges, OFC fault rectification including all labour charges, liabilities, splicing work, civil work, spare parts, required for problem rectification. Three compulsory visits for regular maintenance and visit on call basis from University.
40	Computer / Laptop (Various make)	Non comprehensive i) Formating and reinstallation of operating system. Provided by end user. ii) Installation of software as per end user requirement. iii) Identification of hardware fault and rectification (spare parts required if any would be provided by end user).
41	Xerox machine(Various make)	Make : Any make comprehensive type AMC
42	Inverter(Various make)	Any make comprehensive AMC mention rates for different load capacity.
43	Battery (Various make)	Maintenance of single battery unit alongwith essential spare parts (per battery charges)
44	UPS (Various make)	10 KVA comprehensive type AMC