#### <u>TENDER FOR SUPPLY OF FURNITURE AND LABORATORY</u> <u>EQUIPMENT'S/INSTRUMENTS</u>

Tender Sr. No.		Price: Rs.1000/-
Issued to		
Money receipt No	Date	
Signature of the Cashier with office stamp:		

### <u>TENDER FORM FOR SUPPLY OF FURNITURE AND</u> <u>LABORATORY EQUIPMENTS/ INSTRUMENTS FOR THE</u> <u>FINANCIAL YEAR 2013-14 and 2014-15</u>

To,

The Head Department of Agril. Botany Dr. Panjabrao Deshmukh Krishi Vidyapeeth, P.O.Krishi Nagar Akola 444 104 (M.S.)

#### Dear Sir,

- In response to the tender notice published in the daily newspaper
   \_\_\_\_\_\_\_dated \_\_\_\_\_\_I/We submit herewith the tender form for the supply of Furniture and Laboratory equipment's/instruments.
- 2. I/We have thoroughly examined and understood the terms and conditions of the tender mentioned in Appendix-I and I/We agree to abide by them in full.
- 3. I/We offer to undertake the supply of Furniture and Laboratory equipment's/ instruments and quoted the rates inclusive of all taxes, freight etc as given in Appendix-II. It is agreed that no additional charges other than those mentioned in Appendix-II would be payable to me/us.
- 4. I/We accept that the rates offered shall remain valid for a period upto 31/12/2014 from the date of execution of agreement. I/We further agree that if the date up to

which the offer would remain open be declared as holiday for office, then offer will remain open for acceptance till next working day.

- 5. I/We shall be bound by communication of acceptance of the offer, dispatched within prescribed time.
- 6. I/We accept that the right to accept or reject whole or part of the tender without assigning any reason is reserved with the University. The decision of the University will be final and shall be binding on me/us.
- 7. As required by the terms and conditions of tender an amount of Rs.\_\_\_\_\_(1% of the estimated cost of Equipment for the item tendered from Appendix-II) is paid by me/us as Earnest Money Deposit (E.M.D.) through Demand Draft (DD) payable at State Bank of India, Dr.P.D.K.V., Akola Branch No.2171, Akola bearing No.\_\_\_\_\_ dated \_\_\_\_\_ in favour Head, Department of Agril. Botany, Dr. Panjabrao Deshmukh Krishi Vidyapeeth, Akola.
- 8. I/We agree to undertake to supply the Furniture / equipments at location of office mentioned in final supply order and as per the specification of the final orders within four weeks from the date of University order.
- I/We also agree to undertake to supply the Furniture / Laboratory equipment's full or in part to other offices of University spread over Vidarbha region under same terms and conditions against the supply orders.
- 10. As per the terms and conditions, (Part-I of Appendix-I) I/We are submitting our offer in two sealed envelopes enclosed in envelop No. 3. Envelop No. 1 contains documents as per the condition Sr.No.15 of Part-I of Appendix-I. Envelop No. 2, includes rates quoted by me/us in Appendix-II.

- 11. I/We also agree that University has full rights to open/considers the second envelop if and only if University satisfied with information contents in envelop No.1. The decision of the University regarding this will be final and will be binding on me/us.
- 12. I/We hereby declare that the entries made in this tender form, i.e. in Part II and Part III of Appendix-I and Appendix-II are binding for me/us. I/We shall be bound by the Act to my/our authorized representative duly constituted Attorney Shri \_\_\_\_\_\_ whose signature is appended hereto in the place specified for the purpose and of any other person who in future may be a appointed by me/us in his place to carry on the business of this concern/agency/firm. The intimation of such change will be given to the Head, Department of Agril. Botany, Dr. PDKV, Akola.
- 13. I/We hereby take the responsibility of maintaining the equipment's at their locations at free of cost in warranty period. I/We hereby take the responsibility to provide the service for at least five years after expiry of warranty periods.

The following documents duly filled in and signed are enclosed along with the tender. The part 1 of Appendix-I being the terms and conditions is retained by me/us for my/our information and record.

Yours faithfully,

Place :

Date :

Signature of the Supplier

Capacity in which signing :\_\_\_\_\_

Name and Address of the firm/supplier:\_\_\_\_\_

Registration No. of Supplier:\_\_\_\_\_

List of Documents

i)
ii)
iii)
iv)
v)
v)
vi) Part II and Part III of Appendix I and Appendix II
vii) Bank Draft No.\_\_\_\_\_ Dt\_\_\_\_\_ Rs.\_\_\_\_\_

Signature of constituted Attorney/ authorized representative

Signature \_\_\_\_\_ Date:\_\_\_\_\_

Name & Address:\_\_\_\_\_

#### **APPENDIX-I**

Terms and conditions governing "Supply of Furniture and Laboratory equipments/instruments"

#### <u>Part-I</u>

- Sealed Tenders are invited from manufacturers/authorized dealers of manufacturers/ authorized suppliers/dealers of overseas who are willing to undertake supply of furniture and equipments as per the specifications mentioned in Appendix-II during 09.45 hrs. to 17.30 hrs. on working days and upto 17.30 hrs on last date i.e. 16/12/2013. Tenders received late in person/by post will not be considered. The tenders will be opened on next day of closing date i.e on 17/12/2013 at 11.00 hours in the presence of the intending suppliers who may desire to attend.
- 2. The rates, both in words and figures without any corrections or overwriting should be quoted in Appendix-II for each individual item separately.

## 3. <u>Validity of Rate Contract: The rate contract will be valid up to 31-12-</u> 2014 after the acceptance of the tender.

- 4. The tender should have detailed original printed technical literature and photographs of items (Xerox and attested copy will not consider), specification and make quoted in the tender, specification given in the offer must match to the printed technical literature otherwise the offers shall be rejected. The preference will be given to (a) Manufacturers, (b) Authorized Reseller of overseas manufacturers, (c) Authorized Dealers of manufacturers and (d) Authorized suppliers.
- **5.** Manufacturer's Authorization Form as mention in Part –III of Appendix-I is compulsory for each tenderer.
- 6. In case if the proper comparison is not possible, the purchase committee reserves the right to finalize the item, if valid comparison is possible among the available price bids for that equipment/instrument. Therefore the technical and price bids for the equipments/instruments of all makes are also invited subject to fulfilling the specifications mentioned in the tender.
- University will accept the tender for items mentioned in Appendix-II from only (a) Manufacturers, (b) Authorized Reseller or dealer of overseas manufacturers, (c) Authorized Dealers of manufacturers. And (d) Authorized supplier for the supply of

furniture/laboratory equipment's. Such agencies must enclose adequate documents to prove their claims. University reserves the rights to accept or reject tenders of these agencies. The decision of the University regarding this will be final and shall be binding on tenderer.

- 8. University will not accept the assembled equipment's, or any other assembled items.
- 9. Tenderers will have to supply equipment/instrument manufactured by any one of the reputed companies or groups and not of local brand name or assembled.
- 10. The University reserves the right to accept or reject the items of the make other than the mentioned in Appendix II.
- 11. Tenderer may enclose published report of comparative study of his quoted items, which will give additional weightage to his quoted price.
- 12. The tenderer should quote the rates only in Appendix II of the tender form issued by this office and not on any other form.
- 13. Installation and successful demonstration of equipment in the department is compulsory.
- 14. The tenderer should submit his offer in two separate envelopes.
- 15. The tenderer should provide the following documents in first envelop with superscription "TENDER FOR SUPPLY OF FURNITURE AND LABORATORY EQUIPMENT/ INSTRUMENT" (INFORMATION) <u>ENVELOPE NO.1</u>
- a) D.D. for E.M.D.
- b) Part-II of Appendix-I
- c) Manufacturer's Authorization Form as mention in Part -III of Appendix-I.
- d) Certificate of Sole Manufacturers/Authorized Reseller/Dealer of overseas companies /Authorized Dealer of manufacturers/Authorized Service Centre of the manufacturers/ Authorized supplier for laboratory equipments.
- e) Clients list of Company/Dealer and total experience in this field.
- f) Documents in support to reveal capacity to provide service after sale-like detailed Bio-Data of service Engineers, Names and address of service engineers/ representative/Coagencies for local and outstations maintenance.
- g) Income Tax clearance certificate or last three years statement of Income Tax Returns signed by Income Tax authority or attested Xerox copy.

- h) Sale Tax Registration No.
- 16. The tenderer should provide the rates quoted only in Appendix-II in second envelop with superscription 'TENDER FOR SUPPLY OF FURNITURE AND LABORATORY EQUIPMENT'S/INSTRUMENTS" (RATES) ENVELOP NO.2.

#### 17. Place sealed envelope No.1 and 2 in envelope No.3 and submit to the undersigned.

- 18. The intending supplier should quote the rates inclusive of all expenses, charges, taxes, duties, transportation, packing and forwarding, insurance etc. i.e. All "Inclusive" with free delivery as mentioned in Appendix-II at respective office/ laboratories of the University. However, the Octroi will be over and above this, if applicable. The laboratory equipment's/instruments will have to be supplied as per the specifications within FOUR WEEKS or as per the last date mentioned in the final supply order.
- 19. University will reserve full rights to open/consider the second envelop if and only if University satisfied with information contents in envelop No.1. The decision of the University regarding this will be final and shall be binding on tenderer.
- 20. The tenderer will have to <u>deposit 3%</u> of the total cost of the equipment ordered at the time of final order as the <u>security deposit</u>.
- 21. The supplier will have to supply, in full the articles as per the order to different offices/ laboratories of the University located anywhere in Vidarbha region till date of validity of rates as mentioned in Appendix-II.
- 22. If the laboratory equipments are not provided within stipulated time limits, deduction @ 1% of the total cost of order value per week for extra time taken and will be deducted from the bill. However, the Vice Chancellor, Dr.Panjabrao Deshmukh Krishi Vidyapeeth, Akola may condone/relax this penalty and may grant extension upto the time limit as deem fit by him, provided the tenderer applies and satisfies about genuineness of the reasons for delay in supply of articles.
- 23. The tenderer shall have to deposit <u>Earnest Money Deposit (E.M.D.) 1 per cent of cost tendered</u> through Demand Draft drawn on State Bank of India, Dr. PDKV, Branch Akola (Branch No.2171), payable to Head, Department of Agricultural Botany, Dr. PDKV, Akola and the same should be enclosed along with the tender. The tender without E.M.D. will not be considered at all. The amount of E.M.D. will be refunded in case of unsuccessful tenderer on submission of plain application with

Receipt in original soon after the final decision. In case of successful tender it will be refunded on production of original receipt after completion of validity period of the agreement to be essential between the tenderer and Head, Department of Agricultural Botany, Dr. P.D.K.V., Akola.

- 24. The Specimen of "Agreement Bond" will be provided along with letter of acceptance to the tenderer whose rates are accepted by the University. The tenderer shall have to execute agreement in the prescribed form on Government Court Fee Stamp paper costing to Rs.100/-, which should be submitted to this office within specified time. The agreement received under seal and signature of tenderer will become legal agreement between the tenderer and the University, which will be binding on tenderer.
- 25. If the successful tenderer fails to comply with the supply order within the specified period or only part supply is made, the Head, Department of Agricultural Botany, Dr. P.D.K.V., Akola or respective authority or any officer authorized by him/them, will arrange for the alternative arrangement through any other supplier or agency at risk, cost and expenses of the said tenderer, who shall have to bear and pay all additional expenditure incurred by the University in that behalf.
- 26. Successful tenderer will have to furnish **security deposit** @ **3%** of total cost of the items accepted by the University as offered in the tender either in cash/through demand draft in favour of the Head, Department of Agricultural Botany, Dr. PDKV, Akola within specified time from the date of issue of letter of acceptance.
- 27. The amount of Security deposit without any interest there on will be returned to the tenderer after 12 months or the expiry of the warranty period which ever is late from the date of supply, subject to the surrender of Money Receipt in original in respective office.
- 28. The quantity mentioned in Appendix II of this tender is subject to variation according to actual requirement 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 and right to accept/reject whole or part of any tender, without assigning any reason, whatsoever, is reserved by this University. The decision of the University will be final and it shall be binding on the tenderer.
- 29. On acceptance of the rates as per the approved tender and after completing necessary official formalities, the tenderer will be informed about the acceptance of his tender.

The supply order will be placed by respective Head of the Office, Dr. PDKV, Akola and the Security Deposit for order will have to be deposited in the respective office of Dr. PDKV, Akola.

- 30. As soon as the tenderer delivers the tender in the office of the undersigned, it shall be binding on him and he shall not be able to withdraw or amend the offer.
- **31.** University also reserves the right to obtain the articles by negotiations from one or more of the tenderer, if in case the rates, quality, make, specification or other terms and conditions etc of tenderer are not found suitable to this University.
- 32. The university also reserves the right to accept or reject the supplies in full or in part which do not strictly stick up to the specifications or to accept the material/articles supplied with slight variations in specifications or with a condition that the rates accepted shall be reduced at such rates as the competent authority of the University may deem fit, looking to the variations and that such raters shall be binding on the tenderer.
- 33. University reserves the rights to accept or reject higher version of equipment/ instrument etc or any other items under the same terms and conditions and same price quoted by tenderer in Appendix-II.
- 34. In case of successful tender, the University for fulfillment of terms and conditions of tender shall retain the amount of Earnest Money Deposit (EMD) deposited by him. The University will not make any payment towards interest on such deposits.
- 35. In case of poor response from the suppliers, for the first call, the date of opening of tenders shall be extended further to a maximum of two times. The tenders received up to last call, will be opened and considered by the Head, Department of Agricultural Botany, Dr. P.D.K.V., Akola.
- 36. Final payment of instrument will be made only after installation and successful demonstration of the equipment at the department in the university.
- 37. The credit bill should be presented in triplicate in the name of respective authority as quoted in final supply order. For any delay in payment (interest or any other kind of compensation) the University will not make any extra payments. This contract will be governed as per terms and conditions mentioned above, Agreement made and the provisions contained in M.A.U. Account Code, 1991. Delay in supply within the prescribed time limit or the extended time limit, making of supplies not up to the

standard specification and performance or non-observance or non-acceptance of these terms and conditions by the tenderers shall constitute breach of contract and the security deposit or any other deposit of the tenderer shall be forfeited by the University besides other actions or reduction bills of supplies and/or other legal actions and finally the decision of the University shall be binding on the tenderer.

- 38. The right to accept or reject whole or part of the tender or all tenders without assigning any reasons thereof is reserved by the University.
- **39.** Firm also give certificate self attested, that, his/her company or sister company is not black listed in any department or institute in India & also mentioned that his company is not having any legal case in any of the institute in any matter & his owners or partners/directors has never being legally prosecuted, & in any legal dispute with any government department.
- 40. User list and detail contact address should be attached.
- **41. Terms of Delivery:** Rates shall be quoted and delivery made FOR destination **for imported items, custom clearance agent charges shall have to be borne by the suppliers; freight to be paid up to consignees destination.**
- 42. Supplies shall be covered by insurance.
- **43.** Excise Duty: The University is registered with Department of Scientific and Industrial Research (DSIR), Ministry of Science and Technology, Govt. of India and has been exempted from payment of Excise duty on items listed in Government Notification No.1 0 197 Central Excise dated March 1, 1997, as amended from time to time. *The rates should be exclusive* of *excise duty*
- 44. **Customs Duty:** The University is registered with **DSIR** and has been exempted from payment of Customs duty in terms of Government Notification No. 51/96 Customs dated July 23, 1996 as amended from time to time.
- 45. Other Taxes: As applicable at the time of delivery of the items
- 46. **Delivery Period:** Supply order shall be executed within four weeks after receipt of the supply order.
- 47. No advance payment will be made.

- 48. The installation of the equipment, whenever required, shall be at the risk and responsibility of the supplier and payment shall be released only after installation and demonstration of satisfactory working and / or performance of the installed equipment
- 49. Warranty: The equipment shall be covered by a warranty period of <u>two year</u> from the date of its <u>satisfactory installation</u> at consignees' place. During the period of warranty, the supplier will provide free servicing and repairs to the equipment. This includes the transportation expenditure incurred for such repairs.
- 50. If any equipment or apparatus supplied is found to have any manufacturing defect and/or bad workmanship, the equipment shall be replaced at the sole risk and responsibility of the supplier.
- 51. **Penalty:** In case the firm fails to supply the equipment / apparatus etc. as per the supply order, make / specification and within the stipulated period, the competent authority of the University will be at liberty to forfeit the **EMD** and impose any other penalty, as may be deemed fit in case of such eventuality.
- 52. **Jurisdiction:** Any dispute arising between the parties (University and Suppliers) shall be settled within the jurisdiction of University.
- 53. Increase in prices during the rate contract period shall not be considered, thus will not affect the agreement.
- Encl: 1) Part-II and Part -III of Appendix-I 2) Schedule of supplies in Appendix-II

Place: Akola

Head Department of Agricultural Botany Dr. P.D.K.V., Akola

Date:

#### Part-II

# Undertaking to be given by the tenderer for "The supply of Furniture and Laboratory Equipment's/Instruments"

Whereas, the Head, Department of Agricultural Botany, Dr. P.D.K.V., Akola has called the tenders for supplies as per the enclosed Appendix No-II.

I/We hereby offer our tender at the rates given in the enclosed Appendix No-II duly filled in and signed by me/us and hereby also affix my/our signature(s) below this tender voluntary and full acceptance of all the terms and conditions of this tender, which shall be the agreement between the above tender calling authority and myself/we.

Enclosed: Appendix-II

Signature of the Supplier:\_\_\_\_\_

Name of the Supplier:\_\_\_\_\_

Capacity in which signing:\_\_\_\_\_

Full address of the \_\_\_\_\_

Supplier with Seal/Stamps\_\_\_\_\_

Place:

Date:

#### PART III: Manufacturer's Authorization From

To,

The Head Department of Agril. Botany Dr. PDKV., Akola

Ref: Your bidding Documents No.....

Dear Sir,

We hereby extend our full guarantee and warranty of the General Conditions of Contract, read with modification, if any, in the Special Conditions of Contract for the goods and services offered for supply against this Bidding Document by the above firm.

Yours faithfully,

**Note:** This letter of authorization should be on the letter head of the manufacturing firm and should be signed by a person competent and having the power of attorney to legally bind the manufacturer.

Sr.	Name of	Specification	Rate
No	Instrument/Equipment		
1.	-86 Degree/-20 Degree	With NON-CFC REFRIGERANTS	
	Vertical Deep Freezer	• Capacity- 360 to 380 ltrs. with two 1 horsepower compressors	
		Outer double door and inner doors	
		Stainless Steel interior with Inner doors.	
		• Down-feed evaporator, surge tank for extra capacity	
		Adjustable solid Stainless Steel shelves	
		• Triple sealing door gasket	
		Non-CFC foamed insulation	
		• Two tubeaxial fans to provide cooling of the compressor housing	
		Heavy-duty dual wheel swivel locking casters.	
		Automatic voltage compensator responds to high and low voltages	
		Powder coat paint for surface	
		Heavy duty hinge for closure and un-interruptive service	
		TEMPERATURE CONTROL	
		• Microprocessor controller must monitor in one degree Celsius increments, with digital display.	
		• Temperature probe must be positioned to ensure the alarm sounds before the	
		stored product can be affected by a rise in temperature.	
		• Battery back-up of 72 hrs for the alarm monitoring system	
		• Both visual and audible alarms must alert operator of over and under	
		temperature, power fail and low battery conditions.	
		OPTIONAL ACCESSARIES:	
		• CO <sub>2</sub> Cylinder, Regulator and necessary fitting.	
2.	Laboratory Nitrogen	• Capacity: 1-2 lit, 10 lit, 20 lit, 30 lit.	
	Container	Configuration Vertical	
		Inner Vessel Material: Stainless steel	

## Appendix II

		• Insulation: Vacuum + Multi layer super insulation.
		<ul> <li>Durable, tamper-proof lid design</li> </ul>
		<ul> <li>Narrow-mouth</li> </ul>
		<ul> <li>Low Level alarm system</li> </ul>
		<ul> <li>OPTIONAL ACCESSARIES:</li> </ul>
		Canisters of various sizes
		<ul> <li>Calification various sizes</li> <li>Transfer Devices</li> </ul>
3.	Laminar Air Flow with	Iransier Devices
з.	sterilizer	
	stermizer	• Filters: Aluminum framed High Efficiency Particulate Air (HEPA) filter, with a
		minimum efficiency of 99.99% at 0.3 micron.
		Pre filter: Washable type Pleated pre-filter FRP Body frame PU coated
		• Construction should be of GI Powder coated or SS with SS working top with in-
		built glass bead sterilizer.
		• Air flow: 90 FPM (0.45 m/s) +/- 10 FPM (0.05 m/s) average velocity measured 6 in (152 4 $\pm$ ) f $\pm$ 11 f $\pm$ 11 f $\pm$ 12 f \pm 12 f \pm 12 f $\pm$ 12 f \pm
		(152.4 mm) from the diffuser screen, uniformity $\pm -20\%$ of average
		• Work Area – 4' x 2'x 2'/ 8' x 2' x 2'
		• Voltage: 230V, 50Hz Single phase
		• Fluorescent Lights: 2 x 40 Watts
		Ultra Violet Lights: 18 Watts
		• Power socket: 5 and gas tap for burner
		• In built Sterilizer – MFI GBS007
		• Material of construction should SS 304, at least 1 mm thick
		• Crucible size should be 150 x 50 mm
		Crucible should be 16 gauge brass tube
		• External size – 125 x 135 x 250 mm (LBH)
		Main body should be mirror finished
		Controller should be electronic
		• Temperature range 50 <sup>°</sup> C to 300 <sup>°</sup> C, insulation should be ceramic wool
		• Top ring Teflon, 250 watts

4.	Vertical Top Loading	Single handle external/internal reservoir	
	Autoclave	• Should have double wall type design.	
		• Should have Fully Automatic operation; cycle begins by press of the START button.	
		• Initial air purging cycle; at the beginning air is automatically removed from the chamber.	
		• Microprocessor based Digital Temperature Indicator and Controller with pressure guage.	
		• Temperature Sensor: PT – 100.	
		• In built digital timer; timer with adjustment as per sterilization load requirement, 1 to 99minutes.	
		• Automatic steam exhaust at the end of cycle.	
		• Low water level heater safeguard system.	
		• Safety high pressure release valve.	
		Safety high temperature cut off system	
		• Working chamber made of stainless steel LM 304 grade.	
		• Lid, flange & bottom sheet also made of stainless steel SS 304.	
		Silicon gasket. Heavy duty industrial flange heater.	
		• Pressure range: 15 to 30 PSI, factory set at 15 PSI, 15 minutes sterlization. Cycle time.	
		• Temperature Range: 121°C to 134°C.	
		• Temperature Resolution: 0.1°C / Temperature Accuracy: ±0.5°C.	
		• Pressure gauge 0-50 PSI, safety spring loaded pressure valve, steam release valve.	
		• Vacuum breaker cum lid locking arrangement for locking lid above 80°C.	
		Should be supplied with SS basket	
		• External Dimensions – 45 x 64 x 92 cm	
		• Internal Dimensions of working chamber – 35 x 55 cm (dia x ht), volume 52 liters	
5.	Horizontal Cylindrical	Working pressure should be 1.26 kgf/cm. sq.	
	Autoclave	• Working temperature should be 121 C	

<ul> <li>Mode of heating Electrically heated</li> <li>Chamber, back plate, door plate, jacket, steam generator SS 304 grade</li> <li>Steam generator Stainless steel 304 quality.</li> <li>Door gasket should be of Neo-prene rubber gasket.</li> <li>Insulation should be of fibre glass wool.</li> <li>Should have multiport valve for the process of sterilization cycle</li> <li>Door should be pressed by M. S. radial arms duly plated.</li> <li>The door shall be fitted with an automatic self pressure locking device</li> <li>Should have a safety device "Accidental Vacuum breaker".</li> <li>Electrically operated steam generator attached to the jacket. It shall be fitted with water immersion type heating elements</li> <li>Water level indicating gauge with guard</li> <li>Should have pressure control switch to control the bioler/jacket pressure.</li> <li>Electrical control box; equipped with contactor, indicating lamps, toggle switch etc.(Volume 225 Liters)</li> <li>Loading trolley with wheel should be quoted separately</li> <li>Gel Documentation</li> <li>System</li> <li>Fully Automated Microprocessor Controlled Gel Documentation &amp; Image Analysis System for Fluorescent, Colorimetric, Chemifluorescent &amp; Chemiluminescene applications with computer system and color printer.</li> <li>The System should automatically assess the blot, exposure time and set its best exposure time. Should have scientific grade ultra-peltier cooled CCD camera. With USB port of 5 mega pixel resolution. True 16 Bit images.</li> </ul>	
<ul> <li>Steam generator Stainless steel 304 quality.</li> <li>Door gasket should be of Neo-prene rubber gasket.</li> <li>Insulation should be of fibre glass wool.</li> <li>Should have multiport valve for the process of sterilization cycle</li> <li>Door should be pressed by M. S. radial arms duly plated.</li> <li>The door shall be fitted with an automatic self pressure locking device</li> <li>Should have a safety device "Accidental Vacuum breaker".</li> <li>Electrically operated steam generator attached to the jacket. It shall be fitted with water immersion type heating elements</li> <li>Water level indicating gauge with guard</li> <li>Should have pressure control switch to control the boiler/jacket pressure.</li> <li>Electrical control box; equipped with contactor, indicating lamps, toggle switch etc.(Volume 225 Liters)</li> <li>Loading trolley with wheel should be quoted separately</li> <li>Fully Automated Microprocessor Controlled Gel Documentation &amp; Image Analysis System for Fluorescent, Colorimetric, Chemifluorescent &amp; Chemiluminescence applications with computer system and color printer.</li> <li>The System should automatically assess the blot, exposure time and set its best exposure time. Should have scientific grade ultra-peltier cooled CCD camera. With USB port of 5 mega pixel resolution. True 16 Bit images.</li> </ul>	
<ul> <li>Door gasket should be of Neo-prene rubber gasket.</li> <li>Insulation should be of fibre glass wool.</li> <li>Should have multiport valve for the process of sterilization cycle</li> <li>Door should be pressed by M. S. radial arms duly plated.</li> <li>The door shall be fitted with an automatic self pressure locking device</li> <li>Should have a safety device "Accidental Vacuum breaker".</li> <li>Electrically operated steam generator attached to the jacket. It shall be fitted with water immersion type heating elements</li> <li>Water level indicating gauge with guard</li> <li>Should have pressure control switch to control the boiler/jacket pressure.</li> <li>Electrical control box; equipped with contactor, indicating lamps, toggle switch etc.(Volume 225 Liters)</li> <li>Loading trolley with wheel should be quoted separately</li> <li>Gel Documentation System</li> <li>Fully Automated Microprocessor Controlled Gel Documentation &amp; Image Analysis System for Fluorescent, Colorimetric, Chemifluorescent &amp; Chemiluminescence applications with computer system and color printer.</li> <li>The System should automatically assess the blot, exposure time and set its best exposure time. Should have scientific grade ultra-peltier cooled CCD camera. With USB port of 5 mega pixel resolution. True 16 Bit images.</li> </ul>	
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<ul> <li>Images should be captured automatically.</li> </ul>	
RTD Technology to Prevent banding effect, auto exposure, 21 CFR II software.	
Controlled darkroom, full safety interlock, auto UV shut off.	
• Ultra peltier cooling with forced air for extra long exposures. 65536 gray scale,	
motorized zoom lens,	
• 7 position computer controlled motorized filter wheel, UV Filter, Gel-Vue	
Transilluminator & minimum 20 x 20 cm size. UV to white light switching.	

		<ul> <li>Convertor, Dual EPI-LED white light. Advanced Gel Analysis software with free lifetime up gradation.</li> <li>The software should have following facilities – <ul> <li>Icon driven with full analysis, multiple experiments, automatic analysis of multilayered gels, zoom control, automatic track, band and edge finding.</li> <li>Automatic detection and correction of distorted tracks, lane histograms.</li> <li>Automatic background correction, multiple intensity calibration, MW and densitimetry at same time, cross gel profiling, MW calibration library, GLP reporting.</li> </ul> </li> </ul>
7.	Gradient Thermal Cycler	<ul> <li>Block Format - 0.2ml Alloy</li> <li>Standard 0.2 ml format and sample blocks enabled to run fast chemistry</li> <li>Max Block Ramp Rate - 3.90 Degree C/sec</li> <li>Max Sample Ramp Rate - 3.35 Degree C /sec</li> <li>Enabled to run Fast Chemistry - Yes</li> <li>Flex Blocks - 25 Degree C (5 Degree C zone to zone)</li> <li>Temperature Accuracy - +/- 0.25 Degree C (35 - 99.9 Degree C)</li> <li>Temperature Range - 4.0 Degree C to 99.9 Degree C</li> <li>Temperature Uniformity - &lt; 0.5 C (20 sec after reaching 95 C)</li> <li>Instrument Memory - 800 protocols on board, unlimited with used of USB memory disk</li> <li>Display Interface - 16.51 cm in VGA 32k color with touch screen</li> <li>Tm Calculator - Menu-driven through touch screen</li> </ul>
8.	UV-VIS Double Beam Spectrophotometer	<ul> <li>Photometric System Double beam optics</li> <li>Spectral Band pass width &lt; 1.0nm</li> <li>Wavelength Range 190nm to 1100nm</li> <li>Wavelength Accuracy &lt; ± 0.3nm (at D2 peak 656.1nm, 486.0nm)</li> <li>Wavelength Reproducibility &lt; ± 0.1nm</li> <li>Wavelength Setting 0.1nm</li> <li>Wavelength Slew Rate 5000nm/min</li> </ul>

		Wavelength Scanning Speed Max.3000nm/min	
		• Photometric Range -0.5 to 4.0ABS	
		• Photometric Accuracy ± 0.004ABS (at 1.0ABS)	
		• Photometric Reproducibility ± 0.002ABS	
		• Stray Light < 0.05% T at 220nm & 340 nm	
		• Baseline Flatness < ± 0.001ABS (200nm to 1100nm)	
		• Noise Level < 0.001A	
		• Drift 0.002A/hr at 340nm	
		• Stability ±0.002 A/hr	
		Light Source Tungsten-halogen lamp and deuterium lamp	
		• Lamp Change Wavelength 340nm to 410nm (default 370nm) include auto position	
		system	
		<ul> <li>Monochrome Modified czemy-tumer type with 1200 lines/mm blazed grating</li> </ul>	
		Detector Silicone photodiode	
		• Power requirement AC 220V, 50/60Hz	
9.	2 D Electrophoresis	• With built-in 12,000 Volt / 1.5mA power supply and Peltierthermostate cooling	
	System with Power	plate for excellent heat transfer and electrode contact.	
	Pack	• The instrument should be programmable and have RS 232C/USB interface for PC	
		control inclusive of cable.	
		• The working temperature of the instrument should be 18 - 25°C (+/- 1°C).	
		• Flexible first-dimension IEF can run Six strips up to 24 cm IPG	
		<ul> <li>Monitoring of individual strips should be available.</li> </ul>	
		• Reusable Sample cup capacity should be upto240 uls.	
		Electrodes lock into place on strips.	
		• Entire protocol can be seen on screen.	
		• Stores multiple protocols each with multiple steps-flexible programming for precise	
		results.	
		• Instrument should be controlled through LAN remote control and data acquisition	
		possible.	

		<ul> <li>The unit with capability of expanding to four gels with the addition of accessory divider plates.</li> <li>Gels can be cast leak-free in the dual gel caster without using tape or agarose.</li> <li>The unit should come with the glass plates, spacers 1.5mm &amp; 15 wells comb. (3 sets each).</li> <li>The buffer can be temperature-controlled via a glass tube heat exchanger.</li> <li>The unit with a safety lid designed to CE, CSA and UL specifications.</li> <li>When doing 2-D electrophoresis, the gels accept 11 cm or 13 cm Immobiline Dry Strips that to run in the 1st dimension.</li> </ul>	
10.	Western Blotting System	<ul> <li>Electro-blotting system which can transfer protein as well as Nucleic acid from 10x10 cm gel.</li> <li>Electro-blotting system which can accommodate at least 4 gels cassettes simultaneously.</li> <li>System must come with asymmetric color –coded cassettes.</li> <li>Fibre pads should come with the system so that they can compress the gel against the nitrocellulose membrane for uniform transfer.</li> <li>System should be having plate-electrodes 12.8cm apart.</li> <li>System can be connected to external chiller for cooling by snap-lock connectors which should be provided with the system.</li> </ul>	
11.	Real Time PCR System	<ul> <li>An automated system for both real-time PCR and post-PCR (end-point) analysis using in-built Peltier based PCR machine.</li> <li>System should support applications including absolute quantitation, simultaneous analysis data for relative quantitation, multiplex-PCR, allelic discrimination (SNP), dissociation curve analysis, HRM as well as pathogen detection and plus/minus assay using internal positive control.</li> <li>The normalization of reaction due to non-PCR related fluctuations such as pipetting variations should be possible by using ROX<sup>TM</sup> or any calibrated dye. Selection or de-selection of passive reference during the run should be optional.</li> <li>The hardware must provide Peltier thermal cycling system with a temperature range of 4°C-100 °C. System should support reaction volume 10-30 µL and</li> </ul>	

12.	Incubator	<ul> <li>universal thermal cycling conditions to eliminate optimization of PCR conditions for running the templates from different sources simultaneously. The system should be compatible with tubes and wells.</li> <li>System should be able to set six different temperature profiles or exact gradient temperature during same run. Also it should be able to run standard 96 well plate.</li> <li>It should be possible to alter the plate setup after run completes. The data collection and instrument control software should provide multicomponenting algorithm for deconvolution of multiple dyes, enabling addition of new dyes without any hardware change. Dedicated licensed full version software for primer and probe design must be included in the supply.</li> <li>The quoted system must have full license for PCR process. A copy of the license must be attached to the offer.</li> <li>The system should be able to perform high resolution melting (HRM) application.</li> <li>The system should have a capability to perform fast(less than 40 minutes) and standard reactions on same block without hardware change.</li> <li>The system should have all modern facilities like touch screen, USB port, stand alone operation, e mail alerts etc.</li> <li>The system should be supplied with separate Lap top/computer with color printer.</li> <li>Capacity : 184 Ltrs.</li> <li>Temperature Range : RT + 5°C to 55°C, ±1°C</li> <li>Temperature Range : RT + 5°C to 55°C, ±1°C</li> </ul>
		<ul> <li>Class 100 HEPA filtered chamber airflow - 100% filtration of chamber air down to clean room particulate standards constantly protects unit against contamination</li> <li>HEPA filter located inside the incubator chamber. Built-in preventive maintenance system with adjustable timer to notifies when to replace the filter</li> <li>Unique Filtered Air Exchange system.</li> <li>Heated dual inner glass door.</li> <li>Polished stainless steel chamber</li> <li>Microbiological filters on all gas inlets and outlets and sample ports</li> <li>Microprocessor control/monitoring system with displays for temperature.</li> </ul>

		Stackable units with included brackets	
13.	Refrigerated Incubator	• Temperature range: +5 deg to 60 Deg	
	Shaker	• Volume : 83 LTS	
		• Temperature accuracy: +/- 0.1 @ 38 deg	
		• Uniformity: +/- 0.1 @ 38 deg	
		Motion type: Orbital or Reciprocating type (selectable)	
		• Frequency: 10 – 300 rpm	
		• Timer: 10 sec – 999 Hr 59 min 59 Sec	
		Microprocessor based PID control/ Auto tuning / Calibration	
		Over temperature limiter / Door opening alarm	
		• Digital LED display for temperature (0.1 Deg Resolution) Speed, and shaking	
		motion	
		• Adjustable fan speeds.	
		Brush less DC motor	
		High velocity fan for rapid thermal recovery and uniformity	
		• Platform size 410 x 410 mm	
		• Maximum capacity- 2.8 lts x 2 no's	
		• Safety features:	
		Self protecting cut off indication	
		System should have logical safety feature	
		Time setting function for automated run/off	
		Door opening alarm	
		• Electrical requirements: 230 V, 50/60 Hz.	
		Accessories:	
		Platform for incubator shaker	
		Spring wire Rack	
		Rubber mat and sticky pad	
14.	Table top Micro	Maximum speed: 15,000 rpm	
	Refrigerated Centrifuge	Maximum RCF: 20,630 Xg	

		Maximum volume: 48 ml	
		Control system: Microprocessor control ( brushless motor)	
		• Alarm display: Lid open, Imbalance, Over speed, Abnormal High Temperature.	
		• Function for detecting an occurrence of electrical abnormality in speed sensor,	
		Inverter, lid lock, motor, temperature sensor	
		• Accleration/Deceleration : Rapid, Slow, 4 ways of switching with natural	
		deceleration (commencement speed of natural deceleration changeable)	
		• Speed setting: From 300 to 15,000rpm in 100rpm increments.	
		• Speed indication: Digital display, From 0 to 15,300rpm in 100rpm increments.	
		• Timer setting and indication: Digital display in 1 deg increments	
		• Temperature range: -9 Deg to 40 deg	
		• Pre cooling Facility.	
		• Angle rotor - 24 X 2 ml	
		• Should be possible to use tubes 0.5 ml, 0.2 ml PCR without an adaptor	
		• Should be autoclavable.	
15.	Homogeniser for	Application for Size Reduction, Mixing, Homogenization cell disruption	
	grinding, mixing,	System must be used for pulverization and homogenization	
	disruption small	• Safe wet grinding without loss of material with screw – top grinding jars	
	amounts of sample	Material feed size: up to 8mm	
		<ul> <li>Final fineness: Approx. 5μm</li> </ul>	
		• Typical mean grinding time should be within 2 minutes	
		Dry grinding should be possible	
		• Wet grinding must be possible with required suitable jar	
		Cryogenic grinding attachments should be provided for heat sensitive samples	
		Self – centering clamping device must be included	
		• No. of grinding station: 2	
		• Digital Pre – selection of vibrational frequency: 3 – 30Hz (180 – 1800 min - 1)	
		• Digital Pre – selection of grinding time: 10 s – 99 min.	
		Accessories:	

	1	
		<ul> <li>Grinding jar of Stainless Steel 50ml, (35 and 25 ml as optional) screw top design:</li> <li>2 Nos. each</li> </ul>
		• Grinding ball, Stainless Steel 25 Ø mm : 2 No
		<ul> <li>Grinding ball, Stainless Steel 15 Ø mm : 2 No</li> </ul>
		<ul> <li>Grinding ball, Stainless Steel 20 Ø mm : 2 No</li> </ul>
		<ul> <li>Cryo Kit for MM400 (Should include: 2 insulated containers:1&amp; 4 litres, 2 pair of</li> </ul>
		grinding jar tongs,1 pair of safety glasses):1 set
16.	Ultrasonic for high	<ul> <li>Processing Volume Range : 250 µl to liters.</li> </ul>
10.	volume applications	<ul> <li>automatic tuning, energy (joules) monitor,</li> </ul>
	, or white approximations	<ul> <li>digital wattmeter,</li> </ul>
		<ul> <li>temperature controller,</li> </ul>
		<ul> <li>microprocessor based, programmable</li> </ul>
		<ul> <li>LCD screen with user prompts,</li> </ul>
		<ul> <li>converter, real time alpha-numeric display,</li> </ul>
		<ul> <li>10 program storage capability,</li> </ul>
		<ul> <li>10 hour process timer, variable amplitude control,</li> </ul>
		<ul> <li>full function pulser – ON and OFF cycle independently controllable</li> </ul>
		from 1 second to 10 seconds,
		<ul> <li>overload protection circuit,</li> </ul>
		<ul> <li>remote actuation connector, footswitch jack,</li> </ul>
		• $\frac{1}{2}$ " (13mm) probe with replaceable tip and quick disconnect
		converter cable, instruction manual. Tool Kit.
		Temperature probe compatibility
		Suitable Laboratory Jack should be supplied along with stand and clamp.
		• Sound abating enclosure must be supplied
		<ul> <li>Quote various probes for volumes as optionals</li> </ul>
17.	High Speed	Maximum Speed: 22000 rpm
	Refrigerated Centrifuge:	Maximum Capacity: 3000mL
	(floor model)	Speed Control system: Microprocessor control (Brush less Motor)

		• Speed setting range: From 200rpm to 22000rpm in 10 or 100 rpm	
		increments	
		Speed indication: Digital display	
		<ul> <li>Abnormality Detected display:</li> </ul>	
		• Lid Open	
		• Imbalance	
		• Over speed	
		• Abnormally high temperature	
		• Rotor Mounting abnormality	
		<ul> <li>Function for detecting an occurrence of electrical abnormality in motor, inverter, lid interlock, speed sensor and temperature sensor</li> </ul>	
		• Three level selectors: Rapid, Slow and super slow	
		Timer: Micro-processor control, digital display	
		• Temperature control rangeFrom - $20^{\circ}$ C to + $40^{\circ}$ C in $1^{\circ}$ C increments	
		Brake systemInverter Micro-processor control	
		• Drive systemInverter drive with high frequency motor	
		• Power requirements: Single phase AC 200 – 230 V, 50/60 Hz., and 30A	
		• Rotors:	
		• Angle Rotor	
		$\circ 6 \times 500 \text{ ml}$	
		• Angle Rotor	
		0 6 x 50 ml	
		• Angle Rotor	
		0 24 x 2 ml	
18.	Vacuum Oven	Volume capacity: Approx. 65L / 200L	
		• TemperatureRange: Ambient + 5 - 250°C	
		Controller: Digital P.I.D. auto – tuning/ Calibration	
		• RS-232 Interface	
		Temperature control	
		Standard Accessories: Software and Cable	

		• Vacuum range: 0 to 0.1 Mpa, analog guage
		• Shelves: Anodized aluminium plate 2.0 t
		• Digital LED display (1 deg C resolution) with touch sensitive keypads
		• 3 different temperature values memorable without auto tuning
		Over temperature limiter / door opening alarm
		Separately equipped vacuum and vent ports
		• Block type heaters.
		• Electric requirement:230V AC, 50/60Hz
19.	pH meter	pH system with electrode & Temp. Probe (Auto Temp. Compensation, 3 point
		calibration, Resol. 0.001 pH
		Micro controller based.
		• Measures pH mV Absolute mV Relative & temperature
		• 3- point calibrations for pH.
		Automatic & manual Temperature compensation
		• 80 readings of pH can be stored in battery back up memory& retrieved through a
		printer.
		• Printer should be provided with equipment's.
		• Soft touch numeric & functional keys.
		• A buzzer for user attention at the end of wait period/ measurement
20.	Analytical Balance	Motorized internal Calibration.
		• ISO GLP compliance.
		• Multiple weighing units.
		• Standard bi-directional RS-232 interface.
		Backlight LCD graphical display
		Capacity tracking indication.
		• Capacity 220 gm
		• Accuracy – 0.0001 gm
21.	Water purification	• Tap to ultra pure water system – UV/UF minimum 3 LPH
	system	• Three stage pretreatment system with 10, 5 and 1 micron spun filters with activated
1	I	

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		carbon prefilter 5 micron.
		• Should produce pure and ultra pure water from tap water for analytical applications.
		• Should be able to dispense Type I water from tap and Type II water from tank
		• It should be single stage system to produce bacteria free ultrapure water.
		• Should have RO, DI, UV and Ultra filter in single unit.
		• It should have a integrated 6L polyethylene food grade, opaque conical bottom tank
		with sterile vent filter to prevent contamination by microorganisms in the
		environment.
		• It should have recirculation facility to maintain consistent peak water purity.
		• It should have RS232 interface and autoclavable sterile filter.
		• It should have cartridge change indicator.
		• The production rate of the unit should be 3 L/Hr and should have provision for
		upgradation to higher volumes.
		• The dispense rate should be 1 L/min.
		• It should have dual wavelength UV (185/254 nm).
		• Output water quality should be:
		• Flow rate $-3$ Ltrs./Hr. @ $25^{\circ}$ C
		• Dispensing rate – 1.0 L/min.
		• Type 1 water quality – $18.2 \text{ M}\Omega$ – cm @ $25^{\circ}\text{C}$
		• Type 2 water quality $-10-15 \text{ M}\Omega - \text{cm} @ 25^{\circ}\text{C}$
		• TOC – 1-5 ppb
		• Bacteria - < 1 CFU/ml
		• Endotoxin - < 0.005 EU/ml.
		• pH – Effectively neutral.
		<ul> <li>Should be provided water suitable software.</li> </ul>
22.	Horizontal gel	<ul> <li>100 sample throughput capacity.</li> </ul>
	electrophoresis system	<ul> <li>It should have removable gel casting tray with end gaskets that allow gels to be cast</li> </ul>
	with optional power	• It should have removable get casting tray with end gaskets that anow gets to be cast directly within the tank, midi submarine gel unit, gel size approx 12.8 X15 cm.
	pack	<ul> <li>Includes buffer chamber, 1 mm thick 16 well combs, safety lid, colored loading</li> </ul>
1	Puer	• Includes ourier chamber, 1 min unck to well combs, safety hd, colored loading

		strips, high voltage leads, buffer recirculation
23.	Diesel generator	Engine with 80 to 85 KVA capacity.
		• Control panel should be fully automated, indicating lamps, and control fuses.
		• Should include battery with automatic charging equipped with voltmeter and
		having suitable alternator.
		• Should include display for monitoring diesel level, coolant temperature with alarm.
		• Should have safety trip in case of high coolant temperature and engine overspeed.
		• Should have emergency push stop button located on external canopy.
		• Average sound level should be less than 75 dBA.
		• Should have electric supply manual bypass system.
		• Should have auto start system on power failure
		• Should have phase unbalance load protection system to trip the power supply.
24	Spilt air conditioner	• Should have copper machine with eco-friendly gas.
		Capacity should be 2.0 Tonn.
		Cooling system and machine must have copper coils.
		• Rates should be inclusive of installation charges, M.S. stand, transportation etc.
25	Culture racks for tissue	• Height X Length X Depth should be 6 to 7 feet X 4 to 5 feet X 1 to 1.5 feet having
	culture	6 racks of glass/ plywood bottom coated with white sunmyca on both side.
		• Should be equipped with fluorescent tube lights with timer facility for individual
		rack along with cable and pin.
		• Should have provision for UV tubes on each rack.
		• Racks should be easily movable with wheels, metal construction should be of
		powder coated.
26	Vertical gel	• The unit should have capacity of efficient and rapid screening of nucleic acid and
	electrophoresis system.	protein.
		• The unit should be along with power pack and all the accessories viz. glass plates 3
		sets, sealing gaskets, clamps, spacer and combs of different thickness.
		• Should carry out screening of 100 to 200 samples at same time.

27	Stereo zoom	• Optical system should be universal infinity corrected.	
_,	microscope	<ul> <li>Zoom ratio should be better with magnification range of 6 X to 150 X or better.</li> </ul>	
	meroscope	<ul> <li>Should possess of coarse and fine focusing unit.</li> </ul>	
		<ul> <li>Should have plan apochromat 1x objective and optical resolution of 850 to 100</li> </ul>	
		• Should have plan apochroniat 1x objective and optical resolution of 850 to 100 lines.	
		<ul> <li>Stage should include frosted filters.</li> </ul>	
		• Base should transmit with dark field (5.5V to 6.5V) and bright field (25V to 35V)	
		intensity.	
		<ul> <li>Observation tube should consist of widefield trinocular head with computer and photograph unit.</li> </ul>	
28	Glassware washing	<ul> <li>Should consist of upper and lower standard open racks made of stainless steel.</li> </ul>	
20	machine		
	machine	• LCD information centre with display button, run/cancel button, scroll buttons and	
		selection buttons to programme and monitor cycles.	
		• Pump should be rated of 400 to 450 lit/min at 230 volts.	
		Drain pump should evacuate 26 lit/min.	
		• Should consist of purified water pump for six to eight pure water rinses under	
		pressure or non pressure.	
		• Should have manual fill detergent dispenser and rinse aid solution dispenser.	
		• Forced air drying should be programmable up to 250 min.	
		• Operation noise should be less than 60 dBA.	
		• Should have audible alarm display for all operations and failures.	
		• Should have two years warranty for parts and labour.	
		• Should be quoted with all accessories viz. base stand, upper and lower racks,	
		baskets and inserts, labsolutions, detergents and rinse, scrubber mate cart,	
		glassware carts and carboy caddy.	
29	Ice flecking machine	• Should produce about 40 to 50 kg of ice per hour from tap water.	
		• Should include inbuilt water filter.	
		• It should be fully automated with indications of low water supply with alarm.	
30	Glass bottles with caps	• Should be of capacity of 200, 300 and 400 grams having wide mouth.	

		Should be clearly transparent and autoclavable.	
		<ul> <li>Caps should be made of semi transparent polycarbonate and should be autoclavable.</li> </ul>	
31	Grinder	<ul> <li>System must be used for DNA extraction.</li> <li>High sample thought put is preferred.</li> <li>Should extract high quality pure DNA from Wet samples.</li> <li>Should be supplied with all accessories required for DNA extraction.</li> <li>Steel Ball: 1000 Nos.</li> <li>2 ml Deep well plate: 6 Nos.</li> <li>Cover mat for Deep well plate: 4</li> <li>2 ml Microcentrifuge tubes: 500</li> <li>2 ml Microcentrifuge tubestand: 2</li> </ul>	
32	Servo type voltage stabilizer	<ul> <li>2 KVA to 40 KVA capacity.</li> <li>Should stabilize current from electric power supply and diesel generator set.</li> <li>Should work at wide range of low voltage and high voltage.</li> <li>Three phase in and out socket for supply and output and single phase in and out socket.</li> </ul>	
33	Shed net house	<ul> <li>Area should be 1000 sq feet.</li> <li>The structure should be made up of galvanised iron square bars, with 75% net.</li> <li>The roof should be invented V shape.</li> <li>Should consist of fully automated control system for humidity maintainance (foggers with controller).</li> <li>Irrigation water tap arrangements inside nethouse</li> <li>2000 lit capacity PVC tank with motor for fogger system</li> <li>2 feet cement construction above ground and 2.5 ft flooring in all sides outer to shadenet house.</li> </ul>	
34	Green house	<ul> <li>Area 1000 sq feet.</li> <li>The structure should be made up of galvanised iron bars , inverted V shaped roof.</li> <li>Should made up of polycarbonate sheet and should be ventilated from top with</li> </ul>	

		<ul> <li>arrangement to open and close the vents.</li> <li>With cellulose pad coolers from both side and back side of greenhouse.</li> <li>Fans should be of single phase and all others motors should be of single phase</li> <li>with green house temperature and humidity display</li> <li>Should have protective iron made structure for all external fittings viz motors,</li> <li>with cement concret 4000 lit capacity underground water tank.</li> <li>Should consist of fully automated control system for temperature, humidity etc.</li> <li>2 feet cement construction above ground and 2.5 ft flooring in all sides outer to</li> </ul>
		greenhouse
35	UPS system	<ul> <li>5, 7.5 and 10 KVA capacity.</li> <li>Technology should be IEC standard with advance feature.</li> <li>Battery Backup should be provided with its own battery bank.</li> <li>Should have dual input bypass.</li> <li>Should have rectifier section consisting of IGBT technology with input voltage 230 V single phase and compatible with diesel generator set.</li> <li>Should have inverter section consisting IGBT technology giving 230 V AC current with 0.8 UPS output power factor.</li> <li>Battery backup should be of 8 to 10 hrs. On full load, with periodical battery health test and deep discharge protection.</li> <li>Should have automatic integral bypass as well as manual maintenance bypass.</li> <li>Operating noise should be bellow 55 dB and it should be include installation and testing overload.</li> </ul>
36	Desktop computers	<ul> <li>Minimum Requirement: Core I 5 Processor of third generation with 4 GB expandable ram and 500GB hard disk member including all accessories.</li> </ul>
37	Laptops	Minimum Requirement: Core I 5 Processor of third generation with 4 GB     expandable ram and 500GB hard disk member including all accessary
38	Refrigerated Circulators with Advanced Digital Temperature Controller	<ul> <li>Working Temperature: From -40C up to +200C</li> <li>Temperature Stability: +/- 0.01C</li> <li>External Temperature Control Capacity: Yes</li> </ul>

		Pump: Variable-speed	
		Extranal Circulation: Open or closed loop.	
39	Elisa Reader	Plate types should be Flurometry, Luminometry and Photometry	
		Wavelength selection should be double monochromators	
		• Wavelength range should be 400 to 750 nm.	
		• Should be reads 6, 12, 24, 48 and 96 wells microplated.	
		• Should have absorbance range up to 0.000 to 3.000 O.D.	
		• Filter should be supplied 405, 450, 490 and 630.	
		• Should have accuracy (Photometry) 200 to 1000 nm.	
		• Should have incubator temperature rang.	
		Should have well measurements speeds in seconds	
		• Light source should be xenon flash lamp	
		Should have dynamic range for luminometry	
		Should have luminometry sensitivity.	
		• Should read 6,12, 24, 48 and 96 well microplate	
		Absorbance Range: 0.00-3.00 OD	
		• Filters: 405, 450, 490 and 630 nm.	
		• Should have dispensers up to 3, should have software, computer and printer system included.	
40	Microplate washer	• Should have well washed bottle with wash heads 1×8, 1×12	
		Should have LCD color display	
		• Should have wash volume up to 1000µl	
		• Dimension should be 385 ×240 ×345 mm	
		• Should have prime volume up to 100ml.	
41	Air curtan	Should be operate on single phase.	
		• Should be universal models.	
		• Size should be available in 3, 4 and 6 feet.	
		• Material construction should be M.S. CRCA / S.S 304.	

42	Ultra centrifuge	<ul> <li>Should have speed range minimum up to 40000 r.p.m.</li> <li>Should have temperature control +/- 1°C of set temperature and digital display indicates actual rotor temperature and speed range.</li> <li>Should have time range up to 0 to 99 h 59 min; HOLD for longer runs.</li> <li>Should have digital display to indicate time run; time elapsed for HOLD.</li> <li>Should have self-diagnostic functions.</li> </ul>	
43	Automated Electrophoresis system and Analysis platform	<ul> <li>Should have chip electrophoresis system using micro fluidice based technology.</li> <li>Should have analysis range of DNA bp up to 12000 bp.</li> <li>System should be fast enough to process 96 samples in within minutes.</li> <li>Should have minimum detection limit of fragments of samples.</li> <li>Should operate at temperature range up to 40 to -45°C as well as humidity range up to 85% RH ( non-condensing).</li> <li>Should be provided with all installation software.</li> </ul>	
44	Combo freeze	• Combination model with facilities of -20 <sup>0</sup> C, In-build Ice module and cold water module	
		Lab Furniture / office furniture	
45	Computer Table Main Unit:	Approx. Size: Length:- 900mm. Width:-450mm. Height:-760 mm.C-Frame & tubular CRCA steel structure.Provision to run cable in legs Drum removable CPU stand.All steel components should be of epoxy powder coated.	
46	Computer Table Adon Unit :	Approx. Size: Length:- 900mm, Width:-450mm, Height:-760 mm.C-Frame & tubular CRCA steel structure.Top made of 18mm thick material.Electrical Cable Tray made of 0.8mm thick.Provision to run cable in legs.Metal keyboard tray and removable CPU standAll steel components should be epoxy powder coated.	
47	Keyboard:	Approx. Size:- Width:600 mm, Depth:270 mm, Height:70 mmMade up of prime quality MS CRCA sheet of 0.8mm thk.Fitted with branded telescopic channel.	

		All steel components should be epoxy powder coated.	
48	CPU Trolly:	Approx. Size:- Length :245mm Width:300mm, Hight:210 mm.	
		Made of press formed MS CRCA sheet 1 6mm thk.	
		The width is adjustable from 150mm to 275mm.	
		Rubber Pads should be posted inside the trolley for better grip and with twin wheel nylon	
		rollers for mobility.	
		All steel components should be epoxy powder coated.	
49	CPU Stand Inbuilt:	Made of 18 mm PLPB supported by 20 mm X 20 mm X 18 Square CR Tube.	
		All steel components should be epoxy powder coated.	
50	Multipurpose Table:	Approx. Size:- Length: 1200 mm, Width: 600 mm, Height: 760 mm	
		C- Frame Leg 200 mm wide made of aluminum profile and CRCA formed sections, having	
		provision for wire management.	
		Top - 25mm thick PLPB.	
		Edge banding of edges by Through Feed Machine.	
		Dotted embossed cable Duct and Perforated steel modesty panel on visitor's side	
		All steel components should be epoxy powder coated.	
51	Round Table:	Approx. Diameter approx. 1200mm height: 760mm	
		Top - 25mm thick	
		Base structure in Plus shape made of 18mm thk pre-laminated particle board.	
		All edges covered with pvc edge beading. Fitted with floor levelers at bottom. OR	
		Frame made of 1.2 mm thk M.S., CRCA tube duly Powder Coated,	
		fitted with 25mm top or Glass	
52	Desk Based partition	Approx. Size:- Length : 900 mm / 1200 mm , thickness:70 mm, Height: 450mm,	
	with cable duct:	Frame made of CRCA Steel Structure.	
		Provision for Cable and switches and top - Soft board / White Board.	
		All steel components should be epoxy powder coated	
53	Desk mounting cable		
	duct:	Frame made of CRCA Steel Structure.	
		Provision for Cable and switches.	
		All steel components should be epoxy powder coated.	

54	Desk mounting partition	Approx. Size: Width - 900mm D - 32mm, Ht - 450 mm	
	pole base:	Frame Structure:- made up of 32mm dia, 1.25mm thk MS tube,	
		Tile made up of 18mm PLPB.	
		All steel components should be epoxy powder coated.	
55	Partition panel with	Approx. 70mm Thk. Tiles Base partition.	
	tiles:	Internal Frame 1.6mm thk. CRCA powder coated Sections.	
		Tiles 12mm. thk. Pre laminated board.	
		Provision of Slot for cabling and accessories.	
56	Worktop:	Worktop made of 25mm thick material PLPB or in MDF.	
		All exposed edges covered with 2mm thk PVC edges bend by machine,	
		fitted to the partition with necessary M.S. CRCA duly Powder Coated brackets.	
57	Side panel:	Approx. 735mm High Side panel/leg made of 18mm thk. PLPB fitted with necessary	
		bracket. All exposed edges covered with 2mm thk. PVC edge bend by machine.	
58	Side panel (Metal)	Approx. 735mm High, having provision for wire management. Fitted with necessary	
		brackets and work Top, All steel components should be epoxy powder coated.	
59	Mobile pedestal Unit:	Approx. Size: Height:650mm, Width:410 mm, Depth:540mm	
		Top - 25mm thick PLPB. Side .back and drawer front are made of 18mm thk. PLPB.	
		Metallic finish heavy duty handle. Front mounted lock, provision of Casters for mobility.	
		Drawer slides for filing drawer. Other drawers on roller slides.	
60	Side runner with 3	Approx. Size:- Height:680mm,Width:1200mm, Depth:400mm	
	drawer:	Body part made-up of prime quality CRCA Sheet.	
		Top - 18mm thick PLPB.	
		Side Edges covered with PVC edge band on edge bending machine. Door lock.	
		All steel components should be epoxy powder coated.	
61	Collapsable Glass Door:	Approx. Size:- Height:1676mm, Width:838 mm, Depth:310 mm( 4-Door)	
		Body part made-up of prime quality CRCA Sheet. Doors made of MS CRCA formed	
		sections fitted with 4mm thk glass Doors open and slide on delrin rollers. Inbuilt aluminum	
		die cast handles. All steel components should be epoxy powder coated.	
62	Single Side main rack:	Approx. Overall Size:- H:-1980mm, W:-915mm, D:-380mm:	

		Body Structure: Made up of prime quality CRCA MS sheet 1.0mm thk 3 fold side panel	
		with dia 12mm hole in middle of each panel throughout the height at 25mm pitch for	
		height adjustability of shelves. Adjustable shelf made out of Prime Quality CRCA 0.8mm	
		thk. Sheet. Complete knockdown assembly.	
		All steel components should be epoxy powder coated.	
63	Single side Adon Rack:	Approx. Overall Size:- H:-1980mm, W:-915mm, D:-380mm:	
		Body Structure: Made up of prime quality CRCA MS sheet 1.0mm thk 3 fold side panel	
		with dia 12mm hole in middle of each panel throughout the height at 25mm pitch for	
		height adjustability of shelves. Adjustable shelf made out of Prime Quality CRCA 0.8mm	
		thk. Sheet. All steel components should be epoxy powder coated.	
64	Main Shoe Rack/Adon	Approx. Overall Size:- H:-1980mm, W:-275rnm, D:-350mm : Made up of prime quality	
	Rack	MS CRCA sheet. Shelf - 2 nos. making three compartments.	
		All steel components should be epoxy powder coated.	
65	Magazine Rack Main:	Approx. Size:- Height:1870mm, Width:265mm, Depth:400mm: Sides made of 18mm thick	
		pre-laminated board. Edges covered with PVC edge band on through feed edge bending	
		machine Shelf tray & Bottom Panel made by M.S.CRCA Sheet. Tray slides on roller	
		bearing. All steel components should be epoxy powder coated.	
66	Reading Table:	Approx. Size:- Length : 2100 mm, Width : 900 mm, Height: 760 mm.	
		Frame made of MS CRCA sheet and tubes.	
		Top made of 18mm thick pre-laminated board. Side Edges covered with PVC edge band	
		on edge bending machine. Perforated modesty panel at center of table.	
		All steel components should be epoxy powder coated.	
67	Laboratory Table:	Approx. Size:- Length:2100mm, Width: 900mm. Height: 760mm,	
		Frame made of MS CRCA sheet and tubes. Top made of 18mm thick pre-laminated board.	
		Side Edges covered with PVC edge band on edge bending machine. One self at middle of	
		table height. All steel components should be epoxy powder coated.	
68	High Back Chair	Approx. Size: Height Overall/Seat - Max:1285/560mm, Min:1185/460mm, Depth -	
		660mm, Width- 640 mm : 5-Prong base for stability. Twin Wheel heavy duty Castor. Seat	
		height adjustment. Lockable center tilt mechanism, High density PU cushion.	
69	Middle Back Chair:	Approx. Size: Height Overall/Seat - Max:1110/560mm, Min: 1010/460mm, Depth -	

		660mm, Width- 640 mm : 5-Prong base for stability.	
		Twin Wheel heavy duty Castor Sturdy steel column gas lift and seat height adjustment.	
		Lockable center tilt mechanism and with Single piece arm rest. High density PU cushion.	
70	Fixed Visitor Chair:	Approx. Size: Height Overall/Seat - 1045/560mm, Depth - 660mm, Width- 640mm	
10	Tixed Visitor Chair.	Under Structure cantilever type MS CRCA Tube 1.6 mm thick. Single piece arm rest. High	
		density PU cushion.	
		All steel components should be epoxy powder coated.	
71	Premium Visitor Chair:	Approx. Size: Total length: 1775mm, Total Height: 1045 mm, Total Depth: 550 mm	
, 1	riennum visitor chun.	and Seat height: 556mm.	
		Made of MS CRCA. Chrome plated Handles & BASE. Steel perforated MS molded one	
		piece seat and back fitted in molded chrome plated side strips, three individual seats fitted	
		on MS tube support seat and bottom support Powder coated.	
72	Half Writing Pad Chair	Approx. Size: Total Height-825mm, Seat Height: 460mm, Tablet Height: 665mm, Depth	
, 2	Than writing I ad Chan	570 mm & Width : 550 mm.	
		Under Structure cantilever type MS CRCA. Hot pressed ply wood with steel T-Nuts for	
		rigid fastening. Single piece integral skin PU arm rest. High density PU molded cushion.	
		Book rack made of plastic coated wire mesh fitted at bottom of seat and tablet made of	
		18mm thick PLPB.	
		All steel components should be epoxy powder coated.	
73	Dual Desk Bench 2		
	seater	Seat Structure: Made up of CRCA MS Tube 50x25x1.25 mm thk.	
		Desk Structure: Made up of MS CRCA Tube 50x25x1.25 mm thk.	
		Seat & Desktop made of 18mm thick pre-laminated board.	
		Side edges covered by teak wood polished rib. Provide book shelf below table top.	
		All steel components should be epoxy powder coated.	
74	Dual Desk Bench single	Approx. Overall Dimensions: W600mm x D-960 mm x Ht 760	
	seater	Seat Made up of CRCA MS Tube 50x25x1.25 thk.	
		Desk Structure: Made up of CRCA MS Tube 50x25x1 .25 thk.	
		Desktop, seat & back made of 18mm thick pre-laminated board.	
		Side Edges covered by pre glued Edge band by edge bending machine or covered by teak	

		wood polished rib. Provide book shelf below table top or seat.
75		All steel components should be epoxy powder coated.
75	Glass Door Cabinet	With 4 adjustable shelves, 2 doors with 4 glass panels and lock, S.S. keys in duplicate.
		Approx. Overall size: H-980 W-915 D-485(mm) (H-78" x W-36" x D-19")
		Door & Shelves: Steel of not less than 1 mm.
		Back & two sides: Steel of not less than 0.9 mm.
		Locks & Security: 6 levers inbuilt branded Lock system with non interchangeable S.S. Key
		in Duplicate.
		All steel parts in powder coated.
76	Wooden executive	Executive Main Table with Mobile pedestal,
	Table	Overall Dimension
		(A) Main Desk Size: W-135 D-75 H-75 (cm)
		(B) Side Return Desk Size: W-120 D-45 H-75 (cm)
		(C) Credenza Size: W-75 D-42.5 H-75 (cm)
		Material specification:
		Frame 'C channel frame & pipe of 1" PRIME quality.
		Table Top: Pre-laminated particle board of ISI marked top with 2mm
		PVC edge beading.
		6 levers inbuilt branded Lock system. with S.S. Key in Duplicate.
		All steel parts with powder coat.
77	Executive table	Both side storage, 2 drawers cum filing drawer & a center drawer, mounted on telescopic
		channel.
		Front side of storage units with wooden paneling. Perforated knee cover.
		Frame structure CRCA "C' channel frame ERW pipe of 1" PRIME quality.
		Table Top: Pre-laminated particle board of ISI marked top with 2mm PVC edge beading.
		Locks & Security: 6 levers inbuilt branded Lock system with S.S. Key in Duplicate.
		All steel parts finished in high quality MARPOL powder.
78	Computer table	With steel frame pullout tray for keyboard & collecting tray for printout
		Approx. Overall Size: W-90 x D-59 x H-75(cm)
		All steel parts in powder coated.

79	Conference table	For 11 to 14 persons manufactured from 36 mm high quality top & wire management	
		facility. Expandable as requirement.	
		Approx. Size:	
		(A) Single seater module W-675 x D-600 x H-750 mm	
		(B) Two seater module W-1350 x D-600 x H-750 mm	
		(C) Single seater Quarter Circle W-600 x D-600 x H-750 mm	
		All steel parts in powder coated.	
80	Conference table	For 12 persons manufactured from 36 mm thick top, Triple melamine coated over veneer.	
		Steel ribs running through each module, level adjusting screw, Expandable as requirement.	
		Table top size: W-416.6 x D-142.6 x H-75 (cm)	
		All steel parts in powder coated.	
81	Slotted angle rack	(Open type) Overall size: H-72" X W-36" X D-1 8	
		MS slotted Angle: 40x40x2 mm.	
		Shelves: 22/20 CRC sheet.	
		MS corner plates of CRC sheet.	
		Good quality PVC shoes.	
		All steel parts in powder coated.	
82	4 drawer filing cabinet	With automatic locking arrangement. Each drawer with ball bearings double extension	
		telescopic channel.	
		Overall size: H- 1320 W-470 D-623(mm) (H-51 .9" W-18.5" x D-24.5")	
		Inside dimension of each drawer size: H-250 xW-385 x D-560 (mm)	
		All steel parts powder coated.	
83	Теароу	Glass top & wood. Overall Size:H-450 x W-1000 x D-650 mm.	
84	Book case	With four doors inside sliding with glass overall,	
		Approx. size:1740(h) x 915(W) x 320(d) mm.	
		Locks fitted to each individual door with ss keys in duplicate.	
		All parts are finished in powder coating.	
85	Sofa set	Consisting of three and more with single chair	
		Inner wood is of teak or any seasoned wood with kiln chemical treatment.	
		Cushion is made out of high and medium density foam.	

		Actual photographic representative literature is must.	
86	Storage cabinet	With 4/5 adjustable shelves.	
		Overall size H-I 980 x W - 915 x D-485 (mm)	
		(H-78" x W-36 x D-1 9)	
		Material specifications:	
		Door & Shelves: CRCA IS 513 'D' Grade steel of not less than 21 mm	
		Back & two sides: CRCA IS 513 'D' Grade steel of not less than (0.9 mm)	
		Locks & Security: 6 levers inbuilt system with non interchangeable S.S. Key in Duplicate.	
		All steel parts in powder coated.	
87	Executive side unit	With 3 drawers fixed pedestal.	
		Approx. size W-1 38 x D-60 x H-75 (cm)	
		All steel parts in powder coated.	
88	Multi Desking system	Made up of square tubular steel structure & 18 mm thick pre-laminated particle board	
		fitted with PVC cable manager dia 75mm to run power cables.	
		(a) main unit W-90 x D-60 x H-76 (cm) (Approx.)	
		(b) add on unit W-90 x D-60 x H-76 (cm) (Approx.)	
		(c) top partition: D-90 x H-45 (cm) (Thickness 5 cm) (Approx.)	
		Material specification.	
		(a) Frame structure: CRCA 'C' channel frame & ERW pipe of 1" PRIME quality.	
		(b) Table Top: laminated board of ISI marked top with 2mm PVC edge beading.	
		All steel parts in powder coated.	
89	3 seats cluster	Chair on beam with perforated steel seat and back with handle. Overall approx. size: L-64	
		x D-23 x D-57 (cm)	
		All steel parts in powder coated.	
90	Sliding Glass Door unit	With 4 adjustable shelves.	
		Overall approx. size : H-1830 x W-90 x D-450 (mm) (H-72" x W-35.5" x D-1 8")	
		All steel parts in powder coated.	
91	2 drawer filing cabinet	With automatic locking arrangement. Drawer will be mounted on ball bearings with double	
	(Laboratory)	extension telescopic channel.	

		Overall size: H-696 W-470 D-623(mm) (H-27" W-18.5" x D24.5").	
		All steel parts in powder coated.	
92	Laboratory Table	Top fitted with 17 to 20 mm black granite.	
		Table frame (pedestal) made out m.s. tube 25x25 mm thick and finished with epoxy	
		powder coating.	
		Under bench storage modules. Modular of best quality sheet, drawers running on roller	
		slide channels, shutters are fitted with consealed hing with ss handle with one half shelf.	
		Complete module finished with powder coating.	
		A) Two drawer two almirah unit.	
		B) Single drawer single almirah unit	
		C) Two door almirah unit	
		D) Single door almirah unit	
		E) Reagent rack unit	
		F) Sink unit	
		G) Corner	
		H) Wall mounting unit	

#### Terms and conditions

- 1) The rate should be quoted FOR Akola inclusive of all charges for packaging, forwarding, freight, taxes, VAT, excise duty and insurance etc..
- 2) No additional claims should be met after the acceptance of the offer or no additional cost will be paid for any claims other than the finalized amount.
- 3) The final payment of the bill will be met only after the complete supply and commissioning of the instrument/equipment only.
- 4) Non supply of equipment's (till validity periods of tender 31<sup>st</sup> December 2014) will leads to blacklisting of from the university for subsequent years.

Name & Signature of the supplier with stamp